

Exhibit R

Scenic and Aesthetic Values

**West End Solar Project
September 2022**

**Prepared for
EE West End Solar LLC**

Prepared by



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Table of Contents

1.0	Introduction	1
2.0	Analysis Area	1
3.0	Identification of Significant or Important Scenic Resources – OAR 345-021-0010(1)(r)(A)(B)(E)	1
3.1	Counties.....	5
3.1.1	Morrow County, Oregon	5
3.1.2	Umatilla County, Oregon.....	5
3.1.3	Benton County, Washington	6
3.2	Municipalities	6
3.2.1	City of Umatilla	6
3.2.2	City of Hermiston.....	7
3.2.3	City of Stanfield.....	7
3.2.4	City of Echo.....	8
3.3	State	8
3.4	Tribes	8
3.5	Federal Lands.....	9
3.5.1	Bureau of Land Management.....	9
3.5.2	U.S. Fish and Wildlife Service.....	9
3.5.3	U.S. Army Corps of Engineers	10
3.5.4	Oregon Parks and Recreation Department.....	10
4.0	Impact Assessment – OAR 345-021-0010(1)(r)(C).....	11
4.1	Impact Assessment Methodology.....	11
4.2	Impact Assessment Results.....	13
4.2.1	Bureau of Land Management.....	16
4.2.2	Oregon Parks and Recreation Department.....	16
5.0	Mitigation	17
6.0	Monitoring – OAR 345-021-0010(1)(r)(F)	18
7.0	Conclusion.....	18
8.0	References.....	18

List of Tables

Table R-1. Important Scenic Resources Inventory	3
Table R-2. Visual Impact Assessment Results	15

List of Figures

Figure R-1. Scenic Resources	
Figure R-2. Zone of Visual Influence Analysis	

Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
Applicant	EE West End Solar LLC
BLM	U.S. Bureau of Land Management
I-84	Interstate 84
NWR	National Wildlife Refuge
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
OPRD	Oregon Parks and Recreation Department
Project	West End Solar Project
RMP	Resource Management Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management
ZVI	zone of visual influence

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1.0 Introduction

EE West End Solar LLC (Applicant), a subsidiary of Eurus Energy America Corporation, proposes to construct the West End Solar Project (Project), a solar energy generation facility and related or supporting facilities in Umatilla County, Oregon. Exhibit R provides an analysis of the Project impacts to scenic resources, as required to meet the submittal requirements of Oregon Administrative Rule (OAR) 345-021-0010 (1)(r) paragraphs (A) through (F). This exhibit demonstrates that the Project can comply with the approval standard in OAR 345-022-0080:

345-022-0080 Scenic Resources

...to issue a Site Certificate, the Council must find that the design, construction, and operation of the Facility, taking into account mitigation, are not likely to result in significant adverse impacts to scenic resources and values identified as significant or important in local land use plans, tribal land management plans, and federal land management plans for any lands located within the analysis area described in the Project Order.

2.0 Analysis Area

The Analysis Area for scenic resources includes the area within the Site Boundary, as well as 10 miles from the Site Boundary, as defined in OAR 345-001-0010(59)(b). The Site Boundary is defined in detail in Exhibits B and C. The Analysis Area is shown on Figure R-1.

3.0 Identification of Significant or Important Scenic Resources – OAR 345-021-0010(1)(r)(A)(B)(E)

OAR 345-021-0010(1)(r) An analysis of significant potential impacts of the proposed facility, if any, on scenic resources identified as significant or important in local land use plans, tribal land management plans and federal land management plans for any lands located within the analysis area, providing evidence to support a finding by the Council as required by OAR 345-022-0080, including:

OAR 345-021-0010(1)(r)(A) A list of the local, tribal and federal plans that address lands within the analysis area.

OAR 345-021-0010(1)(r)(B) Identification and description of the scenic resources identified as significant or important in the plans listed in (A), including a copy of the portion of the management plan that identifies the resource as significant or important.

OAR 345-021-0010(1)(r)(E) A map or maps showing the location of the scenic resources described under (B).

This section inventories scenic resources identified as significant or important in local, tribal, and federal land use plans within the Analysis Area, as required to demonstrate compliance with the approval standard in OAR 345-022-0080. The Analysis Area includes parts of two Oregon counties, one Washington State county, four Oregon municipalities, and land administered by the Oregon Department of Fish and Wildlife (ODFW), the U.S. Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service (USFWS), the U.S. Army Corps of Engineers (USACE), and the Oregon Parks and Recreation Department (OPRD).

The following sections describe the applicable jurisdictions, their applicable land use plans, and the determination as to whether visual resources in the Analysis Area are designated as significant or important. These descriptions are summarized in Table R-1 and shown on Figure R-1.

Table R-1. Important Scenic Resources Inventory

Jurisdiction	Plan	Scenic Resources Specified in Plan	Important or Significant Scenic Resources Identified in Analysis Area	Name of Scenic Resource(s) in Analysis Area	Scenic Resource Description	Distance from Site Boundary (miles)	Direction from Site Boundary	Location Scenic Resources Discussed in Plan
Counties								
Morrow County, OR	Morrow County Comprehensive Plan (Morrow County 2013)	No	No	None identified	N/A	N/A	N/A	Natural and Cultural Resources Element
Umatilla County, OR	Umatilla County Comprehensive Plan (Umatilla County 1984, Umatilla County 2018)	Yes	No	None identified	N/A	N/A	N/A	Chapter 8, p. 8-10, 8-12; Technical Report, D-104-109
Benton County, WA	Benton County Comprehensive Plan (Benton County 2020)	Yes	No	None identified	N/A	N/A	N/A	Chapter 2, p. 28
Incorporated Cities and Towns								
City of Umatilla	City of Umatilla Comprehensive Land Use Plan (City of Umatilla 2013)	No	No	None identified	N/A	N/A	N/A	Chapter 5, Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces
City of Hermiston	City of Hermiston Comprehensive Plan and Development Code (City of Hermiston 2021a, City of Hermiston 2021b)	No	No	None identified	N/A	N/A	N/A	Chapter III, Policy 7
City of Stanfield	City of Stanfield Comprehensive Plan (City of Stanfield 2001) and Development Code (City of Stanfield 2017)	No	No	None identified	N/A	N/A	N/A	Development Code Chapters 2-3
City of Echo	City of Echo Comprehensive Plan (City of Echo 2005) and Zoning Administrative Regulations (City of Echo 2015)	No	No	None identified	N/A	N/A	N/A	Comprehensive Plan Section 7-1-5
State								
ODFW	Draft Updated Columbia Basin Wildlife Areas Management Plan (ODFW 2021)	No	No	None identified	N/A	N/A	N/A	N/A
Tribal								
None applicable	None	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Federal								
BLM, Vale District, Baker Resource Area	Baker Resource Management Plan (BLM 1989)	Yes	Yes	Echo Meadows Oregon Trail ACEC Site	Segment of the Oregon Trail	6.8	SW	Chapter 2, Baker Resource Management Plan Decisions, p. 47-49; Management Guidance for

Table R-1. Important Scenic Resources Inventory

Jurisdiction	Plan	Scenic Resources Specified in Plan	Important or Significant Scenic Resources Identified in Analysis Area	Name of Scenic Resource(s) in Analysis Area	Scenic Resource Description	Distance from Site Boundary (miles)	Direction from Site Boundary	Location Scenic Resources Discussed in Plan
								applicable Geographic Units; Map 5
USFWS	Cold Springs National Wildlife Refuge – <i>No conservation plan</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Umatilla National Wildlife Refuge – McNary and Umatilla National Wildlife Refuges Comprehensive Conservation Plan and Environmental Assessment (USFWS 2007)	No	No	None identified	N/A	N/A	N/A	N/A
	McNary National Wildlife Refuge – McNary and Umatilla National Wildlife Refuges Comprehensive Conservation Plan and Environmental Assessment (USFWS 2007)	No	No	None identified	N/A	N/A	N/A	N/A
USACE	Lake Umatilla and Lake Wallula Recreation Management Areas – John Day Lock and Dam Master Plan (USACE 1976) and McNary Shoreline Management Plan (USACE 2012)	No	No	None identified	N/A	N/A	N/A	N/A
Oregon Parks and Recreation Department	Hat Rock State Park Master Plan	Yes	Yes	Hat Rock State Park	First landform in Oregon noted by Lewis and Clark; large, basalt flow remnants, unique wildlife habitat, designated wetland	6.3	NE	Chapter 2, Section 2.01, Land Use Classifications, p. 12-14 ; Chapter 2, Section 2.04, Primary Protection Areas, p. 15-18; Chapter 2, Section 5.08 Scenic Qualities, p. 80-85

3.1 Counties

3.1.1 Morrow County, Oregon

The Morrow County Comprehensive Plan (Morrow County 2013) was reviewed for designated scenic resources or sites. In the Natural Resources Element, under the heading “Scenic Views; Sites,” is the statement, “Addressed in plan but none identified.” No information on scenic views or sites is found in the indicated location. In the Goal 5 Resources section of the plan is the statement, “Morrow County contains a variety of landscapes, many of which may be considered to be scenic. The County has not, however, designated any sites or areas as being particularly high in scenic-resources value.” Therefore, the Morrow County Comprehensive Plan does not identify any scenic resources as significant or important for inclusion in this exhibit.

3.1.2 Umatilla County, Oregon

The Umatilla County Comprehensive Plan (Umatilla County 2018) addresses the 19 statewide planning goals adopted by the State of Oregon. Chapter 8 of the plan addresses Goal 5, which is “To conserve open space and protect natural and scenic resources.” The plan states “Umatilla County has a number of outstanding scenic views and pleasant vistas”. In response to the finding, the plan establishes a series of policies intended to protect scenic views in the county. In general, the policies state the need to address and mitigate adverse visual effects of development and discuss programmatic steps to address potential scenic conflicts that might be associated with proposed changes in land use. One of the policies states that Wallula Gap (a prominent physiographic feature along the Columbia River where it enters Oregon) has been recognized as a significant scenic resource, and Umatilla County shall enact special land use measures to protect this area.

Umatilla County conducted an analysis of potentially important or significant scenic resources in an accompanying Comprehensive Plan Technical Report, last amended in 1984 (Umatilla County 1984). The County reviewed 32 known outstanding sites and views to support its Goal 5 compliance, described above. Of these 32 sites, 22 were deemed to be not important enough to be included in the inventory or were not under the jurisdiction of the County. Nine sites and vistas were classified as justifying limits to conflicting land uses; however, the County found that existing Comprehensive Plan designations and zoning already limit conflicts for those sites. While the Technical Report recommends the County adopt an additional policy to ensure special consideration of those nine areas, no such policy was subsequently adopted, and no mention of these areas was carried forward into the Comprehensive Plan’s protective policies. The Technical Report concludes that only one location, the Wallula Gap, is a “significant scenic area” and that, due to its importance, the resource site should be protected, and all conflicting uses prohibited. As described above, the Comprehensive Plan incorporated this conclusion into its policies to address Goal 5.

Based on the specific content of the plan and its supporting technical report, the Applicant concludes that Wallula Gap has been identified as an important or significant scenic resource.

Wallula Gap is more than 20 miles from the Site Boundary, however, and is not within the Analysis Area for this exhibit. Therefore, there are no important or significant Umatilla County scenic resources within the Analysis Area.

3.1.3 Benton County, Washington

The Benton County Comprehensive Plan was updated in January 2020; updates to the plan are scheduled to occur every 7 years (Benton County 2020), indicating that the next update could be expected in 2027. The plan includes chapters addressing Goals and Policies and the various plan elements (e.g., Land Use, Natural Resources, and Parks and Recreation). The topics covered in the Natural Resources and Parks and Recreation chapters do not include scenic resources. The plan establishes PL Goal 3 to “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.” The corresponding policies include a statement that the County encourages public and/or private acquisition of the prominent ridges within the unincorporated areas of the County to preserve views, protect native habitat, and provide public access to these landscapes. Another policy states that the County should be open to a variety of means to protect the natural landforms and vegetative cover of the Rattlesnake uplift formation, specifically Rattlesnake, Red, Candy, and Badger mountains, and the Horse Heaven Hills. The plan content is somewhat ambiguous but could be considered to identify these mountains as important scenic resources.

The Analysis Area includes a small area in the southeastern part of Benton County. The Rattlesnake uplift features referenced above are not included within this portion of Benton County. The Applicant concludes that no features within the Benton County portion of the Analysis Area are identified as important or significant scenic resources for the purposes of this analysis.

3.2 Municipalities

3.2.1 City of Umatilla

Umatilla is a small city with approximately 7,162 residents (US Census Bureau 2019) located on the Columbia River in the northwestern part of Umatilla County. The City of Umatilla Comprehensive Plan includes Chapter 5 titled “Natural Resources, Scenic and Historic Areas, and Open Spaces” (City of Umatilla 2013). The corresponding Goal 5 is to “protect and enhance through proper use and development the open spaces, scenic and historic areas, and natural resources of the area”. There is a section on page 30 reserved for Scenic Areas; however, no scenic areas have been included. As the plan does not include any references to specific scenic areas or resources, the Applicant concludes the City of Umatilla has not identified any significant or important scenic resources for the purposes of this analysis.

3.2.2 City of Hermiston

Hermiston is a community of approximately 17,423 residents (US Census Bureau 2019) located along Interstate 84 (I-84) in the northwestern corner of Umatilla County. The City of Hermiston Comprehensive Plan and supporting technical report were adopted in 1984, and the plan is updated through amendments to the city development code (City of Hermiston 2021a) and depicted on a Comprehensive Plan Map (City of Hermiston 2020).

Chapter III of the Plan identifies policies for the respective topical areas. Under the heading E. Resources (Goals 5, 6, 7 and 13), Policy 7 is stated as “The City of Hermiston will protect natural resources to the maximum degree possible.” The subsequent discussion of implementing actions references the Open Space designation applied to the 100-year floodplain, wetlands in the northeastern part of the city, and the Oregon State University Agricultural Experiment Station. A footnote related to Policy 7 states that “For other Goal 5 resources, see Policy 8: Surface and Groundwater Resources, Policy 9: Aggregate Resources, Policy 10: Historic Resources, and Policy 16: Parks, Recreation and Open Space.” Policy 16 indicates that Hermiston will acquire and develop additional parks and will preserve as open space city-owned land that possesses recreational, scenic, and other environmental qualities, or that is subject to natural hazards. However, no specific scenic sites or views are identified. Additionally, Policy 7 of the plan indicates that, “There also are no wilderness areas, potential or approved Oregon trails, aggregate and mineral resources, ecologically/scientifically significant areas, or federal and state wild and scenic waterways within the UGB” (City of Hermiston 2021a). Subsequent content in Chapter III addresses air, noise, and water quality; natural hazards and development limitations; energy conservation; and parks, recreation, and open space, etc.; however, it does not include specific information about scenic sites or views.

Based on the specific content of the comprehensive plan and development code, the Applicant concludes that no features within the City of Hermiston have been identified as important scenic resources for the purposes of this analysis.

3.2.3 City of Stanfield

Stanfield is an incorporated community with a population of approximately 2,722 residents (US Census Bureau 2019) located adjacent to I-84 in the northwestern part of Umatilla County. The City of Stanfield Comprehensive Plan was adopted in 1983 (City of Stanfield 2001). The technical report supporting the comprehensive plan was updated in 1984, and a zoning ordinance was adopted in the same year. The plan and technical report include 14 goals corresponding to the original 14 statewide planning goals. Comprehensive planning guidance and zoning are integrated into the City of Stanfield Development Code (City of Stanfield 2017). The land use districts defined in Chapter 2 of the development code correspond to the comprehensive plan designations; they include an Open Space District, but do not include any districts oriented to scenic resources. Chapter 3 of the development code establishes design standards that include landscaping and screening provisions that relate to the aesthetic aspects of development.

Based on the specific content of the comprehensive plan and development code, the Applicant concludes that no features within the City of Stanfield have been identified as important scenic resources for the purposes of this analysis.

3.2.4 City of Echo

The City of Echo is a small community with a population of approximately 735 residents (US Census Bureau 2019) located just south of I-84 in northwest Umatilla County. The City of Echo Comprehensive Plan (City of Echo 2005) establishes goals and policies for a series of topical areas corresponding to the statewide planning goals. Section 7-1-5 of the plan states a policy for Open Spaces, Scenic and Historic Areas, and Natural Resources to “conserve open space and protect natural scenic, historic, and cultural resources.” This is followed with a list of seven policies, none of which specify particular scenic resources. The city’s Zoning Administrative Regulations (City of Echo 2015) implement the goals and objectives of the comprehensive plan. The zoning regulations do not establish any scenic resource protection requirements or designate any scenic areas.

Based on the content of the comprehensive plan and zoning code, the Applicant concludes that no features within the City of Echo have been identified as important or significant scenic resources for the purposes of this analysis.

3.3 State

The Power City Wildlife Area and Irrigon Wildlife Area are managed by ODFW through the Draft Updated Columbia Basin Wildlife Areas Management Plan, which has been revised as of December 2021 and is pending finalization post the public comment period that ended January 21, 2022 (ODFW 2021). Located in northwest Umatilla County near or on the Columbia River, these areas play an important role in waterfowl migrations and resident upland game bird production (ODFW 2021). In addition, they are open for public recreation, including hunting, fishing, and wildlife viewing (ODFW 2021). The management plan is focused on objectives and strategies to protect, enhance, and manage wetland and upland habitats to benefit native wildlife and desired game species, as well as provide a variety of wildlife oriented recreational and educational opportunities (ODFW 2021). Scenic values are not discussed, and no specific scenic resources are identified by the management plan.

The Applicant concludes that ODFW does not identify any important or scenic resources in the Power City or Irrigon wildlife areas for the purposes of this analysis.

3.4 Tribes

There are no tribal lands located within the Analysis Area; therefore, this exhibit does not address any tribal land management plans. See Exhibit S for information regarding Historic, Cultural, and Archaeological Resources.

3.5 Federal Lands

3.5.1 Bureau of Land Management

There is one isolated 320-acre parcel of land managed by the BLM located within the Analysis Area: the Echo Meadows site of the Oregon Trail Area of Critical Environmental Concern (ACEC). The ACEC site is also addressed as a protected area in Exhibit L. The location of Echo Meadows is shown on Figure R-1. Note that there are other scattered BLM-managed lands within the Analysis Area, however these properties do not contain protected scenic resources/sites.

The Federal Land Policy and Management Act of 1976 requires BLM to protect the quality of scenic values on public lands (43 USC 1701). The BLM manages scenic resources on the federal lands under its jurisdiction through application of the Visual Resource Management (VRM) system (BLM 1986). BLM-administered lands in Morrow, Umatilla, Union, and Baker counties are within the Baker Resource Area of the Vale District; the current Resource Management Plan (RMP) for the Baker Resource Area was adopted in 1989 (BLM 1989). The RMP assigns the lands within the Baker area of the district to 14 geographic areas or planning units; the ACEC is within the Oregon Trail planning unit.

The RMP assigns VRM classifications to all BLM lands within its scope; lands are placed within VRM Classes I, II, III, or IV depending on their existing visual quality and the management objectives relative to the amount of visual change that would be allowed to occur within those lands. All lands within the Oregon Trail planning unit, including the Echo Meadows site, are assigned to VRM Class III.

The Applicant understands that the Oregon Department of Energy considers BLM-administered lands managed as VRM Class I and II to be important scenic resources, based on the level of visual resource protection afforded to those lands. However, in addition to its VRM classification, the Baker RMP also provides specific management direction for the Oregon Trail ACEC. This management direction calls for the area to be managed to “preserve the unique historic resource and visual qualities,” and states that “new uses incompatible with maintaining visual qualities or providing public interpretation will be excluded in a half-mile corridor.” As the Site Boundary is 6.8 miles from the northeast corner of the Echo Meadows site, the Applicant is including Echo Meadows as an important scenic resource for the purposes of this analysis.

3.5.2 U.S. Fish and Wildlife Service

Three National Wildlife Refuges (NWRs) are within the Analysis Area for the Project: Umatilla NWR, Cold Springs NWR, and McNary NWR. These are also protected areas addressed in Exhibit L. The primary mission of the USFWS as manager of the NWR system is to provide valuable habitat for fish and wildlife. A Comprehensive Conservation Plan and Environmental Assessment was completed for the Umatilla NWR and McNary NWR in 2007 (USFWS 2007). The areas are popular with bird watchers, wildlife enthusiasts, and photographers. However, the Comprehensive Conservation Plan for the NWR does not prescribe management for visual resources. In addition, no comprehensive

conservation plans have been completed to date or are identified as in-process for the Cold Springs NWR (USFWS 2018). Accordingly, the Applicant concludes that USFWS does not identify any scenic resources or values within the Analysis Area for the purposes of this analysis.

3.5.3 U.S. Army Corps of Engineers

The lands along the shorelines of Lake Umatilla and Lake Wallula are federal lands acquired as part of the John Day and McNary lock and dam projects, respectively, and are under the jurisdiction of USACE. Lake Umatilla is the result of the John Day Dam that impounds the Columbia River at river mile 216, and Lake Wallula is the result of the McNary Dam at river mile 292. A Mid-Columbia River Regional Master Plan, which will manage recreational, natural, and cultural resources for the John Day Dam (as well as Bonneville, The Dalles, Willow Creek, Columbia River), is in development by USACE; a 90 percent draft master plan is available for review but a final plan has not yet been adopted (USACE 2019). The Draft Mid-Columbia River Regional Master Plan describes goals for infrastructure improvement, fire management, and recreation, but does not identify any scenic resources at Lake Umatilla for the John Day project. The John Day Lock and Dam Master Plan (USACE 1976), which remains in effect until the new regional plan is adopted, does not identify important scenic areas at Lake Umatilla for protection of views. The McNary Shoreline Management Plan (USACE 2012) governs private use of the public shoreline and water surface of Lake Wallula. Other public parks and boat launches in the area are leased to the state (e.g., Hat Rock State Park) and local municipalities with applicable rules. The Shoreline Management Plan does not identify any scenic resources or other otherwise prescribe management related to the protection of scenic views.

Based on the available plans, the Applicant concludes that USACE has not identified any scenic resources or values within the Analysis Area for the purposes of this analysis.

3.5.4 Oregon Parks and Recreation Department

The entire Hat Rock State Park is within the Analysis Area for the Project. This park is also addressed as a protected area in Exhibit L. The location of Hat Rock State Park is shown on Figure R-1.

OPRD utilizes park master plans to manage recreation and resource protection and guide future park development at state parks (OPRD 2022). The Hat Rock State Park has its own Master Plan (OPRD 1983). The Master Plan establishes primary and secondary protection areas, all of which are managed for scenic values. Areas specifically designated within the park that are managed for scenic quality include Hat Rock, Boat Rock, the basalt cliffs above Lake Wallula, and the wetlands within the park. These “high quality resource lands include outstanding scenic features, major fish and wildlife habitats, historic sites and important ecological areas” (OPRD 1983). For these areas, “development is severely restricted so that little or no impact occurs”, with permitted pedestrian access and interpretive devices available (OPRD 1983). The important view corridors called out in the Master Plan are all oriented to the north (towards the Columbia River/Lake Wallula). As the Site

Boundary is 6.3 miles from the southwest corner of the park, the Applicant is including Hat Rock State Park as an important scenic resource for the purposes of this analysis.

4.0 Impact Assessment – OAR 345-021-0010(1)(r)(C)

OAR 345-021-0010(1)(r)(C) A description of significant potential adverse impacts to the scenic resources identified in (B), including, but not limited to, impacts such as:

- (i) Loss of vegetation or alteration of the landscape as a result of construction or operation; and*
- (ii) Visual impacts of facility structures or plumes.*

4.1 Impact Assessment Methodology

The potential for adverse impacts on scenic resources is based primarily on the expected visibility of the constructed features of the Project from the scenic resource. The Project will not generate emissions plumes; therefore, no visual impacts from plumes are expected. Clearing and grading of some areas within the Project Site Boundary will be needed to facilitate construction of the solar arrays and supporting facilities, including the site access roads, energy storage system, operations and maintenance (O&M) enclosure, and substation. The grading will be relatively limited in scope and will not result in obvious modifications of the existing landforms. Because Project solar arrays will be installed on the cleared and graded areas, the solar arrays will obscure evidence of clearing and grading and the predominant visible evidence will be from the Project components rather than the loss of vegetation or alteration of the landscape.

Given the above reasoning, the fundamental elements of the visual impact analysis involved determining the areas from which the proposed Project will likely be visible and assessing the expected effect of the facilities on the existing visual setting. The Applicant conducted zone of visual influence (ZVI) analyses, to assess the visibility of the Project components. The ZVI analyses were performed using the Spatial Analyst extension of the ESRI ArcGIS software. The ZVI analyses employed a 10-meter digital elevation model to represent the terrain within the Analysis Area. The ArcGIS software generated lines of sight from the three-dimensional coordinates of the proposed solar facilities (i.e., the solar arrays and substation) to points on the terrain surface (factoring a 6-foot offset for viewer height), thereby identifying locations from which the solar facilities will potentially be visible. To assess the potential visibility of the Project, the ZVI analysis was performed for aboveground infrastructure such as the solar arrays and substation (maximum of 16 feet and 30 feet), which based on their footprints and heights encompasses the visual impacts of the remaining aboveground Project facilities. Note that the O&M enclosure will be located directly adjacent to the substation and will have a maximum height of 20 feet.

The bare-earth modeling approach used in the ZVI analyses, based only on the effects of terrain on visibility, results in a conservative assessment of potential visibility. A bare-earth analysis does not take into account the visibility effects of vegetation or buildings, which in practice would block or

screen views in some places. In addition, the ZVI model does not account for distance, lighting and atmospheric factors (such as weather) that can diminish visibility under actual field conditions.

Viewshed maps displaying the results of the ZVI analyses were used to determine the extent to which Project features will potentially be visible from the scenic resources identified in Section 3. Results of the viewshed analyses are discussed in Section 4.2. The viewshed maps were supplemented with information developed through field visits, including photographs taken from representative viewing locations, to confirm or modify the preliminary visibility results. Field records were also used to characterize the existing visual setting. Potential visual effects of the Project as seen from the scenic resources located within the Analysis Area were then assessed based on the visibility of the facilities from specific resources, the viewing distance, the degree of new landscape modification created by the Project, and the expected response of viewers to the changes in the visual setting.

The first step in identifying potential visual impacts to important scenic resources was to determine the potential visibility of the Project from the respective scenic resources, through review of the ZVI results relative to the scenic resource locations. To the extent the ZVI analyses indicated that the Project will not be visible from a specific scenic resource, the impact assessment concluded with the determination there will be no adverse impact to that resource. If the ZVI analyses indicated that the Project will potentially be visible from a specific scenic resource, the impact assessment proceeded to consider how the Project will appear given the viewing distance and the existing visual context, which both influence the degree of visual contrast that will be introduced by the Project.

Viewing distance is a key factor in determining the level of visual effect, because perceived contrast generally diminishes with increasing distance between the viewer and the affected area (BLM 1986). The analysis addresses viewing in the context of foreground, middleground, and background distance zones. The foreground zone is defined as occurring from 0 to 0.5 miles from the viewer. Details of Project elements will be visually clear in the foreground. The middleground zone extends from 0.5 miles to approximately 4 to 5 miles from the viewer. Within this range, viewers still have the potential to distinguish individual forms, and texture and color are still identifiable but become muted and less detailed. Objects beyond the middleground (beyond about 5 miles) are considered to be in the background zone, where texture has disappeared and color has flattened, making objects appear “washed out.” Although the shape and mass of the solar arrays may be visible at distances greater than 5 miles (in the background distance zone), they will create limited contrast and will not appear as a prominent feature in the landscape setting, resulting in minimal or negligible visual impacts.

The existing visual context, and specifically the degree of existing visual contrast introduced by landscape modifications resulting from previous development actions, is also a key factor in determining the level of visual effect for the Project. The Analysis Area includes a variety of existing energy, transportation, and communication facilities and other infrastructure features that are notable elements of the existing visual setting. In particular, large, high-voltage electric transmission lines cross the Analysis Area and are visually prominent in many locations. The point

of interconnection for the Project will be to an existing transmission line; a line that runs from the east central side of the Project Site Boundary through the north central side of the Project Site Boundary; the line interconnects to another transmission line that runs along Edwards Road along the east side of the Project Site Boundary. Another transmission line also runs through the Project Site Boundary, running from the southwest corner of the Project to the northwest corner of the Project Site Boundary; this line also interconnects to an existing line that runs along Canal Road. In addition, a 500-kilovolt Bonneville Power Administration transmission line runs south along US-395. There are also two Bonneville Power Administration substations, one located southwest of the Project and one location located just south of I-84, north of the Project. Exhibit C contains a map showing the locations of key energy facilities within the Analysis Area. The presence of transmission lines and substations creates existing visual contrast that can influence the degree of visual effect of additional landscape modifications, such as the visible elements of the Project.

4.2 Impact Assessment Results

This section documents the results of the visual impact assessment for the respective scenic resources identified in Section 3. As discussed in Section 4.1, the assessment is based primarily on the results of ZVI model for the solar arrays and substation (see Exhibit C for detailed mapping of the Project components). Key results from the ZVI models are displayed in map form in Figure R-2.

The local terrain adjacent to the Project site has a substantial effect on the potential visibility of the Project infrastructure. The proposed location for the Project is upon an upland area, situated higher than the surrounding cities. Elevations reach approximately 729 feet at the southeast corner of the Site Boundary and gradually decrease toward the northwest, with typical elevations declining to about 678 feet near the western edge of the solar arrays. Lower terrain in virtually every direction of the Project Site Boundary except to the east, southeast effectively limits potential visibility of the solar facilities in most areas that are beyond 3 miles of the site.

The ZVI analyses indicate the majority of the Project components will be potentially visible from less than 50 percent of the Analysis Area. The substation is the Project component with the most extensive visibility due to being the tallest of the aboveground Project infrastructure, although it will potentially be visible from less than 30 percent of the Analysis Area. Similarly, the solar arrays, which take up more acreage than the substation but are shorter, will potentially be visible from less than 50 percent of the Analysis Area.

As noted above, the substation and the solar arrays are meant to encompass the full range of visual impacts of the aboveground Project facilities, which also include the energy storage system and the O&M enclosure (located adjacent to the substation). Due to their small footprint and heights, the energy storage system and O&M enclosure will have the least potential visibility.

The proposed solar arrays are not extensive, covering less than the 324 acres Site Boundary, and will present a low profile to viewers with a maximum of 16 feet tall. The solar array will only reach its maximum height (and maximum tilt) for a short period of time during early morning or evenings when the sun is at its lowest angle. Viewed at a distance or from a similar elevation, the solar arrays

will create the overall appearance of a dark line on the horizon. The depth and mass of the solar arrays will be apparent only when viewed from a superior (elevated) position.

Although the potential for glare from the solar panels is sometimes identified as an issue to consider in assessing the visual effects of solar energy facilities, glare is not considered a potential impact mechanism for the Project because the solar modules will be treated with antiglare coating that nearly eliminates the reflection of sunlight off the module face. The solar arrays are designed to generate power through the absorption of sunlight, resulting in limited reflectivity (glare) that may also be visible within the surrounding area. The solar modules will be mounted on a tracking system that rotates the modules throughout the day as the sun's angle changes. The movement of the modules, combined with the solar module's antireflective coating, will minimize glare. Top-tier modern photovoltaic solar modules use a sophisticated antireflective coating to nearly eliminate the reflection of sunlight off the module face. A typical human eye reacts to light wavelengths from 390 to 700 nanometers and, in that spectrum, the antireflective-coated glass on a typical module will have a high-level transmittance of at least 90 percent. Transmittance is the percent of radiation (light) that travels through a surface. Such a high level of transmittance is important because it means that more light is traveling through the glass and onto the photovoltaic cells, rather than reflecting off the surface. The solar modules will have transmittance values higher than those for a body of water or a glass window without an antireflective coating, and therefore lower potential for glare compared to these other surfaces. Based on systematic observations of solar facilities in the American Southwest, researchers from the Argonne National Laboratory (Sullivan et al. n.d.) found that thin-film photovoltaic facilities "were not observed to generate glare." Therefore, the contrast introduced by the solar arrays will be associated with the basic elements of the facilities (form, line, color and texture) as discussed above, and will not be increased by the presence of glare from the arrays.

The viewshed analysis indicates that the Project components will potentially be visible within less than half of the Analysis Area. The viewshed results were evaluated to identify which Project components will potentially be visible from the identified important or significant scenic resources. The assessment evaluated the potential for significant adverse impacts on important or significant scenic resources based on the viewing distance and the degree of additional contrast introduced to the existing visual setting. The results of this process are summarized in Table R-2. In general, significant impacts on the listed scenic resources are not anticipated due to the distance from the Project to the respective scenic resources (over 5 miles), intervening topography that blocks views toward the Project from many potential viewing locations within the identified scenic resources, the presence of visual contrast created by existing infrastructure and other landscape modifications, the limited degree of additional contrast created by transmission structures, and the low stature of the proposed solar array (16 feet or less). The specific conclusions for the single important or significant scenic resource is described in Table R-2.

Table R-2. Visual Impact Assessment Results

Jurisdiction ¹	Name of Scenic Resource	Distance to Site Boundary	Project Components Potentially Visible	Assessment Results
BLM	Echo Meadows Site, Oregon Trail ACEC	6.8	Solar arrays, substation	Low Impact. Viewshed analysis indicates limited Project visibility at a background distance of 6.8 miles. Existing views include wind turbines, transmission lines, agricultural structures, center-pivot agricultural irrigation systems and urban development. Where Project facilities may be visible, long viewing distance and views across an urbanized area (City of Stanfield) and highways would result in very limited change to the landscape. When not focused on the Oregon Trail and where not screened by topography, visitors would have background views of Project infrastructure that create negligible contrast in the viewshed. Views of remnant Oregon Trail ruts from interpretive signs are to the north of the Echo Meadows, looking away and west of the Project. Project facilities will create moderate contrast with the existing landscape, will be similar to current modifications to the natural landscape visible from the ACEC, and, given the primary view orientation for site users away from the Project and towards the ground, will not significantly impact the user experience.
OPRD	Hat Rock State Park	6.3	Solar arrays, substation	Low Impact. Viewshed analysis indicates limited Project visibility at a background distance of 6.3 miles. Existing views include transmission lines, highways, and urban development. Where Project facilities may be visible, long viewing distance and views across an urbanized area (east Hermiston) and highways would result in very limited change to the landscape. When not focused on designated resources in the park and where not screened by topography, visitors may have background views of Project infrastructure that create negligible contrast in the viewshed. The Project infrastructure may be visible only from high ground in the park and would not be visible from developed use areas. The southwest direction of the Project from the park indicates that the Project facilities are unlikely to feature in views of Hat Rock and other scenic resources from common vantage points in the park. Project facilities will create moderate contrast with the existing landscape, will be similar to current modifications to the natural landscape visible from the park, and, given the primary view orientation for site users is northward, away from the Project, the Project will not significantly impact the user experience.
1. Jurisdiction that identifies location as an important scenic resource.				

4.2.1 Bureau of Land Management

The ZVI analysis indicates limited Project visibility at a background viewing distance for the solar arrays and substation (greater than 5 miles) near the Echo Meadows Oregon Trail ACEC site. Site users will potentially see a portion of the Project solar arrays to the northeast of the Echo Meadows site; however, this would be from a background viewing distance because of where visitors are typically located within the site. As noted earlier, the energy storage system and O&M enclosure will not be significant visual structures due to their comparatively lower of similar profiles to the 16-foot solar arrays (max tilt) and 30-foot tall substation. If visible from Echo Meadows, the energy storage system and O&M enclosure would be in the distant background and would likely appear as a dark line or shadow on the ground. Additionally, the substation will provide similar views due to being collocated with the O&M enclosure and energy storage system.

This site receives fairly low levels of public use, with an estimated 850 visitors per year (pers. comm., Brian Woolf of BLM Vale District, Baker Office and Rachael Katz, Tetra Tech, August 6, 2018). Interpretive signs are located in a gazebo near the parking area at the site entrance, as well as from a viewing platform after visitors walk along 0.25 miles of paved trail and then follow a short side trail to the top of a low hill about halfway between the parking area and the Oregon Trail segment. From the interpretive signs, views of the remnant Oregon Trail ruts are to the north, looking away and west from the Project. However, while standing near the interpretive signs, Project solar arrays and the substation could be in visitors' peripheral view if they look farther eastward along the Oregon Trail ruts, though still at a background distance where they would not be a dominant landscape feature. When not focused on the Oregon Trail, visitors may face away from the Project to view the landscape to the southeast, south, and southwest while standing at any interpretive sign, adjacent to the Oregon Trail, or hiking back to the parking area.

Overall, the Project will not generally be in view when visitors are oriented toward the remnant Oregon Trail ruts. Where not screened by topography, the Project will introduce new, moderately contrasting background features in the Echo Meadows viewshed. Project facilities will not dominate the landscape and will be similar to current modifications to the natural landscape seen from the ACEC (i.e., existing wind turbines and electrical infrastructure). For these reasons, and given the primary view orientation for site users away from the Project, the Project will not significantly impact the user experience at the Echo Meadows site.

4.2.2 Oregon Parks and Recreation Department

The ZVI analysis indicates limited Project visibility at a background viewing distance for the solar arrays and substation (greater than 5 miles) near the Hat Rock State Park. Park users may potentially see a portion of the Project solar arrays to the southwest of the park; however, due to the long viewing distance and the fact that the existing views include urbanized areas (east Hermiston) and highways, the view would result in very limited change to the landscape and negligible contrast in the viewshed. The Project infrastructure may be visible only from high ground in the park and would not be visible from developed use areas.

As noted earlier, the energy storage system and O&M enclosure will not be significant visual structures due to their comparatively lower of similar profiles to the 16-foot solar arrays (max tilt) and 30-foot tall substation. If visible from Hat Rock State Park, the energy storage system and O&M enclosure would be in the distant background and would likely appear as a dark line or shadow on the ground. Additionally, the substation will provide similar views due to being collocated with the O&M enclosure and energy storage system.

This site receives moderate to high levels of public use, with an estimated average of 250,000 visitors per year (pers. comm., Caleb Dickson of OPRD, and Kristen Gulick, Tetra Tech, July 19, 2022). Interpretive signs are located at the west parking lot as well as along the Hat Rock Trail to the south of Hat Rock, to the northwest of the Lake Wallula overlook by the northern boat launch, and north of the Umatilla County Lewis and Clark Commemorative Trail/south of the Basalt Cliffs Above Lake Wallula. From the interpretive signs, views of the designated park scenic resources are to the north, northeast, and northwest, looking away and northeast from the Project. However, while walking along the Hat Rock Trail, Project solar arrays and the substation could be in visitors' peripheral view if they look farther southwestward, though still at a background distance where they would not be a dominant landscape feature. When not focused on the designated scenic resources within the park, visitors may face away towards the Project to view the landscape to the southwest, while standing at any interpretive sign, adjacent to the Hat Rock Trail or Lewis and Clark Commemorative Trail, or hiking back to the parking areas.

Overall, the Project will not generally be in view when visitors are oriented toward the designated scenic resources within the park. Where not screened by topography, the Project will introduce new, moderately contrasting background features in the Hat Rock State Park viewshed. Project facilities will not dominate the landscape and will be similar to current modifications to the natural landscape seen from the park (i.e., existing electrical infrastructure). For these reasons, and given the primary view orientation for site users is away from the Project, the Project will not significantly impact the user experience at the Hat Rock State Park.

5.0 Mitigation

OAR 345-021-0010(1)(r)(D) The measures the applicant proposes to avoid, reduce or otherwise mitigate any significant adverse impacts.

While no significant adverse impacts to scenic resources have been identified, the Applicant will implement the following best management practices into the Project design:

- Use solar modules with antireflective coating to minimize the potential for glare.
- Limit the length, if any, of overhead collector lines.
- Use permanent lighting fixtures with down shielding to limit off-site lighting.
- Limit signage to those needed for manufacturer's or installer's identification, appropriate warning signs, or owner identification.

6.0 Monitoring – OAR 345-021-0010(1)(r)(F)

OAR 345-021-0010(1)(r)(F) The applicant's proposed monitoring program, if any, for impacts to scenic resources.

The Project will not result in significant adverse impacts to scenic resources within the Analysis Area. Therefore, a monitoring program is not proposed.

7.0 Conclusion

The information provided above demonstrates that the design, construction, and operation of the Project will not result in significant adverse impacts to scenic resources and therefore complies with the scenic resource standard under OAR 345-022-0080.

8.0 References

- Benton County. 2020. Benton County Comprehensive Plan Update. February 2018, as amended through January 2020. Benton County Planning Department. Available online at: <https://www.co.benton.wa.us/files/documents/2017ComprehensivePlanJanuary2020129055548061620PM.pdf>.
- BLM (Bureau of Land Management). 1986. Visual Resource Inventory. BLM Handbook H-8410-1. Available online at: <https://www.blm.gov/programs/recreation/recreation-programs/visual-resource-management>.
- BLM. 1989. Baker Resource Management Plan Record of Decision, Rangeland Program Summary (RPS). July 1989. BLM Vale District Office, Baker Resource Area. July 1989. Available online at: https://www.blm.gov/or/plans/files/Baker_RMP.pdf.
- City of Echo. 2005. City of Echo Comprehensive Plan. Updated and Adopted November 17, 2005. Echo, Oregon. Available online at: <https://echo-oregon.com/wp-content/uploads/2020/08/Comprehensive-Plan.pdf>.
- City of Echo. 2015. City of Echo Zoning Administrative Regulations. Amended November 2015. Echo, Oregon. Available online at: <http://www.echo-oregon.com/pub/zoning.pdf>.
- City of Hermiston. 2020. City of Hermiston Comprehensive Plan Map 2020. Available online at: <https://hermiston.maps.arcgis.com/apps/Viewer/index.html?appid=3037b85c757145128e98b70b4967457b>.
- City of Hermiston. 2021a. City of Hermiston Comprehensive Plan. Hermiston, Oregon. Available online at: <https://www.hermiston.or.us/commdev/page/comprehensive-plan>.

- City of Hermiston. 2021b. City of Hermiston Code of Ordinances. Available online at: <https://www.codepublishing.com/OR/Hermiston/html/Hermiston15/Hermiston15.html>.
- City of Stanfield. 2001. City of Stanfield Transportation System Plan. Final Report. June 2001. Prepared by David Evans and Associates, Inc. and Umatilla County in coordination with Oregon Department of Transportation. Stanfield, Oregon.
- City of Stanfield. 2017. City of Stanfield Development Code. Adopted May 2001, as amended through January 2017. Stanfield, Oregon. Available online at: <https://cityofstanfield.com/stanfield-development-code/>.
- City of Umatilla. 2013. City of Umatilla Comprehensive Plan. Adopted December 1977, as amended through January 8, 2013. City of Umatilla Planning Department. Umatilla, Oregon. Available online at: <https://www.umatilla-city.org/planning/page/comprehensive-plan>.
- Morrow County. 2013. Morrow County, Oregon Comprehensive Plan. Acknowledged by the LCDC January 30, 1986. Natural and Cultural Resources Element, Updated 2013. Morrow County Planning Department. Heppner, Oregon. Available online at: <https://www.co.morrow.or.us/planning/page/comprehensive-plan>.
- ODFW (Oregon Department of Fish and Wildlife). 2021. Draft Updated Columbia Basin Wildlife Areas Management Plan. December 2021. Salem, Oregon. Available online at: https://www.dfw.state.or.us/wildlife/management_plans/wildlife_areas/docs/columbia_basin.pdf.
- OPRD (Oregon Parks and Recreation Department). 1983. Hat Rock State Park Master Plan. Available online at: <https://www.oregon.gov/oprd/PRP/Documents/PLA-Adopted-Hatrock-1983.pdf>.
- OPRD. 2022. Park Master Plans. Available online at: https://www.oregon.gov/oprd/PRP/Pages/PLA-park-master-plans.aspx?wp481=p:1#g_0b5e192f_94e3_43c5_963d_826f5468a811.
- Sullivan, Robert G., Leslie B. Kirchler, Carol McCoy, John Mc Carty, Kevin Beckman, and Pamela Richmond. No date. Visual Impacts of Utility-scale Solar Energy Facilities on Southwestern Desert Landscapes. Argonne National Laboratory. p. 28.
- Umatilla County. 1984. Umatilla County Comprehensive Plan Technical Report. Umatilla County Planning Department. Last Major Addition September 1984. Available online at: http://new.umatillacounty.net/fileadmin/user_upload/Planning/Technical_Report.pdf.
- Umatilla County. 2018. Umatilla County Comprehensive Plan. Umatilla County Planning Department. 1983, as amended through May 2018. Available online at: http://www.co.umatilla.or.us/planning/pdf/umatilla_county_ccomp_plan.pdf.
- USACE (U.S. Army Corps of Engineers). 1976. John Day Lock and Dam Master Plan. U.S. Army Corps of Engineers, Portland District. July 1976. Available online at: <https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/8295/>.

- USACE. 2012. McNary Shoreline Management Plan. January 2012. Available online at:
http://www.nww.usace.army.mil/Portals/28/docs/programsandprojects/msmp/MSMP-Final_121211.pdf
- USACE. 2019. Mid-Columbia River Regional Master Plan and Integrated Environmental Assessment. Available online at:
<https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/12018>.
- U.S. Census Bureau. 2019. American Community Survey 5-Year Estimates: Total Population. Available online at:
<https://data.census.gov/cedsci/table?t=Population%20Total&g=1600000US4122200,4133700,4136500,4169900,4175650&tid=ACSDT5Y2019.B01003>.
- USFWS (U.S. Fish and Wildlife Service). 2007. McNary and Umatilla National Wildlife Refuges Comprehensive Conservation Plan and Environmental Assessment. May 2007. Mid-Columbia River National Wildlife Refuge Complex, U.S. Fish and Wildlife Service. Available online at: <https://ecos.fws.gov/ServCat/DownloadFile/161367>.
- USFWS. 2018. Pacific Region Division of Planning and Visitor Services. Active and Completed Planning Projects. Available online at: <https://www.fws.gov/pacific/planning/#proj>.

Figures

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West End
Solar Project

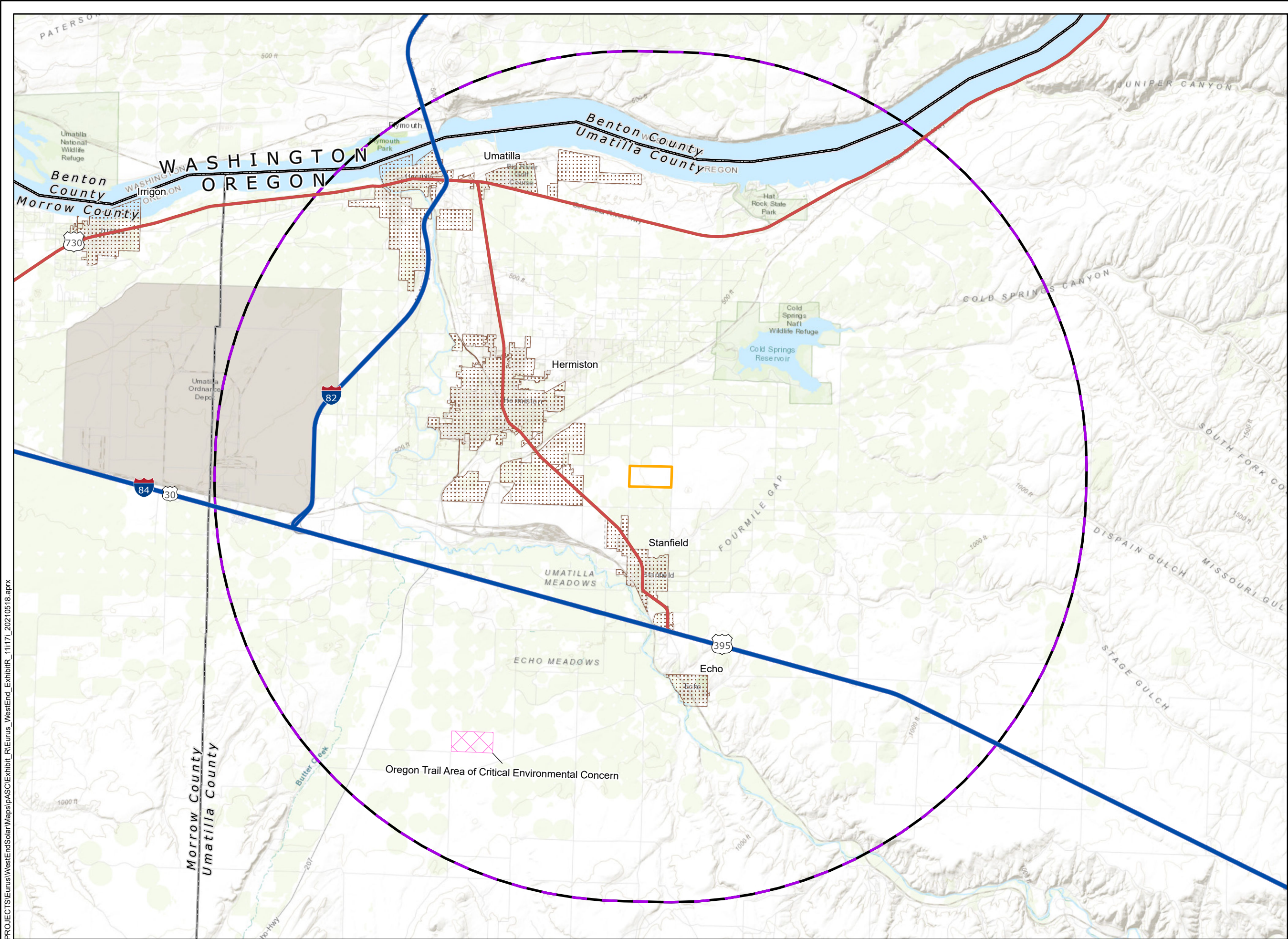
Figure R-1
Scenic Resources
Inventory

UMATILLA COUNTY, OR

- Proposed Site Boundary
- Analysis Area (10-mile Buffer)
- Area of Critical Environmental Concern (BLM)
- City Limits
- Interstate Highway
- US Highway
- County Boundary
- State Boundary



Reference Map



1:140,000

WGS 1984 UTM Zone 11N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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West End Solar Project

Figure R-2
Scenic Resources
Inventory with ZVI

UMATILLA COUNTY, OR

- Proposed Site Boundary
- Analysis Area (10-mile Buffer)
- Area of Critical Environmental Concern (BLM)
- City Limits
- Interstate Highway
- US Highway
- County Boundary
- State Boundary
- Viewshed Results
 - Not Visible
 - Solar Facility Potentially Visible



Reference Map

