

**APPENDIX 3.10-2**

**SWCA 2022 Visual Impact  
Assessment Report**

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# Horse Heaven Wind Farm Project Final Visual Impact Assessment Report

APRIL 2022

PREPARED FOR

**Washington Energy Facility Site  
Evaluation Council (EFSEC)**

PREPARED BY

**SWCA Environmental Consultants**



# **HORSE HEAVEN WIND FARM PROJECT FINAL VISUAL IMPACT ASSESSMENT REPORT**

Prepared for

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# 1 INTRODUCTION

In February 2021, the Washington Energy Facility Site Evaluation Council (EFSEC) received an Application for Site Certification (ASC) from Horse Heaven Wind Farm, LLC (the Applicant) proposing the construction and operation of the Horse Heaven Wind Farm Project (Project or Proposed Action). The ASC proposes the construction of a renewable energy generation facility that would have a nameplate energy generating capacity of up to 1,150 megawatts for a combination of wind and solar facilities as well as battery energy storage systems (BESSs). The 72,428-acre Lease Boundary is located on the Horse Heaven Hills south of Richland, Kennewick, and Benton City and is comprised mostly of private lands with some Washington Department of Natural Resources state trust parcels. The Project design includes the following components:

- Two wind turbine layout options
- Three potential solar array siting areas
- Up to five substations and associated transmission lines
- Three potential BESS locations
- An operation and maintenance (O&M) facility
- Other Project supporting infrastructure as depicted in Figures 1 and 2 in Attachment A

Additional details regarding the Project design are located in the Project ASC (Horse Heaven Wind Farm, LLC 2021a).<sup>1</sup>

The purpose of this report is to assist in EFSEC's determination of potential Project impacts under the Washington State Environmental Policy Act (SEPA), including significant unavoidable adverse impacts. Specifically, the report focuses on potential visual impacts resulting from modification of the landscape as well as the response of viewers to those features. Additionally, this report analyzes whether the Project would be consistent with and comply with state and local visual resource guidance. The information contained in this report was provided by the Applicant and supplemented with publicly available data where necessary. No additional fieldwork or simulations (beyond those provided in the ASC) were completed.

# 2 REGULATORY FRAMEWORK

The EFSEC process does not require a particular visual resource analysis method to be used. Instead, the goal is to describe the aesthetic impact of the proposed Project, provide the location and design of the facilities, depict how the Project will appear relative to the surrounding landscape, and describe procedures to restore or enhance the landscape disturbed during construction.

Both Washington State and the Benton County Comprehensive Plan provide guidance with regard to visual resources. As part of the EFSEC process, Washington Administrative Code 463-60-362(3) identifies the following standard for analysis of visual resource (aesthetics).

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<sup>1</sup> The ASC can be viewed at the following website: [Horse Heaven Application | EFSEC - The State of Washington Energy Facility Site Evaluation Council](#).

- The application shall describe the aesthetic impact of the proposed energy facility and associated facilities and any alteration of the surrounding terrain. The presentation will show the location and design of the facilities relative to the physical features of the site in a way that will show how the installation will appear relative to its surroundings. The applicant shall describe the procedures to be utilized to restore or enhance the landscape disturbed during construction (to include temporary roads).

Benton County has adopted planning goals and policies in their Comprehensive Plan (Benton County 2021) to conserve areas of potential value to the county and its residents. The following planning goals and policies noted below are most applicable to this visual analysis:

- PL Goal 3: Conserve visually prominent naturally vegetated steep slopes and elevated ridges that define the Columbia Basin landscape and are uniquely a product of the ice age floods.
  - Policy 4: Consider the preservation of the ridges and hillside areas through various development regulations.

These county goals and policies provide the intentions and interests of Benton County, rather than providing specific compliance requirements for this Project. No other federal, state, or local visual management requirements were identified for Project compliance.

The February 2021 Project ASC included a visual inventory and analysis within Section 4.2.3 (Horse Heaven Wind Farm, LLC 2021a), with an additional report submitted in October 2021 titled *Aesthetics Technical Memorandum for the Horse Heaven Wind Farm Project* (Horse Heaven Wind Farm, LLC 2021b). This memorandum, serving as the Applicant's visual analysis, focused mostly on the Visual Resource Management (VRM) System from the Bureau of Land Management (BLM), which has become an industry standard to analyze potential visual impacts, particularly in the western United States, and is often applied to projects on non-BLM lands. The BLM VRM as well as other federal agency visual resource methodologies (e.g., U.S. Forest Service scenery management system and U.S. Federal Highway Administration Guidelines for the Visual Impact Assessment of Highway Projects) have three common elements. These include

- Scenery: continuous units of land comprised of harmonized features that result in and exhibit a particular character,
- Views (sensitivity to visual change and visibility): public viewing locations including recreation areas, travel routes, residences, and lands with special management where viewers have sensitivity to landscape changes, and
- Agency visual management requirements: which identify allowable levels of change to landscape character and the allowable degree of attention the project could attract from viewing locations.

The application of the BLM VRM system in the Applicant's visual analysis document (Horse Heaven Wind Farm, LLC 2021b) did not include some elements typically required, including the completion of contrast rating worksheets from key viewpoints or consideration of all 10 BLM contrast factors. Of these 10 factors, the Applicant's visual analysis did not address the effect of motion and its influence on both landscape character and views. This report builds on the BLM VRM analysis provided in the ASC, including the effects of motion, and incorporates elements from *A Visual Impact Assessment Process for Wind Energy Projects* from the Clean Energy States Alliance (CESA) (CESA 2011) to evaluate and address the unique visual characteristics of wind energy projects. These combined methods are described further in Section 3 of this report.



### **3 AFFECTED ENVIRONMENT**

To describe the Project's affected environment, this section outlines the inventory methods, describes the existing landscape character, and identifies potential viewing locations.

#### **3.1 Inventory Methods**

The visual resource area of analysis was identified in the ASC as the area within 10 miles of the proposed wind turbines and transmission line and within 5 miles of the proposed solar arrays, substations, and BESSs. Based on guidance from both the BLM (Sullivan et al. 2012) and CESA (2011), the area of analysis for the wind turbines was extended to 25 miles.

The visual resource inventory and impact assessment focused on three elements: landscape character, viewing locations, and compliance with state and county visual management guidance. These concepts are included both in the BLM VRM system and CESA process to identify potential impacts on visual resources. The methods for determining landscape character and viewing locations are described in the subsequent sections. Compliance with state and county visual management guidance (Section 2) is addressed in Section 4.2.2.6.

#### **3.2 Existing Landscape Character**

The term landscape character is used to describe the overall visual appearance of a given landscape, based on the visual aspects of the landscape's vegetation, landforms/water, and human-made modifications. Landscape character is often described in terms of landscape character areas, which are portions of a larger landscape that share harmonizing features that result in and exhibit a particular visual character.

The Project is located within the Columbia Plateau U.S. Environmental Protection Agency (EPA) Level III ecoregion (EPA 2010), which is typically characterized by a broad expanse of sagebrush-covered volcanic plains and valleys adjacent to the Columbia River and dotted with isolated mountains. There are landscape features in the area of analysis associated with a series of cataclysmic floods that occurred at the end of the most recent ice age, when glacially dammed lakes ruptured and large volumes of water rushed through the northwestern United States (National Park Service 2014).

The Lease Boundary is primarily characterized by the following features:

- Flat to rolling panoramic landscapes comprised of arid sagebrush steppe and grasslands that have been partially converted to agricultural lands.
- Topography gently slopes from north to south with a distinctive ridge located north of the Lease Boundary that connects the elevated sagebrush steppe to the Columbia River Valley.
- There are a series of minor drainageways that dissect the landscape with some forming small canyon settings.
- Due to the arid climate, there are limited trees within the Lease Boundary. Most trees visible in the Lease Boundary are associated with ornamental landscaping and windbreaks adjacent to residences, with the primary vegetation communities being agricultural lands with areas of remnant sagebrush steppe and grassland.
- Vegetation color in agricultural areas ranges from green to tan and brown depending on the season and the crop being grown. More vivid colors occur along the Columbia River Valley

associated with residential, commercial, and agricultural development that contrasts with the arid, muted colors found within the Lease Boundary.

The inventory of existing landscape character, based on CESA guidance, also considered the intactness of the landscape. This relates to the extent of modifications present in the existing landscape and their overall effect on natural patterns, which define the landscape. These modifications have the potential to create unintended focal points contrasting with the natural landscape character. There are three main landscape character areas that define the Lease Boundary's landscape character:

- **Plateau lands west of I-82:** The arid, rolling plateau lands west of the interstate are mostly intact with limited existing utility or other industrial uses. An existing transmission line traverses the western edge of the Lease Boundary, influencing the adjacent setting. There are also residences dispersed across this rural agricultural landscape, introducing geometric structures and additional vegetation in the setting associated with wind breaks and ornamental landscaping. The juxtaposition of residences and agricultural lands, including barns and other structures, create an agrarian landscape character common to the region.
- **Plateau lands east of I-82:** The landscape east of the interstate is similar to the western area but includes a series of wind turbine strings associated with the existing Nine Canyon Wind Project. There is also an existing transmission line that crosses the Lease Boundary near the west side of the existing Nine Canyon Wind Project and along the southern edge of the Lease Boundary adjacent to I-82. The influence of the existing landscape modifications extends throughout this landscape, reducing its level of intactness. The tall vertical form of the existing wind turbines and their movement attract attention within the setting, generally dominating the local landscape character.
- **Ridgeline:** This landscape is most prominent east of I-82 but continues to the west as a connection between the flat lands adjacent to the Columbia River and the elevated steppe lands. Due to the steep terrain, this area is visually prominent as viewed from the communities located north of the Lease Boundary. There are multiple paragliding launch sites along the ridge including Jump Off Joe, M&M Ridge, and Kiona. Additionally, there are two strings of the existing Nine Canyon Wind Project sited along the ridge and a communication tower, which reduce the intactness of the setting east of I-82.

### 3.3 Viewing Locations and Key Observation Points

While landscape character is focused on the visual characteristics of the overall landscape regardless of specific viewing locations, visibility of the Project from typical or sensitive viewing locations represent the most critical places from which the public would view the Project. These are commonly referred to as key observation points, or KOPs, and establish the platforms where impacts on views are assessed. KOP locations include static locations, such as residential areas, where views would occur from a consistent location, as well as linear KOPs, such as travel ways, where views change based on moving along a road or trail with varying potential impact levels.

In order to identify these KOP locations, a series of bare-earth viewshed analyses were run to depict the visibility of the Project from the surrounding area. The bare-earth modeling approach used in the viewshed analysis does not account for screening effects from vegetation or buildings that could block or partially block some views. In this manner, the bare-earth viewshed approach results in a conservative assessment of potential Project visibility. The analysis in the ASC included six viewsheds to compare visibility of the two turbine layout options, identify visibility of the three solar array siting areas, and provide visibility of the proposed transmission lines (Horse Heaven Wind Farm, LLC 2021b). These viewsheds were run out to the different areas of analysis associated with each of the Project components

as described in Section 3.1. Based on the expansion of the area of analysis for the wind turbines from 10 miles to 25 miles, the viewsheds associated with the two turbine layout options were updated for this report to include this larger, regional setting. See Figures 3 through 8 in Attachment A for the results of these viewshed analyses.

Within the Applicant's visual resources area of analysis, results of the viewshed analyses and aerial photography were used to identify possible residential structures, travel ways, cultural resources with visual aspects, recreation, and other areas of interest including open space areas, to identify potential KOPs. These KOPs represent critical viewpoints, typical views in representative landscapes, and views of any special Project features. Additionally, the Applicant sought input from Benton County to identify potential areas of interest to local community members. Benton County noted interest on the part of residents located north of the Project. This area of interest contains a large number of residences as well as a series of parks and other recreation areas. The resulting list of potential KOPs were visited and photographed, and a series of KOPs were identified for analysis to represent the range of viewers and locations that would have views of the proposed Project infrastructure. In addition to these Applicant-selected KOP locations, supplementary viewing locations were considered to represent views from dispersed residences located directly adjacent to the proposed wind turbines and views from Horse Heaven Hills, a BLM-managed dispersed recreation area (BLM 2022).

Viewer reactions to changes in the landscape (viewer sensitivity) can vary depending on the characteristics and preferences of the viewer group. For example, residential viewers are typically expected to have a high concern for changes in views from their residences. These preferences may also vary depending on if the residential viewer is a Project participant or if views are from a non-participating property. Motorists' concern generally depends on when and where travel occurs, and the type of travel involved (e.g., commuting vs. recreational travel). Recreation users' concern for changes in views varies based on the activities occurring and how long viewers would have to analyze the landscape (view duration). For example, viewers at a scenic overlook would have a higher concern for changes in view, where the landscape would be viewed for a long duration and is integral to its use, compared to other recreation uses (e.g., birding) where the landscape is viewed for a shorter duration and is not the focus of the recreation activity.

The types of users in the visual study areas include residents of the adjacent Tri-Cities communities, including Benton City, Burbank, Kennewick, Pasco, Richland, West Richland, Finley, and Prosser; travelers on the various interstates and highways; recreators visiting the Rattlesnake, Red, Candy, and Badger mountains, McNary National Wildlife Refuge, and other recreational facilities in the area. Lands within the Lease Boundary are also of interest to the Confederated Tribes and Bands of the Yakama Nation, Confederated Tribes of the Umatilla Indian Reservation, and Nez Perce Tribe, who may attach cultural significance to natural landscape components.

The distance from the Project is a key factor in determining potential visual effects, with the amount of perceived contrast generally diminishing as distance between the viewer and the affected area increases (BLM 1986). Contrast is defined as the level of visible change to the existing features of the landscape (including landform/water, vegetation, and human-made structures) resulting from the introduction of a proposed project or management activity. The BLM VRM system and other visual resource systems establish a series of distance zones to identify visibility thresholds and inventory the existing landscape. For the purposes of this study, the distance to the Project (in miles) was used to identify viewing distance, with a particular focus on the foreground distance zone. This area corresponds to the area within 0.5 mile of the Project, where views of modifications in the landscape would be most prominent leading to views potentially dominated by Project infrastructure.

The list of viewing locations and KOPs used in this analysis as well as the associated viewer type, viewer sensitivity, and distance to the Project are presented in Table 1 and depicted on Figure 9 in Attachment A.

**Table 1. Key Observation Point Locations Table**

KOP Number	Viewer Name	Viewer Type	Viewer Sensitivity	Distance to Project	Description
1	McNary National Wildlife Refuge (NWR)	Recreation	Moderate	5.2 miles (wind turbines) Solar arrays, transmission lines, and substations/ BESSs would not be visible from this location.	Viewpoint is located along an unpaved road within the McNary NWR, looking southwest across the Columbia River towards the Project Lease Boundary.
2	S Clodfelter Road – East, Central, and West	Residential	High	3.0 miles (wind turbines) 3.4 miles (transmission line) Solar arrays and substations/BESSs would not be visible from this location.	Viewpoint is located along the south side of Manuel Drive, toward S. Clodfelter Road, looking southeast to southwest.
3	Chandler Butte	Recreation	High	2.5 miles (wind turbines) 2.1 miles (solar array) 4.2 miles (transmission line) The substations/BESSs would be visible from this location but would be outside of the photo frame.	Viewpoint is located along the unpaved road east of the communication towers, looking southeast.
4	I-82 South	Travel route	Moderate	7.0 miles (wind turbines) 6.0 miles (solar array) 6.5 miles (transmission line) The HH-East Substation/ BESSs would be visible from this location.	Viewpoint is located along the right shoulder of the highway, looking northwest to northeast.
5	Badger Mountain	Recreation	High	4.7 miles (wind turbines) Solar arrays, transmission lines, and substations/ BESSs would not be visible from this location.	Viewpoint is located along the southern side of the top of Badger Mountain looking southwest.
6	Bofer Canyon Road/I-82	Travel route	Moderate	1.7 miles (wind turbines) 0.6 mile (solar array) 1.2 miles (transmission line) The HH-East Substation/ BESSs would be visible from this location but would be outside of the photo frame.	Viewpoint is located along the right shoulder of the road, looking north.
7	Highway 221	Travel route, residential	High	5.8 miles (wind turbines) 3.1 miles (solar array) 2.2 miles (transmission line) The HH-West Substation/ BESSs would be visible from this location.	Viewpoint is located along the right shoulder of the highway, looking northeast.

KOP Number	Viewer Name	Viewer Type	Viewer Sensitivity	Distance to Project	Description
8	Kennewick (Canyon Lakes Area) – South and West	Residential	High	3.6 miles (wind turbines) 5.9 miles (solar array) 7.4 miles (transmission line) The substations/BESSs would not be visible from this location.	Viewpoint is located on the southwest end of S. Olson Street, looking west to south.
9	Benton City	Residential, travel route, commercial	High	2.7 miles (wind turbines) 3.9 miles (solar array) 5.5 miles (transmission line) The substations/BESSs would not be visible from this location.	Viewpoint is located on the east side of Division Street/State Route 225, looking south.
10	Badger Road	Residential, travel route	High	1.5 miles (wind turbines) 6.4 miles (solar array) 4.3 miles (transmission line) The substations/BESSs would not be visible from this location.	Viewpoint is located on the north side of Badger Road, looking southwest.
11	Highland/Finley Area	Residential	High	2.0 miles (wind turbines) 8.5 miles (solar array) 8.7 miles (transmission line) The substations/BESSs would not be visible from this location.	Viewpoint is located on the north side of E. Cougar Road near an entrance driveway to Finley Elementary School, looking southeast.
12	County Well Road	Residential, travel route	High	2.5 miles (wind turbines) 0.2 mile (solar array) 0.2 mile (transmission line) The HH-West (Alternative) Substation/BESSs would be visible from this location and located 0.5 mile away.	Viewpoint is located on the left shoulder of County Well Road, looking northeast.
13	Travis Road South of Sellards Road	Residential, travel route	High	1.1 miles (wind turbines) 1.0 mile (solar array located outside of photo frame) 0.1 mile (transmission line) The substations/BESSs would not be visible from this location.	Viewpoint is located on the right shoulder of Travis Road, looking north.
N/A	Dispersed residences located 0.5 mile from proposed turbines (foreground views)	Residential	High	Less than 0.5 mile (wind turbines) The other Project component distances would vary but are more specifically described from other KOP locations.	There are approximately 14 residences located within the foreground distance zone of the proposed wind turbines, less than 0.5 mile, with three of those identified as non-Project participating properties. Additionally, there are numerous residences located within 0.5 to 1 mile of the proposed wind turbines.
N/A	Horse Heaven Hills Recreation Area	Recreation	Moderate	0.8 mile (wind turbines) Solar arrays, transmission lines, and substations/BESSs would not be visible from this location.	Dispersed recreation including opportunities for hiking, nature viewing, and mountain biking with potential views of the Project to the south.

A series of visual simulations were prepared from KOPs 1 through 13, with both wind turbine options depicted, and are included in Attachment B. No simulations were developed from either of the un-numbered KOP viewing locations (e.g., Horse Heaven Hills Recreation Area or dispersed residences within foreground distance zone). Existing condition photographs were taken using standard focal lengths to most closely represent the human field of view. In order to create photographic simulations, a three-dimensional model of the turbine, solar array, and transmission line layouts were placed in the photographic view, taking into consideration Project topography (elevation) and distance from the observation point. Simulated turbines, solar arrays, and transmission lines were aligned to the photographs and the model rendered and composited to create the visualizations. Some of the KOP locations have multiple simulations looking in different directions, such as KOP 2, which includes potential views of the Project to both the southeast and southwest (Horse Heaven Wind Farm, LLC 2021b).

## 4 IMPACT ASSESSMENT

### 4.1 Method of Analysis

The Project visual analysis focuses on three elements: landscape character, viewing locations, and compliance with state and county visual management guidance. The CESA methods suggest three evaluation criteria as they relate to identifying if impacts rise to the magnitude of “undue” or “unreasonable” (CESA 2011):

- Does the project violate a clear written aesthetic standard intended to protect the scenic values or aesthetics of the area or a particular scenic resource?
- Does the project dominate views from highly sensitive viewing areas or within the region as a whole?
- Has the developer failed to take reasonable measures to mitigate the significant or avoidable impacts of the project?

Table 2 outlines the SEPA impact rating factors used for this visual impact assessment, including magnitude, duration, likelihood, and spatial extent of impacts. Table 3, in consideration of BLM and CESA methods, further describes the degrees of magnitude in Table 2 (negligible, low, medium, and high), as they relate to the visual impact analysis elements that form the foundation of this assessment. As identified in Table 3, the determination of impact magnitude is based on impacts to landscape character, impacts to viewing locations, and compliance with state and county visual resource requirements. These determinations are primarily focused on the concept of project contrast, which is a measure of the overall visual changes to existing features of the landscape (including landform/water, vegetation, and human-made structures) resulting from the construction, operation, and decommissioning of a project. The level of project contrast is assessed using the categories of slight, weak, moderate, and strong, which directly align with the magnitude of change degrees of negligible, low, medium, and high.

Other concepts from the CESA methods were included to evaluate and address the unique visual characteristics of wind energy projects. For the assessment of impacts on landscape character, this includes modifications to the existing setting, which may reduce the setting’s overall level of intactness. With regard to impacts on views, the concepts of project dominance, prominence with the setting, and the extent of viewshed occupied by the project (i.e., extent of horizontal view occupied by Project) were included from the CESA methods. These concepts build upon the BLM VRM’s 10 environmental factors that influence the amount of visual contrast introduced by a project (BLM 1986):

- Distance

- Angle of observation
- Length of time the project is in view
- Relative size or scale
- Season of use
- Lighting conditions
- Recovery time
- Spatial relationships
- Atmospheric conditions
- Motion

Of particular importance for a project with wind turbines is the influence of motion to attract attention and increase the level of visual contrast within view, compared to static elements (e.g., solar arrays, transmission lines).

**Table 2. Impact Rating**

Factor	Rating			
<b>Magnitude</b>	Negligible <i>indistinguishable from the background</i>	Low <i>Small impact, non-sensitive receptor(s)</i>	Medium <i>intermediate impact, may occur on sensitive receptor(s) or affect public health and safety</i>	High <i>high impact on sensitive receptor(s) or affecting public health and safety</i>
<b>Duration</b>	Temporary <i>infrequently during any phase</i>	Short-term <i>duration of construction or site restoration</i>	Long-term <i>during operation or operation plus another phase of Project</i>	Constant <i>during life of Project and/or beyond the Project</i>
<b>Likelihood</b>	Unlikely <i>not expected to occur</i>	Feasible <i>may occur</i>	Probable <i>expected to occur</i>	Unavoidable <i>inevitable</i>
<b>Spatial Extent/Setting</b>	Limited <i>small area of Lease Boundary or beyond Lease Boundary if duration is temporary</i>	Confined <i>within Lease Boundary</i>	Local <i>beyond Lease Boundary to neighboring receptors</i>	Regional <i>beyond neighboring receptors</i>

**Table 3. Criteria for Assessing Magnitude of Impacts to Visual Resources**

Magnitude of Impacts	Description
Negligible	<p><b>Landscape character:</b> landscape would appear unaltered and Project components would not attract attention. Project components would repeat form, line, color, texture, scale and/or movement common in the landscape and would not be visually evident.</p> <p><b>Viewing locations:</b> contrast introduced by the Project would be slight and would be subordinate to existing landscape features and would not be readily seen from viewing locations. Project components would repeat elements or patterns common in the landscape.</p> <p><b>State and county visual resource requirements:</b> Project would be consistent with state and county visual management requirements.</p>

Magnitude of Impacts	Description
Low	<p><b>Landscape character:</b> landscape would be noticeably altered, and Project components would begin to attract attention in a partially intact visual setting. Project components would introduce form, line, color, texture, scale, and/or movement common in the landscape and would be visually subordinate (weak contrast).</p> <p><b>Viewing locations:</b> A weak level of contrast would be introduced by the Project. The Project would occupy a small portion of the viewshed, and would be subordinate to existing landscape features, as seen from viewing locations.</p> <p><b>State and county visual resource requirements:</b> Project would be consistent with state and county visual management requirements after implementation of mitigation measures.</p>
Medium	<p><b>Landscape character:</b> landscape would appear to be considerably altered and Project components would begin to dominate a partially intact visual setting. Project components would introduce form, line, color, texture, scale, and/or movement not common in the landscape and would be visually prominent in the landscape (moderate contrast).</p> <p><b>Viewing locations:</b> a moderate level of contrast would be introduced by the Project, attracting attention from viewing locations. The Project would be prominent in the existing landscape and co-dominate from viewing locations where the form, line, color, texture, scale, and/or movement of Project components would be moderately incongruent with existing landscape features.</p> <p><b>State and county visual resource requirements:</b> Project would be partially consistent with state and county visual management requirements, and the implementation of mitigation measures would not sufficiently reduce impacts.</p>
High	<p><b>Landscape character:</b> landscape would appear to be strongly altered and Project components would dominate an intact visual setting. Project components would introduce form, line, color, texture, scale, and/or movement not common in the landscape and would be visually dominant in the landscape (strong contrast).</p> <p><b>Viewing locations:</b> a strong level of contrast would be introduced by the Project, demanding attention. The Project would be highly prominent and dominate views from viewing locations where the form, line, color, texture, scale, and/or movement of Project components would be highly incongruent with existing landscape features, including existing structures. A strong level of contrast may also be introduced if the Project components occupy a large portion of the viewshed from a given viewpoint.</p> <p><b>State and county visual resource requirements:</b> Project would be inconsistent with state and county visual management requirements, and the implementation of mitigation measures would not sufficiently reduce impacts.</p>

To support the visual impact discussions, the following visual terminology is used in this report as defined below:

- Viewer position (angle of observation)
  - Inferior: viewer is located below the Project in elevation.
  - Level: viewer is at the same elevation as the Project.
  - Superior: viewer is located above the Project in elevation.
- Project visibility factors
  - Screening: an existing visual barrier (landforms, vegetation, or structures) blocks or limits views of the Project, reducing the level of contrast introduced by the Project.
  - Unobstructed: views of the Project would not be screened by landforms, vegetation, or structures allowing for the extent of the Project to be visible.
  - Skylining: the Project would appear above the horizon or ridgeline, silhouetting its form against the sky attracting additional attention in the landscape.
  - Backdropping: distant hills or mountains would appear behind the Project potentially reducing contrast introduced by its form, line, color, and texture as those elements would appear to blend with the existing setting.

Since impacts on visual resources considered effects on scenery and on views from multiple KOPs, the summary impact level (i.e., magnitude of impact) at the end of each discussion focuses on the highest identified impacts.



## **4.2 Impacts of Proposed Action**

### **4.2.1 Impacts during Construction**

The construction of the Project would introduce form, line, color, texture, scale, and movement inconsistent with the existing landscape character and would modify views from the identified KOP locations. These short-term impacts would result from the construction of Project facilities as well as construction of new access roads and associated vegetation clearing. Because the Applicant has committed to active dust suppression, as described in Section 1.10 Mitigation Measures of the ASC, potential visual impacts associated with visible dust plumes is not considered in this assessment. Impacts associated with Project lighting or glare is considered in the draft environmental impact statement for the Project. The following sections describe visual/aesthetic impacts associated with the different Project components.

#### **4.2.1.1 TURBINE OPTION 1**

Impacts on visual resources would be elevated during construction activities, including the movement of vehicles that would attract attention, due to increased activity at proposed temporary staging areas and throughout the Lease Boundary. The construction of access roads, crane paths, collector and communication lines, and the wind turbines would be prominent when viewed within the foreground distance zone (0–0.5 mile) and would begin to modify the existing landscape setting.

During construction, the removal of vegetation and earthwork would introduce areas of exposed soil, which would contrast with the existing setting until vegetation is later reclaimed. The construction of access roads in the level to rolling terrain in the analysis area would require minimal modification of the existing terrain, resulting in negligible long-term visual impacts. Impacts common to all KOPs during construction would include views of additional vehicular traffic and areas of exposed soil after the removal of vegetation and during earthwork activities. Viewers located within the foreground distance zone (0–0.5 mile), or in locations where views would be occupied by a large portion of the Project under construction, would result in increased visual contrast on these views.

These impacts would be most intense during the 23-month construction schedule (as described in the ASC and in Chapter 2 of the draft environmental impact statement for the Project) and would diminish after construction is complete and vegetation has been re-established. Following the initial seeding, completed after construction, the Applicant would continue to monitor these revegetation areas for 3 to 5 years and apply remedial actions in order to meet the success criteria outlined in Appendix N of the ASC (Horse Heaven Wind Farm, LLC 2021a). Construction activities for Turbine Option 1 would result in medium, short-term, probable, local impacts on visual resources.

#### **4.2.1.2 TURBINE OPTION 2**

Impacts would be similar to Turbine Option 1. Because there are fewer proposed wind turbines requiring less ground disturbance for construction, there would be a reduced level of contrast and fewer modifications to the existing landscape character introduced during Project construction when compared to Turbine Option 1. However, the ratings of impacts are consistent between the two turbine options as construction of either option would occupy a large portion of the landscape contrasting with its existing character. Construction activities for Turbine Option 2 would result in medium, short-term, probable, local impacts on visual resources.

#### **4.2.1.3 SOLAR ARRAYS**

The construction of the solar arrays would result in similar impacts as the wind turbines but would occur within a smaller, more defined area associated with the selected solar array site. Within the fenced boundary, all lands would be distributed through earthwork, vegetation clearing, and other construction efforts. Application of mitigation measures would reduce these impacts to the extent practicable to minimize these short-term visual impacts as described in Section 4.2.4. Construction activities for the solar arrays would result in low, short-term, probable, local impacts on visual resources.

#### **4.2.1.4 SUBSTATIONS**

Impacts from construction of the substations would be similar to the solar arrays, with the addition of multiple linear transmission lines connecting the proposed substations to the existing electrical grid. The construction of the transmission lines would include vegetation clearing within the right-of-way and construction of a series of tall, vertical structures. During construction, the motion associated with construction equipment, structure building, and conductor stringing, as well as vegetation clearing and landform modification would be noticeable and create visual contrast within the viewshed. Construction activities for the substations and transmission lines would result in low, short-term, probable, local impacts on visual resources.

#### **4.2.1.5 BATTERY ENERGY STORAGE SYSTEMS**

Impacts would be similar to the proposed solar arrays and substations, with these proposed BESS sites located adjacent to the proposed substation locations. The construction of the BESSs would introduce additional motion from construction equipment into the setting. Additionally, the removal of vegetation and earthwork would introduce areas of exposed soil, which would contrast with the existing setting until vegetation has been restored. Construction activities for the BESSs would result in low, short-term, probable, local impacts on visual resources.

#### **4.2.1.6 COMBINED IMPACTS OF COMPONENTS**

During the 23-month construction schedule, there would be short-term impacts from construction activities occupying a large portion of the landscape when considering all of the Project components (i.e., wind turbines, solar arrays, collector lines, access road, multiple transmission lines and substations, O&M facility, and the BESSs). This would include views of additional vehicular traffic as well as areas of exposed soil after the removal of vegetation and during earthwork activities. The removal of vegetation would be noticeable in the setting and contrast with the existing character; however, over time, after vegetation is reclaimed in temporary disturbance areas, it would begin to repeat vegetation patterns common in the area.

Viewpoints and KOPs located within the foreground distance zone (0–0.5 mile) would be most impacted by the construction of multiple Project components, particularly when a large portion of their viewshed is occupied by construction activities. These short-term impacts are anticipated to extend beyond the neighboring receptors, resulting in potential regional impacts from more distant viewpoints where construction activities would occupy a large portion of their viewshed. Construction disturbance would be limited to the extent practicable in accordance with best management practices (BMPs) and the Project's site certificate conditions. After construction is completed, areas of temporary disturbance, including temporary access roads no longer used as Project access roads, would be reclaimed to appear similar to their original condition. In general, vegetated areas that are temporarily disturbed or removed during construction of the Project would be revegetated to blend with adjacent undisturbed lands with these areas being monitored for 3 to 5 years postconstruction to meet a series of success criteria outlined in the

Project's Revegetation and Noxious Weed Management Plan (Horse Heaven Wind Farm, LLC 2021a: Appendix N). Areas with soil compaction and disturbance from construction activities would also be revegetated in accordance with the Project's Revegetation and Noxious Weed Management Plan.

In summary, activities during construction of all components of the Project would result in medium, short-term, probable, regional impacts on visual resources.

## **4.2.2 Impacts during Operation**

The introduction of the Project into the setting would result in long-term modifications to the existing landscape's form, line, color, and texture, and would modify views from the identified KOP locations to varying degrees. Although impacts would depend on a variety of viewing conditions, one overall concept to note is that the visual impacts associated with the Project tend to change considerably with distance. These effects would be most impactful on residential, travel route, and recreation viewers located within the foreground distance zone (0–0.5 mile), where the Project would create strong vertical and horizontal forms and lines that would contrast with the primarily organic forms of the existing setting. There are 13 residences located on non-participating properties that would have foreground views (less than 0.5 mile) of either the proposed turbines or solar arrays.

Impacts on views from the middleground (0.5–5 miles) would vary based on the extent of existing modifications in view. For locations with views of the existing Nine Canyon Wind Project, or where the existing transmission lines dominate the existing view, the Project would typically result in medium impacts and would be viewed as co-dominant within the existing setting. From viewpoints where existing modifications do not currently attract attention, the Project would dominate views since a large portion of the viewshed would typically be occupied by large, spinning wind turbines. From this distance, the individual turbines tend to visually “merge” with other turbines in the string from some viewing angles, resulting in the turbines appearing larger in mass and scale.

From more distant views, within the background distance zone (more than 5 miles away), the proposed wind turbines would appear as vertical lines with a faint spinning motion of the blades—particularly where seen skylined above ridges or other highpoints within the landscape. The proposed solar arrays and other Project components would be mostly indiscernible from the background distance zone.

### **4.2.2.1 TURBINE OPTION 1**

Under Turbine Option 1, impacts to landscape character would range from high to medium. The Project would generally dominate the existing landscape character through the introduction of a large number of vertical protrusions that would be out of scale with and highly prominent in the landscape. The turbines would be most prominent where sited near the Horse Heaven Hills ridgeline, resulting in high impacts on landscape character. These structures would also introduce spinning movement into the landscape, which would attract attention throughout the area of analysis—particularly where the existing Nine Canyon Wind Project is not visible. Impacts to landscape character would be medium near the existing Nine Canyon Wind Project since this portion of the landscape—particularly the area east of I-82—has already been modified. In general, the existing level of landscape intactness would be diminished, resulting in landscapes characterized by energy generation, compared to the existing agrarian landscape character.

Impacts on key views would range from high to medium. Table 4 provides an overview of the impacts from each KOP/viewpoint, and includes the viewer position, the extent of the horizontal view occupied by the Project, the level of contrast, and the magnitude of impact.

In summary, activities during operation of Turbine Option 1 would result in areas of high, long-term, unavoidable, regional impacts on visual resources.

#### **4.2.2.2 TURBINE OPTION 2**

The Project, under Turbine Option 2, would have similar high impacts on landscape character as Option 1. There would be fewer structures introduced into the setting under this option, which would result in less visual clutter, however, due to the increased height of the structures in Option 2, these effects would be balanced, resulting in overall similar effects. The additional height of Option 2 turbines would be more prominent near the Horse Heaven Hills ridgeline or adjacent to existing landscape modifications where the increased vertical forms would be most evident.

Table 5 describes the impacts on views from the KOPs and other viewing locations associated with Turbine Option 2. In summary, activities during operation of Turbine Option 2 would result in areas of high, long-term, unavoidable, regional impacts on visual resources.

**Table 4. Key Observation Point/Viewpoint Impact Table – Turbine Option 1**

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
1	McNary NWR	Recreation	5.2 miles	Inferior	80 degrees	Moderate	Medium	The tall, proposed turbines would be similar in appearance to the existing Nine Canyon Wind Project, also visible from this location, but the proposed turbines would be larger and out of scale with the existing landscape. Views would be unobstructed toward the Lease Boundary. The prominence of the proposed wind turbines rising above the landscape, including additional motion introduced by the spinning turbine blades, would further attract attention from viewers and dominate the existing landscape character. Because visitors and travelers would be visiting for a limited time, the level of contrast would be reduced by the short view duration limiting the influence of the Project on these views. The Project would expand the extent of view occupied by moving wind turbines and would be prominent from this inferior viewing angle, resulting in medium, long-term impacts on views.
2	S Clodfelter Road – East, Central, and West	Residential	3.0 miles	Inferior	200 degrees	Strong	High	The proposed turbines would dominate views from this location, approximately 3 miles away, as a large portion of the viewshed would include moving wind turbines. Views of the Project in open, rolling hills would be unobstructed. Views toward the east would include the existing Nine Canyon Wind Project, which occupies only a narrow portion of the landscape as viewed from this location. The series of proposed skylined wind turbines would be highly prominent in the view, resulting in high, long-term impacts on views, particularly where views of multiple wind turbines would overlap and appear larger in mass.
3	Chandler Butte	Recreation	2.5 miles	Superior	50 degrees	Strong	High	The proposed turbines would dominate views from this location, approximately 2.5 miles away, as a moderate portion of the viewshed would include moving wind turbines. Views of the Project in an open plains landscape would be unobstructed, with views of the existing Nine Canyon Wind Project occurring approximately 20 miles away on the distant hills. Due to the superior viewing angle, the contrast between the light color of the turbines and the darker color of the ground would create strong visual contrast, visible to recreationists along Chandler Butte. The series of proposed wind turbines would be highly prominent in the view resulting in high, long-term impacts on views, particularly where views of multiple wind turbines would overlap and appear larger in mass.

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
4	I-82 South	Travel route	7.0 miles	Inferior	100 degrees	Moderate	Medium	The proposed turbines would attract attention from this location, approximately 7 miles away, as a large portion of the viewshed would include moving wind turbines. Due to the distance, the turbine's form would be distinguishable, but the texture and color would be muted and less detailed. Views from I-82 include an existing transmission line and the Nine Canyon Wind Project, approximately 12 miles away, with these existing features influencing but not dominating views from this location. As travelers drive I-82 from this point to KOP 6, approximately 10 miles, impacts on views of the proposed wind turbines would incrementally increase. From this location, the turbines would be viewed unobstructed and skylined, which would attract attention—particularly where only moving turbine blades would be seen over the horizon. The impacts on these views would be medium and long term.
5	Badger Mountain	Recreation	4.7 miles	Level	150 degrees	Strong	High	The proposed turbines would dominate views from this location, approximately 5 miles away, as a large portion of the viewshed would include moving wind turbines. Views of the Project in open, rolling hills would be unobstructed, with views of the Project occurring beyond developed lands of Badger and the Horse Heaven Hills ridgeline. The series of proposed skylined wind turbines would be highly prominent in the view, resulting in high, long-term impacts on views—particularly where views of multiple wind turbines would overlap and appear larger in mass.
6	Bofer Canyon Road/I-82	Travel route	1.7 miles	Level	120 degrees	Strong	High	The proposed turbines would be viewed in context with an existing transmission line from this KOP. The existing transmission line has introduced strong vertical lines into the existing setting. Due to the proximity of the proposed turbines (less than 2 miles), the introduction of movement into the landscape, and the extent of view occupied by these structures, the Project would dominate views from this location along Bofer Canyon Road and I-82. These impacts would continue to increase as viewers would pass the existing transmission line into an area where views of the proposed turbines would be highly prominent as viewed both to the east and west. Based on the landscape modifications introduced by the proposed wind turbines, the Project would result in high, long-term impacts on views.

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
7	Highway 221	Travel route, residential	5.8 miles	Level	70 degrees	Moderate	Medium	The proposed turbines would be viewed in context with a distant existing transmission line, which has introduced a series of skylined structures along the horizon. The proposed turbines would, however, appear larger and out of scale with the features of the existing landscape. Views would be unobstructed toward the Lease Boundary. The prominence of the proposed wind turbines rising above the landscape, including the introduction of motion, would further attract attention from viewers and modify the existing landscape character. The Project would be prominent within a moderate portion of the viewshed, resulting in medium, long-term impacts on views.
8	Kennewick (Canyon Lakes Area) – South and West	Residential	3.6 miles	Inferior	170 degrees	Strong	High	The proposed turbines would dominate views from this location, approximately 3.5 miles away, as a large portion of the viewshed would include moving wind turbines. Views of the Project in open, rolling hills would be unobstructed with views toward the west including an existing transmission line. Views to the southeast include the existing Nine Canyon Wind Project, which occupies a narrow portion of the landscape as viewed from this location. The series of proposed skylined wind turbines would be highly prominent in the view resulting in high, long-term impacts on views, particularly where views of multiple wind turbines would overlap and appear larger in mass.
9	Benton City	Residential, travel route, commercial	2.7 miles	Inferior	10 to 80 degrees (based on level of screening)	Moderate	Medium	The proposed wind turbines would be intermittently screened by development within Benton City, with partial screening of the Project features occurring where the Horse Heaven Hills would partially obstruct views to the south. Where visible, there would be a limited number of turbines in view, as depicted in the visual simulation (Attachment B). The presence and motion of the turbines would attract attention but would appear co-dominant with other commercial and residential developments. Views from other areas within the city may have more expansive, unobstructed views of the proposed wind turbines similar to KOPs 2 and 10. The Project would expand the extent of view occupied by moving wind turbines and would be prominent from this inferior viewing angle, resulting in medium, long-term impacts on views.

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
10	Badger Road	Residential, travel route	1.5 miles	Inferior	150 degrees	Strong	High	The proposed turbines would dominate views from this location, approximately 1.5 miles away, as a large portion of the viewshed would include moving wind turbines. Views of the proposed wind turbines, from an inferior viewing angle, would be partially screened by topography and intermittently screened by development. Movement associated with the turbine blades would be highly visible, particularly where only the blades would be visible, repeatedly rising over the hills. Based on the level of contrast introduced by the proposed wind turbines, which are much larger in scale than existing modifications in view, the Project would result in high, long-term impacts on views.
11	Highland/Finley Area	Residential	2.0 miles	Inferior	100 degrees	Strong	High	The proposed turbines would dominate views from this location, approximately 2 miles away, as a large portion of the viewshed would include moving wind turbines. Views of the Project on the Horse Heaven Hills would be unobstructed, with views toward the southwest including residential and agricultural development, as well as the existing Nine Canyon Wind Project, which occupies a moderate portion of the landscape as viewed from this location. The series of proposed skylined wind turbines would be highly prominent in the view, resulting in high, long-term impacts on views, particularly where views of multiple wind turbines would overlap and appear larger in mass.
12	County Well Road	Residential, travel route	2.5 miles	Level	100 degrees	Moderate	Medium	The proposed turbines would be viewed in context with an existing transmission line. The existing transmission line has modified the existing setting, including the introduction of distinct, vertical lines. Due to the proximity of the proposed turbines (approximately 2.5 miles), the introduction of movement into the landscape, and the extent of view occupied by these structures, the Project would attract attention and begin to dominate views from this location. In consideration of the existing modifications in view, the Project would result in medium, long-term impacts on views from this location. These impacts would continue to increase as viewers would pass the existing transmission line into an area where views of the proposed wind turbines would be prominent.



KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
13	Travis Road South of Sellards Road	Residential, travel route	1.1 miles	Level	150 degrees	Strong	High	The proposed turbines would dominate views from this location, approximately 1 mile away, as a large portion of the viewshed would include moving wind turbines. Views of the Project in open, rolling hills would be unobstructed within a mostly intact existing landscape. The series of proposed skylined wind turbines would be highly prominent in the view, resulting in high, long-term impacts on views, particularly where views of multiple wind turbines would overlap and appear larger in mass.
N/A	Dispersed residences located 0.5 mile from proposed turbines (foreground views)	Residential	Less than 0.5 mile	Level	Up to 300 degrees	Strong	High	The proposed turbines would dominate views from dispersed residences located within the foreground distance zone (includes views from participating and non-participating properties). These views would be most impacted where views of the existing Nine Canyon Wind Project and existing transmission lines would be screened with the proposed turbines dominating a viewshed with limited existing modifications. The prominence of the proposed wind turbines rising above the landscape, including additional motion introduced by the turbine blades, would further attract attention from viewers and dominate the existing landscape character, resulting in high, long-term impacts on views from these locations. Viewers located on participating properties may have less visual sensitivity to modifications introduced by the Project, compared to viewers located on non-participating properties, but the level of visual contrast and Project dominance would remain the same.
N/A	Horse Heaven Hills Recreation Area	Recreation	0.8 mile	Superior, level, and inferior	Up to 140 degrees	Strong	High	Views from the Horse Heaven Hills Recreation Area vary based on location, with elevated views represented by KOP 3, located on Chandler Butte, to inferior views occurring below the ridgeline and similar to KOPs 9 and 10. In general, views from this recreation area would be highly impacted where the Project would modify a large portion of the viewshed through the introduction of moving wind turbines. While hiking on trails below the ridge but within the recreation area, views may be partially screened by topography where visitors would only see the moving turbine blades repeatedly rising over the ridgeline as described for KOP 10. Viewers along the ridgeline trail would be located directly adjacent to the proposed turbines, where views would be strongly altered by the Project. The series of proposed wind turbines would be highly prominent in the view, resulting in high, long-term impacts on views from Chandler Butte, below the ridgeline trails, and from the ridgeline trail.

**Table 5. Key Observation Point/Viewpoint Impact Table – Turbine Option 2**

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
1	McNary NWR	Recreation	5.8 miles	Inferior	80 degrees	Moderate	Medium	Impacts would be similar to Option 1 except the taller turbines would be more prominent as viewed on the ridgeline. There would be fewer turbines in view, resulting in a less cluttered appearance, but since the proposed turbines would be larger in scale (and even larger as compared to the existing Nine Canyon Wind Project), the Project would result in medium, long-term impacts on views.
2	S Clodfelter Road – East, Central, and West	Residential	3.5 miles	Inferior	200 degrees	Strong	High	Impacts would be similar to Option 1 except the taller turbines would be more prominent as viewed on the ridgeline. There would be fewer turbines in view, resulting in a less cluttered appearance, particularly where views of multiple wind turbines would overlap and appear larger in mass. Since the proposed turbines would be larger in scale (and even larger as compared to the existing Nine Canyon Wind Project), the effects of a less cluttered view would be counterbalanced, resulting in high, long-term impacts on views.
3	Chandler Butte	Recreation	2.8 miles	Superior	50 degrees	Strong	High	Impacts would be similar to Option 1 except the taller turbines would be more prominent across the landscape. There would be fewer turbines in view, resulting in a less cluttered appearance, particularly where views of multiple wind turbines would overlap and appear larger in mass. Since the proposed turbines would be larger in scale (and even larger as compared to the existing Nine Canyon Wind Project), the effects of a less cluttered view would be counterbalanced, resulting in high, long-term impacts on views.
4	I-82 South	Travel route	7.3 miles	Inferior	100 degrees	Moderate	Medium	Impacts would be similar to Option 1 except the taller turbines would result in fewer turbines within view. The presence of fewer turbines would produce a less cluttered appearance, particularly where views of multiple wind turbines would overlap and appear larger in mass. Since the proposed turbines would be larger in scale (and even larger as compared to the existing Nine Canyon Wind Project), the effects of a less cluttered appearance would be counterbalanced, resulting in medium, long-term impacts on views

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
5	Badger Mountain	Recreation	4.7 miles	Level	150 degrees	Strong	High	Impacts would be similar to Option 1 except the taller turbines would be more prominent as viewed on the ridgeline. There would be fewer turbines in view, resulting in a less cluttered appearance, particularly where views of multiple wind turbines would overlap and appear larger in mass. The relative scale of the turbines proposed for Option 2, compared to Option 1, would be apparent as views include residential and agricultural development, providing a source of scale comparison.
6	Bofer Canyon Road/I-82	Travel route	1.8 miles	Level	120 degrees	Strong	High	Impacts would be similar to Option 1 but slightly increased in magnitude. The taller turbines proposed under this option would be apparent due to the existing transmission line providing a source of scale comparison, and most of the turbines proposed adjacent to this viewpoint would occur regardless of the option selected.
7	Highway 221	Travel route, residential	5.8 miles	Level	70 degrees	Moderate	Medium	Impacts would be similar to Option 1 except the taller turbines would be more prominent as viewed from the highway. There would be fewer turbines in view, resulting in a less cluttered appearance, but since the proposed turbines would be larger in scale (and even larger as compared to the existing transmission line in view), the Project would result in medium, long-term impacts on views.
8	Kennewick (Canyon Lakes Area) – South and West	Residential	5.4 miles	Inferior	170 degrees	Moderate	Medium	Impacts on views would be reduced under Option 2, as the closest proposed wind turbine would be more than 1.5 miles further away compared to Option 1 (approximately 5.4 miles). There would also be fewer turbines in view, resulting in a less cluttered appearance. However, since the proposed turbines would be larger in scale, (and even larger as compared to the existing Nine Canyon Wind Project), the Project would result in medium, long-term impacts on views.
9	Benton City	Residential, travel route, commercial	2.7 miles	Inferior	10 to 80 degrees (based on level of screening)	Moderate	Medium	Impacts would be similar to Option 1 but slightly increased in magnitude. The taller turbines proposed under this option would be more prominent and most of the turbines proposed adjacent to this viewpoint would occur regardless of the option selected.

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Approx. Extent of Horizontal View Occupied by Project	Level of Visual Contrast	Magnitude of Impact	Impact Description
10	Badger Road	Residential, travel route	1.5 miles	Inferior	150 degrees	Strong	High	Impacts would be similar to Option 1 except the taller turbines would be more prominent as viewed from this area. There would be fewer turbines in view resulting in a less cluttered appearance, but since the proposed turbines would be larger in scale, (and even larger as compared to the existing modifications in view), the Project would result in high, long-term impacts on views.
11	Highland/Finley Area	Residential	2.5 miles	Inferior	100 degrees	Strong	High	Impacts would be similar to Option 1, except the taller turbines would be more prominent as viewed on the ridgeline. There would be fewer turbines in view, resulting in a less cluttered appearance, particularly where views of multiple wind turbines would overlap and appear larger in mass. Since the proposed turbines would be larger in scale, (and even larger as compared to the existing Nine Canyon Wind Project), the effects of a less cluttered appearance would be counterbalanced, resulting in high, long-term impacts on views.
12	County Well Road	Residential, travel route	2.5 miles	Level	100 degrees	Moderate	Medium	Impacts would be similar to Option 1 but slightly increased in magnitude. The taller turbines proposed under this option would be apparent due to the existing transmission line that provides a source of scale comparison.
13	Travis Road South of Sellards Road	Residential, travel route	1.1 miles	Level	150 degrees	Strong	High	Impacts would be similar to Option 1 but slightly increased in magnitude. The taller turbines proposed under this option would be apparent due to the existing development in view, which provides a source of scale comparison.
N/A	Dispersed residences located 0.5 mile from proposed turbines (foreground views)	Residential	Less than 0.5 mile	Level	Up to 300 degrees	Strong	High	Impacts would be similar to Option 1 except the taller turbines would be more prominent as viewed from these residences. There would be fewer turbines in view, resulting in a less cluttered appearance. Since the proposed turbines would be larger in scale, the Project impacts would be most apparent where the existing Nine Canyon Wind Project or transmission lines are visible and provide a source of scale comparison. The Project would result in high, long-term impacts on views.
N/A	Horse Heaven Hills Recreation Area	Recreation	0.8 mile	Inferior	Up to 140 degrees	Strong	High	Impacts would be similar to Option 1 except the taller turbines would be more prominent as viewed from this recreation area. There would be fewer turbines in view, resulting in a less cluttered appearance. However, since the proposed turbines would be larger in scale (and even larger as compared to the existing modifications in view), the Project would result in high, long-term impacts on views.

### 4.2.2.3 SOLAR ARRAYS

The Project would introduce forms, lines, colors, and textures associated with the photovoltaic arrays that are inconsistent with the existing landscape character. The conversion of existing agricultural lands to large expanses of photovoltaic panels would result in visual contrast through their flat, geometric forms and dark, slightly reflective surfaces, which are not common in the setting. The addition of the repetitive, vertical upright features associated with the solar trackers and additional fenced land would be noticeable in this rolling, panoramic landscape.

The Project would be visually prominent in the setting, resulting in medium to high impacts on landscape character. Based on the viewshed analysis from the *Aesthetics Technical Memorandum for the Horse Heaven Wind Farm Project* (Horse Heaven Wind Farm, LLC 2021b), the County Well Road (see Figure 5 in Attachment A) and Sellards Road (see Figure 6 in Attachment A) solar siting areas would be the most visible options, influencing a larger portion of the landscape, 45% and 51% respectively, within the 5-mile-wide area of analysis. These solar array siting areas would also occur in an area with a more intact existing landscape, as compared to the Bofer Canyon siting area, resulting in more intense impacts on landscape character. The Bofer Canyon option is located in proximity to the existing Nine Canyon Wind Project, which has introduced large-scale energy infrastructure into the landscape. The viewshed analysis identified that 31% of the area within the 5-mile-wide area of analysis would be influenced by the proposed solar arrays within the Bofer Canyon Siting Area (see Figure 7 in Attachment A).

Table 6 describes the impacts on views from the KOPs and other viewing locations associated with the three proposed solar array siting areas. In summary, activities during operation of any of the three solar array options would result in areas of (at minimum) medium, long-term, unavoidable, regional impacts on visual resources, with the County Well Road and Bofer Canyon siting areas resulting in areas of high, long-term, unavoidable, local impacts as viewed from identified KOP locations.

**Table 6. Key Observation Point/Viewpoint Impact Table – Solar Array**

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Level of Visual Contrast <sup>(a)</sup>	Magnitude of Impact			Impact Description
						County Well Road Siting Area	Sellards Road Siting Area	Bofer Canyon Siting Area	
1	McNary NWR	Recreation	Not visible	Inferior	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.
2	S Clodfelter Road – East, Central, and West	Residential	Not visible	Inferior	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.
3	Chandler Butte	Recreation	2.1 miles	Superior	Moderate	Medium	Negligible	Negligible	Views of the County Well Road option would be unobstructed with the Project being prominent and beginning to dominate views from this area. The contrast between the dark solar arrays and the tan grasses would be evident from this elevated viewing area, approximately 2 miles away, resulting in medium, long-term impacts on views.
4	I-82 South	Travel route	6.0 miles	Level	Moderate	Negligible	Negligible	Medium	The Bofer Canyon option would be prominent in view and modify the existing landscape through the introduction of dark, geometric solar arrays in a rolling landscape comprised of golden, tan grasses. The impacts on these views would incrementally increase as motorists drive I-82 between this location and KOP 6 (approximately 10 miles), with some views of the solar arrays being intermittently screened by topography. From this location, the Project would result in medium, long-term impacts on views.
5	Badger Mountain	Recreation	Not visible	Level	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Level of Visual Contrast <sup>(a)</sup>	Magnitude of Impact			Impact Description
						County Well Road Siting Area	Sellards Road Siting Area	Bofer Canyon Siting Area	
6	Bofer Canyon Road/I-82	Travel route	0.6 mile	Level	Strong	Negligible	Negligible	High	The Bofer Canyon option would be visually dominant and demand attention within the setting as solar arrays would be located on both sides of the interstate. An existing transmission line has modified the existing landscape, including the introduction of strong vertical lines. The contrast between the dark solar arrays and the tan grasses would be highly evident. In consideration of the existing modifications in view, the Project would result in medium, long-term impacts on views from this location. These impacts would continue to increase as viewers would pass the existing transmission line into an area where views of the proposed solar arrays would be highly prominent as viewed both to the east and west resulting in high, long-term local impacts.
7	Highway 221	Travel route, residential	3.1 miles	Level	Weak	Low	Low	Negligible	The County Well Road and Sellards Road options would begin to attract attention but would be visually subordinate in the setting. The low form of the solar arrays would blend with the existing landscape from this distance (approximately 3–4 miles) and would be partially screened by topography and existing structures. The Project would result in low, long-term impacts on views.
8	Kennewick (Canyon Lakes Area) – South and West	Residential	5.9 miles	Inferior	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.
9	Benton City	Residential, travel route, commercial	3.9 miles	Inferior	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.
10	Badger Road	Residential, travel route	6.4 miles	Inferior	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.
11	Highland/Finley Area	Residential	8.5 miles	Inferior	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.

KOP #	Viewer Name	Viewer Type	Distance to Project	Viewer Position	Level of Visual Contrast <sup>(a)</sup>	Magnitude of Impact			Impact Description
						County Well Road Siting Area	Sellards Road Siting Area	Bofer Canyon Siting Area	
12	County Well Road <sup>(b)</sup>	Residential, travel route	0.2 mile	Level	Strong	High	Negligible	Negligible	The County Well Road Option would be prominent in view and modify the existing landscape through the introduction of dark, geometric solar arrays in a flat to rolling landscape comprised of tan-colored agricultural fields. An existing transmission line has already modified the landscape, including the introduction of strong vertical lines and geometric forms. In consideration of the existing modifications in view, the Project would result in medium, long-term impacts on views from this location. These impacts would continue to increase as viewers would pass the existing transmission line into an area where views of the proposed solar arrays would be highly prominent resulting in high, long-term local impacts.
13	Travis Road South of Sellards Road	Residential, travel route	1.0 mile	Level	Moderate	Negligible	Medium	Negligible	The Sellards Road Option would be prominent in view and modify the existing landscape through the introduction of dark, geometric solar arrays in a rolling landscape comprised tan-colored agricultural fields (note: visual simulation in Attachment B does not include these views to the west). The views from this area are generally intact, with views of the Project occurring away from the direction of travel along the road. Views of the Project would therefore be short in duration. In consideration of view duration and partial screening by existing topography, the Project would result in medium, long-term impacts on views from this location.
N/A	Horse Heaven Hills Recreation Area	Recreation	Not visible	Inferior	Slight	Negligible	Negligible	Negligible	Project elements associated with the three solar siting areas would not be visually evident.

<sup>(a)</sup> Level of visual contrast indicated here refers to the solar siting area(s) where a low, medium, or high magnitude of impact was identified in subsequent columns. For alternatives where a “negligible” magnitude of impacts was identified, the proposed solar arrays would not be readily seen from those KOP locations.

<sup>(b)</sup> Views from dispersed residences within the foreground distance zone (0–0.5 mile) were analyzed from KOP 12.



#### 4.2.2.4 SUBSTATIONS

The proposed substations would introduce a flat, rectangular, geometric form associated with the substation yard and tall, vertical, and geometrical substation equipment. These industrial features would contrast with the existing rolling agrarian landscape character. Where located adjacent to existing transmission lines or substations, the proposed elements would be in scale and consistent with the landscape setting, but in areas where there are limited existing utilities, the proposed substations would alter the landscape setting and would be visually prominent.

In general, the proposed substations would not attract attention from most locations within the area of analysis. The introduction of the proposed substations into views from KOPs 6 and 12, which have been modified by an existing transmission line, would result in long-term, medium impacts on views from 1.2 miles and 0.5 mile away respectively. The geometric form of the proposed substation yard and vertical structures would attract attention but would be co-dominant with the existing modifications in the landscape. Views from KOPs 3, 4, and 7 would be minimally modified by the proposed substations as views would occur from approximately 2.7 to 7.3 miles away, where the Project would mostly blend with the existing setting. The geometric form of the substation and vertical protrusions would appear in scale with the existing landscape from these more distant viewpoints.

The proposed substations would not be visible from KOPs 1, 2, 5, 8, 9, 10, 11, 13, and the Horse Heaven Hills Recreation Area, therefore no impacts from this Project component would occur on these views.

The proposed transmission lines would modify the existing landscape character through the introduction of repeating vertical transmission line structures, associated linear access roads, and associated vegetation clearing. These effects would be most apparent where there are no adjacent existing transmission lines or other vertical protrusions (e.g., communication towers, substations, etc.), and would result in long-term impacts on landscape character.

Impacts to viewers from proposed transmission lines would vary from high to low. The highest impacts would occur on the views from three KOP locations (KOPs 6, 12, and 13) located within 2 miles of the proposed transmission lines. Views from KOP 6 have been modified by an existing transmission line, with the introduction of the proposed transmission line resulting in medium, long-term impacts from approximately 1.2 miles away. The form of the existing transmission line would be repeated by the Project (H-frame structures), reducing potential landscape clutter, and would be sited further away than the existing transmission line. Therefore, the Project would attract attention but would be co-dominant with the existing modifications.

The proposed transmission facilities would begin to dominate views from KOP 12, where an existing transmission line crosses the road, and the Project parallels the road with a series of transmission line structures stretching to the horizon. Due to the head-on view of the proposed transmission line and its difference in design compared to the existing line, the Project would result in medium, long-term impacts from this location. Views from KOP 13 would be highly impacted by the proposed transmission line. From this location, there are limited existing modifications in view, with the existing landscape setting appearing mostly intact. The Project would dominate these unobstructed views through the introduction of tall transmission line structures viewed as skylined above the low, rolling terrain.

The proposed transmission lines would not be visible from KOPs 1, 5, and the Horse Heaven Hills Recreation Area, therefore no impacts from this Project component would occur on these views. Impacts to views from all other KOPs would be low.

In summary, during operation the substations and transmission lines would result in areas of high, long-term, unavoidable, local impacts as well as areas of medium, long-term, unavoidable, regional impacts on visual resources.

#### **4.2.2.5 BATTERY ENERGY STORAGE SYSTEMS**

Each proposed BESS would introduce a flat, rectangular, geometric form associated with its proposed yard, similar to the proposed substations, with equipment contained in geometric shipping containers (stacked up to 40 feet tall). These proposed features would contrast with the existing rolling agrarian landscape character.

In general, the proposed BESSs would not attract attention from most locations within the area of analysis. The introduction of the proposed BESSs into views from KOPs 6 and 12, which have already been modified by an existing transmission line, would result in long-term, medium impacts on views from 1.2 miles and 0.5 mile away respectively. The geometric form of the proposed BESSs, including the vertically stacked rectangular containers, would attract attention but would be co-dominant with the existing modifications. Views from KOPs 3, 4, and 7 would be minimally modified by the BESSs as views would occur from approximately 2.7 to 7.3 miles away, where the Project would mostly blend with the existing landscape setting. The geometric form of the BESSs from these three KOPs would appear in scale with the existing landscape from these more distant viewpoints.

The proposed BESSs would not be visible from KOPs 1, 2, 5, 8, 9, 10, 11, 13, and the Horse Heaven Hills Recreation Area, therefore no impacts from these Project components would occur on these views. Overall, activities during operation of the BESSs would result in medium, long-term, unavoidable, local impacts on visual resources.

#### **4.2.2.6 COMBINED IMPACTS OF COMPONENTS**

The combined impacts of the different Project components would result in a landscape character dominated by large-scale energy infrastructure, including wind turbines, solar arrays, collector lines, access roads, multiple transmission lines and substations, the O&M facility, and the BESS. The existing setting does include a smaller wind farm and two existing transmission lines, but the scale of the Project and prominence of the proposed turbines would result in high, long-term impacts to the existing landscape.

Views from most residences and other KOP locations would primarily be impacted by the presence of the large, moving proposed wind turbines. The turbines would attract attention and depending on the extent of their viewshed modified by the turbines, could dominate views as described in Tables 4 and 5. In addition, some viewers, such as those associated with KOPs 3, 6, 12 and 13, would have views of multiple Project components, introducing additional variety and visual clutter into these views as shown in the visual simulations (see Attachment B). Views from these locations would be dominated by energy infrastructure as a result of the additive effects from each Project component, resulting in high, long-term impacts on these views. Since these impacts occur on viewpoints beyond the neighboring receptors, these effects would be regional in extent. In summary, activities during operation of all components of the Project would result in high, long-term, unavoidable, regional impacts on visual resources.

In consideration of the CESA methods and the EFSEC process, the Project was assessed as it relates to compliance with state and local visual management requirements. The Project analysis contained in this report would meet WAC 463-60-362(3), which establishes the requirements for a visual resource analysis to meet the EFSEC process. Specifically, the analysis describes the aesthetic impacts of the proposed Project, shows its location relative to physical features of the site, and outlines procedures to restore or enhance the landscape disturbed during construction (see Section 4.2.4 of this report for proposed mitigation measures, the Applicant's ASC including the Revegetation and Noxious Weed Management Plan and Initial Site Restoration Plan).

The 2020 Benton County Comprehensive Plan identified a planning goal to conserve the visually prominent naturally vegetated steep slopes and elevated ridges that define the Columbia Basin landscape, which are uniquely a product of ice age floods. The planning policy further states that the County should “consider the preservation of the ridges and hillside areas through various development regulations” (Benton County 2021). Since these lands have not been placed into Open Space Conservation, or other types of conservation, and there are no specific policies to protect the landscapes impacted by the Project, the Project would technically be in compliance with this aspect of the county plan. The Horse Heaven Hills and northern ridgeline would, however, become dominated by energy infrastructure, with potential long duration views from areas within the communities between Benton City and Kennewick. These impacts on views would be most intense where unobstructed views of a large number of turbines occur.

### **4.2.3 Impacts during Decommissioning**

The decommissioning and removal of the Project and its components would have similar impacts as the construction process. The option to repower the Project with new models of wind turbines and solar arrays would also have impacts similar to the construction process but would not result in long-term decommissioning and reclamation of the site. Repowering of the facility is not analyzed further in this report.

The decommissioning process would result in increased motion associated with construction equipment, short-term impacts from dust generation, and landform modification to more closely match preconstruction conditions. The removal of Project components would likely require additional ground disturbance and vegetation clearing, resulting in reclamation efforts similar to those conducted after the construction process was completed. The restoration of vegetation in these areas would take a number of years to fully establish, but over time the landscape impacted by the Project would begin to more closely resemble preconstruction conditions.

#### **4.2.3.1 TURBINE OPTION 1**

Impacts would be similar to the construction of the Project including the movement of vehicles attracting attention during decommissioning activities. Viewers located within the foreground distance zone (0–0.5 mile) or in locations where views would be occupied by large portions of the Project being decommissioned, would result in increased visual contrast on these views. These impacts would be short in duration and would cease after removal of the Project is complete and vegetation has been reestablished. Decommissioning activities for Turbine Option 1 would result in medium, short-term, probable, local impacts on visual resources.

#### **4.2.3.2 TURBINE OPTION 2**

Impacts would be similar to Turbine Option 1 except there are fewer proposed wind turbines, requiring fewer roads and other supporting facilities to be removed. This would result in slightly reduced visual contrast and modifications to the existing landscape introduced during Project decommissioning. Decommissioning activities for Turbine Option 2 would result in medium, short-term, probable, local impacts on visual resources.

#### **4.2.3.3 SOLAR ARRAYS**

Impacts would be similar to the construction of the Project, which would be focused within the selected solar siting areas. Within the fenced boundaries, all lands would be restored to more closely match preconstruction conditions, including revegetation of the site. Decommissioning activities for the solar arrays would result in low, short-term, probable, local impacts on visual resources.

#### **4.2.3.4 SUBSTATIONS**

Impacts would be similar to the construction of the Project for both the proposed substations and transmission lines. The removal of the tall, vertical structures associated with both components would result in additional motion from construction equipment, structure deconstruction, and conductor removal. As described for other components, vegetation restoration would occur in these disturbed areas, and the landscape would begin to more closely resemble preconstruction conditions. Decommissioning activities for the substations and transmission lines would result in low, short-term, probable, local impacts on visual resources.

#### **4.2.3.5 BATTERY ENERGY STORAGE SYSTEMS**

Impacts would be similar to the construction of the Project with the removal of the BESS containers and reclamation of those sites. This would include additional motion from construction equipment and associated dust during those activities. As described for other components, vegetation restoration would occur in these disturbed areas, and the landscape would begin to more closely resemble preconstruction conditions. Decommissioning activities for the BESSs would result in low, short-term, probable, local impacts on visual resources.

#### **4.2.3.6 COMBINED IMPACTS OF COMPONENTS**

During Project decommissioning, there would be short-term impacts from these activities, which would occupy a large portion of the landscape and include removal of wind turbines, solar arrays, the O&M facility, transmission lines, BESSs, and substations, as well as the reclamation of access roads, turbine pads, and other areas disturbed during construction and operation of the Project. These activities would include views of additional vehicular traffic as well as areas of exposed soil after the removal of vegetation and during earthwork activities, prior to site reclamation efforts. The removal of vegetation would be noticeable in the setting and contrast with the existing character; however, over time, as vegetation is re-established in the area, it would begin to repeat vegetation patterns common in the area.

Viewpoints and KOPs located within the foreground distance zone (0–0.5 mile) would be most impacted by decommissioning, particularly where a large portion of their viewshed would be occupied by decommissioning multiple Project components simultaneously. Overall, activities during decommissioning of all components of the Project would result in medium, short-term, probable, regional impacts on visual resources.

### **4.2.4 Mitigation Measures**

#### **4.2.4.1 APPLICANT COMMITTED**

To reduce impacts on landscape character and views and to strive to minimize any incompatibility with state and local visual management requirements, the Applicant has developed a series of BMPs and other mitigation measures as part of the Project ASC. Many of these BMPs, as well as the design of the Project, incorporated mitigation measures outlined in the BLM's *Best Management Practices for Reducing Visual Impacts of Renewable Energy Facilities on BLM-Administered Lands* (BLM 2013) and CESA's visual impact assessment process (CESA 2011), including (but not limited to)

- Considering topography when siting wind turbines including less rigid turbine configurations in rolling terrain responding to local topography;
- Clustering or grouping turbines to break up long lines of turbines;

- Striving to create visual order and unity among turbine clusters;
- Maintaining operational turbines and other Project components;
- Preparing an effective decommissioning plan; and
- Selecting appropriate paint and finish selection to match the existing setting.

The Project also considered two different turbine options as part of the assessment of impacts to compare one design with more, smaller turbines (Option 1) to a design with fewer, taller turbines (Option 2). Due to the siting and operating requirements for wind turbines, there are limited mitigation measures that would considerably reduce impacts on visual resources, beyond downsizing the Project to reduce the number of turbines in view. The use of the following Applicant-committed mitigation in the Project design, construction, operation, and decommissioning stages would both directly and indirectly reduce impacts on visual resources:

- Active dust suppression will be implemented during construction.
- Following completion of construction, temporarily disturbed areas (e.g., laydown yards, crane paths not used as Project access roads) will be returned to their previous conditions once construction is complete.
- Restoration of the laydown yards will involve preconstruction stripping and storing topsoil (including weed avoidance), removing the gravel surface, regrading to preconstruction contours, restoring topsoil and de-compacting subsoils as needed, and reseeding with approved seed mixes.
- Following completion of construction, the temporary crane paths will be removed and the area restored in accordance with the Project's Revegetation and Noxious Weed Management Plan.
- The Applicant will provide a clean-looking facility free of debris and unused or broken-down equipment by storing equipment and supplies in designated areas within the O&M facilities and promptly removing damaged or unusable equipment from the site.
- The turbines and solar arrays will be uniform in design to present a trim, uncluttered, aesthetically attractive appearance.
- The Applicant will construct support facilities with non-reflective materials in muted tones and will use white or light gray, non-reflective paint to minimize the need for daytime aviation lighting and eliminate glare from the turbines.

#### **4.2.4.2 RECOMMENDED MITIGATION MEASURES**

To further reduce impacts on visual resources, this report includes additional recommended mitigation measures adapted from the BLM (2013) and CESA (2011).

- **Wind turbines**
  - Relocate turbines located within the foreground distance zone (0–0.5 mile) of residences (BLM 2013; CESA 2011).
  - No piggyback advertising, cell antennas, commercial messages, or symbols placed on proposed wind turbines (BLM 2013).
  - Maintain clean nacelles and towers to avoid any spilled or leaking fluids accumulating dirt, contrasting with the clean, white/gray wind turbine (BLM 2013).
- **Solar arrays**
  - Use color-treated solar collectors and support structures to minimize color contrast with the existing landscape (BLM 2013).

- Avoid complete removal of vegetation beneath solar arrays, where possible, to reduce contrast between the exposed soil and adjacent undisturbed areas (BLM 2013).
- **Substation and transmission lines**
  - Maximize the span length across highways, and other linear viewing locations, to reduce visual contrast at the highway crossings, moving the structures as far from the road as possible (BLM 2013).
  - Choose the type of proposed transmission structure (H-frame or monopole) to best match the adjacent transmission lines, minimizing clutter and visual contrast introduced into the landscape (BLM 2013).

Application of these mitigation measures would incrementally lessen visual contrast but based on the scale of the Project, including the height of the proposed wind turbines, these measures would not effectively reduce identified levels of contrast or degrees of impact magnitude.

### **4.3 Impacts of No Action Alternative**

Under the No Action Alternative, impacts related to visual resources from the construction, operation, and decommissioning of the Proposed Action would not occur. Although the Proposed Action would not occur, other renewable energy projects may be constructed within the visual area of analysis. These projects could lead to development of a wind and/or solar facility within the Project's Lease Boundary, which could result in impacts similar to those described herein for construction, operation, and decommissioning of the Proposed Action. However, for the purpose of this analysis, it is assumed that no future development would occur within the Lease Boundary, and therefore, impacts on visual resources would not occur.

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## **ATTACHMENT A**

### **Maps**

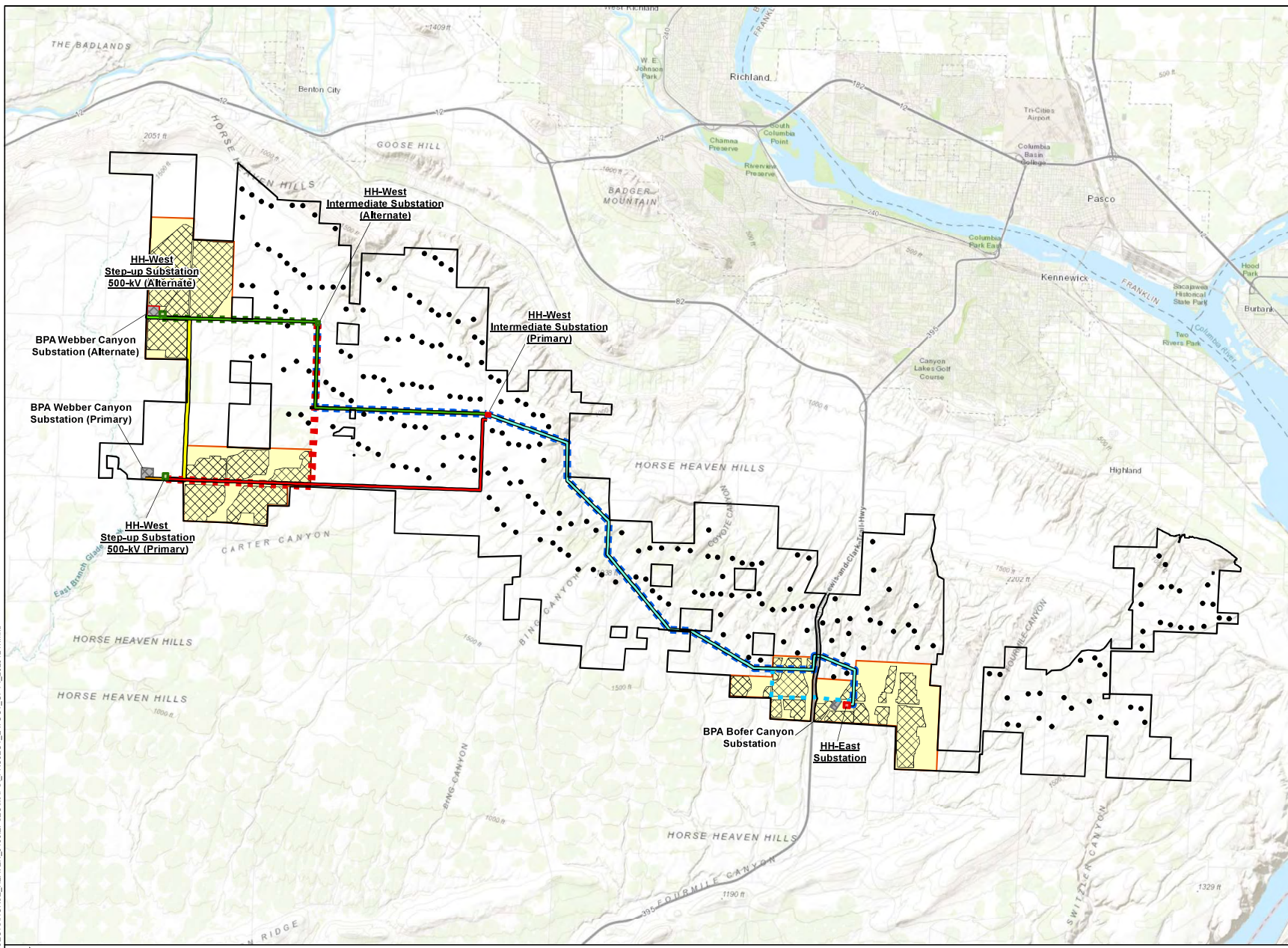
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# Horse Heaven Wind Farm



## Figure 1 Turbine Layout Option 1

BENTON COUNTY, WA



- Project Lease Boundary
- Option 1 Turbine Layout
- Sellards Road 230-kV Transmission Line (Primary)
- Sellards Road 500-kV Transmission Line Step-up (Primary)
- Sellards Road 230-kV Transmission Line (Alternate)
- Solar Intertie 230-kV Transmission Line
- County Well Road 230-kV Transmission Line (Primary)
- County Well Road 500-kV Transmission Line Step-up (Primary)
- County Well Road 230-kV Transmission Line (Alternate)
- 230-kV Intertie Transmission Line (Primary)
- 230-kV Intertie Transmission Line (Alternate)
- 230-kV Alternate Intertie Transmission Line
- Project Substation (Primary)
- Project Substation (Alternate)
- Solar Siting Area
- Solar Array
- BPA Substation (Primary)
- BPA Substation (Alternate)

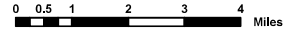


### Reference Map



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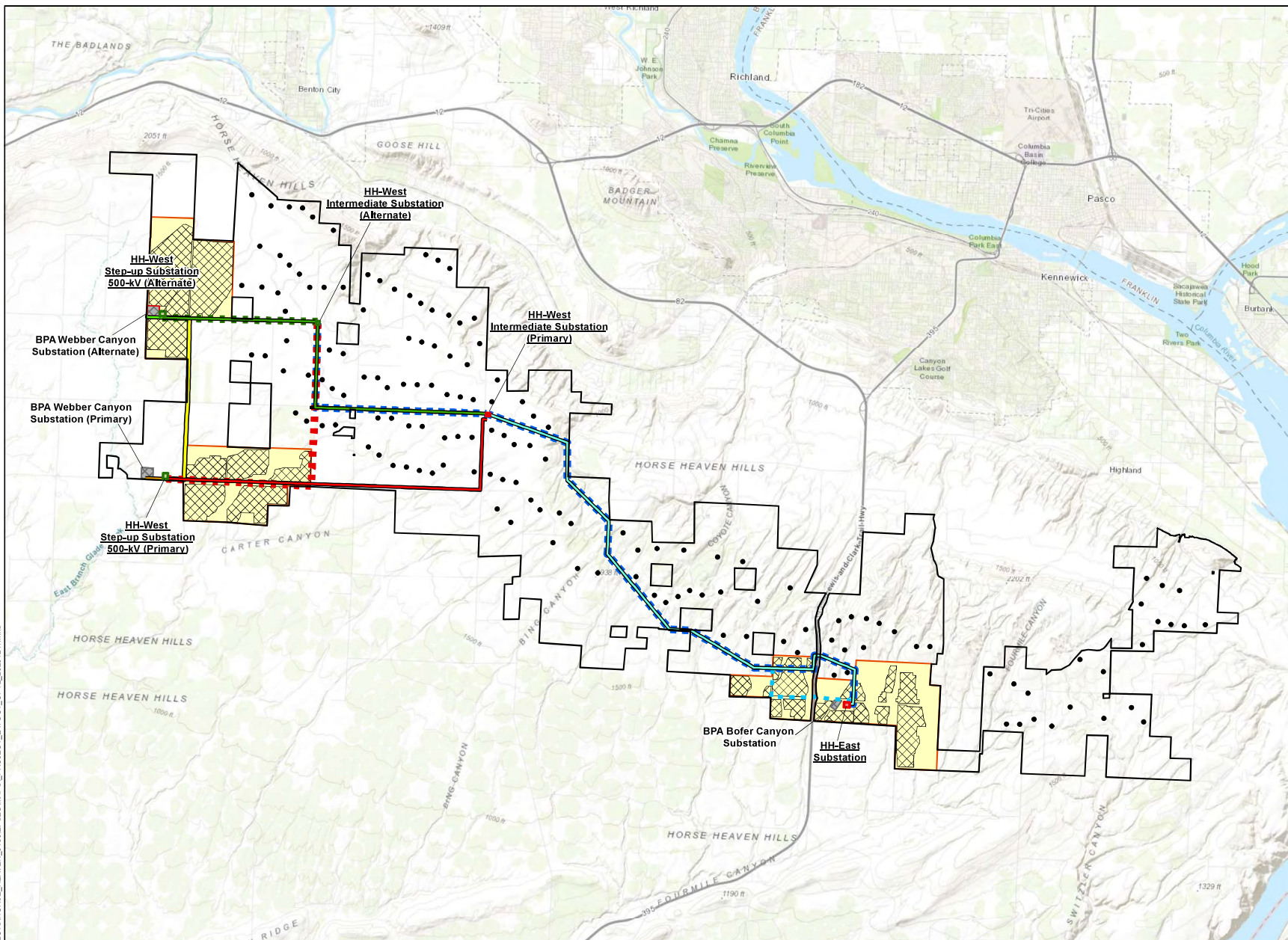


# Horse Heaven Wind Farm



## Figure 2 Turbine Layout Option 2

BENTON COUNTY, WA



- Project Lease Boundary
- Option 2 Turbine Layout
- Sellers Road 230-kV Transmission Line (Primary)
- Sellers Road 500-kV Transmission Line Step-up (Primary)
- Sellers Road 230-kV Transmission Line (Alternate)
- Solar Intertie 230-kV Transmission Line (Primary)
- County Well Road 230-kV Transmission Line (Primary)
- County Well Road 500-kV Transmission Line Step-up (Primary)
- County Well Road 230-kV Transmission Line (Alternate)
- 230-kV Intertie Transmission Line (Primary)
- 230-kV Intertie Transmission Line (Alternate)
- 230-kV Alternate Intertie Transmission Line
- Project Substation (Primary)
- Project Substation (Alternate)
- Solar Siting Area
- Solar Array
- BPA Substation (Primary)
- BPA Substation (Alternate)

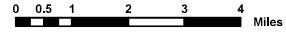


### Reference Map



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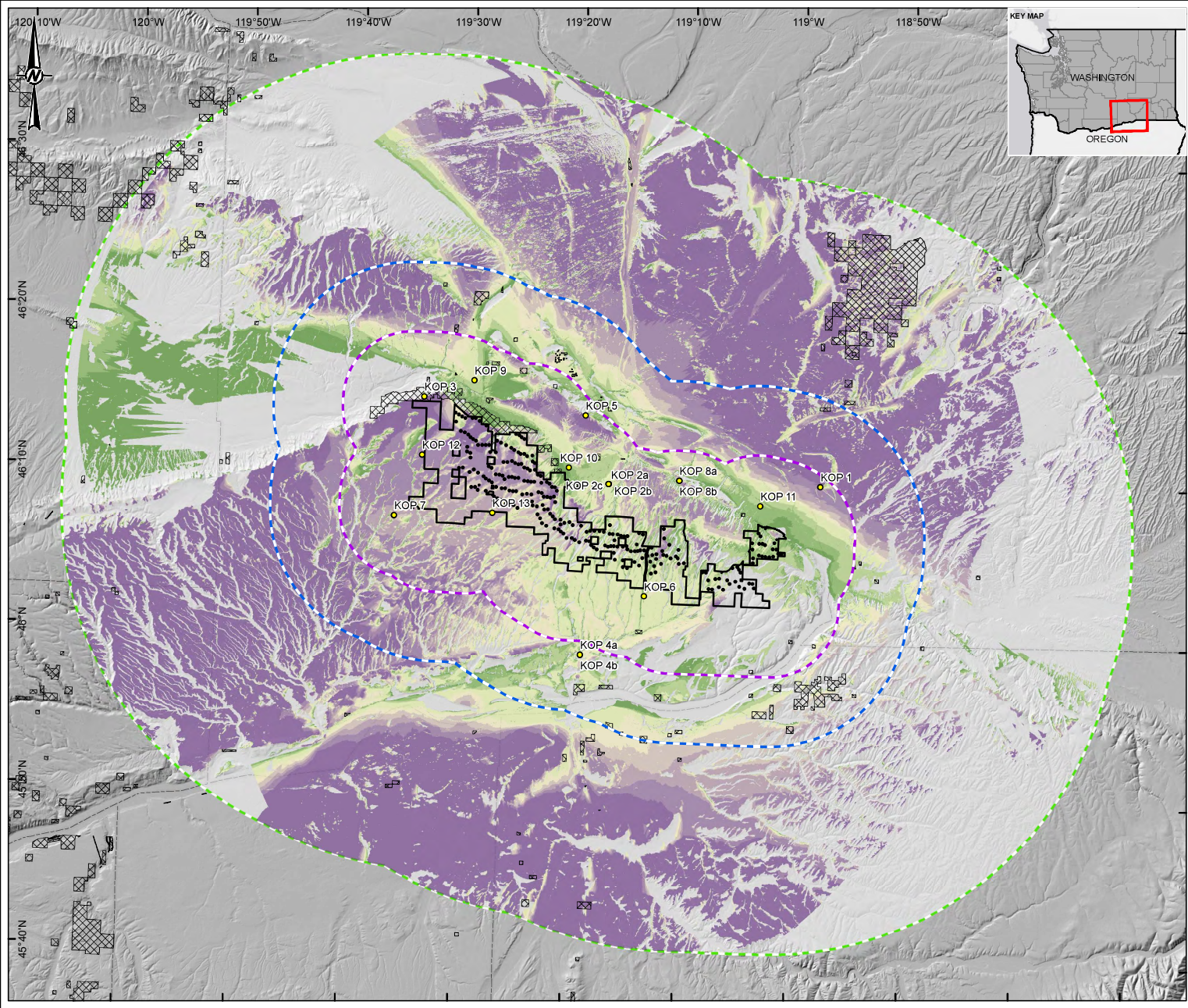
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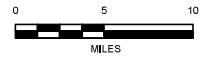
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- LEGEND**
- Proposed Turbine Location (244 Turbines modeled at 499' blade-tip height)
  - Viewpoint Location
  - ▭ Project Lease Boundary
  - 10 mile Buffer
  - 5 mile Buffer
  - 25 mile Buffer
  - ▣ BLM Land
- Number of Turbines Potentially Visible**
- 0
  - 1 - 10
  - 11 - 25
  - 26 - 50
  - 51 - 100
  - 101 - 125
  - 126 - 150
  - 151 - 175
  - 176 - 200
  - > 200



**NOTE(S)**  
1.

**REFERENCE(S)**  
1, PROJECT FEATURES PROVIDED BY EFSEC, NOV 2021  
2, SERVICE LAYER CREDITS.

**CLIENT**  
State of Washington Energy Facility Site Evaluation Council

**PROJECT**  
Horse Heaven Wind Farm

**TITLE**  
**Viewshed Analysis Results:  
Turbine Layout Option 1**

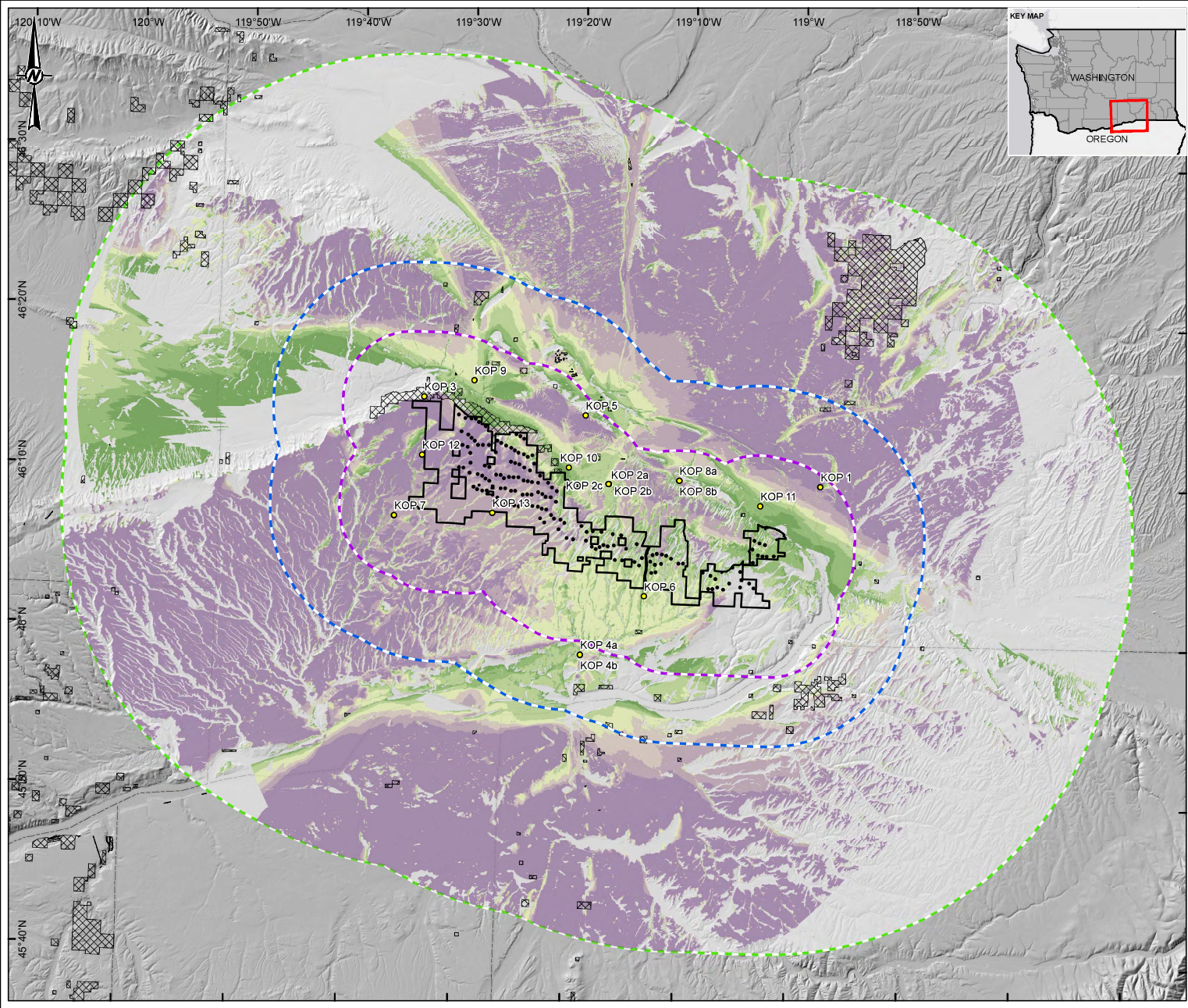
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	DESIGNED	HJ
	PREPARED	HJ
	REVIEWED	KW
	APPROVED	###

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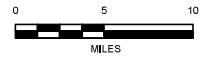
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- LEGEND**
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  - Viewpoint Location
  - ▭ Project Lease Boundary
  - 10 mile Buffer
  - 5 mile Buffer
  - 25 mile Buffer
  - ▨ BLM Land
- Number of Turbines Potentially Visible**
- 0
  - 1 - 10
  - 11 - 25
  - 26 - 50
  - 50 - 75
  - 76 - 100
  - 101 - 125
  - 126 - 150



**NOTE(S)**

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**REFERENCE(S)**

- PROJECT FEATURES PROVIDED BY EFSEC, NOV 2021
- SERVICE LAYER CREDITS.

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**CLIENT**

State of Washington Energy Facility Site Evaluation Council

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**PROJECT**

Horse Heaven Wind Farm

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**TITLE**

**Viewshed Analysis Results:  
Turbine Layout Option 2**

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CONSULTANT	YYYY-MM-DD	DATE
	DESIGNED	HJ
	PREPARED	HJ
	REVIEWED	KW
	APPROVED	###

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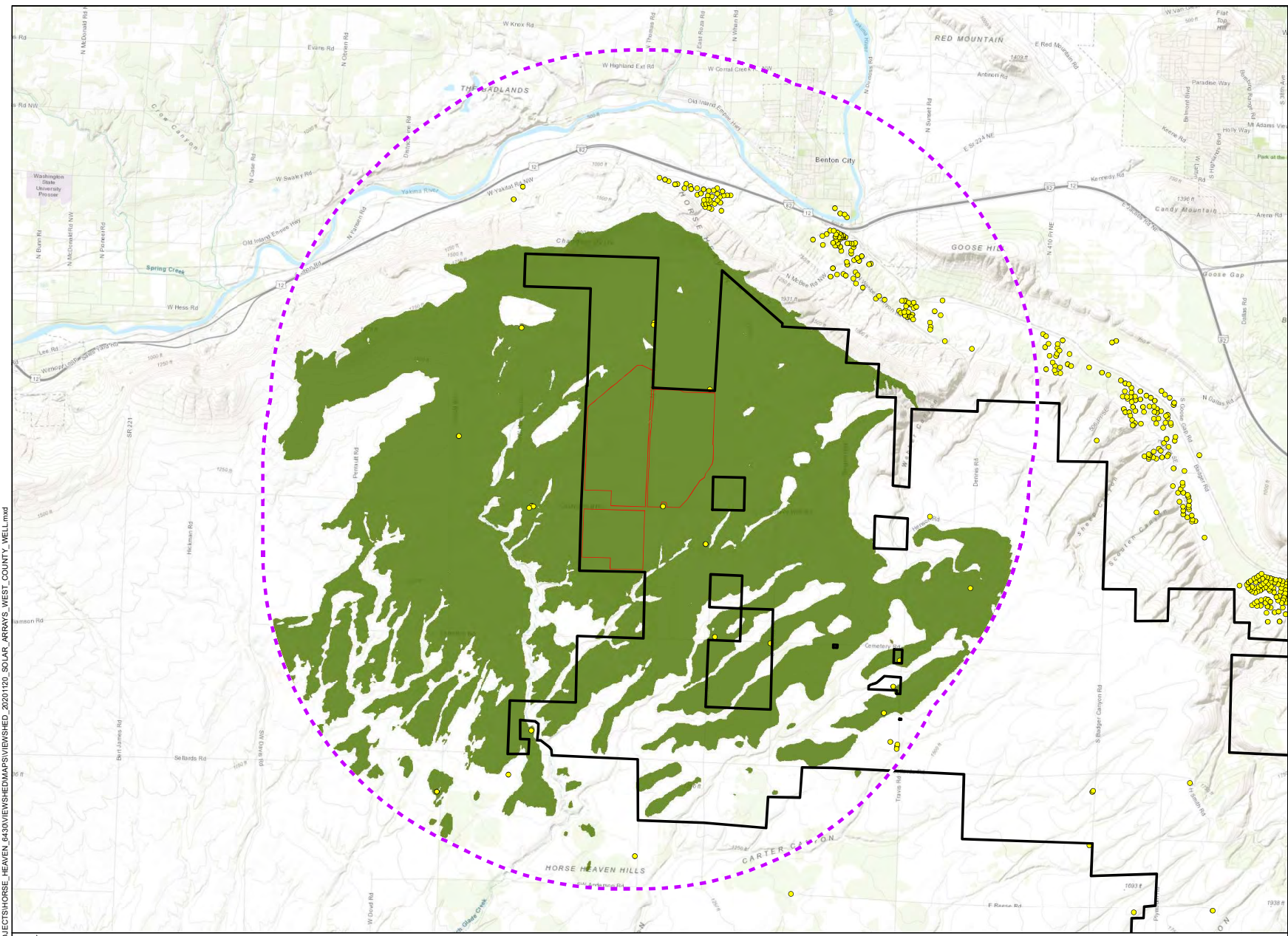
# Horse Heaven Wind Farm



**Figure 5**  
Viewshed Analysis Results:  
Western Solar Array  
(County Well Road)

BENTON COUNTY, WA

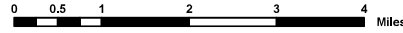
- Visual Receptor
- Solar Array Fence Line
- Project Lease Boundary
- Solar Array 5-mile Buffer
- Potentially Visible
- Not Visible



Reference Map



1:90,000 WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION

R:\PROJECTS\HORSE\_HEAVEN\_643\VIEWSHED\MAPS\VIEWSHED\_20201120\_SOLAR\_ARRAYS\_WEST\_COUNTY\_WELL.mxd



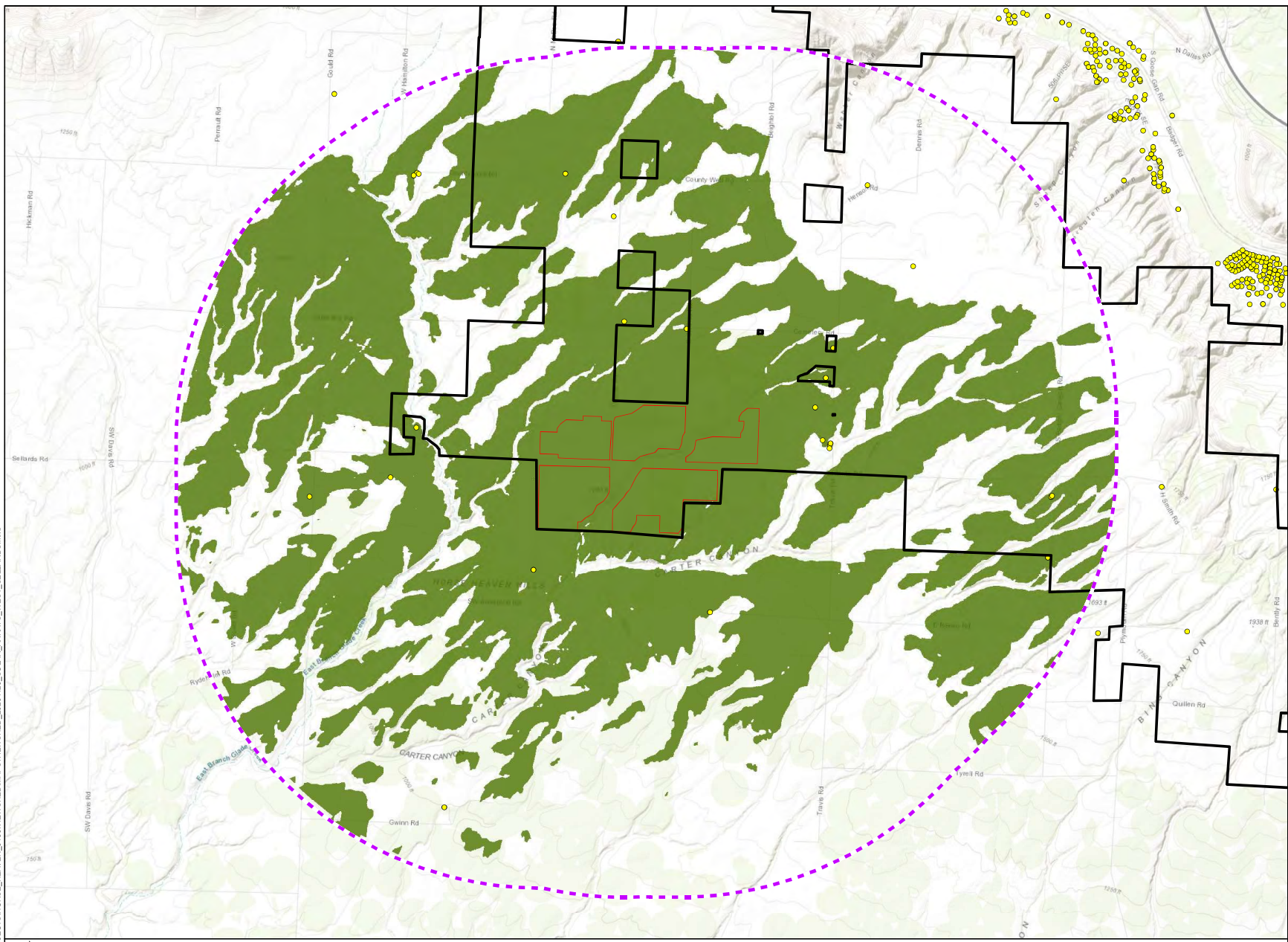
Horse Heaven  
Wind Farm



Figure 6  
Viewshed Analysis Results:  
Western Solar Array  
(Sellards Road)

BENTON COUNTY, WA

- Visual Receptor
- Solar Array Fence Line
- Project Lease Boundary
- Solar Array 5-mile Buffer
- Potentially Visible
- Not Visible



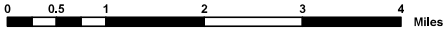
Reference Map



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1:80,000 WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION



# Horse Heaven Wind Farm



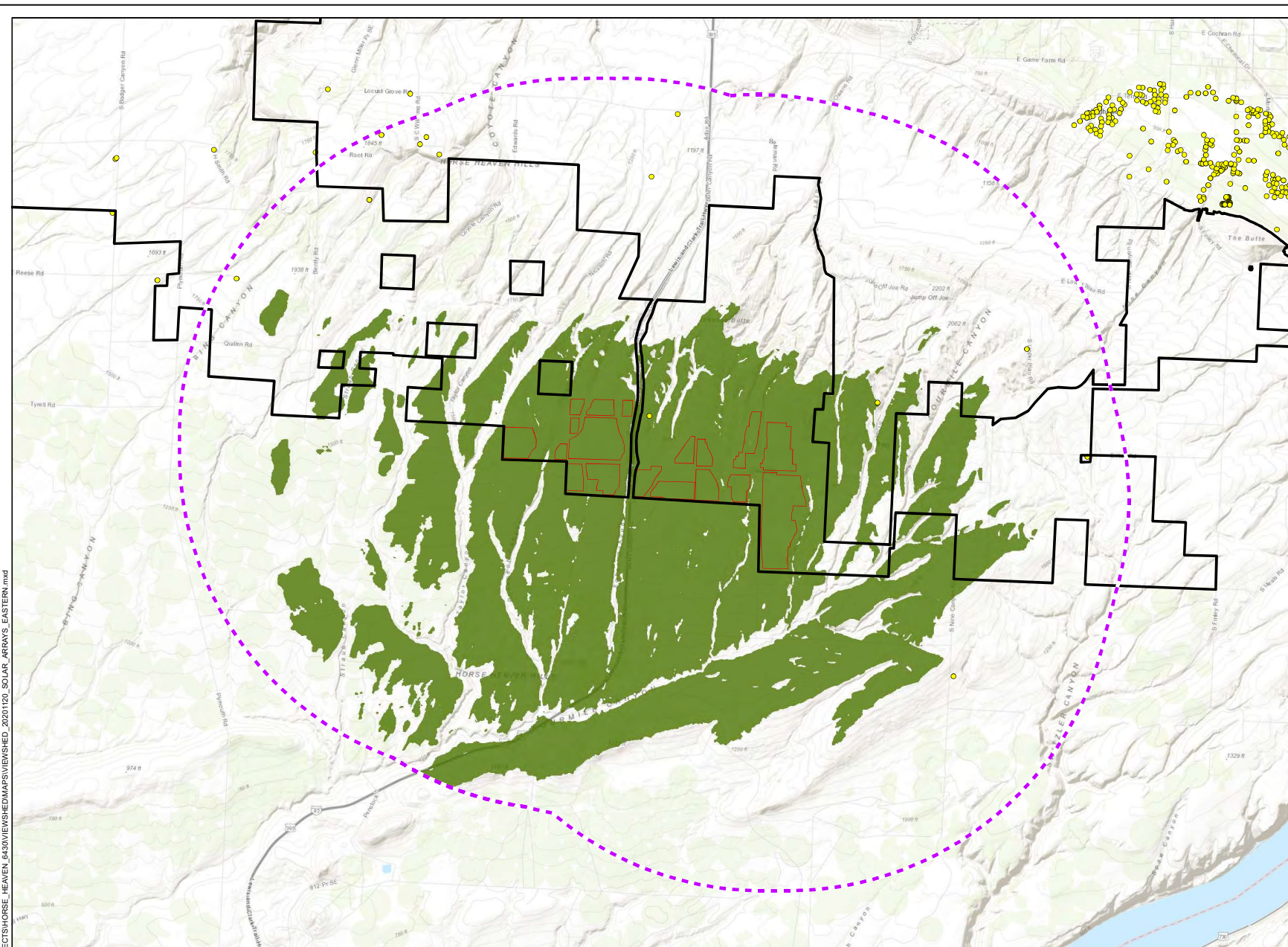
## Figure 7 Viewshed Analysis Results: Eastern Solar Array (Bofer Canyon)

BENTON COUNTY, WA

- Visual Receptor
- Solar Array Fence Line
- ▭ Project Lease Boundary
- ⋯ Solar Array 5-mile Buffer
- Potentially Visible
- Not Visible



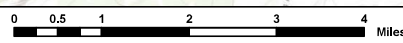
### Reference Map



R:\PROJECTS\HORSE\_HEAVEN\_6430\VIEWSHED\MAPS\VIEWSHED\_20201120\_SOLAR\_ARRAYS\_EASTERN.mxd



1:90,000 WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION



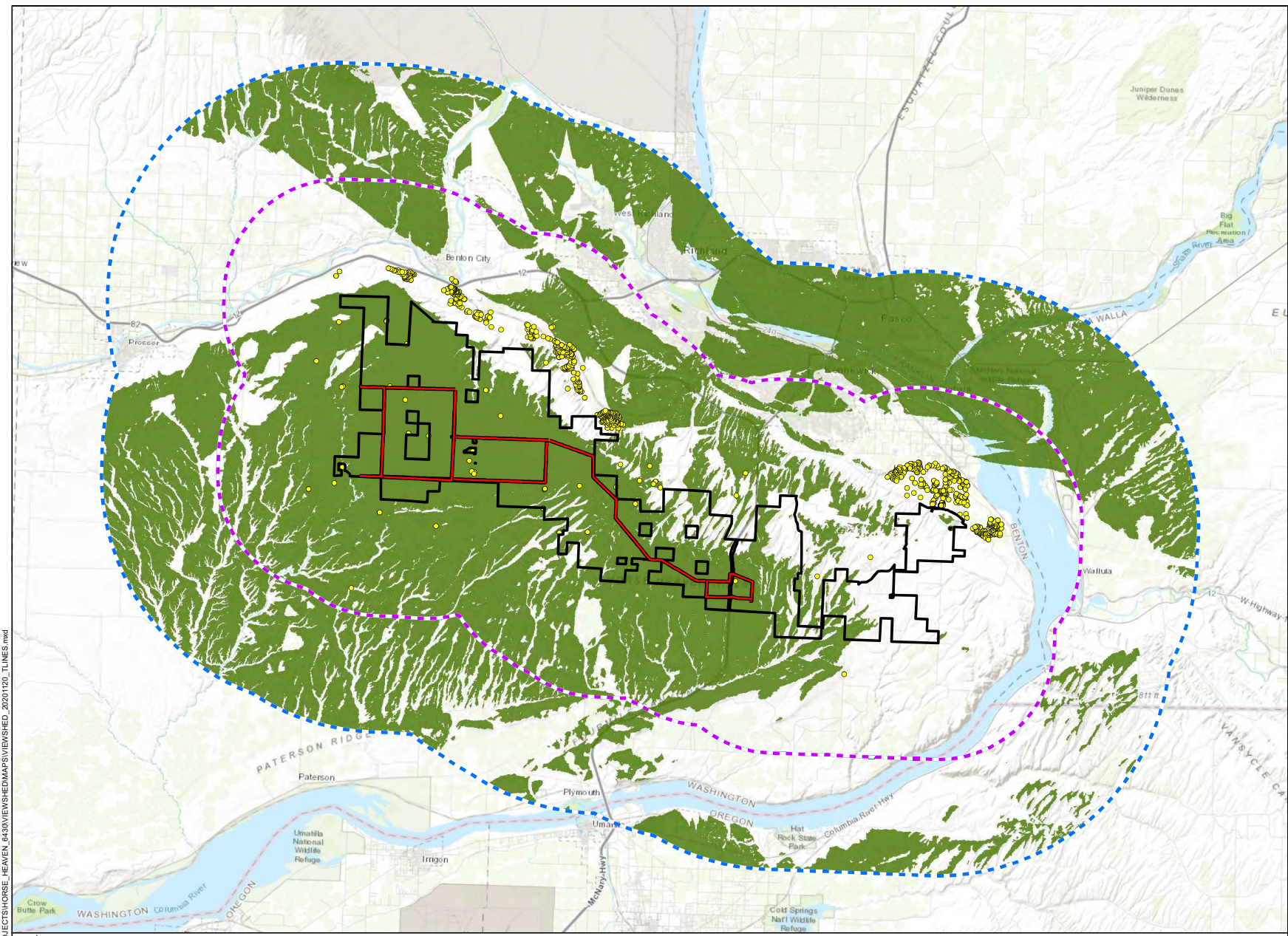
Horse Heaven  
Wind Farm



Figure 8  
Viewshed Analysis Results:  
Proposed Transmission Lines

BENTON COUNTY, WA

- Proposed Transmission Line
- Visual Receptor
- Project Lease Boundary
- 5-mile Buffer
- 10-mile Buffer
- Potentially Visible
- Not Visible



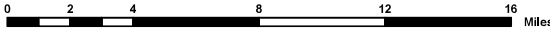
Reference Map



RAPPROJECTS\HORSE\_HEAVEN\_643\VIEWSHEDMAPS\VIEWSHED\_20201120\_TLINES.mxd



1:250,000 WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION



Horse Heaven Wind Project



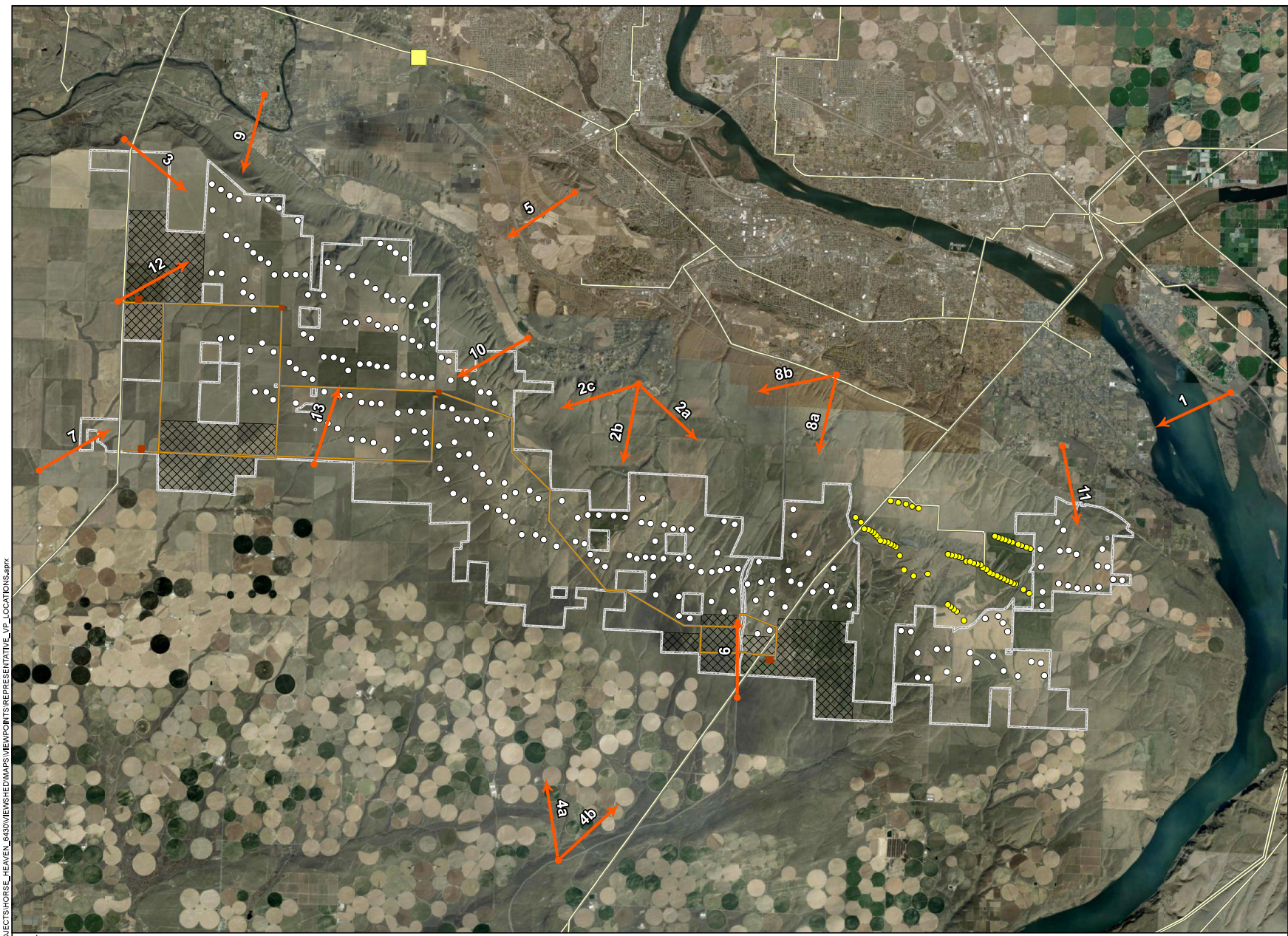
Figure 9  
Representative Viewpoint Locations

BENTON COUNTY, WA

- Existing Simulation with Direction
- Option 1 Turbine Location
- Proposed Substation
- Proposed Transmission Line
- Project Lease Boundary
- Solar Siting Area
- Existing Turbine
- Existing Substation
- Existing Transmission Line



Reference Map



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1:150,000 WGS 1984 UTM Zone 11N

0 1 2 4 6 8 Miles

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**ATTACHMENT B**  
**Visual Simulations**

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 1**  
**Representative Viewpoint 1**  
**Existing Conditions**  
**and Project Simulations**

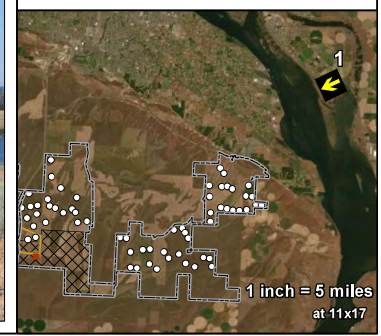
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	244
Horizontal field of view (deg):.....	75
Vertical field of view (deg):.....	20
Max. WTGs within field of view:...	244 / 150
Max. Visible WTGs at tip height:...	199 / 137
Max. Visible WTGs at hub height:...	148 / 107
Closest WTG (mi):.....	5.2 / 5.8
Furthest WTG (mi):.....	26.8 / 26.5
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):..	No view

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 2**  
**Representative Viewpoint 2a**  
**Existing Conditions**  
**and Project Simulations**

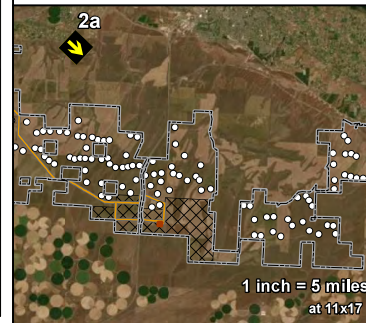
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	132
Horizontal field of view (deg):.....	57
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	75 / 38
Max. Visible WTGs at tip height:...	56 / 29
Max. Visible WTGs at hub height:...	50 / 24
Closest WTG (mi):.....	3.9 / 4.8
Furthest WTG (mi):.....	13.4 / 13
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):...	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



### Horse Heaven Wind Project



**Figure 3**  
**Representative Viewpoint 2b**  
**Existing Conditions**  
**and Project Simulations**

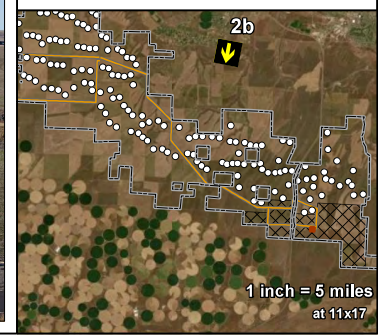
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	189
Horizontal field of view (deg): .....	57
Vertical field of view (deg): .....	15
Max. WTGs within field of view:...	37 / 19
Max. Visible WTGs at tip height:...	36 / 19
Max. Visible WTGs at hub height:...	30 / 17
Closest WTG (mi): .....	3 / 3.5
Furthest WTG (mi): .....	6.2 / 5.9
Closest Solar Array (mi): .....	No view
Closest Transmission Line (mi): .....	No view
Closest Substation / BESS (mi): .....	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 4**  
**Representative Viewpoint 2c**  
**Existing Conditions**  
**and Project Simulations**

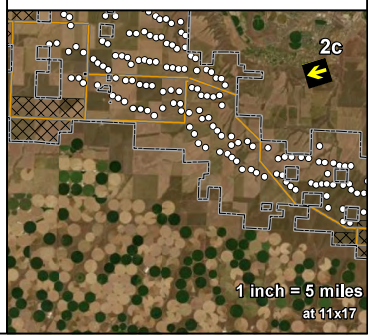
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	251
Horizontal field of view (deg): .....	56
Vertical field of view (deg): .....	15
Max. WTGs within field of view:...	85 / 60
Max. Visible WTGs at tip height:...	46 / 39
Max. Visible WTGs at hub height:...	24 / 21
Closest WTG (mi): .....	3.7 / 3.7
Furthest WTG (mi): .....	10.8 / 10.8
Closest Solar Array (mi): .....	No view
Closest Transmission Line (mi): .....	3.4
Closest Substation / BESS (mi): .....	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 5  
Representative Viewpoint 3  
Existing Conditions  
and Project Simulations**

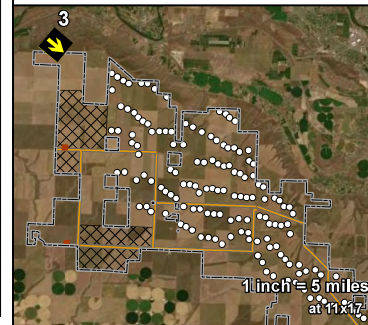
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	128
Horizontal field of view (deg):.....	56
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	244 / 150
Max. Visible WTGs at tip height:...	239 / 150
Max. Visible WTGs at hub height:...	219 / 139
Closest WTG (mi):.....	2.5 / 2.8
Furthest WTG (mi):.....	28.1 / 27.6
Closest Solar Array (mi):.....	2.1
Closest Transmission Line (mi):.....	4.2
Closest Substation / BESS (mi):...	Not in frame

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 6**  
**Representative Viewpoint 4a**  
**Existing Conditions**  
**and Project Simulations**

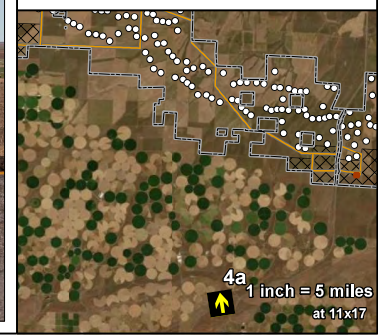
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	350
Horizontal field of view (deg):.....	57
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	163 / 110
Max. Visible WTGs at tip height:...	51 / 40
Max. Visible WTGs at hub height:...	34 / 26
Closest WTG (mi):.....	7.3 / 7.3
Furthest WTG (mi):.....	19.6 / 19.4
Closest Solar Array (mi):.....	Not in frame
Closest Transmission Line (mi):.....	6.5
Closest Substation / BESS (mi):...	Not in frame

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 7**  
**Representative Viewpoint 4b**  
**Existing Conditions**  
**and Project Simulations**

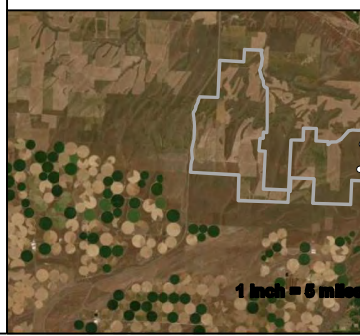
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	46
Horizontal field of view (deg):.....	57
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	85 / 42
Max. Visible WTGs at tip height:...	66 / 37
Max. Visible WTGs at hub height:...	58 / 33
Closest WTG (mi):.....	7 / 7.3
Furthest WTG (mi):.....	16.2 / 15.6
Closest Solar Array (mi):.....	6.0
Closest Transmission Line (mi):.....	6.5
Closest Substation / BESS (mi):...	7.3

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 8**  
**Representative Viewpoint 5**  
**Existing Conditions**  
**and Project Simulations**

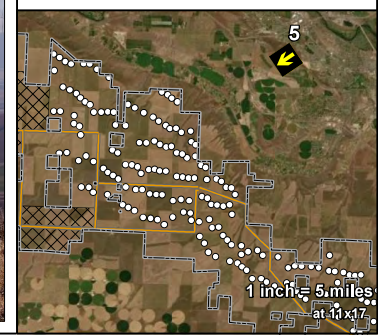
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	236
Horizontal field of view (deg):.....	58
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	101 / 76
Max. Visible WTGs at tip height:...	101 / 76
Max. Visible WTGs at hub height:...	101 / 76
Closest WTG (mi):.....	4.7 / 4.7
Furthest WTG (mi):.....	9.9 / 9.8
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):...	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 9**  
**Representative Viewpoint 6**  
**Existing Conditions**  
**and Project Simulations**

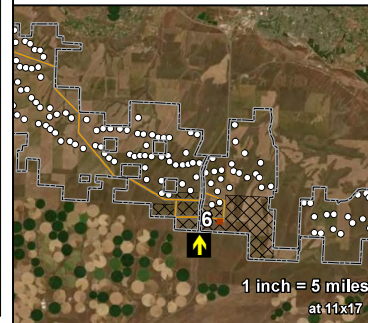
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	360
Horizontal field of view (deg):.....	60
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	41 / 17
Max. Visible WTGs at tip height:...	37 / 17
Max. Visible WTGs at hub height:...	29 / 17
Closest WTG (mi):.....	1.7 / 1.8
Furthest WTG (mi):.....	5.7 / 5
Closest Solar Array (mi):.....	0.6
Closest Transmission Line (mi):.....	1.2
Closest Substation / BESS (mi):...	Not in frame

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 10**  
**Representative Viewpoint 7**  
**Existing Conditions**  
**and Project Simulations**

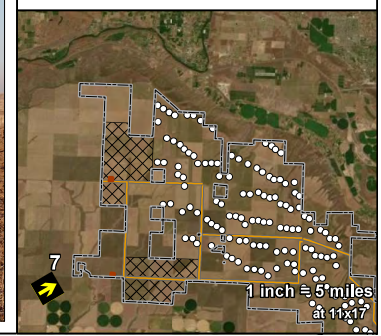
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	60
Horizontal field of view (deg):.....	58
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	122 / 90
Max. Visible WTGs at tip height:...	118 / 87
Max. Visible WTGs at hub height:...	110 / 85
Closest WTG (mi):.....	5.8 / 5.8
Furthest WTG (mi):.....	11.9 / 11.8
Closest Solar Array (mi):.....	3.1
Closest Transmission Line (mi):.....	2.2
Closest Substation / BESS (mi):..	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



### Horse Heaven Wind Project



**Figure 11**  
**Representative Viewpoint 8a**  
**Existing Conditions**  
**and Project Simulations**

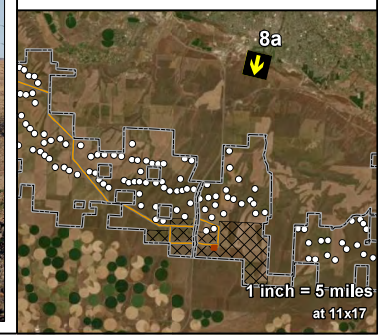
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	193
Horizontal field of view (deg):.....	57
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	43 / 20
Max. Visible WTGs at tip height:...	40 / 19
Max. Visible WTGs at hub height:...	37 / 15
Closest WTG (mi):.....	3.6 / 5.4
Furthest WTG (mi):.....	7.4 / 7.3
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):...	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

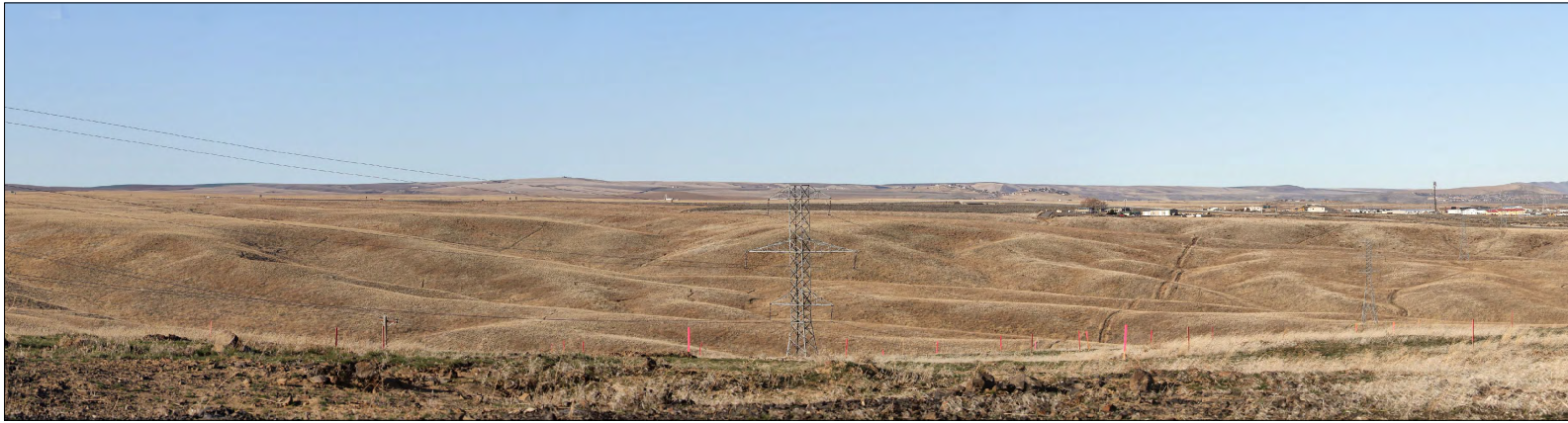
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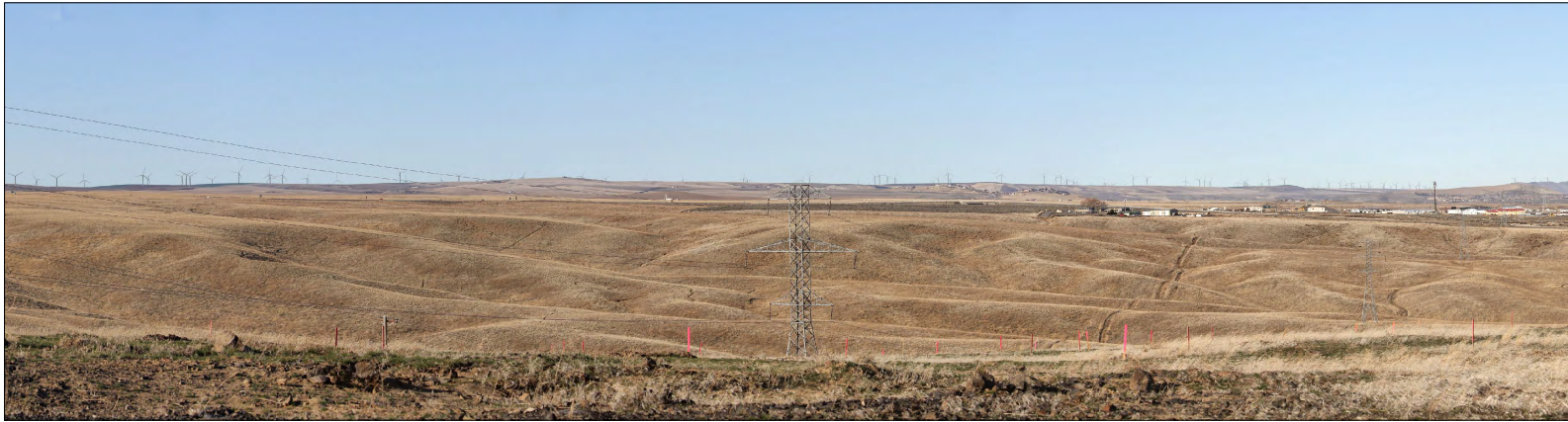


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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 12**  
**Representative Viewpoint 8b**  
**Existing Conditions**  
**and Project Simulations**

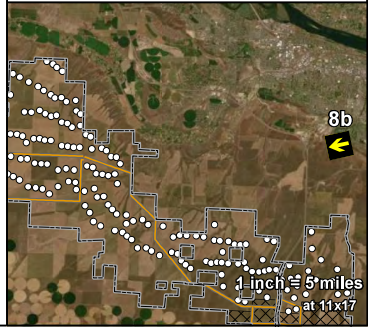
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	258
Horizontal field of view (deg):.....	57
Vertical field of view (deg):.....	15
Max. WTGs within field of view:...	153 / 105
Max. Visible WTGs at tip height:...	137 / 101
Max. Visible WTGs at hub height:...	102 / 83
Closest WTG (mi):.....	5.9 / 6.1
Furthest WTG (mi):.....	16.8 / 16.6
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):...	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 8 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 8 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 13  
Representative Viewpoint 9  
Existing Conditions  
and Project Simulations**

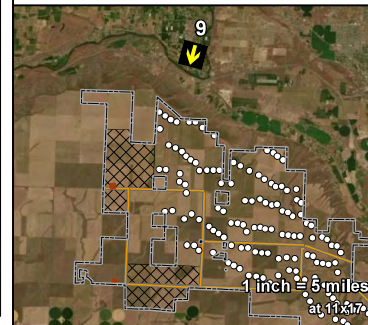
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	195
Horizontal field of view (deg):.....	73
Vertical field of view (deg):.....	19
Max. WTGs within field of view:...	61 / 47
Max. Visible WTGs at tip height:...	5 / 5
Max. Visible WTGs at hub height:...	4 / 4
Closest WTG (mi):.....	2.7 / 2.7
Furthest WTG (mi):.....	9.7 / 9.6
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):...	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



### Horse Heaven Wind Project



**Figure 14**  
**Representative Viewpoint 10**  
**Existing Conditions**  
**and Project Simulations**

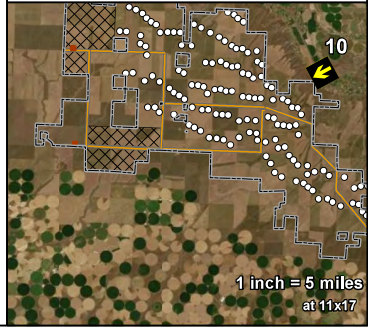
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	241
Horizontal field of view (deg):.....	76
Vertical field of view (deg):.....	20
Max. WTGs within field of view:...	79 / 59
Max. Visible WTGs at tip height:...	15 / 15
Max. Visible WTGs at hub height:...	9 / 7
Closest WTG (mi):.....	1.5 / 1.5
Furthest WTG (mi):.....	6.6 / 6.6
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):...	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

NOT FOR CONSTRUCTION





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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 15**  
**Representative Viewpoint 11**  
**Existing Conditions**  
**and Project Simulations**

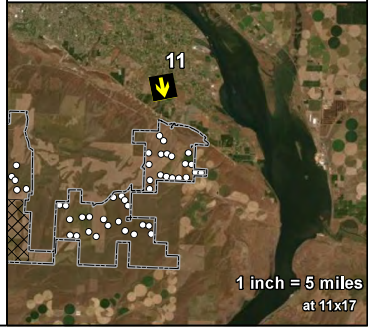
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Solar Siting Area

View direction (deg): .....	169
Horizontal field of view (deg):.....	73
Vertical field of view (deg):.....	19
Max. WTGs within field of view:...	33 / 47
Max. Visible WTGs at tip height:...	23 / 12
Max. Visible WTGs at hub height:...	19 / 11
Closest WTG (mi):.....	2 / 2.5
Furthest WTG (mi):.....	6.6 / 6.6
Closest Solar Array (mi):.....	No view
Closest Transmission Line (mi):.....	No view
Closest Substation / BESS (mi):..	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 16**  
**Representative Viewpoint 12**  
**Existing Conditions**  
**and Project Simulations**

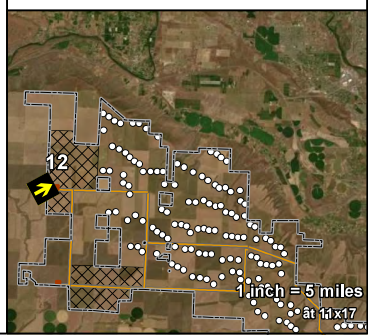
BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	61
Horizontal field of view (deg):.....	73
Vertical field of view (deg):.....	19
Max. WTGs within field of view:...	57 / 40
Max. Visible WTGs at tip height:...	53 / 40
Max. Visible WTGs at hub height:...	52 / 37
Closest WTG (mi):.....	2.5 / 2.5
Furthest WTG (mi):.....	8.7 / 8.6
Closest Solar Array (mi):.....	0.2
Closest Transmission Line (mi):.....	0.2
Closest Substation / BESS (mi):...	0.5

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

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Existing Conditions



Project Simulation Option 1  
244 WTG



Project Simulation Option 2  
150 WTG



## Horse Heaven Wind Project



**Figure 17**  
**Representative Viewpoint 13**  
**Existing Conditions**  
**and Project Simulations**

BENTON COUNTY, WA

- Viewpoint Location and Photo Direction
- Project Lease Boundary
- Proposed Turbine Location
- Proposed Substation/BESS
- Proposed Transmission Line
- Solar Siting Area

View direction (deg): .....	18
Horizontal field of view (deg):.....	73
Vertical field of view (deg):.....	19
Max. WTGs within field of view:...	73 / 54
Max. Visible WTGs at tip height:...	69 / 52
Max. Visible WTGs at hub height:...	65 / 51
Closest WTG (mi):.....	1.1 / 1.1
Furthest WTG (mi):.....	7.3 / 7.1
Closest Solar Array (mi):.....	Not in frame
Closest Transmission Line (mi):.....	0.2
Closest Substation / BESS (mi):...	No view

To approximate how the project will appear to a viewer in the natural setting, this sheet should be printed at 11 x 17 inches, full size with no scaling, and viewed at 6 inches from the eye. If viewed on a computer monitor, the document should be scaled at 100% and viewed at 6 inches from the eye.

NOT FOR CONSTRUCTION

