Public Services Exhibit

PREPARED FOR

DATE
December 2025

REFERENCE
Oregon Energy Facility Siting Council

CONTENTS

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

Acronym	Description
AADT	Average annual daily traffic
ASA	Ambulatory Service Area
Applicant	DECH bn, LLC
CDP	Census designated place
Facility	Solar photovoltaic power generation facility and related or supporting facilities in Wasco County, Oregon
JFRFPD	Juniper Flat Rural Fire Protection District
OAR	Oregon Administrative Rules
SWCA ASA 4	South Wasco County Ambulance, Ambulance Serve Area 4
Wapinitia Highway	U.S. Highway 216 (OR 216)

1. INTRODUCTION

DECH bn, LLC (Applicant) plans to construct a solar photovoltaic power generation facility and related or supporting facilities in Wasco County, Oregon (Facility). The Facility will include up to 1,000 megawatts of solar capacity and a battery energy storage system with up to 4,000 megawatt hours storage capacity. This Public Services Exhibit has been prepared to meet the requirements in OAR 345-022-0110.

2. ANALYSIS AREA AND ASSUMPTIONS

> *OAR 345-021-0110(4) To assist the Council in determining whether the standard outlined in (1) through (3) has been met, the Applicant must submit:*
> *(a) Information about significant potential adverse impacts of construction and operation of the proposed facility on the ability of public and private providers in the analysis area to provide the services listed in OAR 345-022-0110, providing evidence to support a finding by the Council as required by OAR 345-022-0110. The applicant must include:*
> *(A) The important assumptions the applicant used to evaluate potential impacts;*

The analysis area for this Public Services Exhibit is the site boundary and communities within and extending 10 miles from the site boundary (See Attachment 1, Figure 1). This analysis uses data from federal, state, and local government sources, including agency consultations, to evaluate potential Facility-related impacts to public and private service providers. As required by the Project Order, this analysis included sewers/sewage treatment, water, stormwater drainage, solid waste management, housing, air traffic safety, vehicle traffic safety, police, fire protection, and healthcare. Per the Project Order, the evaluation of potential impacts to schools is omitted because solar projects do not result in permanent relocation of temporary workers, therefore impacts to schools from temporary worker families is not expected.

Key assumptions informing the analysis include the Facility's projected workforce for construction and operation (Section 2.1), vehicle traffic (Section 2.2), and water use (Section 2.3).

2.1 WORK FORCE

2.1.1 CONSTRUCTION

Construction of the Facility may temporarily impact population in the analysis area. For this analysis, Applicant conservatively assumes that none of the construction workers would be local, and that an average of 300 workers and at peak construction a maximum of 500 workers will be temporary residents in the analysis area. Construction will require specialized contractors, including expert technicians for solar array and battery energy storage system installations. Workforce recruitment will include local and non-local hiring with local hiring prioritized whenever possible. The balance of local and non-local workforce will depend on local skill availability and the regional labor market; the number of temporary residents may be much lower if some of the workers can be hired locally.

It is anticipated that temporary residents will be housed in RV parks, hotels, motels, houses, or other temporary housing within a reasonable commute (i.e., within one hour) of the Facility. Facility construction is anticipated to begin as early as the second quarter of 2027 and will be completed over 24 to 32 months. The Applicant may adjust construction timing based on market conditions, weather, and other circumstances.

2.1.2 OPERATION

Facility operations will require approximately 10 to 20 full-time staff who will be hired to operate the Facility. The Applicant will provide training for operations and maintenance roles, creating up to 20 potential long-term career opportunities for qualified residents from the surrounding community. Local hiring will be prioritized; however, non-local expertise may be required for specialized maintenance tasks. By prioritizing local hiring, the Applicant will minimize Facility operation impacts on community infrastructure as described below. For this analysis, the Applicant conservatively assumes that up to 10 full-time staff will need to permanently relocate to the analysis area.

2.1.3 DECOMMISSIONING

As with construction, decommissioning of the Facility may temporarily impact population in the analysis areas. For this analysis, the Applicant conservatively assumes that none of the decommissioning workforce would be local and that at peak construction, a maximum of 350 workers will be temporary residents in the analysis areas during the 18 months required to decommission the Facility. It is anticipated that temporary residents will be housed in RV parks, hotels, motels, houses, or other temporary housing within a reasonable commute (i.e., within one hour) of the Facility.

2.2 VEHICLE TRAFFIC

2.2.1 VEHICLE ACCESS ROUTES

The primary access route to the Facility will be via Interstate Highway 84 (I-84) to southbound U.S. Highway 197 (The Dalles California Highway) at The Dalles to OR 216 where vehicles will travel west about 7 miles to reach the Facility. This primary access route will be used for construction, including deliveries of water, as well as infrastructure components such as support poles, panels, and primary power transformers and inverters. This primary access route avoids highways with higher traffic volumes related to Mount Hood and surrounding attractions. This route also avoids significant “C” and “S” curves along U.S. Highway 26, OR 35, and the section of OR 216 that is west of the Facility. The primary access routes are shown in the Routing and Hauling Study, provided as Attachment 2.

The Applicant proposes two alternative access routes that would only be used if the primary access route posed significant, unexpected problems for delivery (e.g., significant portions of the primary access route were closed). The first alternative access is via I-84 east to OR 35 south to U.S. Highway 26 connecting to OR 216 and the Facility entrances. The second alternative access is

via I-84 east to OR 35 south to U.S. Highway 26, connecting to OR 216. The alternative access routes are shown in the Routing and Hauling Study, provided in Attachment 2.

2.2.2 FACILITY ACCESS LOCATIONS

The Facility may have up to 5 access points into the site boundary, with defined primary access points along OR 216 at Reservation Road, Walters Road, and Victor Road. Alternative access points will be from Back Walters Road off Reservation Road and Endersby Road. Back Walters Road may be used to access the southern portion of the Facility. Endersby Road would only be used for local workforce traffic entering the Facility from Pine Grove. The Facility access locations will be finalized as Facility proceeds with final design.

2.2.3 EXISTING VEHICLE TRAFFIC VOLUMES

Traffic data from 2019 to 2023[1] for the primary and alternate access routes was compiled from Oregon Department of Transportation (Attachment 3). The traffic data provides a comprehensive overview of average annual daily traffic (AADT) across key mileposts along the primary access route and was used to assess patterns and trends over time.

For the primary access route, 2023 AADT ranges are as follows:

- I-84 segment: 25,262 vehicles per day
- US 197 segment: 1,300 to 6,000 vehicles per day
- OR 216 segment: 463 to 647 vehicles per day

AADT volume decreases with proximity to the Facility. Traffic trends from 2019 to 2023 show that traffic volumes are increasing on these routes from 0.4 to 6.0 percent.

2.2.4 ANTICIPATED TRUCK AND COMMUTER TRAFFIC VOLUMES

Traffic generated by construction would include workforce commuting and truck deliveries of water, equipment and supplies. During construction, vehicles are anticipated to make approximately 533 daily round trips and 1,066 daily one-way trips, equating to a passenger car equivalent of 933 and 1,866, respectively. These trips could increase AADT up to 6 percent.

During operation, traffic to and from the Facility would consist of daily commutes of up to 20 full-time employees and occasional trips for scheduled inspections and routine maintenance activities. Therefore, operation traffic volume is considered minimal.

Additional details about the anticipated traffic volumes for construction and operation are included in the Traffic Study provided as Attachment 3.

2.2.5 POINTS OF ORIGIN

Deliveries of most Facility materials would originate from the Port of Portland and would follow the primary access route from Portland, Oregon to the Facility. Trucked water and concrete would most likely originate from The Dalles and would be delivered via the primary access route to the Facility. Gravel would likely be sourced locally and associated trucking/transportation to the

[1] 2024 traffic data had not been published at the time of this assessment.

Facility will be minimal. Unless there is a major, unexpected road closure, all Facility truck traffic, regardless of point of origin, would follow the primary access route.

Most of the Facility commuter traffic, for construction, operation, and decommissioning, would originate from communities east and north of the Facility including Maupin, Tygh Valley, Dufur, and The Dalles, because these communities, particularly The Dalles, have a relatively larger population base and are within a one-hour drive of the Facility. Commuters from these communities would use the primary access route to the Facility. A smaller portion of the Facility commuter traffic may originate from communities west and south of the Facility (e.g., Madras, Warm Springs, or Government Camp). For the Traffic Study and associated impact analysis, the Applicant conservatively assumed that all commuter traffic would originate from north of the Facility.

2.3 WATER USE

The Applicant plans to use, on average, approximately 7.8 million gallons of water each month for construction, which will be used for required dust mitigation and other construction activities. Water would also be required for worker hydration. Water needs would vary over the assumed 24-month construction period depending on site conditions, temperature, and construction activities. At the beginning of construction, the Applicant anticipates using 2.5 to 3 million gallons of water a month and water demand for construction would gradually increase over time. During the peak of construction (e.g., months 9 to 15), the Applicant anticipates using 12 to 13.5 million gallons of water a month. Water use would then significantly taper off and less than 2 million gallons of water would be used each month for the final few months of construction. For this analysis, the Applicant assumed the average of approximately 7.8 million gallons of water a month for construction and assumed that all construction water would be provided from a municipal source or sources.

During operation, the Applicant plans to use, on average, approximately 330 gallons of water a day for routine operation and maintenance activities at the O&M building (hand washing, toilet flushing), which would be sourced from an on-site exempt groundwater well. Solar panel washing is expected to occur annually and would use approximately 432,000 gallons per year.

3. ANALYSIS OF AFFECTED SERVICE PROVIDERS

> *(B) Identification of the public and private providers in the analysis area that would likely be affected;*
> *(C) A description of any likely adverse impact to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110;*
> *(D) Evidence that adverse impacts described in (C) are not likely to be significant, taking into account any measures the applicant proposes to avoid, reduce or otherwise mitigate the impacts*

The public and private providers in the analysis area that require analysis are sewers and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety (air and

vehicle traffic), police and fire protection, health care, and schools[2]. An analysis of the Facility's impact on these providers, if any, and mitigation measures, if applicable, are described in the sections below. Though the Facility workforce will have an impact on some service providers, it is also anticipated to provide significant economic benefits to local businesses through increased patronage for housing, food, and daily necessities, creating a positive economic impact for the surrounding communities.

3.1 SEWERS AND SEWAGE TREATMENT

The Facility will not rely on new or existing public or private infrastructure for sanitary sewer drainage or treatment. The nearest developed sewer system is in Maupin, approximately 7 miles from the site boundary. Since the Facility is in a rural area, there will be no connection to the local sewer system and no potential adverse impacts to sanitary service providers.

During construction, sanitary waste would be managed with portable sanitation facilities that comply with Oregon regulatory standards and are serviced regularly by a licensed contractor. During operation, sanitary waste would be managed by a permitted on-site septic system.

3.2 WATER

The Applicant would source water for construction from one or more permitted water sources, which would likely include water from Wasco County. The Applicant has consulted with Wasco County on their ability to legally provide the forecasted quantity of water during construction; documentation of this consultation is provided in Attachment 4. For this analysis, the Applicant assumes that all water for construction would be provided by Wasco County. However, the Applicant will continue to evaluate potential water sources for construction and may supplement the construction water provided by Wasco County with water provided by other municipalities and permitted water sources.

Water for operation would be supplied by an exempt well permitted under ORS 537.545. Water for periodic solar panel washing would be provided by a permitted water source, which may be from Wasco County or other municipal providers in the area.

As confirmed by Wasco County in their service commitment letter, the sourcing and delivery of water for construction would not strain existing public water infrastructure or utilities, as Wasco County has a water right under Certificate 91466, which authorizes the use of water from the Columbia River for industrial uses at up to one cubic feet per second. The County is able to supply the Facility with up to 0.65 million gallons of water per day (19.5 million gallons per month) during construction, which would exceed the Applicant's maximum need during peak construction of 13.6 million gallons a month. Though Wasco County can supply all the water required for construction, the Applicant will continue to evaluate other potential permitted water sources for construction to supplement the water provided by Wasco County. Though Wasco County can supply all the water required for construction, the Applicant will continue to evaluate other

[2] The Project Order indicated that an evaluation of potential impacts to schools could be omitted because solar projects do not result in permanent relocation of temporary workers, therefore impacts to schools from temporary worker families is not expected.

potential permitted water sources for construction to supplement the water provided by Wasco County.

Water required for Facility operation would be minimal (i.e., less than 5,000 gallons per day) and supplied by an exempt well. Withdrawal of this exempt groundwater quantity is not expected to adversely impact the local water supply. To the extent water is needed during Facility operation for panel washing in an amount exceeding 5,000 gallons per day, Applicant would work with Wasco County or other municipal providers or permitted water sources to provide that water.

Further details regarding anticipated sources and quantities of water used can be found in the State and Local Laws and Regulations Exhibit.

3.3 STORMWATER

The Facility would not rely on new or existing public or private infrastructure for stormwater drainage. Except for stormwater drainage ditches associated with local and state roadways, the nearest developed stormwater system is in Maupin, approximately 7 miles from the site boundary. Since the Facility is in a rural area, there would be no connection to the local stormwater system and no potential adverse impacts to stormwater drainage service providers.

Stormwater runoff during construction and operation is expected to be minimal. Solar panel arrays and access roads would be designed to facilitate ground infiltration, allowing stormwater to absorb directly into the soil. The Applicant's contractor would secure a National Pollutant Discharge Elimination System 1200-C Permit for construction, which will mandate implementation of comprehensive best management practices to mitigate potential erosion and sedimentation risks to minimize disruption to local drainage patterns associated with construction and operation of the Facility. See the Soil Protection Exhibit for additional information about how Facility stormwater will be managed.

3.4 SOLID WASTE MANAGEMENT

In Wasco County, solid waste is managed by private waste management services including The Dalles Disposal, which provides waste collection and transfer services to Wasco, Sherman and Gillam counties and by Wasco County Landfill, which provides collection, transfer, and disposal serves to the Wasco County area. The Dalles Disposal and Wasco County Landfill are both privately owned by Waste Connections. The Applicant has coordinated with Wasco County Landfill to confirm solid waste management service for the Facility.

For this analysis, the Applicant assumes that Facility construction will generate up to 40,000 cubic yards of solid waste including packaging materials, wood, concrete, scrap metal, and other miscellaneous non-hazardous waste, with a portion of this being recyclable materials. Operation-related waste would include standard office waste from the O&M facility's small workforce and small amounts of waste related to occasional equipment replacements. Additional information about the types and quantities of waste generated during construction and operation can be found in the Waste Minimization Exhibit.

The Applicant has confirmed waste disposal capabilities with Wasco County Landfill, which is permitted by Oregon Department of Environmental Quality, and which has the capacity to accommodate the Facility's waste and can service the Facility without compromising their long-term disposal capabilities. A service provider letter from Wasco County Landfill confirming its ability to receive and legally dispose of the forecasted types and quantities of waste during construction and operation is provided as Attachment 5.

3.5 HOUSING

3.5.1 CONSTRUCTION

As described in Section 2.1, Facility construction would bring an average of 300 and at peak construction a maximum of 500 temporary residents to the analysis area, who would require temporary housing. Temporary housing options include RV parks, hotels/motels, and short-term rentals. Though the analysis area for public services is 10 miles, it is reasonable to assume that the construction workforce may travel up to one hour each way to the Facility, therefore temporary housing options were evaluated within 50 miles of the Facility. To assess a maximum impact scenario, a maximum of 500 construction workers were assumed to require temporary housing at peak construction.

RV park availability is summarized in Table 1 and hotel/motel availability is summarized in Table 2. As shown in Table 1, there are at least 588 RV spots available within 50 miles of the Facility; Table 1 is not a comprehensive list of RV parks within the area, so it is possible that many more spots are available. Additionally, some portion of the construction workforce may stay in local hotels or motels, rather than RV parks. Motel and hotel availability is summarized in Table 2. A third option for temporary workforce housing is short-term rentals booked through companies like Air BnB and VRBO.

TABLE 1 RV PARKS WITHIN 50-MILES OF THE SITE BOUNDARY

Location	Miles to Facility	RV Capacity	Season	Notes
Pine Hollow Lakeside Resort	5	60	Year-Round	--
Rock Creek Reservoir	5	32	April to October	14-night maximum stay
Maupin City Park	10	25	Year-Round	--
Oasis Riverview Campground	10	27	Year-Round	--
Spring Drive RV Campground	10	8	May to September	--
Upriver RV Park	10	27*	Year-Round	14-night maximum stay
W.E. Hunt Park	10	120	--	20+ long-term sites reserved for construction workers

Location	Miles to Facility	RV Capacity	Season	Notes
Dufur City Park	20	14	Year-Round	2-week maximum stay 1 April to 30 September
Deschutes River RV Park & Campground	25	19	--	--
Jefferson County RV Park	30	65	--	--
Blue Barn & RV Park	35	27	--	--
Chinook RV Park	35	24	Year-Round	--
Columbia Hills RV Village	35	40	--	--
Harvest RV Park	35	10	--	--
Sherman County RV Park	35	33	Year-Round	8 spots available for monthly reservations
Ed's RV Park	45	5	--	--
Peach Beach RV Park	45	70	Year-Round	Monthly sites available during off season (October-April)
Rufus RV Park	45	60	--	Monthly sites available

Note: distances rounded to 5-mile increments
*32 with overflow
-- Season and/or restrictions unknown

TABLE 2 HOTELS/MOTELS WITHIN 50-MILES OF THE SITE BOUNDARY

Location	Miles to Facility	Room Capacity
Imperial River Company	10	25 rooms
Oasis Cabin Resort	10	12 rooms
River Run Lodge	10	5 rooms
Balch Hotel	20	20 rooms
Best Western Mt. Hood Inn	25	56 rooms
The Bunk House at Cross Keys	30	50 rooms
The Inn at Cross Keys Station	30	72 rooms
Quality Inn	30	49 rooms
Comfort Inn Columbia Gorge	30	57 rooms
Holiday Inn Express & Suites The Dalles	30	93 rooms
Best Western Plus Hood River Inn	40	194 rooms
Hampton Inn & Suites Hood River	40	88 rooms
Hood River Suites Hotel Extended Stay	40	9 rooms

Location	Miles to Facility	Room Capacity
Total		**730 rooms**

Note: distances rounded to 5-mile increments

Between RV parks, hotels/motels, and short-term rentals, there is sufficient temporary housing within a one-hour commute of the Facility to accommodate the temporary workforce. During the summer tourism season, there is likely to be additional strain on temporary housing. The Applicant would work with their engineering, procurement, and construction contractor to proactively manage potential impacts associated with Facility-related housing demand. This may include:

- Working with local labor organizations to prioritize local workforce hiring to minimize the number of people requiring temporary housing.
- Sequencing construction activities, where possible, such that peak temporary housing needs occur during the tourism off-season.
- Coordinating with local RV parks to provide additional hookups so that local RV parks can increase their capacity, if demand for RV spaces with hookups exceeds the supply.

3.5.2 OPERATION

Facility operation would require up to 20 full-time employees and local hiring would be prioritized. Some specialized maintenance contractors might be recruited from outside the immediate area, requiring some of the O&M workforce to relocate for the operation of the Facility. Conservatively estimating that half of the full-time employees (approximately 10 workers) will relocate, with an average household size of three, operation of the Facility could introduce up to 30 new permanent residents to the local population. This represents an insignificant fraction (approximately 0.111 percent) of the county's total population and can be readily absorbed by the existing housing market without creating adverse impacts on housing availability or affordability.

Availability of housing was assessed for census-designated places and local communities within Wasco County as identified below in Table 3. The analysis indicates sufficient housing options to accommodate operations personnel based on the steady or slower-growing population (i.e., 6 percent growth from 2010 to 2022) based on population data[3]. Additionally, the amount of vacant housing in Wasco County has been stable or increased in recent years, with over one thousand available units annually from 2020 to 2023[4].

[3] Sources: Population Research Center | Portland State University
[4] The number of available housing units has been 1,379 in 2020, 1,614 in 2021, 1,550 in 2022, and 1,691 in 2023. Source: U.S. Census Bureau, American Community Survey. Retrieved March 2025 from https://data.census.gov/.

TABLE 3 HOUSING UNIT VACANCY IN THE ANALYSIS AREA

Location	Miles to Facility	2010 Vacant Units	2020 Vacant Units	2021 Vacant Units	2022 Vacant Units	2023 Vacant Units
Wasco County	0	1,566	1,379	1,614	1,550	1,691
Pine Grove	0.3	0	16	16	0	27
Maupin	10	90	100	160	147	136

Source: U.S. Census Bureau, American Community Survey. Retrieved March 2025 from https://data.census.gov/.

3.6 AIR TRAFFIC SAFETY

There are no public airports or airstrips within the analysis area. The Applicant completed an obstruction evaluation of the Facility with the Federal Aviation Administration (FAA). The determination issued by the FAA was negative, indicating the Facility will not exceed obstruction standards, will not have substantial adverse physical or electromagnetic interference effect upon navigable airspace or air navigation or radar/surveillance facilities, and will not be a hazard to air navigation.

There is a private airport, Nelson Ranch Airport, within 2 miles of the Facility's eastern site boundary as shown in Attachment 1, Figure 1. An additional private airport, Pine Hollow Airport, is approximately 7 miles north of the site boundary. No publicly owned airports are within the analysis area. There is a Juniper Flat Rural Fire Protection District (JFRFPD) station less than half a mile from the Facility that has a helipad.

Two military training routes are within the analysis area. Military training route IR-346 is directly overhead of the site boundary and IR-344 is approximately 3.7 miles east of the site boundary. The Applicant completed a glare analysis at 200 and 500 feet above ground level to assess any potential glare impacts on military pilots conducting training activities along these routes (Attachment 6). The analysis assessed five flight paths and determined that four of the five flight paths would have glare exposure, for at least a portion of the flight path analyzed, although impacts are well-understood and highly manageable with appropriate mitigation and operational awareness.

In 2021, the FAA concluded that in most cases, glare from solar energy systems to pilots on final approach is like glint and glare pilots routinely experience from water bodies, glass facade buildings, parking lots, and similar features. The Applicant has consulted with the Department of Defense and will mitigate potential glare effects by utilizing anti-reflective coatings on all photovoltaic panels. The Applicant's correspondence with the Department of Defense is included in Attachment 6.

3.7 VEHICLE TRAFFIC SAFETY

3.7.1 CONSTRUCTION

Construction truck traffic would use the primary access route to the Facility, which is shown on the Routing and Hauling Study provided as Attachment 2. All construction truck traffic is expected to navigate the primary access route without any weight limit or turning radius restriction issues. Delivery of the transformers would require a larger vehicle and a bypass around the Interstate 84 Exit 87 interchange. Additional information about this required bypass is provided in Attachment 2.

All construction truck traffic and deliveries would enter the Facility from OR 216 at one of three access points: Reservation Road, Walters Road, or Victor Road. All three access points are on County-maintained roads:

- Reservation Road has a paved asphalt surface that is in very good condition. There is a bridge and culvert crossing south of East Wapinitia Road.
- Walters Road has a paved asphalt surface that is in very good condition. There is a culvert crossing north of Back Walters Road.
- Victor Road has a partial asphalt and gravel surface in fair condition. There is a culvert crossing approximately 1,300 feet north of OR 216.

As demonstrated in the Routing and Hauling Study, there are no anticipated turning radius issues for the construction truck traffic that would turn onto these roads. The Applicant has coordinated with Wasco County Public Works to determine any potential weight limitations that may require alternate routes or road improvements. The Director of the Wasco County Public Works reviewed the Routing and Hauling Study provided as Attachment 2 and copy of the correspondence between the Applicant and Wasco County Public Works along with a draft road use agreement with Wasco County Public Works is provided as Attachment 7.

Construction commuting traffic would mostly use the primary access route to the Facility because most of the construction workforce would travel from communities along the primary access route (e.g., The Dalles, Dufur, Tygh Valley, and Maupin). Commuting traffic that uses the primary or the two alternative access routes would enter the Facility at one of the three access points off OR 216, described above. A small percentage of the construction commuting traffic may travel to the Facility on local roads and enter the Facility from secondary access points on to County-maintained roads:

- Back Walters Road has a compacted gravel surface and is in good condition. There is a culvert crossing 3,000 feet east of Walters Road.
- Endersby Road has an asphalt surface and is in fair condition. There are several culverts along this road.
- East Wapinitia Road has a compacted gravel surface and is in fair condition. There are no culverts or bridges on this road.

These secondary access points would only be utilized by workers that live locally in communities immediately east or south of the site boundary (e.g., Pine Grove).

The Applicant expects peak construction to occur in 2027 and therefore assessed 'background' (i.e., without Facility construction traffic) 2027 AADT and compared that to 2027 AADT with construction traffic factored in to assess impacts. As described further in the Traffic Study provided as Attachment 3, Facility construction is expected to have only a short-term, minor impact on traffic operations on public roads in the analysis area.

Facility construction traffic would likely represent a noticeable increase in background traffic volumes on US 26, US 197, and OR 216. However, the combination of background growth and Facility construction traffic would result in the same 2027 level of service (LOS) designations on straight-line road segments as estimated for 2023 for all road segments analyzed except the segment of US 26 located northwest of OR 216. The AADT levels on US 26, northwest of OR 216, are projected to be 4,601 in 2027 when Facility impacts are factored in. This number is barely over the LOS B threshold of 4,600 and therefore would have a minimal impact, despite the change in LOS designation. Additionally, Facility construction traffic could marginally increase traffic at intersections along the designated haul routes, but these increases would not degrade the intersection LOS below acceptable levels.

The Applicant would implement best practices to ensure that increased traffic volumes related to construction are minimally impactful. Such measures may include but are not limited to:

- Establishment and enforcement of designated haul routes to be used by all Facility-related trucks.
- Implementation of active traffic management (e.g., temporary signage, flaggers) or (in coordination with ODOT) a temporary traffic signal at the intersection of OR 216 with both US 26 and US 197 to facilitate safe truck movements during peak periods of Facility vehicle activity, especially for delivery of oversize components.
- Establishment and enforcement of Facility and contractor standards for vehicle safety and maintenance.
- Establishment and enforcement of training and accreditation requirements for Facility drivers, including contractors.
- Scheduling and temporal distribution of truck deliveries to avoid queueing along OR 216.
- Scheduling truck deliveries and worker shift changes to avoid peak commuting times on I-85, US 26, and US 197.
- Implementation of standard temporary construction measures (in addition to any required as part of ODOT permits), such as signage, lighting, cones, barricades, and other traffic mitigation measures to facilitate safe entry and exit from the Facility.
- Implementation of improvements at the Facility entrances (per the provisions of ODOT permits for the Facility), such as the addition of turn lanes, localized road widening, signalization or a stop sign, and pavement improvements to accommodate heavy vehicle use in accordance with local and state regulations.

The Applicant engaged with Wasco County Sheriff's Office (Sheriff's Office) and Wasco County Department Public Works when evaluating potential adverse impacts from construction traffic. This

coordination and the Applicant's measures to minimize potential adverse impacts to traffic safety during Facility construction are discussed further in Section 3.8 below.

3.7.2 OPERATION

During operation, full-time O&M staff would commute using personal vehicles from nearby communities. Most O&M staff would use the primary or alternative access routes (depending on where they live) and would enter the Facility from OR 216 at one of the three access points listed above (Reservation Road, Walters Road, or Victor Road). Operation transportation includes employees commuting by personal vehicle, specialized personnel commuting to the Facility in light-duty trucks for periodic facility inspections, and occasional deliveries by truck. All truck deliveries would use the primary access route and would enter the Facility from OR 216. These trips would not meaningfully change traffic volumes on I-84, US 26, US 197, or OR 216; therefore, operational traffic impacts would be negligible.

3.8 POLICE

The Sheriff's Office is the primary law enforcement authority for the Facility and surrounding area. A letter from the Sheriff's Office confirms their ability to respond to incidents at the Facility and describes critical public safety impacts that the Sheriff's Office expects the Applicant to address to ensure community safety and responsible allocation of Sheriff's Office resources (Attachment 8).

To demonstrate commitment to community safety, and to offset any impact from the Facility construction and operation, the Applicant entered into a Memorandum of Understanding (MOU) with Wasco County and other local emergency response services (Fire and EMS) to document a shared commitment between the Applicant, Wasco County, and emergency responders to public safety. As documented in the MOU, provided as Attachment 9, the Applicant and Sheriff's Office will work together with a mutual goal of ensuring a safe community. To achieve this mutual goal, the Applicant will seek input from the Sheriff's Office on the Emergency Response Plan and emergency response protocols for the Facility and will provide financial support to the Sheriff's Office to bolster the Sheriff Office's emergency response capabilities.

Facility construction would increase population of temporary workers the Sheriff's office noted the potential impacts on police services due to this temporary increase in population. To address these concerns, the Applicant will provide on-site security during construction. The Applicant is also committed to regular and transparent communication with the Sheriff's office to proactively address any public safety items. This communication will include routine communication between on-site security and the Sheriff's Office; regular requests from the Applicant for input and feedback from the Sheriff's Office, including data on public safety concerns or law enforcement incidents that are related to Facility construction; and on-site meetings with the Sheriff's Office, as needed to evaluate the potential impact of the Facility construction on police resources and propose new safety measures, if needed, to reduce impacts.

The Applicant will develop a community complaint response protocol which will identify points of contact for community complaints. The Applicant will also develop Emergency Response Plans for

Construction and Operation and will seek input on those plans for the local emergency response services.

3.9 FIRE

Fire protection services within the analysis area include the Juniper Flat Rural Fire Protection District (JFRFPD), the Wamic Rural Fire Protection District, the Maupin Fire Department, and the Tygh Valley Rural Fire Protection District. These services, and their distance from the Facility, are listed below in Table 4.

TABLE 4 FIRE DEPARTMENTS WITHIN THE ANALYSIS AREA

Fire Department	Miles to Facility
Juniper Flat Rural Fire Protection District	0 to 5*
Wamic Rural Fire Protection District	5
Maupin Fire Department	10
Tygh Valley Rural Fire Protection District	10

Note: distances rounded to 5-mile increments
*JFRFPD's 3 stations range from 0 to 5 miles to the Facility

The Facility is entirely within the jurisdiction of JFRFPD, which is a 93-square-mile rural fire district established in 1976 under ORS Chapter 478 that is staffed by volunteers. Currently, JFRFPD holds the following equipment: five wildland engines, one hybrid engine, three structure engines, three tenders, and one support vehicle. The Facility is also located within the Southern Wasco County Ambulance (SWCA) ambulance service area (ASA) 4. The Applicant addresses coordination with SWCA here and under Section 3.10 Healthcare below.

The Applicant has engaged with JFRFPD to coordinate on fire and emergency response for Facility construction and operation. The Applicant, JFRFPD, and SWCA ASA 4 entered an MOU to ensure that potential impacts to public service providers and the community are appropriately offset and that proper fire and emergency response measures are developed and implemented during Facility construction and operation. As part of the coordination commitment embodied in the MOU, the Applicant shared the draft Wildfire Mitigation Plans for Construction and Operation (provided as Attachments 1 and 2 of the Wildfire Prevention and Risk Mitigation Exhibit) with JFRFPD and JFRFPD shared feedback on these plans on 21 November 2025. The Applicant has incorporated initial feedback from JFRFPD into the Wildfire Mitigation Plans and is committed to continuing dialogue with JFRFPD so that additional input and feedback is incorporated into those plans, as appropriate, prior to submitting the final Application for Site Certificate. Correspondence with JFRFPD is included in Attachment 9.

As noted in the Wildfire Prevention and Risk Mitigation Exhibit, construction of the Facility would increase the area of non-burnable surfaces, significantly decreasing the vegetation burn probability of the Facility. The risk of fire that is introduced by the Facility by human activity and electrical equipment is addressed through robust Wildfire Prevention and Risk Mitigation Plans for

Construction and Operation, referenced above. The Facility would have multiple design measures that would reduce the risk of fire and thus the potential impact on fire service providers. These measures include hosting on-site trainings; removing vegetation around the O&M building, proposed substation, switchyard, and BESS; designing services roads within the BESS area that are at least 24 feet wide; setting back the Facility from homes and infrastructure; incorporating fire fuel breaks; maintaining vegetation in the solar array area and beneath the gen-tie; requiring fire suppression materials to be stored on-site; maintaining water sources on site during fire season; restricting certain activities during fire season; implementing risk mitigation measures during 'red flag weather warnings'; regularly inspecting the Facility; and requiring regular, on-site fire safety trainings for O&M staff. Additionally, the Applicant is committed to supporting JFRFPD with significant equipment upgrades, including financial support to acquire repeaters, which would bolster emergency response capabilities for the Facility and the larger community.

3.10 HEALTH CARE

As mentioned in Section 3.9 above, the medical responders within the analysis area are SWCA ASA 4 and JFRFPD. The Applicant has prepared Wildfire Mitigation Plans for Construction and Operation, referenced above. The Wasco County ASA Plan (2020) describes ASA 4 as a "Frontier" classification under the Trauma System Minimum Standards with a 90 percent response within the maximum time of 4.5 hours to the outer limits of the ASA. The Facility is readily accessible by public roads and can be reached by emergency vehicles. Correspondence with JFRFPD and SWCA ASA 4 about the Facility is included in Attachment 9. As documented in the MOU referenced above, the Applicant will work with JFRFPD and SWCA ASA 4 toward a mutual goal of ensuring a safe community. As part of the MOU, the Applicant is seeking input from JFRFPD on the Wildfire Mitigation Plans and will also provide funding to JFRFPD to bolster emergency response services, and some of that funding may be allocated to SWCA ASA 4.

Outside of the analysis area, there is the Deschutes Rim Health Clinic in Maupin, approximately 7 miles from the Facility, and Adventist Health Columbia Gorge in The Dalles, approximately 48 miles from the Facility. The Deschutes Rim Health Clinic provides essential medical services including family care, women's health, pediatric examinations, and treatment for acute and chronic conditions. Adventist Health Columbia Gorge provides round-the-clock emergency care and is a Level III trauma center, which means the hospital provides initial evaluation and stabilization, including surgical intervention, of severely injured patients. Level III trauma hospitals provide comprehensive inpatient services to patients who can be maintained in a stable or improving condition without specialized care. Critically injured patients requiring specialty care would be transferred via ambulance or life flight to a higher-level trauma system hospital in accordance with criteria established in the Area Trauma Plan. Oregon Health & Science University and Legacy Health, both in Portland, are the Level I trauma centers for Oregon. In addition to providing emergency care, Adventis Health Columbia Gorge also provides sophisticated medical treatments including cancer care, family medicine, laboratory services, therapeutic interventions, and telemedicine options. Given the limited scale of workforce-related population growth from temporary and permanent employment at the Facility, it is not anticipated that the Facility will cause adverse impacts on the county's ability to provide healthcare services to its residents.

4. PROPOSED MONITORING PROGRAMS

(E) The applicant's proposed monitoring program, if any, for impacts to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110.

The Applicant does not propose a monitoring program for the Facility. No significant adverse impacts to services listed in OAR 345-022-0110 have been identified.

5. MATERIALS ANALYSIS

OAR 345-022-0110(4)(b) A materials analysis, including:
(A) An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation;
(B) The applicant's plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills; and
(C) The applicant's plans to manage non-hazardous waste materials during construction and operation.

The full materials analysis is provided in the Soil Protection Exhibit.

6. APPROVAL STANDARDS

The Applicant has satisfied the standards for the Public Services Exhibit outlined in OAR 345-022-0110. Approval standards are summarized in Table 5.

TABLE 5 APPROVAL STANDARDS

Approval Standard	Handling
OAR 345-022-0110 Public Services	
(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.	Section 3
(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	The findings for section (1) are provided, and therefore, this standard is not applicable
(3) The Council may issue a site certificate for a special criteria facility under OAR 345-015-0310 (Request for Expedited Review of Special Criteria Facilities) without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.	The findings for section (1) are provided, and therefore, this standard is not applicable
(4) To assist the Council in determining whether the standard outlined in (1) through (3) has been met, the Applicant must submit: (a) Information	

Approval Standard	Handling
about significant potential adverse impacts of construction and operation of the proposed facility on the ability of public and private providers in the analysis area to provide the services listed in OAR 345-022-0110, providing evidence to support a finding by the Council as required by OAR 345-022-0110. The applicant must include:	
(A) The important assumptions the applicant used to evaluate potential impacts;	Section 2
(B) Identification of the public and private providers in the analysis area that would likely be affected;	Section 3
(C) A description of any likely adverse impact to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110 (Public Services);	Section 3
(D) Evidence that adverse impacts described in (C) are not likely to be significant, taking into account any measures the applicant proposes to avoid, reduce or otherwise mitigate the impacts; and	Section 3
(E) The applicant's proposed monitoring program, if any, for impacts to the ability of the providers identified in (B) to provide the services listed in OAR 345-022-0110 (Public Services).	Section 4
(b) A materials analysis, including: (A) An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation; (B) The applicant's plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills; and (C) The applicant's plans to manage non-hazardous waste materials during construction and operation.	Section 5

7. REFERENCES

Adventist Health Columbia Gorge. Accessed March 2025

https://www.adventisthealth.org/columbia-gorge/

Deschutes Rim Health Clinic. Accessed March 2025.

https://www.deschutesrimhealthclinic.org/medicalservices

Juniper Flat Rural Fire Protection District. Accessed March 2025. http://www.juniperflatrfpd.com/

National Center for Educational Statistics. Accessed March 2025.

https://nces.ed.gov/ccd/districtsearch/district_detail.asp?Search=1&details=1&County=Wasco+County&DistrictType=1&DistrictType=2&DistrictType=3&DistrictType=4&DistrictType=5&DistrictType=6&DistrictType=7&DistrictType=8&DistrictType=9&NumOfStudentsRange=more&NumOfSchoolsRange=more&ID2=4100021

Oregon Department of Transportation: Transportation Volume Tables. Accessed March 2025.

https://www.oregon.gov/odot/data/pages/traffic-counting.aspx

Portland State University: Population Research Center. Accessed March 2025. https://www.pdx.edu/population-research/

US Census Bureau: American Community Survey. Accessed March 2025. https://www.census.gov/en.html

Wasco County. Accessed March 2025. https://www.co.wasco.or.us/

Wasco County Ambulance Service Area Plan. 2020.

https://cms5.revize.com/revize/wascocounty/Sheriff%20Office/Emergency%20Management/ASA%20PLAN_REVISED%202020%20Complete%20Plan%20-%20SIGNED_Current.pdf

ATTACHMENT 1 PUBLIC SERVICES ANALYSIS AREA

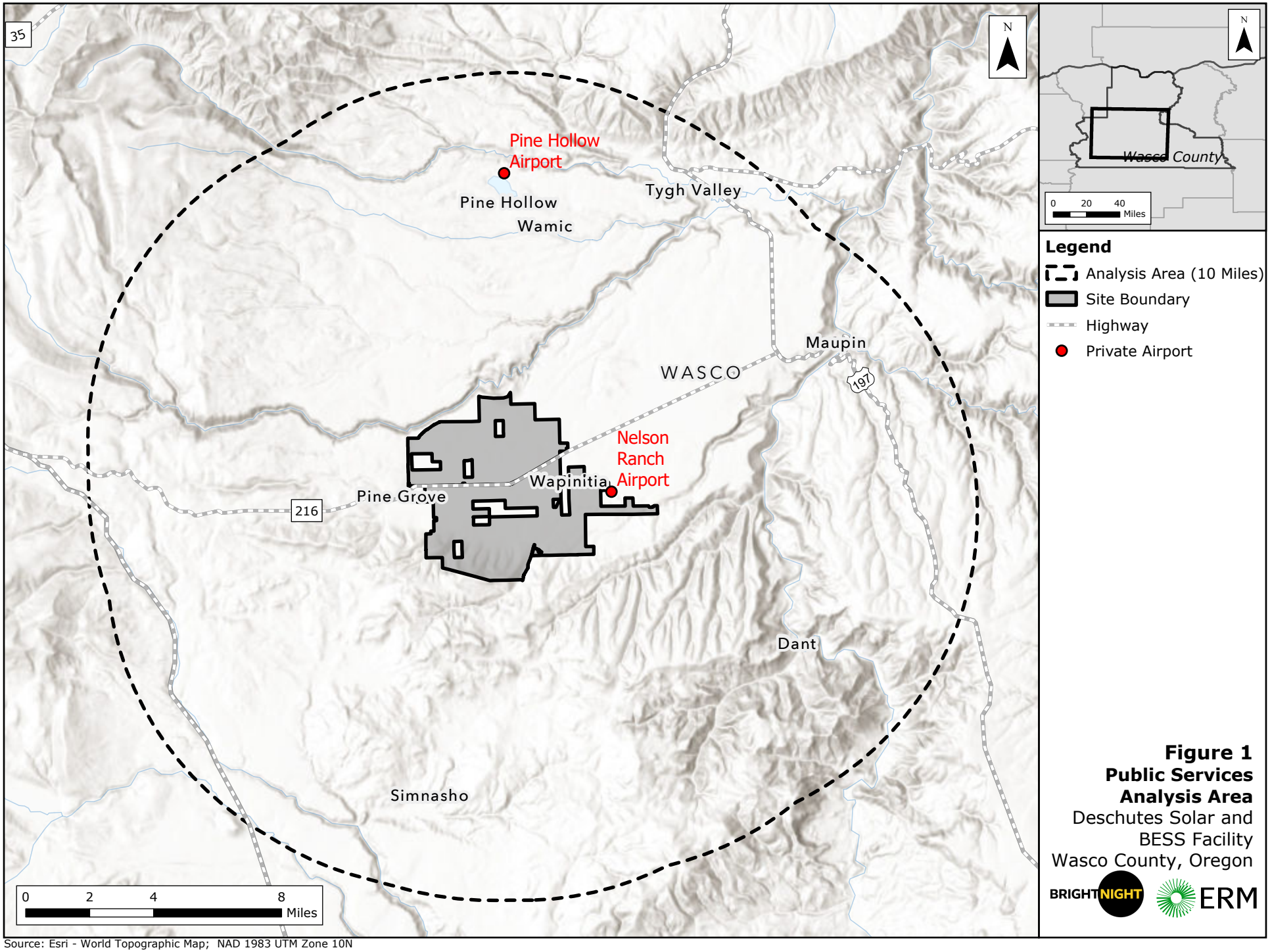


Figure 1
Public Services Analysis Area
Deschutes Solar and BESS Facility
Wasco County, Oregon

Source: Esri - World Topographic Map; NAD 1983 UTM Zone 10N

ATTACHMENT 2 ROUTING AND HAULING STUDY

ROADWAY ANALYSIS & ROUTE REPORT

DESCHUTES SOLAR PROJECT

Wapinitia, Oregon

Prepared By:
KB Civil Engineering LLC

Table of Contents

Scope of Work

KB Civil Engineering, LLC ("KBCE") was contracted by BrightNight, LLC ("Client") to perform a road survey beginning at the Port of Portland and traveling to the Deschutes Solar Project site, near Wapinitia, OR. The scope includes the visual and professional evaluation of the existing road conditions of all the expected traveled roadways for construction of the project.

The scope includes the evaluation of access points and turns within the site boundary, for proposed modifications and existing conditions. The scope of work also includes the evaluation & analysis for the delivery of a BrightNight transformer to the suggested substation location. KBCE shall provide the client with a map of proposed routes, diagrams of proposed road improvements, high quality imagery of existing access locations, and turn simulations for the expected delivery vehicle types. KBCE will also provide opinions, reasoning, and suggestions based on the professional experience of the firm.

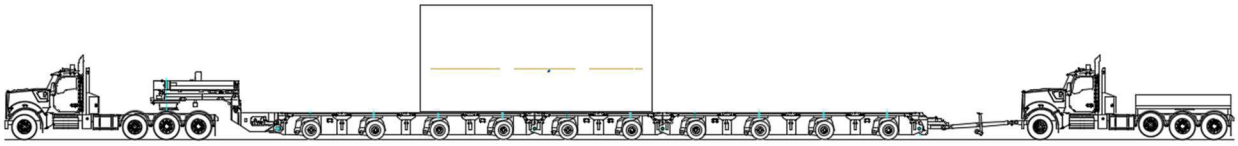
The route options in this report should not be considered as final. Further coordination with Wasco County, ODOT, and other jurisdictions will be required for approval. KBCE suggests that these discussions are had closer to project delivery date to ensure no unexpected road closures or construction is planned at the time of execution.

Survey Methods

KB Civil Engineering personnel completed an on-site survey from the dates of August 4, 2025 to August 6, 2025. This survey included the use of UAV aerial survey equipment and ground photography. The survey also included visual inspection of the existing road and site conditions.

This report was created using ODOT online database, AutoCAD Civil 3D, UAV Ortho-Imagery, and AutoTurn Pro simulating software.

KB Civil Engineering used previous consultancy with a heavy haul trucking company to provide typical dimensions for a loaded transformer vehicle configuration. The exact configuration of the transformer is subject to change when a carrier is selected by the OEM. An example of the vehicle configuration used to build the computer model of the loaded transformer is shown below, credit *Lone Star Transportation Inc* (not to scale).



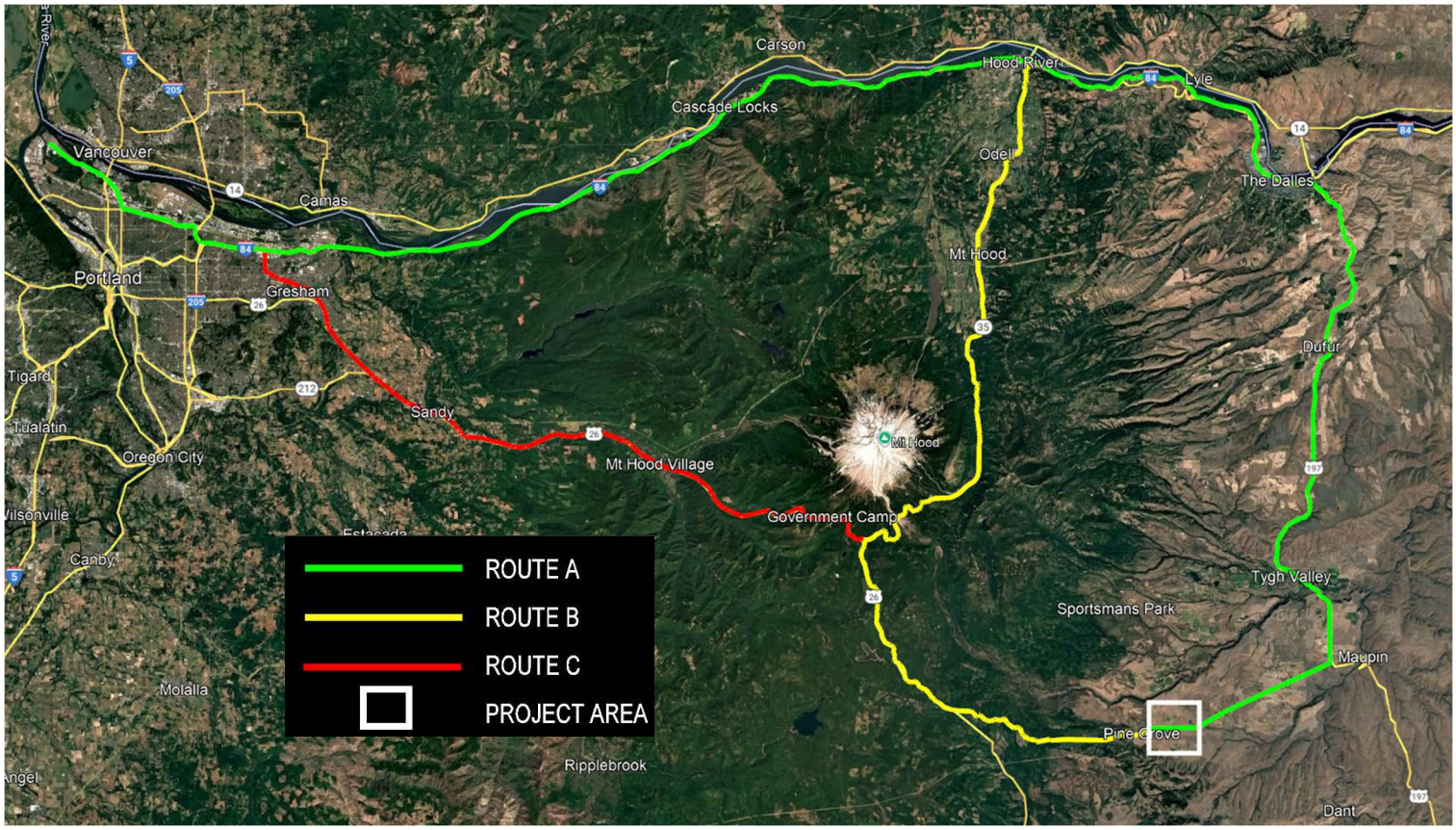
Dual Lane Transformer Delivery Vehicle (Lone Star Transportation LLC)

For the access points to site that are not necessary travel for the transformer trailer, a large heavy equipment deck trailer was used. This includes the analysis for turn within the site boundary. The trailer used, and shown below, is larger than any expected equipment delivery vehicle used to construct the project (not to scale).

80ft Heavy Haul Deck Trailer (Transoft Solutions)

Routes to Project Site

Origin: Port of Portland
Destination: Deschutes Solar Project, Wapinitia, OR



Routes Options, A, B, & C from Port of Portland to Project Site

Route A (via OR 197): Route A is the suggested first approach to reach the project boundary from the Port of Portland. KBCE considers Route A to be the primary route. The benefits of Route A compared to the others are as follows:

1) Avoidance of time spent within the city of Portland boundary

2) Avoidance of highways with high traffic volumes related to Mt Hood and its surrounding attractions

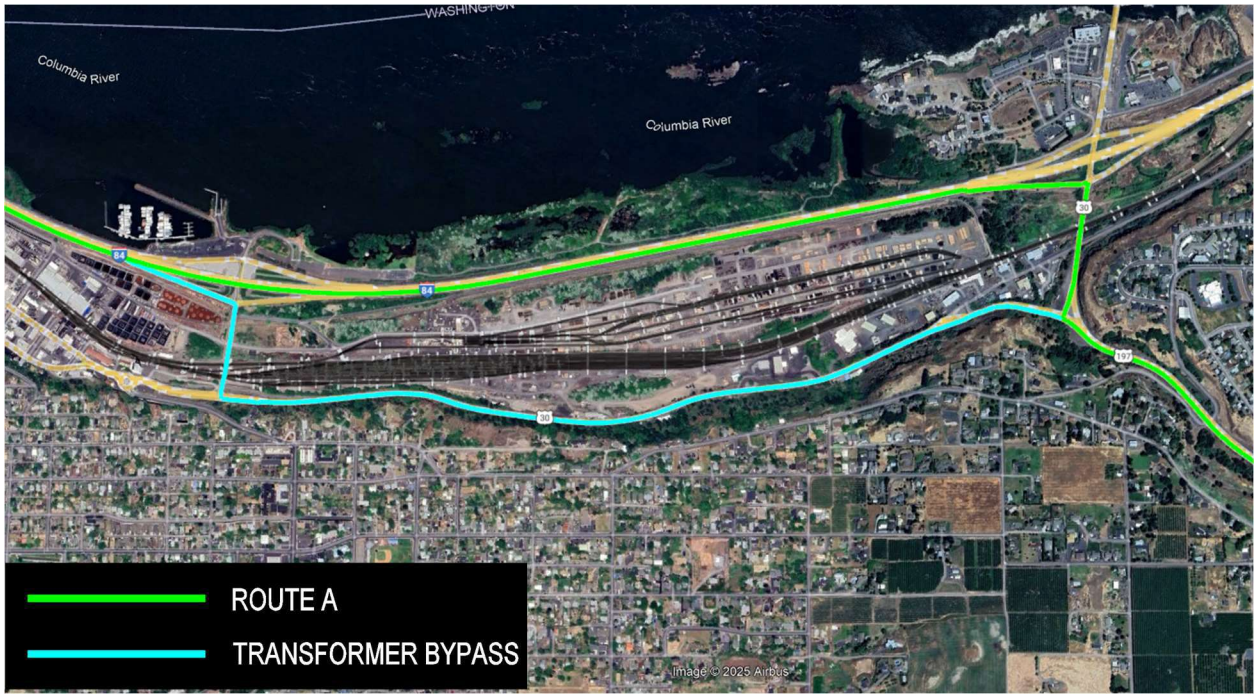
3) Avoidance of significant "C" and "S" curves along OR 26, OR 35, and the west section of OR 216

4) Significant decrease in the need for total traffic control & stoppage along extended sections of highway

Road	Distance (mi)
Marine Dr	4.1
OR 99E	2.4
BYP US 30B	4.8
I-205 S	1
I-84 E	77.9
OR 197 S	35.3
OR 216	7.2
TOTAL	132.7

Route A Mileage Table

All typical legal ODOT loads are expected to navigate Route A without issue. There are several bridges along the route, all of which are robust highway rated bridges. In order to deliver the transformer vehicle, a bypass around the I-84 Exit 87 interchange will likely be necessary. This is due to the restricted space on the Exit 87 interchange that will not allow the analyzed transformer vehicle to make the turn safely. KBCE recommends using the Exit 85 interchange to US 30 before merging onto OR 197 southbound. The execution of the bypass will likely require small modifications to the existing guardrail; the diagrams below illustrate this recommendation.



Recommended Bypass for Transformer Vehicle

Transformer Vehicle Conflict at the Exit 87 Interchange (Not Recommended)

Exit 35 Interchange – Transformer Vehicle Turn Simulation (Recommended Bypass)

Route B (via OR 35): Route B is considered an alternate route to the project boundary and should be considered only if Route A poses significant, unexpected problems for delivery. The reasons Route B is a secondary route are as follows:

1) Required traverse through significant grade on curves, more so than Route A

2) Dense traffic volumes along highway near Mt Hood and surrounding attractions

3) Likelihood of total traffic stoppage or significant traffic control plans for the transformer delivery, due to encroachment onto oncoming lanes through curves.

4) Requires approach to site from the west section OR 216, which contains extremely tight curves and significant grade.

Road	Distance (mi)
Marine Dr	4.1
OR 99E	2.4
BYP US 30B	4.8
I-205 S	1
I-84 E	55.3
OR 35 S	39.3
US 26	13.4
OR 216	23.9
TOTAL	144.2

Route B Mileage Table

Route C (via OR 26): Route C is considered an alternate route to the project boundary and should be considered only if Route A poses significant, unexpected problems for delivery. The reasons Route C is a secondary route are as follows:

1) Required traverse through the City of Portland, with dense traffic and narrow roadway

2) Dense traffic volumes along highway near Mt Hood and surrounding attractions

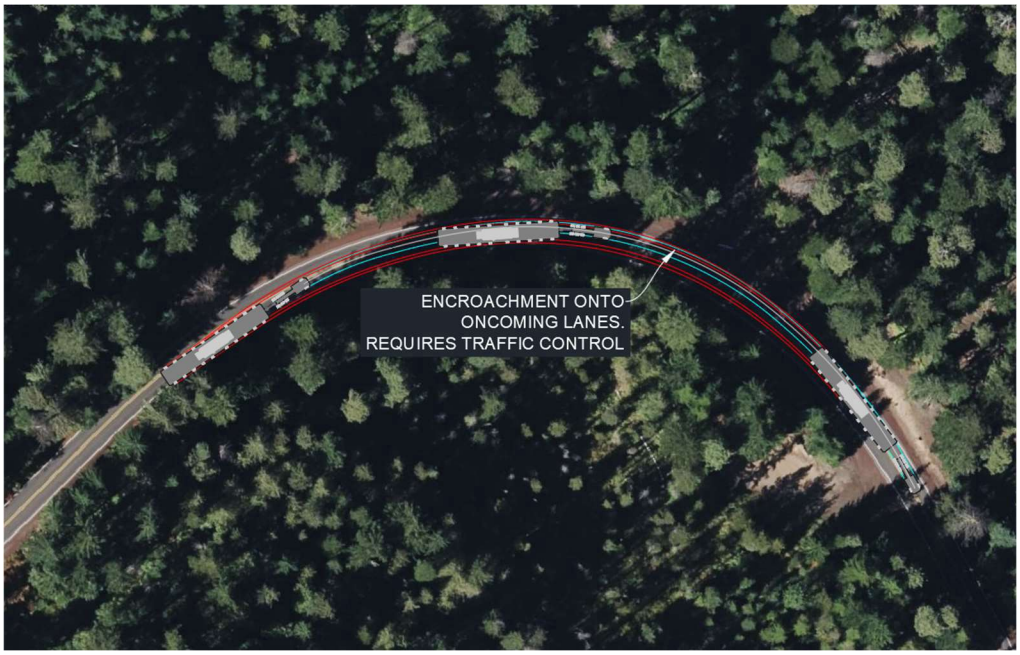
3) Likelihood of total traffic stoppage or significant traffic control plans for the transformer delivery, due to encroachment onto oncoming lanes through curves.

4) Requires approach to site from the west section OR 216, which contains extremely tight curves and significant grade.

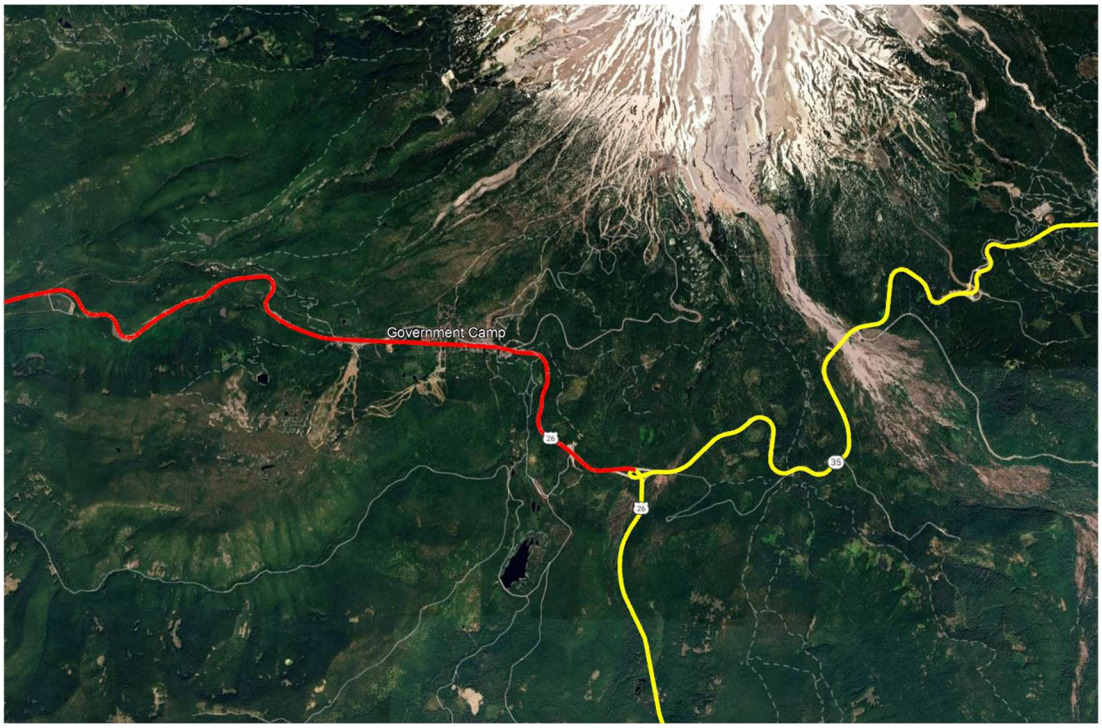
Road	Distance (mi)
Marine Dr	4.1
OR 99E	2.4
BYP US 30B	4.8
I-205 S	1
I-84 E	4.1
N 181st Ave	1.3
E Burnside St	4.1
US 26	54.7
OR 216	23.9
TOTAL	100.4

Route C Mileage Table

The diagrams below help to illustrate why Routes B and C are not considered as the primary delivery route.



Examples: Significant "C" curve from the west approach on OR 216



Significant curvature on US 26 & OR 35

All three routes listed above should be considered viable, however, permitting & verification of ODOT and local jurisdictions should be pursued after a carrier is selected. The configuration of the transformer vehicle by the selected carrier (typically via the OEM) will be needed to further pursue permits for transport.

Primary Site Access Locations

Main Entrance (OR 197 & OR 216)

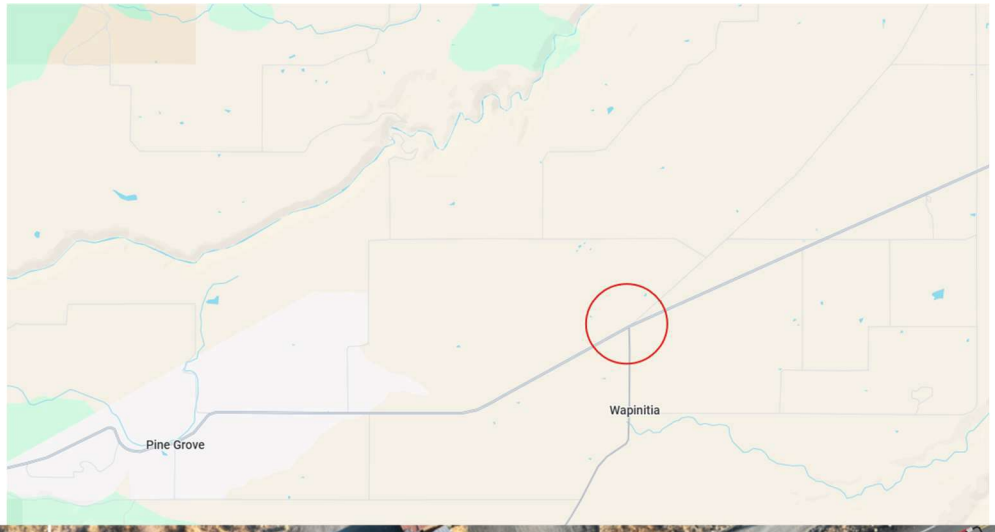
The primary entrance to the entire site is at the OR 197 & OR 216 intersection, north of Maupin, OR. This will be the access for all delivery vehicles to the project.

High Resolution Image & Turn Simulation for OR-197 to OR-216

Primary Access Points from OR 216

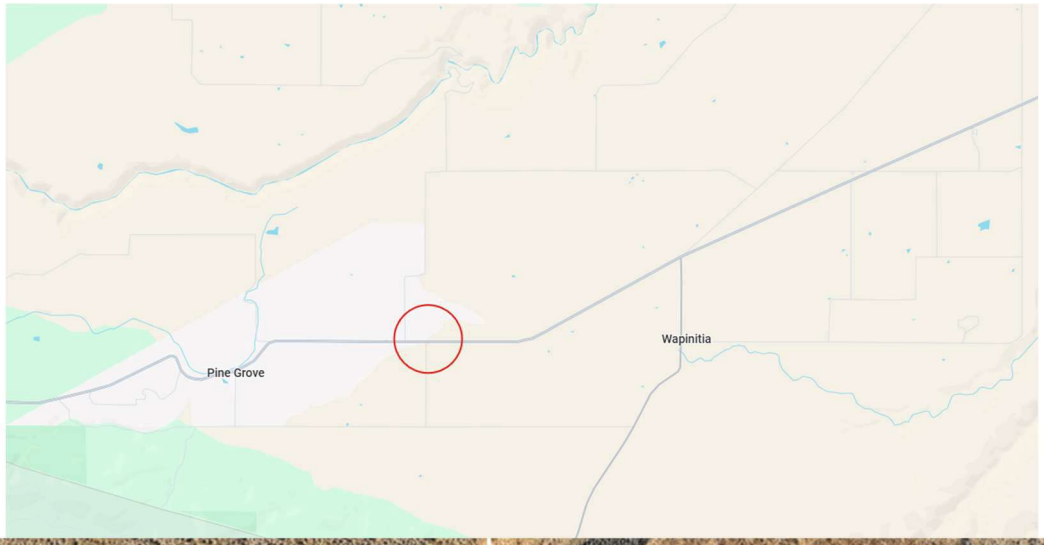
The field survey confirmed three (3) access points to the project from OR 216.

1) Reservation Rd: Primary access to south & southeast portion of project boundary. This location will be the access point for the transformer delivery, should the current proposed location for the substation remain.



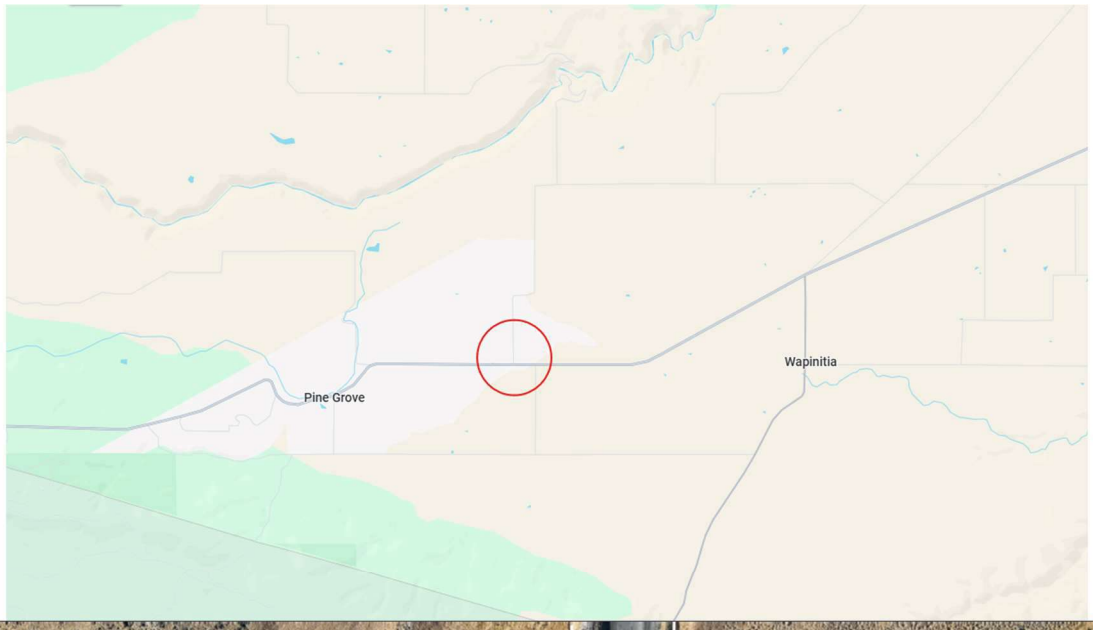
High Resolution Image & Turn Simulation for OR-216 to Reservation Rd

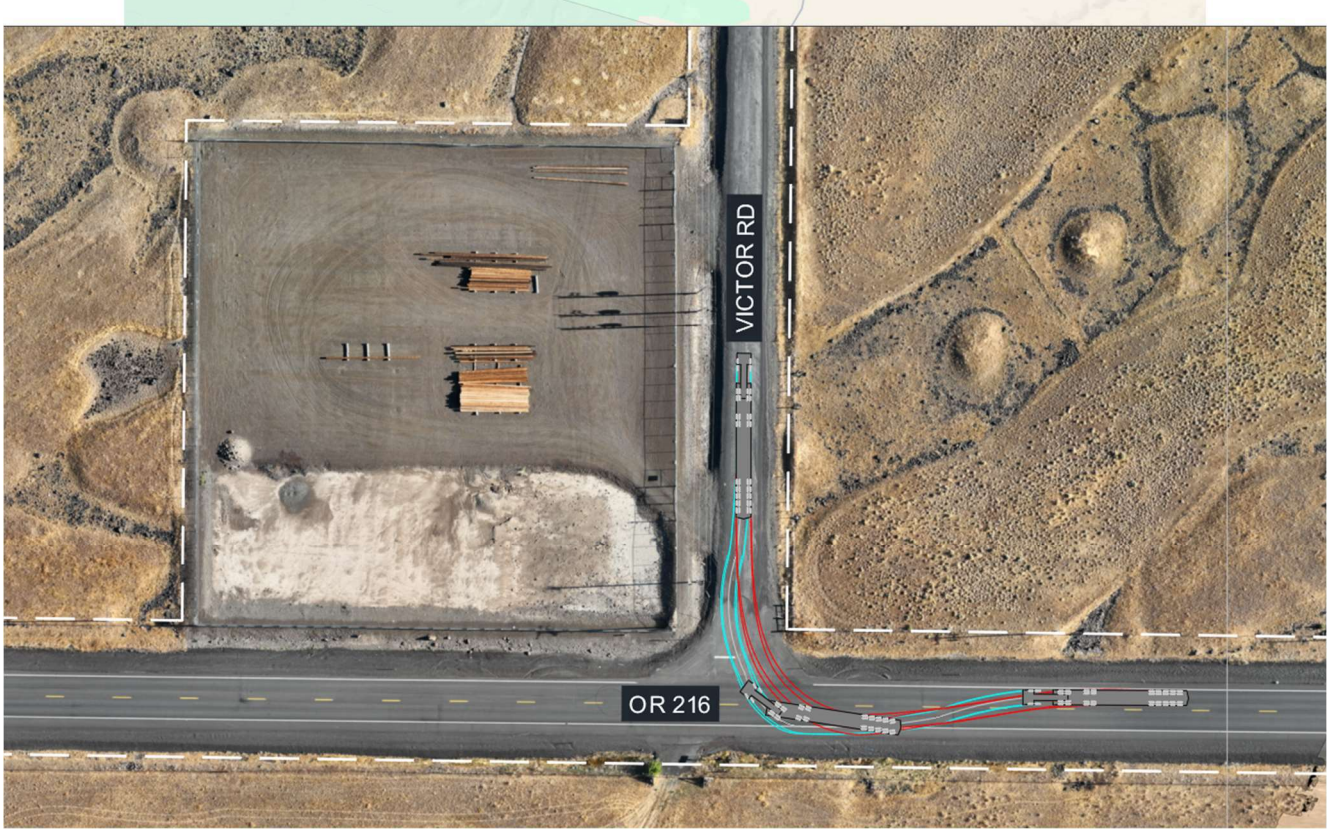
2) Walters Rd: Primary access road for southwest & mid portion of project boundary. Provides loop link to Reservation Rd and site exit.



High Resolution Image & Turn Simulation for OR-216 to Walters Rd

3) Victor Rd: Primary access road for north portion of project boundary.





High Resolution Image & Turn Simulation for OR-216 to Walters Rd

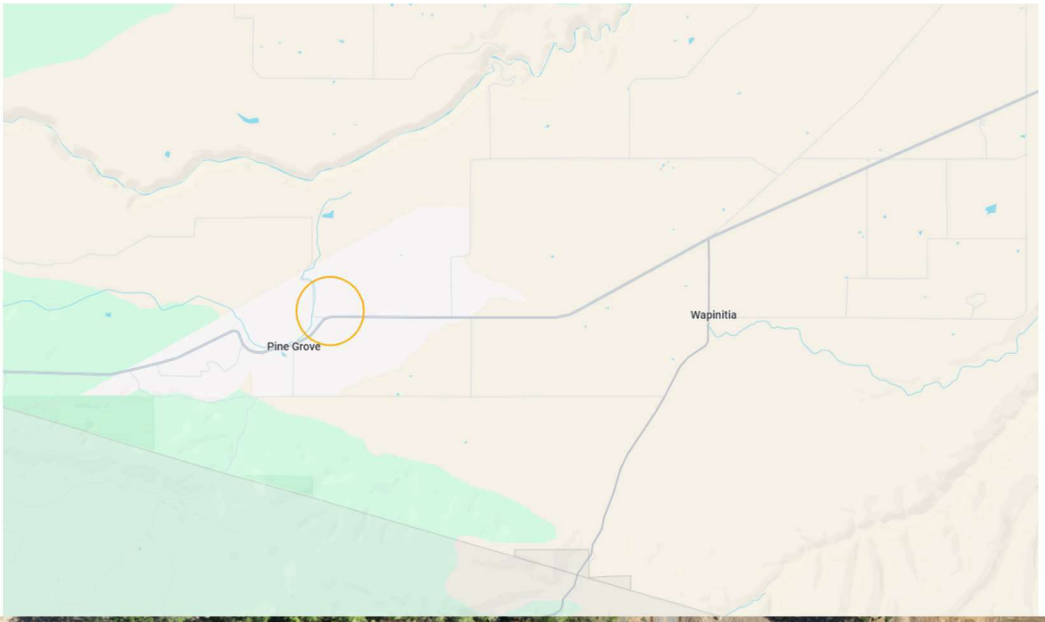
Secondary Site Access Locations

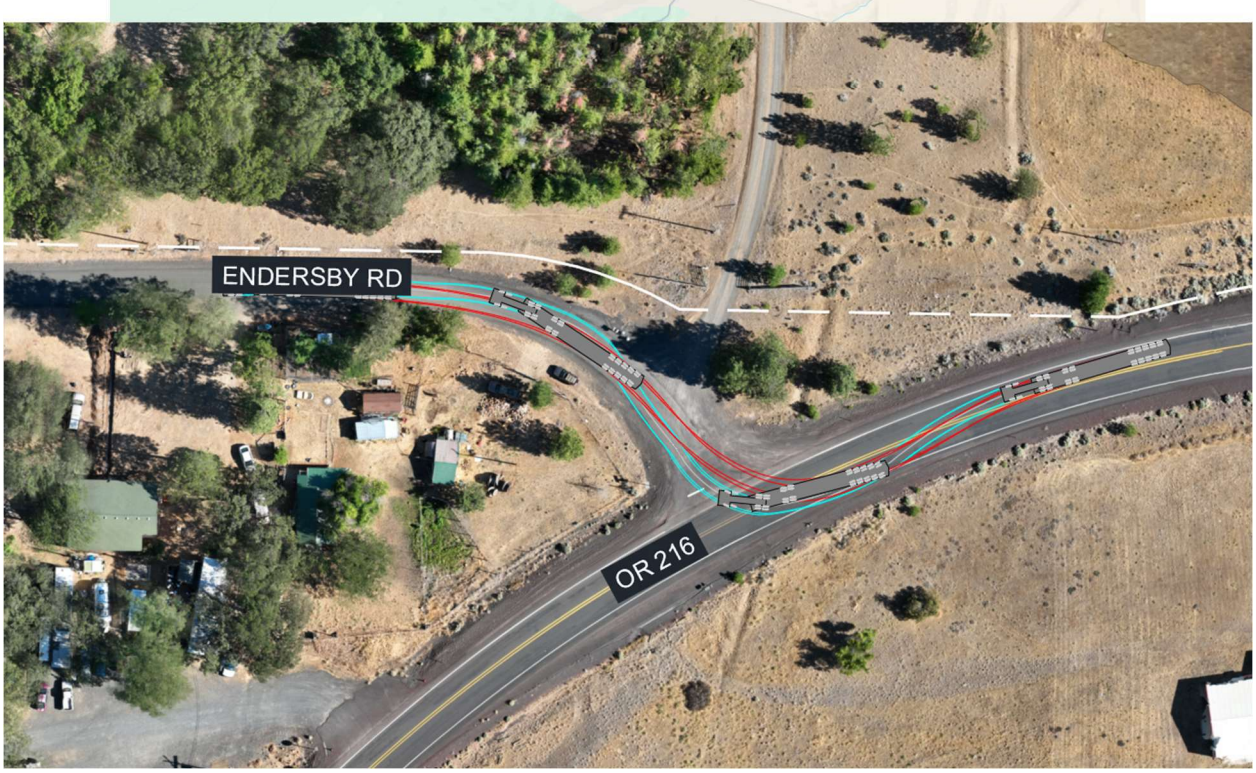
Back Walters Road: A well-maintained dirt roadway that connects Reservation Rd to Walters Rd; can be used for access to south portion of the project boundary.

High Resolution Image & Turn Simulation for Reservation Rd to Back Walters Rd

High Resolution Image & Turn Simulation for Walters Rd to Back Walters Rd

Endersby Rd: Residential entrance to Pine Grove community at far west end of project boundary. Should be considered as a secondary access road due to tight curves and increased local traffic volume.

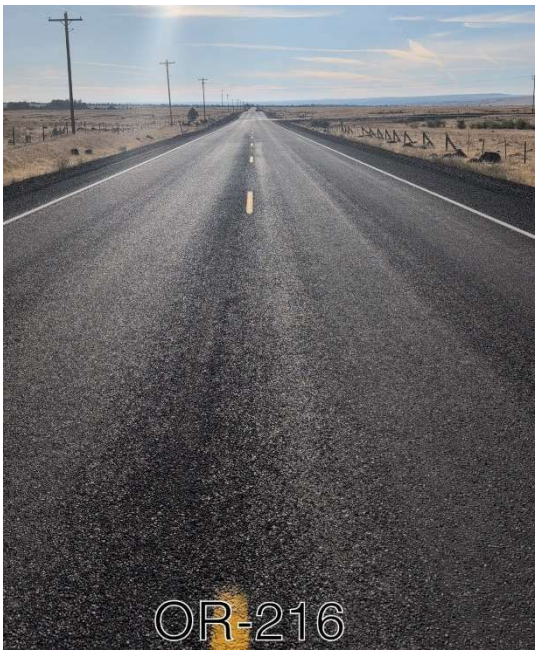




High Resolution Image & Turn Simulation for OR 216 to Endersby Rd

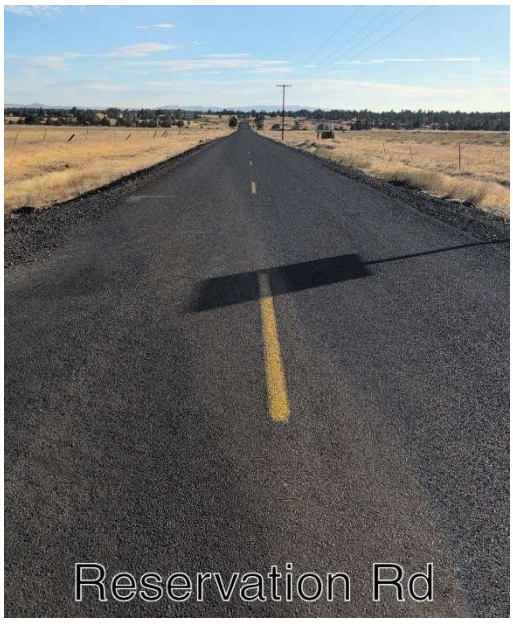
Road Conditions – Project Site

The on-site survey evaluated the road conditions on site based on the following criteria: surface condition, size, traffic volume, and existing infrastructure. No bridge analysis was conducted for this scope. No geotechnical analysis was conducted for this scope. The analysis for each roadway is based upon the opinion of professional engineers, obtained from visual observation.



OR 216

Surface: Paved asphalt, very good condition.
Size: 24' R.O.W. with 4' shoulder on each side
Traffic Volume: Low (<20 vph est.)
Existing Infrastructure: Weight limit bridge between Reservation Rd and Walters Rd

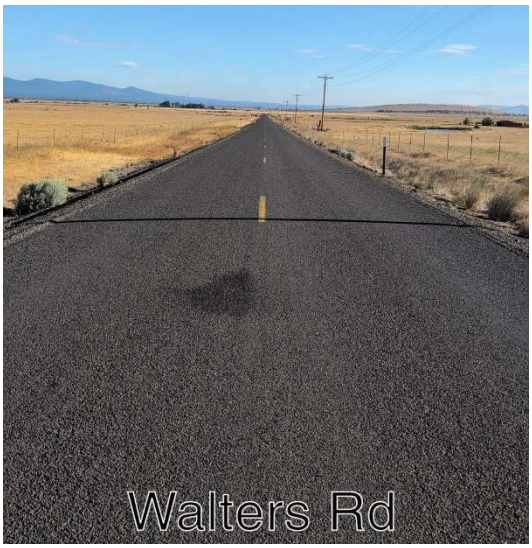


Reservation Rd

Surface: Paved asphalt, very good condition
Size: 20' R.O.W. with no shoulder
Traffic Volume: Low (<20 vph est.)
Existing Infrastructure: Bridge & culvert crossing south of E Wapinitia Rd

Walters Rd

Surface: Paved asphalt, very good condition
Size: 20' R.O.W. with no shoulder
Traffic Volume: Very Low (<10 vph est.)
Existing Infrastructure: Culvert crossing north of Back Walters Rd

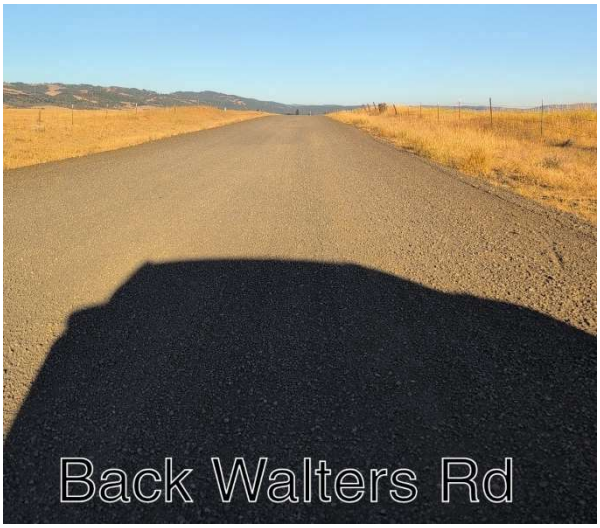


Victor Rd

Surface: Partial asphalt & gravel, fair condition
Size: 18' R.O.W. with no shoulder
Traffic Volume: Very Low (<10 vph est.)
Existing Infrastructure: Culvert crossing 1300' north of OR 216

Back Walters Rd

Surface: Compacted gravel, good condition
Size: 20' R.O.W. with no shoulder
Traffic Volume: Very Low (<10 vph est.)
Existing Infrastructure: Culvert crossing 3000' east of Walters Rd intersection



Endersby Rd

Surface: Asphalt, fair condition
Size: 20' R.O.W. with no shoulder
Traffic Volume: Low (<20 vph est.)
Existing Infrastructure: Several culvert crossings

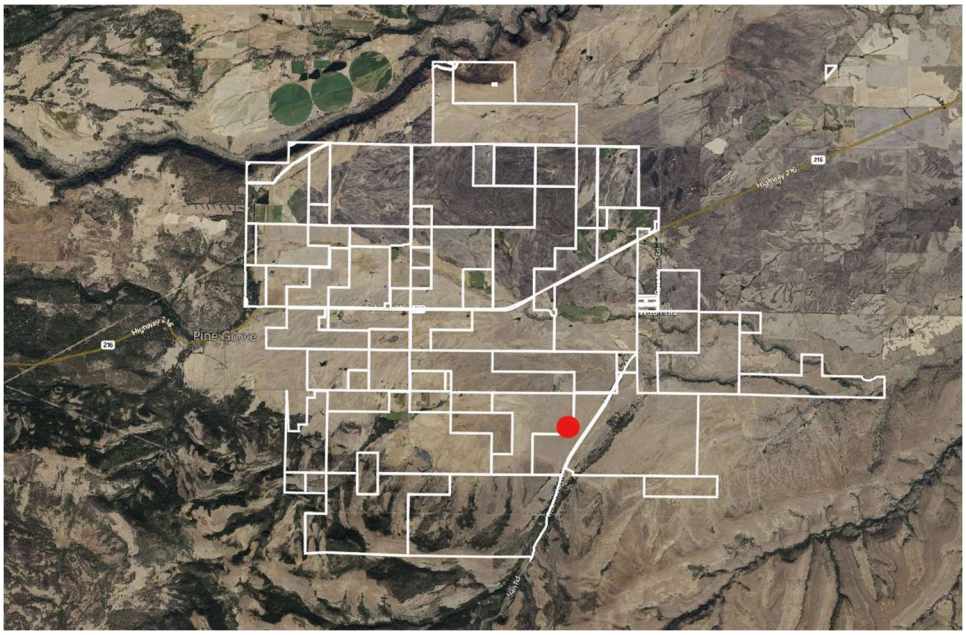
E Wapinitia Rd

Surface: Compacted gravel, fair condition
Size: 17' R.O.W. with no shoulder
Traffic Volume: Very Low (<10 vph est.)
Existing Infrastructure: N/A

Overall, KBCE would rate the overall roadway conditions on site as exceptionally good. There are no locations with the need for immediate improvement, and all primary and secondary roadways are suitable for delivery. Carrier shall coordinate with Wasco County for assistance on bridge/culvert crossing permissions.

Transformer Delivery Analysis

Included in the site survey was the analysis of the potential access entry and route to deliver a transformer to the substation location. KBCE is operating under the assumption that the proposed location for the substation is as shown below



Proposed Substation Location

There are no existing access driveways on Reservation Rd that are near the substation location, the closest access driveway on Reservation Rd is 0.55 miles south of the proposed location. Significant modifications to the existing apron and existing roadway need to be made at this location to accommodate a transformer delivery vehicle. Approximately 400 ft of existing roadway would need improved, and 2,700 ft of new constructed roadway is necessary to reach the substation.

Existing Access Driveway & Road to Substation

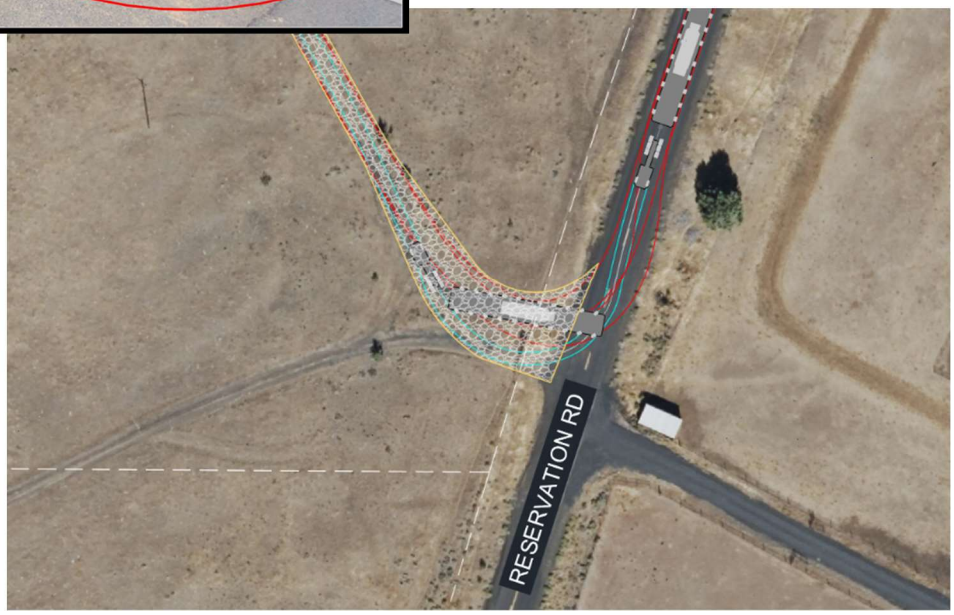
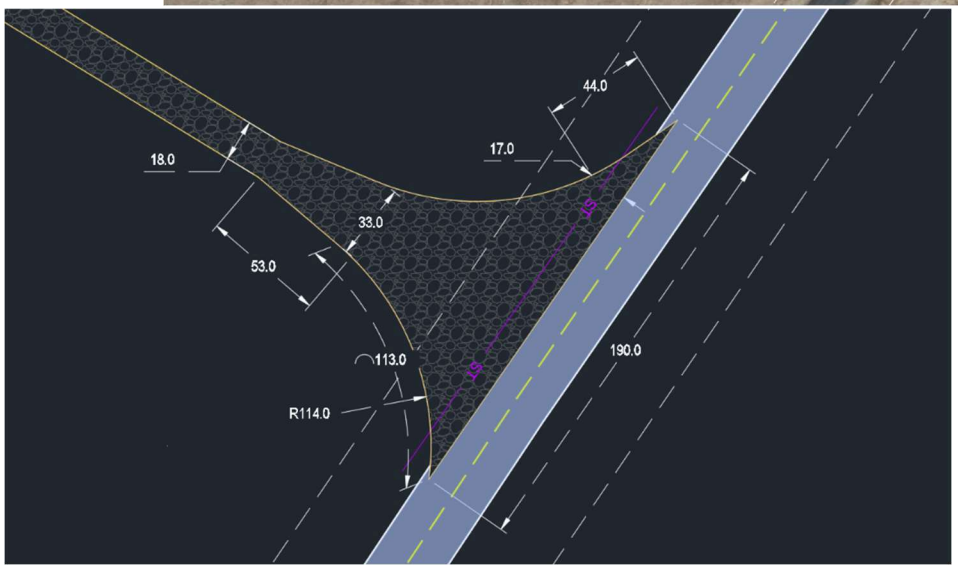


Diagram of Apron Modifications Required at Existing Access

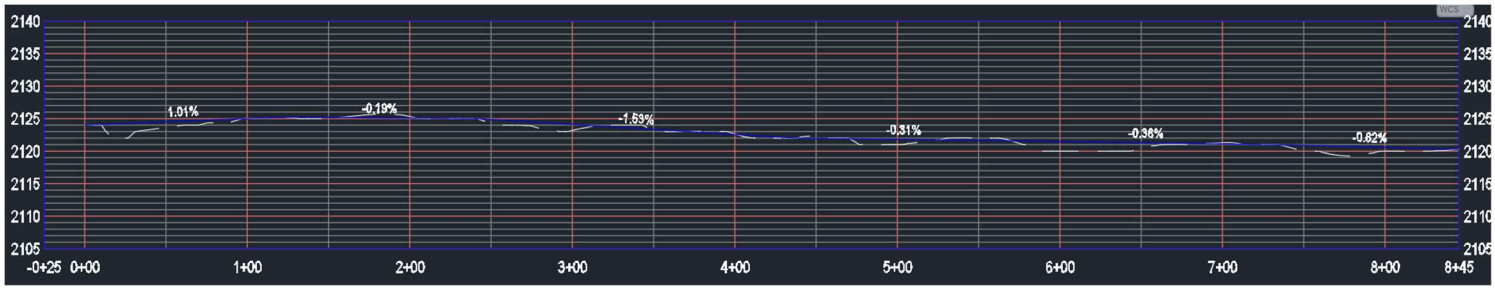
Due to the length of new road that needs to be constructed, and the modifications required at the existing access driveway, KBCE suggests the design and permit of a new driveway apron on Reservation Rd. This driveway would be perpendicular to the proposed substation location and would result in significantly less new road to being constructed. The length of new road construction for this option would be approximately 800 ft.

Proposed Access Driveway & Path to Substation

KBCE has obtained 1 ft contour surface data for the area of proposed access and has developed a preliminary design for the driveway apron and roadway. The geometry of this design is subject to change depending on the transformer delivery vehicle details, which will be determined when a carrier is selected.



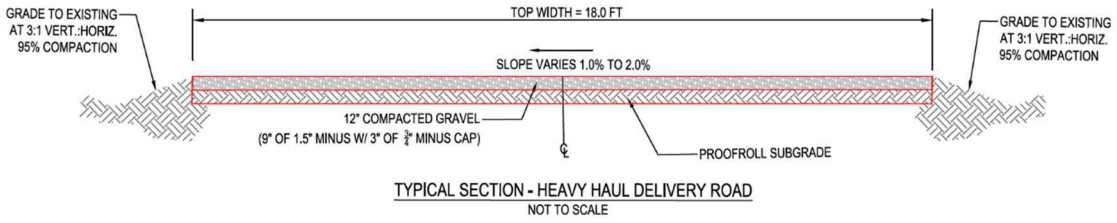
Proposed Access Driveway Apron and Road to Substation



Profile of Proposed Access Road to Substation

The overall terrain around the proposed access road is subtle grades less than 2%, with small rolling mounds of topsoil. Investigation should be done for wetland delineation before beginning the design and construction permitting process. BrightNight should also be prepared for the installation of any culverts, cattleguards, gates, fencing, and other requirements to ensure proper drainage and protection of the existing land.

The typical section of roadway that KBCE recommends is shown below. This section may be modified by local authority and is not final. The section shown is a typical section used for delivery of overweight components on previous projects.



TYPICAL SECTION - HEAVY HAUL DELIVERY ROAD
NOT TO SCALE

Conclusions

There are several conclusions based on the analysis of this route & roadway field survey:

1) Three (3) viable haul routes have been identified from the Port of Portland to the project boundary
2) Route A, as presented in this report, should be the first attempted route for permit due to its preferred conditions over Route B and Route C.
3) A bypass is likely needed at the I-84 and OR 197 interchange for the transformer delivery vehicle.

4) The main entrance for all deliveries to site is at the OR 197 and OR 216 junction. No road improvements are required here to make this turn
5) A weight limit bridge between the Reservation Rd and Walters Rd intersections along OR 216 should be the first investigation for delivery to site. KBCE observed loaded gravel dump trucks navigating this bridge during the site visit.
6) There are three (3) primary site access roads: Reservation Rd, Walters Rd, and Victor Rd
7) There are two (2) secondary access roads: Back Walters Rd, and Endersby Rd. E Wapinitia Rd can also be considered for delivery if necessary.
8) The road conditions for both primary and secondary site roadways are considered to be in good condition for component delivery and truck traffic.
9) Coordination with Wasco Country and ODOT shall take place for bridge/culvert analysis after a carrier is selected.
10) The closest existing access point to the substation for transformer delivery would require significant modifications to the driveway apron, and would require approximately 2,700 ft of new roadway
11) KBCE recommends the design and permitting of a new access driveway apron and access roadway. The proposed roadway would require approximately 800 ft of new roadway
12) The delivery road to the substation should be constructed to accommodate a loaded transformer delivery vehicle, as well as multiple light construction vehicle passes. A typical section for the road has been suggested in this report

Legal Rights & Disclaimers

FIELD CONDITIONS: This report is limited to existing conditions at the time of the report and is subject to change based on the timing of the execution of the project.

STANDARD OF CARE / NO OTHER WARRANTIES: KBCE has provided this report using the normal skill and competence of engineering & transportation consultants operating on similar sized projects in the area. Client acknowledges that the foregoing is the sole and exclusive warranty provided to Client. KBCE DOES NOT MAKE ANY OTHER WARRANTIES EXPRESSED OR IMPLIED, IN THIS REPORT OR IN ANY PROPOSAL, SURVEY; DRAWING, OR OTHER DOCUMENT.

PROPRIETARY RIGHTS: Except as expressly licensed to Client hereunder or in any other applicable Agreement, this Report, any and all intellectual property rights of KBCE included herein, ("Proprietary Rights") is and shall remain the exclusive property of KBCE or its affiliates, whether or not specifically recognized or perfected under applicable local law. Provided that in no event, shall this provision be interpreted to claim any rights to any Client confidential information set forth or otherwise included in this Report.

GRANT OF LICENSE FOR PERMITTED PURPOSE: In connection with the performance of any Services hereunder, and subject to payment pursuant to the terms and conditions above, KBCE shall grant Client and its affiliates a non-exclusive, royalty-free, fully-paid up, transferable, irrevocable, worldwide license (the "License") to use any deliverables produced by KBCE in performance of the Services in furtherance of the business of Client or its affiliates related to the Project (the "Permitted Purpose"), including those rights in connection with the Permitted Purpose to (a) use, sell, sublicense, execute, reproduce, and distribute such deliverables and any Proprietary Rights of KBCE incorporated therein, (b) create derivative works based on such deliverables, (c) make, have made, use, sell, import and export products and services that include such deliverables, and (d) otherwise commercially exploit such deliverables by all means and in any medium or format, now known or later developed, *provided that* any such rights shall remain subject to the obligation of Client to attribute Design Credit to KBCE related to such materials.

RELIANCE: KBCE shall be entitled to rely on the accuracy and completeness of any information, drawings, measurements, test results, and other information provided by the Client and the Client's representatives and consultants. KBCE shall not be responsible for calculations, specifications, or designs based on erroneous, inaccurate, or incomplete information provided by the Client.

ATTACHMENT 3 TRAFFIC STUDY

Traffic Study

Public Services Exhibit Attachment 3

PREPARED FOR

BRIGHTNIGHT
Power when you need it

DATE
December 2025

REFERENCE
Oregon Energy Facility Siting Council

CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS AND ABBREVIATIONS

Acronym	Description
AADT	Annual average daily traffic
Applicant	DECH bn, LLC
ERM	Environmental Resources Management, Inc.
Facility	Solar photovoltaic power generation facility and related or supporting facilities in Wasco County, Oregon
I-	Interstate highway
LOS	Level of service
OAR	Oregon Administrative Rules
ODOT	Oregon Department of Transportation
OR	Oregon State Highway
PCE	Passenger car equivalent
US	U.S. Route

1. INTRODUCTION

DECH bn, LLC (Applicant) plans to construct a solar photovoltaic power generation facility and related or supporting facilities in Wasco County, Oregon (Facility). The Facility will include up to 1,000 megawatts of solar capacity and a battery energy storage system with at least 4,000 megawatt hours storage capacity. Environmental Resources Management, Inc. (ERM) has prepared this Traffic Study for the Facility on behalf of the Applicant.

This Traffic Study has been prepared to meet the Application for Site Certification requirements outlined in Chapter 345 of the Oregon Administrative Rules (OAR). Specifically, OAR 345-022-0110(1)(4), which requires a description of the Facility's impacts on public services, including vehicle traffic safety, and OAR 345-022-0040(5)(c)(B), which requires a description of the Facility's impacts on protected areas due to "increased traffic resulting from facility construction or operation." Although the Facility is on private land, it is close to (and the routes used to carry Facility components to the Facility cross through) lands that meet the definition of "protected areas" in OAR 345-001-0010(26).

Analyses to support required permits from the Oregon Department of Transportation (ODOT) or county road authorities (if needed) will be prepared separately.

2. EXISTING CONDITIONS

The Facility site boundary is 14,418 acres of privately owned land approximately 10 miles southwest of Maupin, Oregon. The site boundary is bisected by Oregon State Highway (OR) 216 (Wapinitia Highway), which runs east-west (see Figures 1 and 2 in Attachment 1 of the Background Organization Exhibit). The analysis area for this Traffic Study is shown in Attachment 1 of the Public Services Exhibit, and includes the portions of public roads within Wasco County used by Facility vehicles (as described in Section 2.1).

2.1 ROAD NETWORK

Table 1 summarizes annual average daily traffic (AADT) and other characteristics of the major roads near the site boundary. Figure 1 shows the site boundary and surrounding road network, as well as the location of the AADT counts.

U.S. Route (US) 197 runs north-south approximately 8 miles east of the site boundary and US 26 runs north-south approximately 9 miles west of the site boundary. The primary vehicular access route to the Facility from the Portland, Oregon area would be via Interstate (I-) 84, US 197, and OR 216 (KBCE 2025). Secondary routes (to be used in case of problems with the primary route) include (KBCE 2025):

- US 26 (Portland area) to OR 216; or
- I-84 to OR 35 to US 26 to OR 216.

From OR 216, Facility deliveries and workers may use smaller county roads, including Victor Road, Walters Road, Reservation Road, Back Walters Road, Endersby Road, and East Wapinitia Road to

access specific portions of the site boundary. Characteristics and conditions of these roads (as of 2025) are as follows (KCBE 2025):

TABLE 1: 2024 ANNUAL AVERAGE DAILY TRAFFIC ON MAJOR ROADS

Road	Map ID	Location	2023 AADT	2019 AADT	Growth Rate [a]	Speed Limit (mph)	Road Characteristics
I-84	1	West of Rowena Interchange	25,262	24,729	0.5%	65	Paved and marked, Typically 4 lanes, some 6 lane segments with concrete divider
US 26	2	Southeast of OR 216	3,903	4,321	(2.4%)	55	Paved and marked. Typically, 2 lanes, some 3- or 4-lane segments
	3	Northwest of OR 216	4,268	4,513	(1.4%)	55	
	4	At Clackamas/Wasco County Line	4,376	4,667	(1.6%)	55	
US 197	5	North of OR 216	1,282	1,162	2.6%	65	Paved and marked. Typically, 2 lanes, some 3- or 4-lane segments
	6	South of OR 216	1356	1,118	5.3%		
	7	Mays Canyon Creek Bridge	1,446	1,390	1.0%		
	8	South of US 30 and I-84	5,991	5,903	0.4%		
OR 216	9	West of US 197	647	593	2.3%	55	Paved and marked. Typically, 2 lanes
	10	East of Old Wapinitia Road	602	501	5.0%		
	11	West of Old Wapinitia Road	467	404	3.9%		
	12	East of Kelly Spring Road at Pine Grove	463	373	6.0%		

Source: ODOT 2025

Note: AADT = Annual Average Daily Traffic; I- = interstate; mph = miles per hour; OR = Oregon State Highway; US = U.S. Route

[a] Average annual growth rate between 2019 and 2023 (inclusive)

- **Reservation Road:** paved, two marked lanes (20-foot paved width), no shoulders, very good condition.
- **Walters Road:** paved, two marked lanes (20-foot paved width), no shoulders, very good condition.
- **Endersby Road:** paved, unmarked, 20 feet wide, no shoulder, fair condition.
- **Victor Road:** Partial asphalt and gravel road, 18 feet wide, no shoulders, fair condition.
- **Back Walters Road:** compacted gravel, 20 feet wide, good condition.
- **East Wapinitia Road:** compacted gravel, 17 feet wide, fair condition.

AADT data are not available for Victor Road, Walters Road, Reservation Road, Back Walters Road, Endersby Road, and East Wapinitia Road.

Level of service (LOS) is a subjective measurement of traffic operations, with six levels designated by the letters A (free flow conditions) through F (stop and go gridlock). For intersections, LOS is typically based on factors such as delay time. For road segments not at intersections, AADT is typically based on travel speed or the ratio of traffic volume to the road's carrying capacity. Table 2 depicts the AADT thresholds for road segments that correspond to different LOS designations. Table 3 provides the corresponding existing LOS for the road segments listed in Table 2.

As shown in Table 3, based on their respective criteria, all segments and points listed are determined to have a LOS of A, except for the segment of US 197 South of US 30, which operates at LOS B.

TABLE 2: LEVEL OF SERVCE THRESHOLDS (AADT)

Lanes	Roadway Category	Median	LOS B	LOS C	LOS D	LOS E
2	Rural Highway	Undivided	4,600	8,200	14,000	28,500
4	Core Urbanized Freeway	Divided	50,600	66,700	82,200	85,700

Source: FDOT 2023.

Note: AADT = annual average daily traffic, LOS = level of service

TABLE 3: 2023 LEVELS OF SERVICE NEAR THE FACILITY

Road	Location	Road Type [a]	2023 AADT	LOS
I-84	West of the Rowena Interchange	Core Urbanized Freeway	25,262	LOS A
US 26	SE of OR 216	Rural Highway	3,903	LOS A
	NW of OR 216	Rural Highway	4,268	LOS A
	At Clackamas Wasco County Line	Rural Highway	4,376	LOS A
US 197	North of OR 216	Rural Highway	1,282	LOS A
	South of OR 216	Rural Highway	1,356	LOS A
	Mays Canyon Creek Bridge	Rural Highway	1,446	LOS A
	South of US 30 (Mosier Dalles Highway)	Rural Highway	5,991	LOS B
OR 216	West of US 197 (Dalles California Highway)	Rural Highway	647	LOS A
	East of Old Wapinitia Road	Rural Highway	602	LOS A
	West of Old Wapinitia Road	Rural Highway	467	LOS A
	East of Kelly Spring Road at Pine Grove	Rural Highway	463	LOS A

Sources: ODOT 2025; FDOT 2023

Note: AADT = annual average daily traffic; I- = interstate, LOS = level of service, OR = Oregon State Highway, US = U.S. Route
[a] As listed in Table 2 (FDOT 2023)

2.2 BRIDGES AND CULVERTS

Bridge capacity and condition can be a limiting factor for major capital projects, due to the need to haul heavy components and other loads to a project site. Figure 2 shows the location of road bridges along the Facility haul route roads, while Table 4 summarizes the condition and weight limits of these structures.

There are 17 bridges along the primary and secondary haul routes within Wasco County. All identified bridges were open to traffic at the time of this assessment, with no posted weight restrictions, and were rated in good or fair structural condition (Table 4). Bridges with fair ratings have some evidence of minor deterioration (FHWA 1995). Several bridges along I-84 have comparatively low operating load capacities, including one bridge that crosses Hosteller way with a 16.1 ton capacity and two bridges over US 30 in The Dalles that have 20 ton capacities. These listed capacities are notably low for interstate highways and should be verified with ODOT as part of detailed Facility planning and permitting.

TABLE 4: BRIDGE CONDITIONS AND WEIGHT LIMITS

Route Location	Structure Number	Condition	Feature Crossed	Weight Limit (Tons) [a]
I-84	22248 002 08683	Good	Three Mile Creek	40.3
	08603 002 08428	Fair	UPRR	41.1
	08775W002 08415	Fair	US 30	49.6
	08775 002 08415	Fair	US 30	20.0
	08766 002 08368	Good	US 30	31.7
	08276 002 08262	Fair	Hosteller Way	16.1
	07550 002 08078	Fair	Taylor-Frantz Road	41.0
	07553 002 08189	Fair	Chenoweth Creek	20.0
	07552A002 07662	Fair	Rowena Conn	52.0
US 26	02204 053 06907	Fair	Clear Creek	75.0
US 197	08993 004 03552	Fair	White River	31.1
	08994 004 03525	Fair	Tygh Creek	29.7
	01001A004 03285	Fair	Butler Creek	46.0
	01066A004 01446	Fair	Pine Creek	48.2
	09188 004 01335	Fair	Fifteen Mile Creek	26.1
	08567 004 00690	Fair	Eight Mile Creek	44.0
	06635 004 00077	Fair	UPRR & Frontage Road	52.9
OR 216	04936A044 01679	Fair	Wapinitia Creek	28.5
Reservation Road	08983 000 00551	Fair	Wapinitia Creek	34.3

Source: FHWA 2025

Note: I- = interstate, OR = Oregon State Highway, US = U.S. Route [a] FHWA uses Operating Rating and Inventory Rating. Operating Rating is the maximum permissible load, while the Inventory Rating is the load level that can be safely used over a long period of time but may shorten the lifespan of the bridge. Due to the short-term nature of Facility construction, this table shows the Operating Rating.

3. TRANSPORTATION IMPACTS

Facility construction and operations would generate new traffic volumes on I-84, US 26, US 197, and OR 216. This section provides conceptual descriptions of these potential impacts.

3.1 CONSTRUCTION IMPACTS

Traffic generated by Facility construction would consist of workforce commuting and truck deliveries of equipment, Facility components, materials (e.g., aggregate, concrete), and supplies. ERM assumes that temporary laydown and parking areas within the site boundary would accommodate worker parking, equipment storage, and circulation of construction vehicles. ERM also assumes that construction equipment would be delivered to the Facility and remain in use throughout various phases of development (e.g., the same bulldozer would not be hauled to and from the Facility multiple times). Pending confirmation of the weight limits shown in Table 4, ERM assumes that the primary delivery route (I-84 to US 197 to OR 216) would support most construction traffic.

Table 5 summarizes Facility construction trip generation, based on estimates available for recent comparable projects (ODOE 2025). Estimated peak construction would generate 150 daily deliveries, 50 daily trips for water trucks, and 500 construction workers daily, with an estimated carpool factor of 1.5. Based on methodology published by FHWA (2017), the passenger car equivalent (PCE) factor for the Facility's truck trips is 2.7. As a conservative estimate, this analysis uses a PCE of 3.0 for each truck trip (i.e., each truck trip has the same effect on traffic congestion as 3 typical passenger cars). Peak construction would generate a total PCE of 1,866 daily one-way trips.

TABLE 5: CONSTRUCTION TRIP GENERATION

Vehicle	Daily Round Trips	Daily One-Way Trips
Delivery Trucks	150	300
Water Trucks	50	100
Total Trucks	200	400
Truck PCE	600	1,200
Passenger Vehicles	333	666
Total Vehicles	**533**	**1,066**
Total PCE	**933**	**1,866**

Note: PCE = Passenger car equivalent

The Applicant expects peak construction to occur in Q4 of 2027. To estimate "background" 2027 AADT without Facility traffic, ERM assumed that annual traffic volume growth at the locations included in Table 1 would be the same as the average annual traffic volume growth from 2019 to 2023, also shown in Table 1. For locations that experienced traffic volume declines between 2019

and 2023, ERM assumed no change in baseline volumes (rather than continuing decline), as a conservative measure.

Table 6 summarizes anticipated background and Facility-related traffic volumes and corresponding LOS in 2027. Most of the temporary construction workforce is expected to be traveling from The Dalles area towards the Facility via the primary haul route. As a conservative measure, Table 6 evaluates the effects that would occur if all Facility construction traffic travels on each of the roads listed. To the degree that some construction workers or delivery trips originate in locations other than The Dalles (construction workers) or the Portland area (deliveries), the actual distribution of trips would likely result in less Facility-related traffic on some segments.

Facility construction traffic would likely represent a noticeable increase in background traffic volumes on US 26, US 197, and OR 216. Nonetheless, the combination of background growth and Facility construction traffic would result in the same 2027 LOS designations on straight-line road segments as estimated for 2023 for all except the segment of US 26 located northwest of OR 216. The AADT levels on US 26, northwest of OR 216, are projected to be 4,601 in 2027 when Facility impacts are factored in. This number is just over the LOS B threshold of 4,600 and therefore would have a minimal impact, despite the change in LOS designation. While Facility construction traffic could marginally increase delay at intersections along the designated haul routes, the findings summarized in Table 6 suggest that Facility-related traffic would not degrade intersection LOS below acceptable levels.

While most Facility construction traffic would likely use standard vehicle sizes and weights, construction may require some oversize or overweight vehicle loads. ERM assumes that the Applicant (including its contractors) will obtain all necessary permits from Wasco County and ODOT and will comply with applicable requirements governing these loads.

Based on the findings summarized above, Facility construction would have minor impacts on traffic operations and road infrastructure in Wasco County.

3.2 OPERATIONS IMPACTS

During operations, traffic to and from the Facility would be minimal, consisting of daily commute trips by up to 20 full time employees maintaining the Facility, plus occasional trips for scheduled inspections and routine maintenance activities. These trips would not meaningfully change traffic volumes on I-84, US 26, US 197, or OR 216; therefore, operational traffic impacts would be negligible.

TABLE 6: FUTURE AADT PROJECTIONS

Road	Location	AADT				LOS		
		2023	2023-2027 Growth Rate	2027 Without Facility	2027 with Facility	2023	2027 Without Facility	2027 With Facility
I-84	West of Rowena Interchange	25,262	0.5%	25,915	26,248	LOS A	LOS A	LOS A
US 26	Southeast of OR 216	3,903	0.0%	3,903	4,236	LOS A	LOS A	LOS A
	Northwest of OR 216	4,268	0.0%	4,268	4,601	LOS A	LOS A	LOS B
	At Clackamas / Wasco County Line	4,376	0.0%	4,376	4,709	LOS A	LOS A	LOS A
US 197	North of OR 216	1,282	2.6%	1,447	1,780	LOS A	LOS A	LOS A
	South of OR 216	1,356	5.3%	1,735	2,068	LOS A	LOS A	LOS A
	Mays Canyon Creek Bridge	1,446	1.0%	1,516	1,850	LOS A	LOS A	LOS A
	South of US 30	5,991	0.4%	6,098	6,431	LOS B	LOS B	LOS B
OR 216	West of US 197	647	2.3%	720	1,053	LOS A	LOS A	LOS A
	East of Old Wapinitia Road	602	5.0%	760	1,094	LOS A	LOS A	LOS A
	West of Old Wapinitia Road	467	3.9%	560	893	LOS A	LOS A	LOS A
	East of Kelly Spring Road at Pine Grove	463	6.0%	611	945	LOS A	LOS A	LOS A

Source: FDOT 2023

AADT = annual average daily traffic; I- = interstate; LOS = level of service; OR = Oregon State Highway; US = U.S. Route

4. MONITORING, MANAGEMENT, AND MITIGATION MEASURES

The specific transportation improvements (if any), procedures, or policies required to support Facility construction and operations have not yet been identified. Traffic impacts for both the construction and operations period are anticipated to be minor and negligible, respectively. To maintain these low impacts, ERM recommends the mitigation measures, based on industry best practice.

- Establishment and enforcement of designated haul routes to be used by all Facility-related trucks.
- Implementation of active traffic management (e.g., temporary signage, flaggers) or (in coordination with ODOT) a temporary traffic signal at the intersection of OR 216 with both US 26 and US 197 to facilitate safe truck movements during peak periods of Facility vehicle activity, especially for delivery of oversize components.
- Establishment and enforcement of Facility and contractor standards for vehicle safety and maintenance.
- Establishment and enforcement of minimum training and accreditation requirements for Facility drivers, including contractors.
- Scheduling and temporal distribution of truck deliveries to avoid queueing along OR 216.
- Scheduling truck deliveries and worker shift changes to avoid peak commuting times on I-85, US 26, and US 197.
- Implementation of standard temporary construction measures (in addition to any required as part of ODOT permits), such as signage, lighting, cones, barricades, and other traffic mitigation measures to facilitate safe entry and exit from the Facility.
- Implementation of improvements at the Facility entrances (per the provisions of ODOT permits for the Facility), such as the addition of turn lanes, localized road widening, signalization or a stop sign, and pavement improvements to accommodate heavy vehicle use in accordance with local and state regulations.

5. CONCLUSIONS

Facility construction would add truck and other traffic to public roads. Assuming proper implementation and use of physical improvements (per the provisions of ODOT permits for the Facility) and traffic management techniques, this increased traffic would have short-term, minor impacts on traffic operations and infrastructure on public roads in Wasco County. Facility construction would not change the existing LOS on straight line segments of I-84, US 26, US 197, or OR 216 and is unlikely to meaningfully degrade the LOS at intersections along those roads. Facility operations would have negligible impacts on traffic operations and infrastructure.

6. REFERENCES

FDOT (Florida Department of Transportation). 2023. 2023 Multimodal Quality/Levels of Service Handbook. Retrieved from: https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/systems/systems-management/document-repository/qlos/fdot_qlos_handbook_v6-0_clean-june-2023.pdf?sfvrsn=198c6846_2

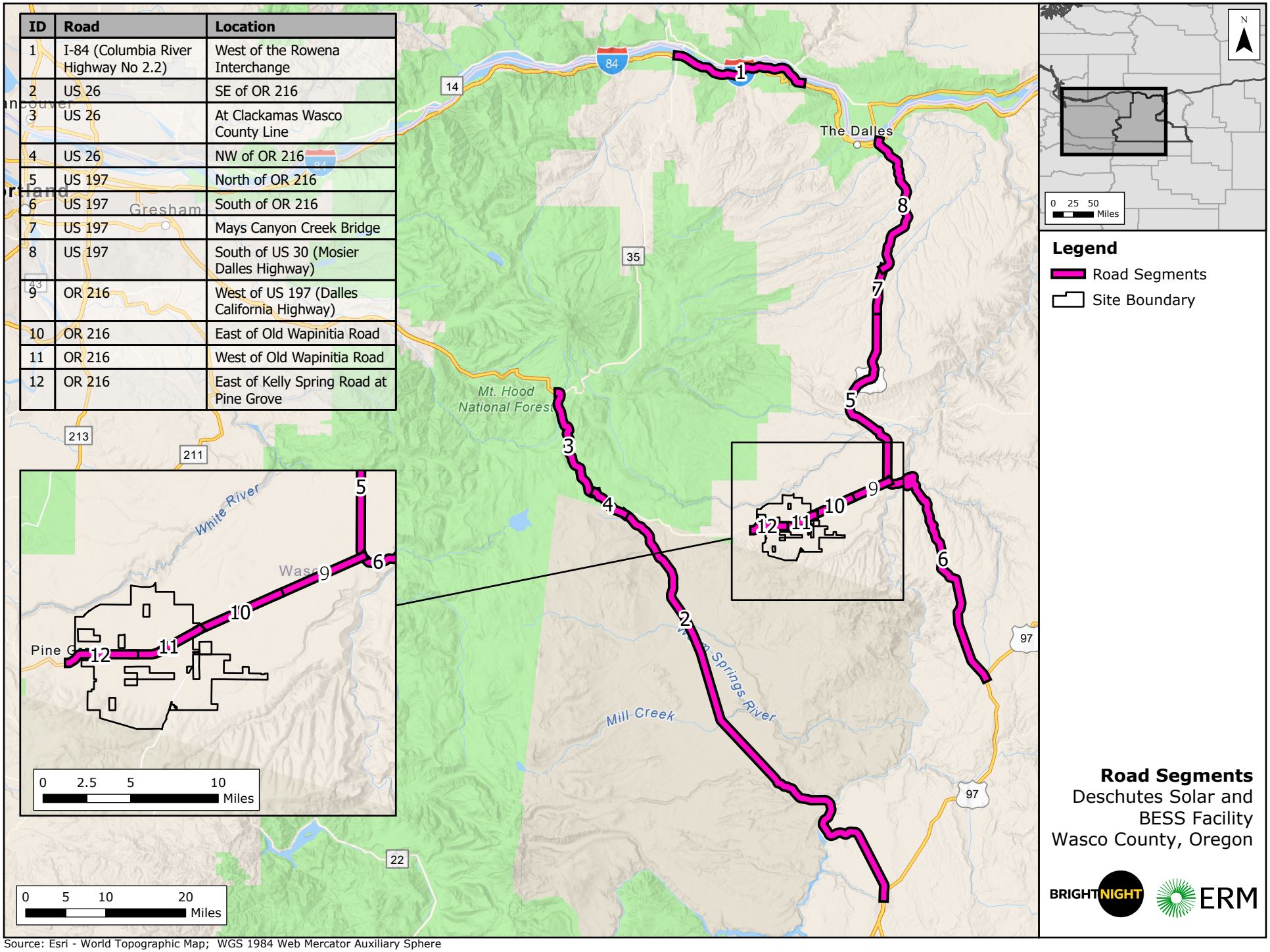
FHWA (Federal Highway Administration). 1995. Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. Report No. FHWA-PD-96-001. Retrieved from: https://www.fhwa.dot.gov/bridge/mtguide.pdf

FHWA (Federal Highway Administration). 2025. InfoBridge: National Bridge Inventory data map. U.S. Department of Transportation. Retrieved from: https://infobridge.fhwa.dot.gov/Data/Map

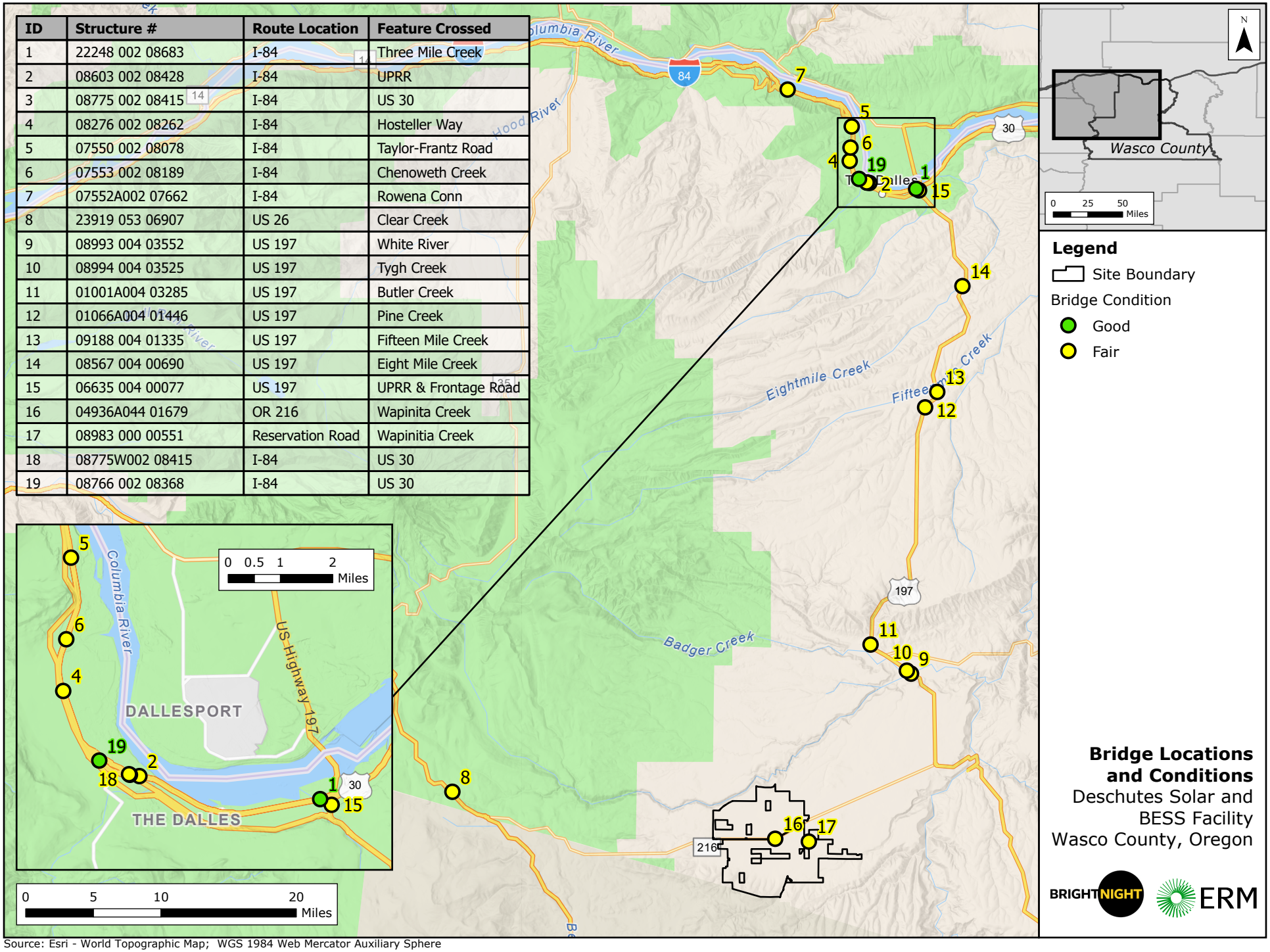
KB Civil Engineering LLC. 2025. Roadway Analysis & Route Report, Deschutes Solar Project.

ODOE (Oregon Department of Energy). 2025. Sunstone Solar Project (FKA Echo Solar Project). Retrieved from: https://www.oregon.gov/energy/facilities-safety/facilities/Pages/esp.aspx

ODOT (Oregon Department of Transportation). 2025. Oregon Traffic Monitoring System. Retrieved from: https://ordot.public.ms2soft.com/tcds/tsearch.asp?loc=Ordot&mod=TCDS



Source: Esri - World Topographic Map; WGS 1984 Web Mercator Auxiliary Sphere



Source: Esri - World Topographic Map; WGS 1984 Web Mercator Auxiliary Sphere

ATTACHMENT 4 DOCUMENTATION OF PERMITTED WATER SOURCES

From: Tyler Stone <tylers@co.wasco.or.us>
Sent: Friday, August 29, 2025 11:33 AM
To: Jaron Wright <Jaron@brightnightpower.com>
Subject: Water

Jaron,
Wasco County expects to have the capacity to serve water to BrightNight, LLC. (Customer) under water right Certificate 91446 held by the County, which authorizes the use of water from the Columbia River for industrial uses at a capacity of up to 1.0 cubic feet per second. The County expects to serve the Customer no more than 0.65 million gallons of water per day for the duration of construction of the Customer's Project.

Certificate 91446 is currently leased in stream under Instream Lease IL-2061, which has an expiration date of 12/31/2028. In order to serve the Customer water from the authorized Point of Diversion on Certificate 91446, the County would need to voluntarily terminate IL-2061 prior to the start date of the Project, which is expected to be in 2027. When the timing of construction is solidified, the Customer would need to communicate with the County in advance to ensure that the County has sufficient time to voluntarily terminate IL-2061 prior to the start of the water year (beginning October 1 of each year). The County would then work with the Customer to develop terms and conditions for the use of water, such as the need for metering and reporting of water use. Please let me know if you have any questions.

On another note, we should discuss the necessary access for the Irrigation District that they need to be able to maintain and monitor flow in their ditches. Thanks

Tyler Stone
Administrative Officer
Wasco County
401 E. Third St. Suite 200
The Dalles, OR 97058
541-506-2552
www.co.wasco.or.us

ATTACHMENT 5 RECORD OF CORRESPONDENCE WITH THE WASCO COUNTY LANDFILL

To: Jaron Wright <Jaron@brightnightpower.com>
Cc: Bijan Damavandi <Bijan@brightnightpower.com>
Subject: RE: Deschutes Solar Project- Waste Management Will Serve Requirement

> You don't often get email from jimmie.winterbottom@wasteconnections.com. Learn why this is important

Jason, if we could have a start date six months in advance that would be plenty of time for us to gear up with any needed assets and getting a credit application filed.

From: Jaron Wright <Jaron@brightnightpower.com>
Sent: Friday, June 27, 2025 11:10 AM
To: Jim Winterbottom <Jimmie.Winterbottom@WasteConnections.com>
Cc: Bijan Damavandi <Bijan@brightnightpower.com>
Subject: RE: Deschutes Solar Project- Waste Management Will Serve Requirement

Hello Jim,
Nice to make your acquaintance. Thanks very much for your prompt response, it's extremely helpful! I'm glad to hear your organization can facilitate our waste needs. We anticipate attaining our permit to build the project within a year and a half. When would you recommend we set up an account?

Regards,
Jaron

BRIGHTNIGHT
Power when you need it

Jaron Wright
Senior Director, Development
E jaron@brightnightpower.com
P +1-850-502-3618

From: Jim Winterbottom <Jimmie.Winterbottom@WasteConnections.com>
Sent: Friday, June 27, 2025 11:07 AM
To: Jaron Wright <Jaron@brightnightpower.com>
Subject: RE: Deschutes Solar Project- Waste Management Will Serve Requirement

> You don't often get email from jimmie.winterbottom@wasteconnections.com. Learn why this is important

Jason –

The Dalles Disposal would be able to haul and dispose of the construction debris. We would use a combination of roll off trucks and trailers with 30yd and 40yd drop boxes. Depending on turn times from the job site to Wasco County Landfill we may need to find a staging area if we are hauling later than what the landfill is open.

Today's estimate is 26 years of usable airspace at the WCLF without expansion.

Depending on the physical address of the 5 cubic yards per month of refuse would determine if we could provide container or drop box service.

We have, and are doing several projects like this in both Sherman and Wasco counties

Let me know if you have any questions.

Jim

Jim Winterbottom | District Manager
Columbia River Division - Waste Connections
Mobile: 503.572.6562 | Fax: 541.610.1593

From: Jaron Wright <Jaron@brightnightpower.com>
Sent: Friday, June 27, 2025 9:37 AM
To: CUSTOMERSERVICE2044 <CUSTOMERSERVICE2044@WasteConnections.com>
Cc: Bijan Damavandi <Bijan@brightnightpower.com>
Subject: Deschutes Solar Project- Waste Management Will Serve Requirement

To Whom it May Concern,

My name is Jaron Wright and I'm reaching out to you on behalf of the Deschutes Solar and Energy Storage Project which you may have already heard about from the Open House in Tygh Valley held in February of this year, and the ODOE PIM in March of this year.

BrightNight is proposing to construct and operate a 1,000-megawatt solar energy facility and a battery energy storage system with a 4,000-megawatt hours storage capacity. The Project will be located outside the town of Maupin in Wasco County and based on the Project location, we are requesting confirmation from The Dalles Disposal facility that you will have adequate capacity to handle the construction waste. We anticipate generating approximately 2,000 cubic yards per month for an 18-to-24-month construction period, and we expect that there will not be a significant amount of waste in the early or late stages of construction.

It would also be helpful if you could confirm the landfill's long-term capacity as the Project is anticipated to operate for 35 to 40 years. During operation, waste generation will be minimal (waste would be generated by 7 to 10 full-time operations and

maintenance staff). The anticipated waste generated during operations will be about 5 cubic yards per month.

For the Project's application through Oregon Department of Energy's Energy Facility Siting Certificate program, it is required that we attain confirmation of the landfill's ability to serve the Project. This confirmation can be a response to this email or confirmation provided on your letterhead and it does not oblige or contract you to provide waste support services for the Project.

Please do not hesitate to reach out to me if you have any questions or would like to discuss the Project further.

Best,

Jaron Wright

Jaron Wright
Senior Director, Development
E jaron@brightnightpower.com
P +1-850-502-3618

ATTACHMENT 6 GLARE ANALYSIS

1. INTRODUCTION

DECH bn, LLC (Applicant) plans to construct a solar photovoltaic power generation facility and related or supporting facilities in Wasco County, Oregon (Facility). The project will include up to 1,000 megawatts (MW) of solar capacity and a battery energy storage system (BESS) with at least 4,000 megawatt hours (MWh) storage capacity. The Applicant has engaged Environmental Resources Management, Inc. (ERM) to conduct a glare analysis for the proposed Project in response to a request from the Department of Defense (DoD).

In support of this request, ERM has prepared this document summarizing the methodologies utilized and results of the glare analysis. Attachment 1 includes all figures referenced in this document. Glare analysis documentation from the industry-standard ForgeSolar online glare analysis tool is provided in Attachment 2.

2. PROJECT AND SITE DESCRIPTION

The proposed Project is on approximately 14,418 acres of privately owned land, though the developed area of the Project will be closer to 8,000 acres. The proposed Project consists of eleven fenced areas containing PV arrays and other Project infrastructure (Facility). The Facility is approximately 10 miles southwest of Maupin, Oregon, and is bisected by Oregon State Highway (OR) 216, which runs east-west (Figures 1 and 2). The Facility will have a generation capacity of approximately 1,000 megawatts (MW) alternating current (AC).

The Applicant plans for the PV system to use single-axis trackers oriented south at 180 degrees with a tracking angle range of motion of +/-60 degrees in east-west direction. The average height of center of the PV panels above ground will be approximately 4 feet and 11 inches. The ground coverage ratio (GCR) of the PV panels will be 0.30 (30 percent), and the PV panels will contain smooth glass with an anti-reflective coating. The PV panel trackers will implement a shade- and slope-aware backtracking strategy with the shallowest possible angle of east/west rotation during backtracking of 0 degrees.

The fenced areas of the Facility consist of open, sparsely vegetated, flat land that is crossed by several washes that run southwest to northeast. The Facility has an average elevation of approximately 2,100 feet above mean sea level, with the highest point reaching 3,100 feet.

3. VIEWPOINT SUMMARY AND DISCUSSION

Two military training routes (MTRs) are within 5 miles of the site boundary. MTR IR-346 runs directly overhead of the site boundary and IR-344 is approximately 3.7 miles east of the site boundary. Due to the proximity of the MTRs to the site boundary, the DoD requested a glare analysis to help assess potential impacts on military pilots conducting training activities along these routes. The DoD supplied airspace mapping files delineating all nearby military flight paths (Figure 3). Based on these data, ERM manually derived five representative flight

paths that reflect the designated airspace usage. The analysis of all flight paths was constrained within a 5-mile radius of the site boundary (Figures 1 and 2).

ERM mapped four trajectories to represent the east-west IR-346 flight path, labeled as flight paths (FP) 1 through 4. These include two paths at the northern and southern extents of the flight range, one centered within the airspace, and one positioned between the southernmost path and the centerline, to account for the area directly above the site boundary. The magnetic heading of 70 degrees was adjusted to a true heading of 84.3 degrees, based on a reported magnetic declination of +14.3 degrees.[1] The northwest-southeast flight path (IR-344) is represented by a single trajectory (FP 5) along the westernmost extent of its range (the closest edge to the site boundary). The magnetic heading of 135 degrees for this path was converted to a true heading of 149.3 degrees, using the same magnetic declination value described above. All military flight paths were drawn using the map figure provided by the DoD as a reference.

As requested by the DoD, glare was assessed along IR-344 and IR-346 at their minimum "floor" elevations (200 and 500 feet above ground level [agl] respectively). The DoD suggested a best practice of capping the analysis at flight levels at 1,500 feet above mean sea level (amsl); however, due to the site's average elevation of approximately 2,100 feet amsl, assessments were adjusted accordingly. To better understand the vertical extent of both MTRs, ERM reviewed the elevation profiles of both MTRs using the FAA's MTR Segment Explorer.[2] The highest-altitude segment along the route reached approximately 6,000 feet msl. As a result and considering that IR-344 and IR-346 are three-digit routes—indicating that the route has at least one segment that exceeds 1,500 feet agl (FAA 2025[3])—ERM evaluated altitudes at 1,000-foot intervals above ground level, from the site's elevation up to 6,000 feet amsl.

For each flight path, the ground level reference was established using the maximum ground elevation along the respective flight path profile. The maximum ground elevations for each flight path are as follows:

- FP 1: 2,171 feet amsl
- FP 2: 2,887 feet amsl
- FP 3: 3,165 feet amsl
- FP 4: 3,218 feet amsl

[1] National Centers for Environmental Information. NCEI Magnetic Field Calculators. Available online https://www.ngdc.noaa.gov/geomag/calculators/magcalc.shtml?useFullSite=true#bearing. Accessed 22 November 2024.
[2] Federal Aviation Administration. 2025. *MTR Segment.* Available online: https://adds-faa.opendata.arcgis.com/datasets/faa::mtr-segment-1/explore?location=45.213069%2C-120.675379%2C8.58
[3] Federal Aviation Administration. 2025. *FAA Order JO 7110.65BB: Air Traffic Control, Section 6-2-*2. Available online at: https://www.faa.gov/air_traffic/publications/atpubs/so_html/chap6_section_2.html

- FP 5: 1,894 feet amsl

Due to the ForgeSolar software's limitation of assessing a maximum of 20 routes per analysis, three separate runs were required to complete the evaluation. The Site layout underwent three distinct flight path assessments, including:

- altitudes of 200 and 500 feet agl;
- altitudes and 3,000 feet[4] and 4,000 feet amsl; and
- altitudes of 5,000 and 6,000 feet amsl.

Results from all analyses are included in Attachment 2.

4. GLARE ANALYSIS

This glare analysis is based on design parameters provided by the Applicant for single-axis trackers as described above in Section 2. It should be noted that the ForgeSolar tool does not, by default, consider the screening effects of vegetation, structures, or topographic features between a PV array and identified paths or viewpoints. Even if predicted by the ForgeSolar tool, glare would not be experienced if the solar panels are screened by such features. For the Project, it is possible that the topographic features along the White River (elevations up to approximately 2,100 feet amsl), could screen PV arrays from view of pilots flying at very low altitudes (less than 300 feet amsl).

4.1 BACKGROUND

PV panels are designed to absorb rather than reflect sunlight to maximize energy capture. Many PV panels utilize textured glass and/or have anti-reflective coatings to further minimize reflectivity. Based on information provided by the Applicant, the Project's PV panels will contain smooth glass with an anti-reflective coating. ERM included this parameter in the glare analysis.

PV solar projects do not typically cause harmful or nuisance levels of glare, defined as a continuous source of bright light that may be visible to nearby residents, motorists, or pilots. The absorbing, rather than reflecting, nature of PV technology, in conjunction with proper site planning and design, has allowed PV panels to be commonly and safely installed on airport properties nationwide.[5]

The amount of light reflected from solar panels depends on several factors, including the amount of sunlight hitting the panel surface, the surface's reflectivity (based on variables such as the presence of textured glass and/or anti-reflective coatings), the geographic location, time of year, weather conditions, and solar panel orientation. These factors affect

[4] A flight level of 3,000 feet amsl was not analyzed at FP 2 through 4 because the modeled flight level of 500 feet agl exceeds 3,000 feet amsl along these routes, due to terrain.
[5] Federal Aviation Administration. 2018. *Technical Guidance for Evaluating Selected Solar Technologies on Airports.* Version 1.1, April 2018. Available online https://www.faa.gov/sites/faa.gov/files/airports/environmental/FAA-Airport-Solar-Guide-2018.pdf.

the angle of incidence of the sun relative to sensitive viewers, and the amount of glare experienced.[5] With respect to glare, angle of incidence is the angle at which light deviates from perpendicular to a surface. The angle of incidence changes as the sun moves across the sky and is generally lowest at solar noon (when the sun is at its highest point above the horizon and light is reflected toward the sky) and highest at dawn and dusk (when the sun is low in the sky and light is reflected from a high angle of incidence in the opposite direction).

4.2 METHODOLOGY

ERM used the industry standard ForgeSolar GlareGauge[6] tool to assess potential glare and ocular impact at six flight levels (200 feet agl, 500 feet agl, 3,000 feet amsl,[7] 4,000 feet amsl, 5,000 feet amsl, and 6,000 feet amsl) along FPs 1 through 4. ERM assessed FP 5 at five flight levels (all of the altitudes listed above *except for* 200 feet agl), because the floor elevation for this airspace is 500 feet agl (Figures 1 and 2). ForgeSolar tool calculates ocular impact from anticipated levels of retinal irradiance (amount of light received by the retina) and the subtended angle (size and distance) of the glare source. The tool uses three categories to report potential ocular hazards ranging from retinal burns to temporary after-image, defined as a visual phenomenon in which glare persists in the viewer's vision, even after looking away from the source. These categories include:

- "Green" ratings indicate a low potential to cause after-image (flash blindness);
- "Yellow" ratings indicate the potential to cause temporary after-image; and
- "Red" ratings indicate potential to cause retinal burn and permanent eye damage.[8]

When simulating glare, the ForgeSolar tool modifies the vertex elevations of a PV array footprint so that all points of the PV array reside on a single planar surface. The ForgeSolar tool also may convert PV array footprints with large concavities into a convex shape by filling in these concavities. Therefore, to enhance the accuracy of the glare analysis (by preventing the flattening of hills and reducing the presence of large concavities), ERM split the PV array areas into seven sections, labeled PV 1 through PV 7 on Figure 1. The PV arrays have been illustrated using a conservative approach, likely depicting a larger area than the actual installed panels will occupy. As a result, the potential for glare may be overestimated.

The ForgeSolar tool considers the direction the PV panels face throughout the day and the slope of the PV array, based on the underlying topography, elevation, and height above

[6] ForgeSolar Glare Analysis tool. Available online https://www.forgesolar.com/. Accessed 22 November 2024.
[7] A flight level of 3,000 feet amsl was only analyzed at FP 1 and 5 because the previous, lower flight levels exceed 3,000 feet amsl, and therefore encompassed the conditions intended for analysis at that level.
[8] ForgeSolar. Fundamentals: About Glint and Glare. Available online https://www.forgesolar.com/help/#glare. Accessed 22 November 2024.

ground of the PV panels. Analysis of glare along the flight paths is calculated using a 100-degree field of view (50 degrees to the left and right) centered on the direction of travel (one-way) along the flight paths. This default value is based on FAA research, which determined that the impact of glare beyond a 100-degree field of view is mitigated.[9]

4.3 RESULTS

Table 1 through Table 5 summarize the predicted annual glare exposure for each evaluated flight path at the altitudes specified in Section 3. And Table 6 summarizes approximate time and location of predicted glare for each flight path. Graphs in Attachment 2 show the hour of day and daily duration of predicted glare each day throughout the year for each combination of PV array and flight path flight level. The approximate location of the impact along each flight path is also depicted in the graphs in Attachment 2.

Glare exposure varies by both flight path and altitude. The analysis predicts that FPs 2 through 5 will experience both green and yellow glare across all assessed altitudes. FP 5 is expected to experience substantially less green and yellow glare, specifically between 4,000 and 6,000 feet amsl. FP 1 is not expected to experience any green or yellow glare at any altitude.

In general, for FPs 2 through 5, the annual duration of green and yellow glare tends to increase with altitude, with only minor deviations from this trend. Notably, FP 3 exhibits an inverse pattern for yellow glare, where the most extensive exposure occurs at lower altitudes (see Table). Across all flight paths, yellow glare is consistently less prevalent than green glare at corresponding altitudes. Predicted glare along the flight paths would occur throughout the year, generally between 4:00 and 20:00 local standard time.

Observers along any flight path may experience glare from one or more of the seven PV array components (delineated for this analysis in order to reduce potential error, as described in Section 4.2) simultaneously. The ForgeSolar tool does not provide a holistic summary of the total duration of glare along a given path from multiple array components. As a result, the total annual duration of glare predicted for each flight path level in Attachment 2 includes overlapping periods of glare from multiple PV arrays. The values in Table 1 through Table 5 therefore contain cannot be summed. For example, much (but not necessarily all) of the green glare generated by PV1 for FP 2 at 200 feet agl is likely to occur at the same time as the green glare generated by PV2 for the same route and altitude. The glare specific to a PV component would not necessarily only occur while the observer is above that component. The tables below and the data in Attachment 2 therefore provide relative information about the extent of glare experienced along an entire flight path.

[9] Rogers, J. A., et al. 2015. "Evaluation of Glare as a Hazard for General Aviation Pilots on Final Approach." Federal Aviation Administration, Office of Aerospace Medicine. Report No. DOT/FAA/AM-15/12. Available online https://www.faa.gov/sites/faa.gov/files/data_research/research/med_humanfacs/oamtechreports/201512.pdf.

In addition, the glare analysis does not consider potential cloud cover, smoke, haze or other atmospheric conditions that may reduce or prevent glare. The amount of glare predicted in Attachment 2 represents total potential amounts of glare assuming clear, sunny skies every day throughout the year.

TABLE 1: SUMMARY OF ANNUAL GLARE AT FLIGHT PATH 1

PV Array	Glare Type	Annual Minutes of Glare, by Altitude (feet)					
		200 agl	500 agl	3,000 amsl	4,000 amsl	5,000 amsl	6,000 amsl
PV 1	Green	0	0	0	0	0	0
	Yellow	0	0	0	0	0	0
	All glare	0	0	0	0	0	0
PV 2	Green	0	0	0	0	0	0
	Yellow	0	0	0	0	0	0
	All glare	0	0	0	0	0	0
PV 3	Green	0	0	0	0	0	0
	Yellow	0	0	0	0	0	0
	All glare	0	0	0	0	0	0
PV 4	Green	0	0	0	0	0	0
	Yellow	0	0	0	0	0	0
	All glare	0	0	0	0	0	0
PV 5	Green	0	0	0	0	0	0
	Yellow	0	0	0	0	0	0
	All glare	0	0	0	0	0	0
PV 6	Green	0	0	0	0	0	0
	Yellow	0	0	0	0	0	0
	All glare	0	0	0	0	0	0
PV 7	Green	0	0	0	0	0	0
	Yellow	0	0	0	0	0	0
	All glare	0	0	0	0	0	0

agl = above ground level; amsl = above mean sea level

TABLE 2: SUMMARY OF ANNUAL GLARE AT FLIGHT PATH 2

PV Array	Glare Type	Annual Minutes of Glare, by Altitude (feet)					
		200 agl	500 agl	3,000 amsl	4,000 amsl	5,000 amsl	6,000 amsl
PV 1	Green	893	1,716	NA	8,446	22,999	35,220
	Yellow	656	2,335	NA	4,253	6,944	8,030
	All glare	1,549	4,051	NA	12,699	29,943	43,250
PV 2	Green	29,068	40,791	NA	67,032	84,272	91,387
	Yellow	13,408	14,324	NA	15,093	14,881	13,624
	All glare	42,476	55,115	NA	82,125	99,153	105,011
PV 3	Green	34	191	NA	478	712	1,468
	Yellow	333	481	NA	1,681	3,383	4,588
	All glare	367	672	NA	2,159	4,095	6,056
PV 4	Green	0	0	NA	0	0	685
	Yellow	0	0	NA	0	0	0
	All glare	0	0	NA	0	0	685
PV 5	Green	0	0	NA	0	1,017	2,297
	Yellow	0	0	NA	0	0	0
	All glare	0	0	NA	0	1,017	2,297
PV 6	Green	720	739	NA	868	1,243	2,523
	Yellow	2,758	3,346	NA	4,266	5,510	5,559
	All glare	3,478	4,085	NA	5,134	6,753	8,082
PV 7	Green	0	0	NA	0	0	0
	Yellow	0	0	NA	0	0	0
	All glare	0	0	NA	0	0	0

agl = above ground level; amsl = above mean sea level; NA = not applicable: the 500 foot agl flight path exceeds 3,000 feet amsl due to terrain.

TABLE 3: SUMMARY OF ANNUAL GLARE AT FLIGHT PATH 3

PV Array	Glare Type	Annual Minutes of Glare, by Altitude (feet)					
		200 agl	500 agl	3,000 amsl	4,000 amsl	5,000 amsl	6,000 amsl
PV 1	Green	143,201	143,395	NA	140,136	126,387	115,462
	Yellow	20,639	15,951	NA	12,709	8,800	6,688
	All glare	163,840	159,346	NA	152,845	135,187	122,150
PV 2	Green	129,461	129,470	NA	128,779	119,770	109,787
	Yellow	22,034	19,170	NA	15,495	9,554	7,355
	All glare	151,495	148,640	NA	144,274	129,324	117,142
PV 3	Green	19,372	27,927	NA	36,980	68,757	82,537
	Yellow	11,667	12,846	NA	13,736	11,880	8,354
	All glare	31,039	40,773	NA	50,716	80,637	90,891
PV 4	Green	140,704	137,453	NA	135,218	131,168	130,159
	Yellow	8,297	8,202	NA	8,123	8,056	6,866
	All glare	149,001	145,655	NA	143,341	139,224	137,025
PV 5	Green	22,665	31,254	NA	41,169	60,754	72,272
	Yellow	6,552	6,174	NA	4,363	0	0
	All glare	29,217	37,428	NA	45,532	60,754	72,272
PV 6	Green	1,971	2,605	NA	3,560	8,415	15,271
	Yellow	6,353	7,288	NA	8,231	9,420	8,651
	All glare	8,324	9,893	NA	11,791	17,835	23,922
PV 7	Green	0	0	NA	0	7,031	16,879
	Yellow	0	0	NA	0	248	1,747
	All glare	0	0	NA	0	7,279	18,626

agl = above ground level; amsl = above mean sea level; NA = not applicable: the 500 foot agl flight path exceeds 3,000 feet amsl due to terrain.

TABLE 4: SUMMARY OF ANNUAL GLARE AT FLIGHT PATH 4

PV Array	Glare Type	Annual Minutes of Glare, by Altitude (feet)					
		200 agl	500 agl	3,000 amsl	4,000 amsl	5,000 amsl	6,000 amsl
PV 1	Green	0	0	NA	0	821	1,534
	Yellow	0	0	NA	0	492	1,592
	All glare	0	0	NA	0	1,313	3,126
PV 2	Green	0	0	NA	0	538	608
	Yellow	0	0	NA	0	224	1,274
	All glare	0	0	NA	0	762	1,882
PV 3	Green	1,560	1,378	NA	1,764	3,063	4,147
	Yellow	1,042	2,275	NA	2,664	3,383	4,274
	All glare	2,602	3,653	NA	4,428	6,446	8,421
PV 4	Green	1,626	1,982	NA	2,256	4,443	6,272
	Yellow	1,397	2,535	NA	3,367	4,797	5,832
	All glare	3,023	4,517	NA	5,623	9,240	12,104
PV 5	Green	644	1,084	NA	1,418	3,274	4,367
	Yellow	102	487	NA	797	523	40
	All glare	746	1,571	NA	2,215	3,797	5,407
PV 6	Green	120,864	121,291	NA	121,244	119,913	114,262
	Yellow	22,421	19,714	NA	17,369	8,567	2,959
	All glare	143,285	141,005	NA	138,613	128,480	117,221
PV 7	Green	3,868	6,046	NA	10,866	22,471	33,190
	Yellow	8,396	9,336	NA	9,935	9,085	3,932
	All glare	12,264	15,382	NA	20,801	31,556	37,122

agl = above ground level; amsl = above mean sea level; NA = not applicable: the 500 foot agl flight path exceeds 3,000 feet amsl due to terrain.

TABLE 5: SUMMARY OF ANNUAL GLARE AT FLIGHT PATH 5

PV Array	Glare Type	Annual Minutes of Glare, by Altitude (feet)					
		200 agl	500 agl	3,000 amsl	4,000 amsl	5,000 amsl	6,000 amsl
PV 1	Green	NA	0	0	0	0	0
	Yellow	NA	0	0	0	0	0
	All glare	NA	0	0	0	0	0
PV 2	Green	NA	0	0	0	0	240
	Yellow	NA	0	0	0	0	0
	All glare	NA	0	0	0	0	240
PV 3	Green	NA	0	0	0	0	0
	Yellow	NA	0	0	0	0	0
	All glare	NA	0	0	0	0	0
PV 4	Green	NA	0	0	0	0	0
	Yellow	NA	0	0	0	0	0
	All glare	NA	0	0	0	0	0
PV 5	Green	NA	0	0	0	0	321
	Yellow	NA	0	0	0	0	0
	All glare	NA	0	0	0	0	321
PV 6	Green	NA	0	0	842	2,983	5,345
	Yellow	NA	0	0	0	0	0
	All glare	NA	0	0	842	2,983	5,345
PV 7	Green	NA	0	0	0	0	123
	Yellow	NA	0	0	0	0	0
	All glare	NA	0	0	0	0	123

agl = above ground level; amsl = above mean sea level; NA = not applicable: the floor elevation of IR 346 is 500 feet agl.

TABLE 6: SUMMARY OF APPROXIMATE TIME AND LOCATION OF PREDICTED GLARE

Flight Path	Altitude (feet)	Approximate Segment of Target Approach Flight Path with Glare [a]	Approximate Time of Year and Day (local standard time)
FP 1	All	None	None
FP 2	200 agl	Along entire flight path	January–May and August–December: 0600 to 1100 and 1330 to 1800
	500 agl	Along entire flight path	January–June and August–December: 0600 to 1030 and 1330 to 1800
	3,000 amsl	None	None
	4,000 amsl	Along entire flight path	Year round: 0600 to 1130 and 1400 to 1700
	5,000 amsl	Along entire flight path	Year round: 0530 to 1100 and 1330 to 1800
	6,000 amsl	Along entire flight path	Year round: 0530 to 1100 and 1330 to 1800
FP 3	200 agl	Mile 4 through 15	Year round: 0400 to 1200 and 1300 to 2000
	500 agl	Mile 4 through 15	Year round: 0400 to 1200 and 1300 to 2000
	3,000 amsl	None	None
	4,000 amsl	Mile 3 through 16	Year round: 0400 to 1130 and 1300 to 2000
	5,000 amsl	Mile 2 through 17.6 (terminus)	Year round: 0400 to 1130 and 1300 to 2000
	6,000 amsl	Along entire flight path	Year round:0400 to 1130 and 1300 to 2000
FP 4	200 agl	Mile 7 through 14	Year round: 0400 to 1100 and 1400 to 2000
	500 agl	Mile 7 through 14	Year round: 0400 to 1100 and 1400 to 2000
	3,000 amsl	None	None
	4,000 amsl	Mile 7 through 14	Year round: 0400 to 1100 and 1400 to 2000
	5,000 amsl	Mile 4 through 17.9 (terminus)	Year round: 0400 to 1100 and 1400 to 2000
	6,000 amsl	Mile 2 through 17.9 (terminus)	Year round: 0400 to 1100 and 1400 to 2000
FP 5	200 agl	None	None
	500 agl	None	None
	3,000 amsl	None	None
	4,000 amsl	Mile 0 through 3	Year round: 1100 to 1200

Flight Path	Altitude (feet)	Approximate Segment of Target Approach Flight Path with Glare [a]	Approximate Time of Year and Day (local standard time)
	5,000 amsl	Mile 0 through 3	January and November–December: 1000 to 1100
	6,000 amsl	Mile 0 through 4 and 5 through 8.2 (terminus)	January, April, August, and November–December: 1000 to 1200 and 1900 to 2000

agl = above ground level; amsl = above mean sea level

[a] For FPs 1 through 4, the origin point (Mile 0.0) is the westernmost point on the route, while the terminus is the easternmost point. For FP5, the origin point is the northwesternmost point, while the terminus is the southeasternmost point.

4.4 CONCLUSIONS

As currently designed, the Project is expected to generate both green and yellow glare—the latter of which has the potential to cause temporary after-images or flash blindness—along FPs 2 through 5. The most extensive glare impacts are projected along FPs 2 and 3 where glare is anticipated to affect the entire length of each flight path. Table 7 summarizes these findings.

TABLE 7: SUMMARY OF GLARE FINDINGS

Flight Path	Findings
FP 1	No glare us predicted at any altitude.
FP 2	Glare would be present year round along the entirety of all flight paths and altitudes, with annual glare durations reaching at least 105,011 minutes of glare (91,387 green and 13,624 yellow) at 6,000 feet amsl.
FP 3	Glare would be present year round along the entirety of all flight paths and altitudes. This flight path experiences the largest glare duration, including at least 163,840 minutes of glare (143,201 green and 20,639 yellow) at 200 feet agl.
FP 4	Glare is concentrated between mile 2 and 17.9 (eastern terminus), with annual durations up to 143,285 minutes (120,864 green 22,421 yellow) at 200 feet agl.
FP 5	Glare would occur from miles 0 (northern terminus) through 4 and 5 through 8, only at altitudes of 4,000 feet amsl and above. Maximum green glare duration would be 5,345 minutes at 6,000 feet amsl. No yellow glare is present.

agl = above ground level; amsl = above mean sea level

The model outputs in Attachment 2 and summary information in Table 7 indicate that while FP 1 remains unaffected, FPs 2 and 3 would experience the most consistent glare exposure, primarily due to their alignment and altitude profiles. Although the durations are notable, the impacts are expected to be manageable with appropriate mitigation or operational awareness.

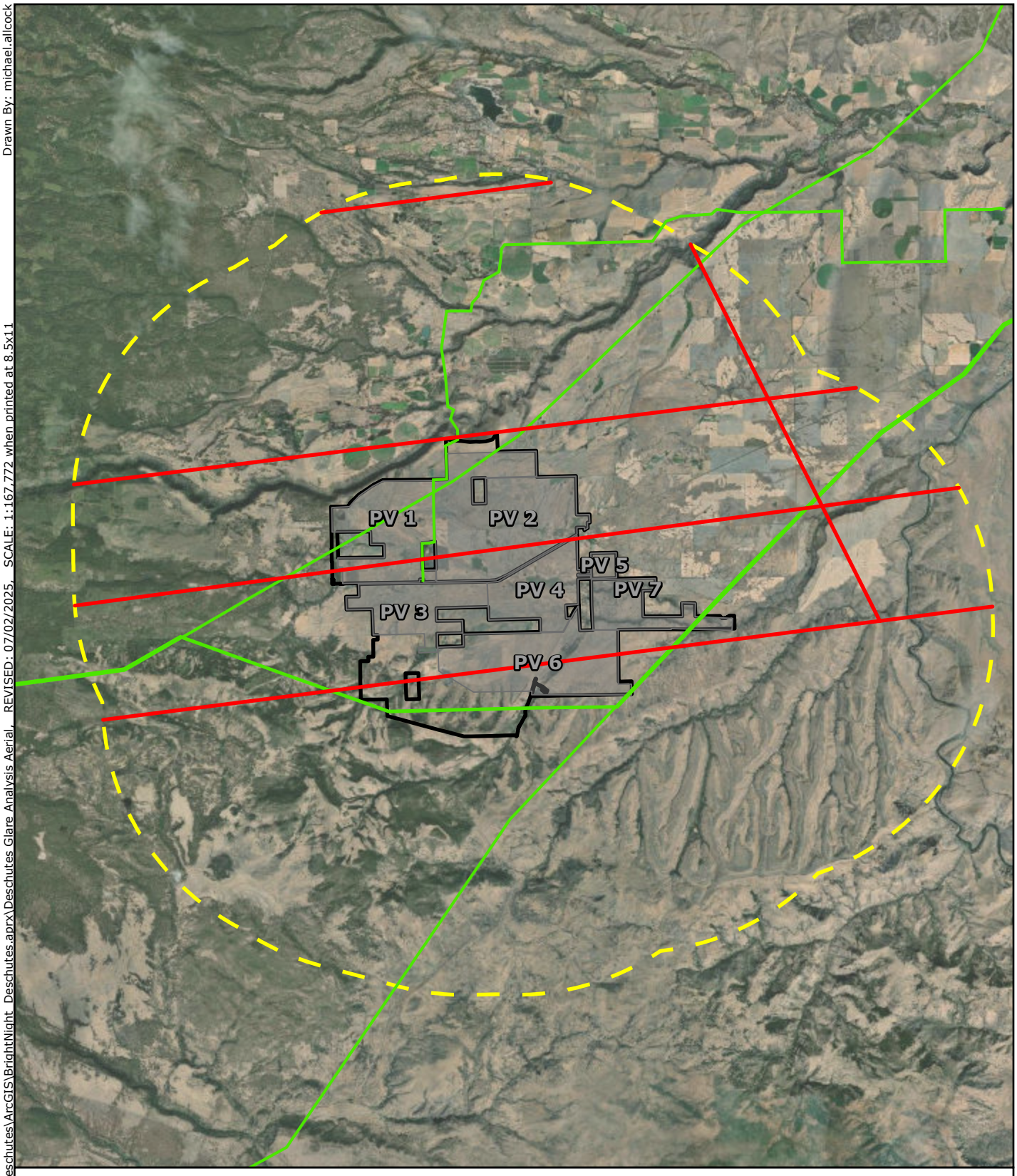
In 2021, the FAA issued an updated policy regarding reviews of solar projects on federally obligated airport property in which the FAA concluded that in most cases "glare from solar energy systems to pilots on final approach is similar to glint and glare pilots routinely experience from water bodies, glass facade buildings, parking lots, and similar features."[10] Considering this, the levels and duration of predicted glare from the Project potentially observed by pilots may be comparable to levels of glare occasionally reflected from the

[10] FAA. 2021. Federal Aviation Administration Policy: Review of Solar Energy System Projects on Federally-Obligated Airports. 86 FR 25801.

nearby waterbodies in the general area, such as Pine Hollow Lake and Little Crater Lake, under certain conditions.

Common proactive glare mitigation strategies incorporated into the Project design include the application of anti-reflective coatings and the optimization of panel tilt and azimuth angles. Additional adjustments to panel tilt and azimuth are not applicable due to the use of a shade- and slope-aware backtracking system, which dynamically optimizes panel orientation based on site-specific conditions. These measures are accounted for in the glare analysis. Together, these mitigation measures are expected to minimize operational glare concerns, in accordance with FAA guidance and consistent with similar environmental glare sources in the region.

ATTACHMENT 1 FIGURES



Legend

- Existing Transmission Line
- Flight Paths
- PV Arrays
- 5-mile Radius Around Project
- Site Boundary

N

0 1.25 2.5 5

Miles

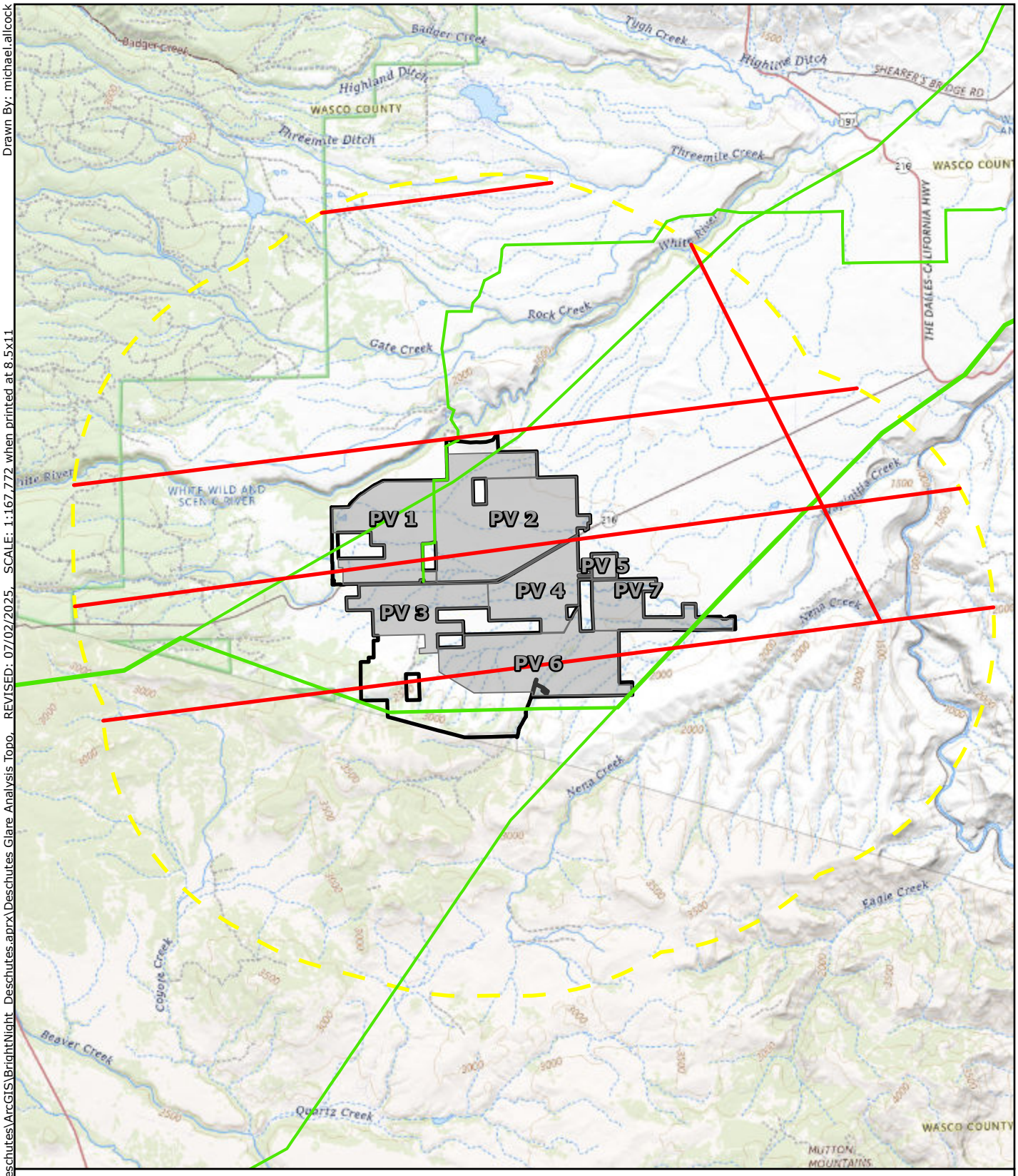
Figure 1
Glare Analysis Aerial Map
Deschutes Solar and BESS
BrightNight Power
Wasco County, OR

ERM

Source: Esri - World Imagery Map; NAD 1983 UTM Zone 10N

M:\US\Projects\A-C\Brightnight\Deschutes\ArcGIS\BrightNight Deschutes.aprx\Deschutes Glare Analysis Aerial, REVISED: 07/02/2025, SCALE: 1:167,772 when printed at 8.5x11

Drawn By: michael.allcock



Legend

- Existing Transmission Line
- Flight Paths
- PV Arrays
- 5-mile Radius Around Project
- Site Boundary

N

0 1.25 2.5 5

Miles

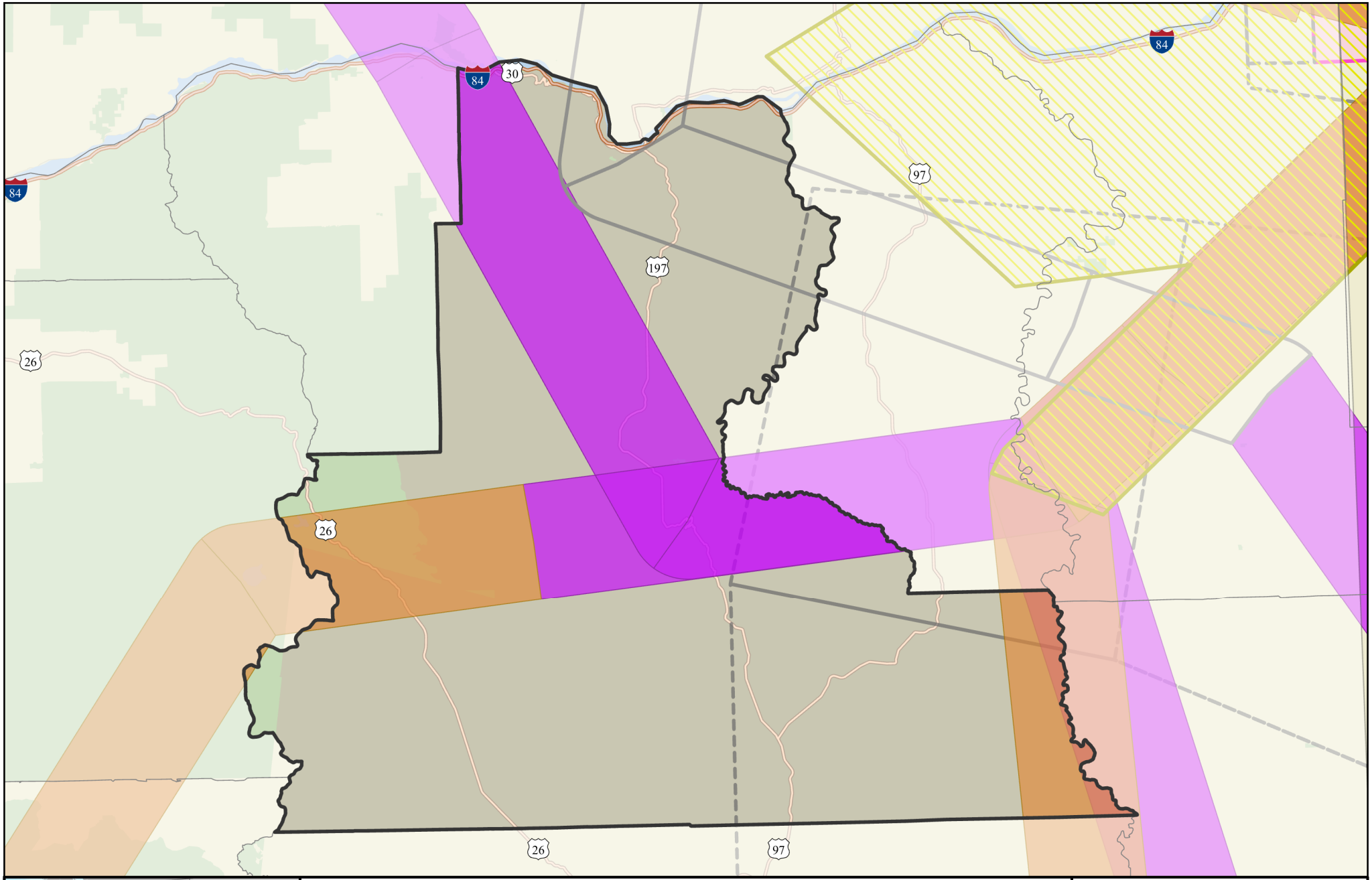
Figure 2
Glare Analysis Topographic Map
Deschutes Solar and BESS
BrightNight Power
Wasco County, OR

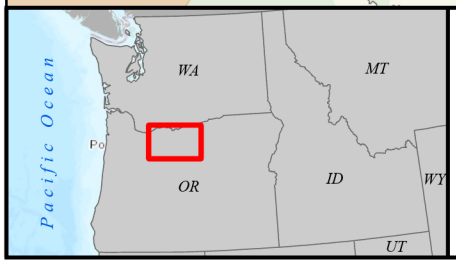
ERM

Source: USGS - World Topographic Map; NAD 1983 UTM Zone 10N

Drawn By: michael.allcock

M:\US\Projects\A-C\Brightnight\Deschutes\ArcGIS\BrightNight_Deschutes.aprx\Deschutes Glare Analysis Topo, REVISED: 07/02/2025, SCALE: 1:167,772 when printed at 8.5x11





County Boundary

Boardman Geographic Area of Concern

Military Training Routes Floor Elevation (AGL)

200 Feet

500 Feet

Greater than 1000 Feet

Special Use Airspace Floor Elevation (AGL)

Surface

Greater than 1000 Feet

Wasco County
with Military Training Routes
and Special Use Airspace
1000 Feet & Below

0 7.5 15 Miles

0 7.5 15 Kilometers

N

ATTACHMENT 2 FORGESOLAR GLARE ANALYSIS RESULTS

FORGESOLAR GLARE ANALYSIS

Project: **Deschutes Solar OR North**

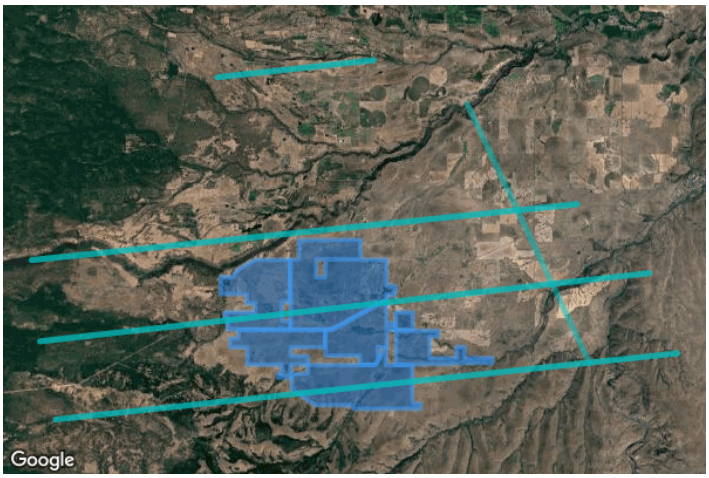
Site split between two analyses because site layout exceeded 3.1 mile radius. This analysis covers the area north of SR 216.

Site configuration: **200 and 500 ft agl**

Client: BrightNight

Created 14 Jul, 2025
Updated 14 Jul, 2025
Time-step 1 minute
Timezone offset UTC-8
Minimum sun altitude 0.0 deg
DNI peaks at 1,000.0 W/m^2
Category 100 MW to 1 GW
Site ID 154758.25325

Ocular transmission coefficient 0.5
Pupil diameter 0.002 m
Eye focal length 0.017 m
Sun subtended angle 9.3 mrad
PV analysis methodology V2



Summary of Results

Glare with potential for temporary after-image predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV 1	SA tracking	SA tracking	289,205	4,820.1	39,581	659.7	-
PV 2	SA tracking	SA tracking	328,790	5,479.8	68,936	1,148.9	-
PV 3	SA tracking	SA tracking	50,462	841.0	28,644	477.4	-
PV 4	SA tracking	SA tracking	281,765	4,696.1	20,431	340.5	-
PV 5	SA tracking	SA tracking	55,647	927.5	13,315	221.9	-
PV 6	SA tracking	SA tracking	248,190	4,136.5	61,880	1,031.3	-
PV 7	SA tracking	SA tracking	9,914	165.2	17,732	295.5	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

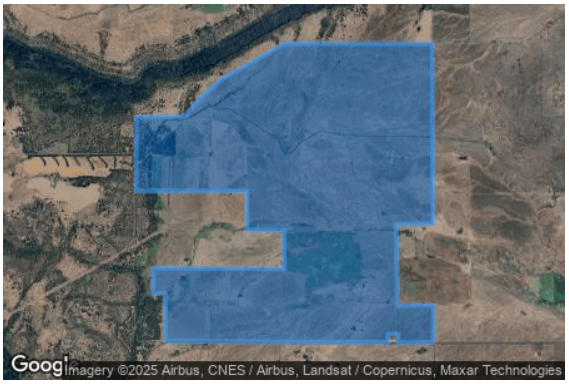
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 200 ft agl	30,715	511.9	17,155	285.9
2 - 500 ft agl	43,437	724.0	20,486	341.4
3 - 200 ft agl	457,374	7,622.9	75,542	1,259.0
3 - 500 ft amsl	472,104	7,868.4	69,631	1,160.5
4 - 200 ft agl	128,562	2,142.7	33,358	556.0
4 - 500 ft agl	131,781	2,196.3	34,347	572.5
5 - 500 ft agl	0	0.0	0	0.0

Component Data

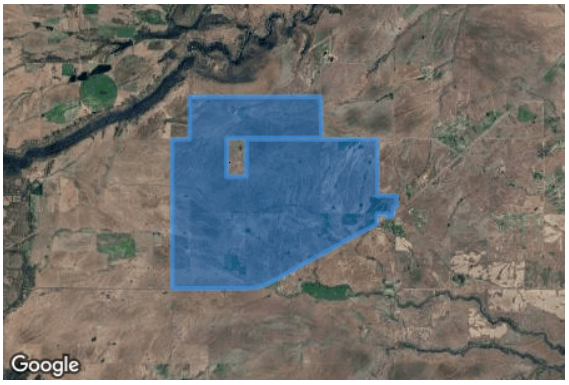
PV Arrays

Name: PV 1
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



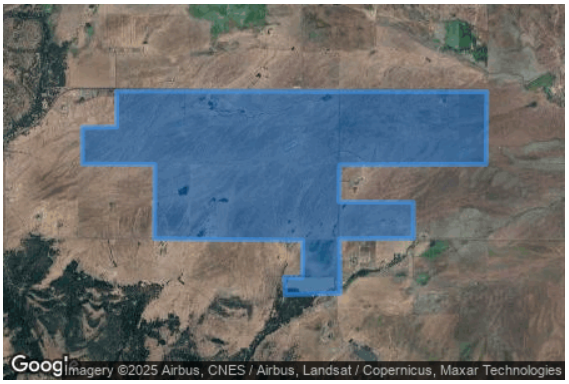
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.114884	-121.324287	2113.46	4.92	2118.38
2	45.114880	-121.322908	2110.01	4.92	2114.93
3	45.114017	-121.322908	2114.59	4.92	2119.51
4	45.114062	-121.318081	2096.63	4.92	2101.55
5	45.117636	-121.318016	2089.76	4.92	2094.68
6	45.117636	-121.322994	2100.98	4.92	2105.90
7	45.125481	-121.323166	2112.88	4.92	2117.80
8	45.125526	-121.318123	2106.29	4.92	2111.21
9	45.142920	-121.318221	2092.79	4.92	2097.71
10	45.142951	-121.338456	2123.53	4.92	2128.45
11	45.139394	-121.347361	2169.72	4.92	2174.64
12	45.137729	-121.349957	2185.91	4.92	2190.83
13	45.135913	-121.352231	2185.25	4.92	2190.17
14	45.135867	-121.358905	2208.58	4.92	2213.50
15	45.128677	-121.358948	2232.38	4.92	2237.30
16	45.128677	-121.343691	2152.34	4.92	2157.26
17	45.124922	-121.343670	2137.69	4.92	2142.61
18	45.124892	-121.338606	2131.60	4.92	2136.52
19	45.121167	-121.338563	2133.42	4.92	2138.34
20	45.121243	-121.356544	2158.18	4.92	2163.10
21	45.118790	-121.356539	2169.10	0.00	2169.10
22	45.118790	-121.354946	2165.80	0.00	2165.80
23	45.114172	-121.354892	2182.35	4.92	2187.27
24	45.114033	-121.324273	2117.84	4.92	2122.76

Name: PV 2
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



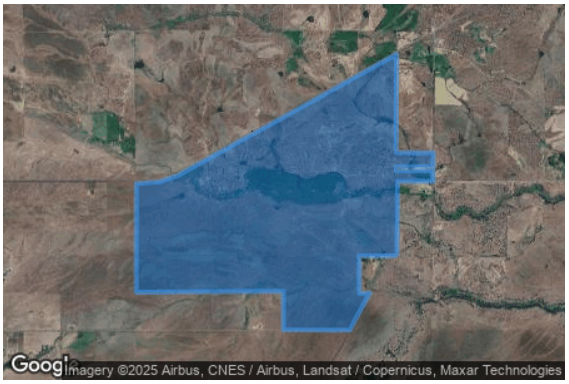
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.142914	-121.317970	2091.00	4.92	2095.92
2	45.142989	-121.313099	2075.90	4.92	2080.82
3	45.151116	-121.313142	2067.00	4.92	2071.92
4	45.151177	-121.277050	1981.10	4.92	1986.02
5	45.143216	-121.276836	1981.80	4.92	1986.72
6	45.143141	-121.302862	2054.50	4.92	2059.42
7	45.135740	-121.302926	2095.10	4.92	2100.02
8	45.135808	-121.297626	2069.00	4.92	2073.92
9	45.143028	-121.297540	2037.40	4.92	2042.32
10	45.142937	-121.261546	1947.60	4.92	1952.52
11	45.132103	-121.261434	2037.80	4.92	2042.72
12	45.132072	-121.256219	2021.40	4.92	2026.32
13	45.129893	-121.256230	2043.60	4.92	2048.52
14	45.129900	-121.257164	2039.00	4.92	2043.92
15	45.128288	-121.257207	2047.60	4.92	2052.52
16	45.127781	-121.258719	2046.30	4.92	2051.22
17	45.128583	-121.258741	2042.60	4.92	2047.52
18	45.128515	-121.261648	2051.60	4.92	2056.52
19	45.126623	-121.261595	2058.70	4.92	2063.62
20	45.115125	-121.291188	2053.70	4.92	2058.62
21	45.114247	-121.294600	2066.30	4.92	2071.22
22	45.114156	-121.297561	2077.40	4.92	2082.32
23	45.114096	-121.317876	2097.20	4.92	2102.12

Name: PV 3
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.106808	-121.297749	2083.21	4.92	2088.13
2	45.113821	-121.297652	2079.14	4.92	2084.06
3	45.113880	-121.348552	2171.73	4.92	2176.65
4	45.110405	-121.348542	2183.37	4.92	2188.29
5	45.110375	-121.353262	2198.44	4.92	2203.36
6	45.106824	-121.353252	2208.05	4.92	2212.97
7	45.106778	-121.343298	2184.63	4.92	2189.55
8	45.099601	-121.343355	2217.93	4.92	2222.85
9	45.099450	-121.322959	2175.62	4.92	2180.54
10	45.095830	-121.323034	2211.53	4.92	2216.45
11	45.095867	-121.325502	2218.45	4.92	2223.37
12	45.094190	-121.325362	2243.08	4.92	2248.00
13	45.094330	-121.317842	2193.01	4.92	2197.93
14	45.099586	-121.317906	2159.14	4.92	2164.06
15	45.099647	-121.307735	2121.77	4.92	2126.69
16	45.103130	-121.307756	2112.44	4.92	2117.36
17	45.103176	-121.317970	2137.21	4.92	2142.13
18	45.106735	-121.317884	2119.66	4.92	2124.58

Name: PV 4
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.126283	-121.261651	2060.33	4.92	2065.25
2	45.118254	-121.282200	2064.71	4.92	2069.63
3	45.116289	-121.287297	2059.68	4.92	2064.60
4	45.114521	-121.291803	2056.85	4.92	2061.77
5	45.113938	-121.294340	2067.73	4.92	2072.65
6	45.113772	-121.297435	2078.23	4.92	2083.15
7	45.103281	-121.297454	2088.15	4.92	2093.07
8	45.103364	-121.277219	2037.31	4.92	2042.23
9	45.099631	-121.277219	2060.20	4.92	2065.12
10	45.099603	-121.268098	2043.71	4.92	2048.63
11	45.103184	-121.265354	2014.03	4.92	2018.95
12	45.103173	-121.266743	2017.96	4.92	2022.88
13	45.106785	-121.266818	2034.20	4.92	2039.12
14	45.106778	-121.261974	2029.44	4.92	2034.36
15	45.106940	-121.261598	2031.79	4.92	2036.71
16	45.114000	-121.261506	2027.71	4.92	2032.63
17	45.113993	-121.256650	2019.45	4.92	2024.37
18	45.115051	-121.256634	2022.34	4.92	2027.26
19	45.115037	-121.261689	2032.12	4.92	2037.04
20	45.115371	-121.261684	2031.33	4.92	2036.25
21	45.115386	-121.256625	2024.78	4.92	2029.70
22	45.116756	-121.256598	2034.52	4.92	2039.44
23	45.116775	-121.261700	2041.00	4.92	2045.92

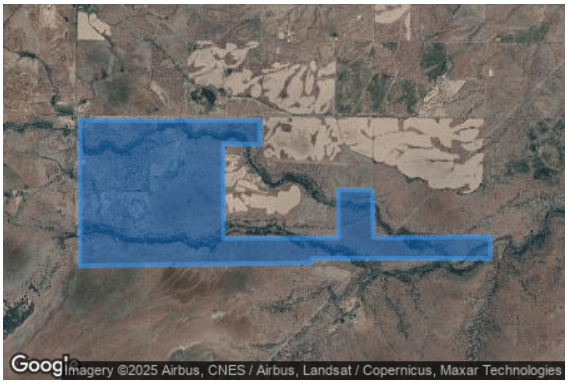
Name: PV 5
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.121208	-121.256344	2044.40	4.92	2049.32
2	45.113985	-121.256430	2019.40	4.92	2024.32
3	45.114000	-121.246324	2016.50	4.92	2021.42
4	45.121223	-121.246195	2031.60	4.92	2036.52

Name: PV 6
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.095883	-121.307752	2134.84	4.92	2139.76
2	45.095770	-121.317340	2187.91	4.92	2192.83
3	45.089513	-121.317255	2225.20	4.92	2230.12
4	45.082841	-121.303833	2366.61	4.92	2371.53
5	45.082811	-121.281302	2198.98	4.92	2203.90
6	45.081353	-121.281170	2194.00	4.92	2198.92
7	45.081277	-121.258232	2121.02	4.92	2125.94
8	45.081368	-121.241817	2120.03	4.92	2124.95
9	45.083518	-121.241776	2056.49	0.00	2056.49
10	45.083486	-121.246541	2058.77	0.00	2058.77
11	45.085210	-121.246587	2017.73	4.92	2022.65
12	45.099532	-121.246565	1994.29	4.92	1999.21
13	45.099449	-121.261768	2024.27	4.92	2029.19
14	45.106507	-121.261940	2028.67	4.92	2033.59
15	45.105568	-121.263249	2025.27	4.92	2030.19
16	45.103887	-121.264600	2013.96	4.92	2018.88
17	45.099457	-121.267948	2044.08	4.92	2049.00
18	45.099402	-121.307749	2123.51	4.92	2128.43

Name: PV 7
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.099527	-121.256122	2019.55	4.92	2024.47
2	45.106524	-121.256101	2031.86	4.92	2036.78
3	45.113642	-121.256101	2021.24	4.92	2026.16
4	45.113566	-121.246080	2010.53	4.92	2015.45
5	45.113612	-121.231382	2005.29	4.92	2010.21
6	45.111234	-121.231360	1980.09	4.92	1985.01
7	45.111340	-121.236403	1992.67	4.92	1997.59
8	45.102193	-121.236338	1939.32	4.92	1944.24
9	45.102253	-121.220588	1925.72	4.92	1930.64
10	45.106888	-121.220588	1966.02	4.92	1970.94
11	45.106858	-121.215911	1975.82	4.92	1980.74
12	45.102253	-121.215739	1925.28	4.92	1930.20
13	45.102375	-121.199689	1800.60	4.92	1805.52
14	45.100239	-121.199710	1786.15	4.92	1791.07
15	45.100231	-121.224182	1958.51	4.92	1963.43
16	45.099819	-121.224199	1948.30	4.92	1953.22

Route Receptors

Name: 1 - 200 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.218249	-121.360751	2171.00	200.00	2371.00
2	45.225308	-121.269041	2171.00	200.00	2371.00

Name: 1 - 500 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.218250	-121.360750	2171.00	500.00	2671.00
2	45.225310	-121.269040	2171.00	500.00	2671.00

Name: 2 - 200 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.142767	-121.469628	2887.00	200.00	3087.00
2	45.165889	-121.149994	2887.00	200.00	3087.00

Name: 2 - 500 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.142770	-121.469630	2887.00	500.00	3387.00
2	45.165890	-121.149990	2887.00	500.00	3387.00

Name: 3 - 200 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.109206	-121.464775	3165.00	200.00	3365.00
2	45.137427	-121.107547	3165.00	200.00	3365.00

Name: 3 - 500 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.109210	-121.464770	3165.00	500.00	3665.00
2	45.137430	-121.107550	3165.00	500.00	3665.00

Name: 4 - 200 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.104239	-121.091240	3218.00	200.00	3418.00
2	45.076918	-121.455631	3218.00	200.00	3418.00

Name: 4 - 500 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.104240	-121.091240	3218.00	500.00	3718.00
2	45.076920	-121.455630	3218.00	500.00	3718.00

Name: 5 - 500 ft agl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.100234	-121.142757	1894.00	500.00	2394.00
2	45.207127	-121.214340	1894.00	500.00	2394.00

Glare Analysis Results

Summary of Results

Glare with potential for temporary after-image predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV 1	SA tracking	SA tracking	289,205	4,820.1	39,581	659.7	-
PV 2	SA tracking	SA tracking	328,790	5,479.8	68,936	1,148.9	-
PV 3	SA tracking	SA tracking	50,462	841.0	28,644	477.4	-
PV 4	SA tracking	SA tracking	281,765	4,696.1	20,431	340.5	-
PV 5	SA tracking	SA tracking	55,647	927.5	13,315	221.9	-
PV 6	SA tracking	SA tracking	248,190	4,136.5	61,880	1,031.3	-
PV 7	SA tracking	SA tracking	9,914	165.2	17,732	295.5	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
2 - 200 ft agl	30,715	511.9	17,155	285.9
2 - 500 ft agl	43,437	724.0	20,486	341.4
3 - 200 ft agl	457,374	7,622.9	75,542	1,259.0
3 - 500 ft amsl	472,104	7,868.4	69,631	1,160.5
4 - 200 ft agl	128,562	2,142.7	33,358	556.0
4 - 500 ft agl	131,781	2,196.3	34,347	572.5
5 - 500 ft agl	0	0.0	0	0.0

PV: PV 1 potential temporary after-image

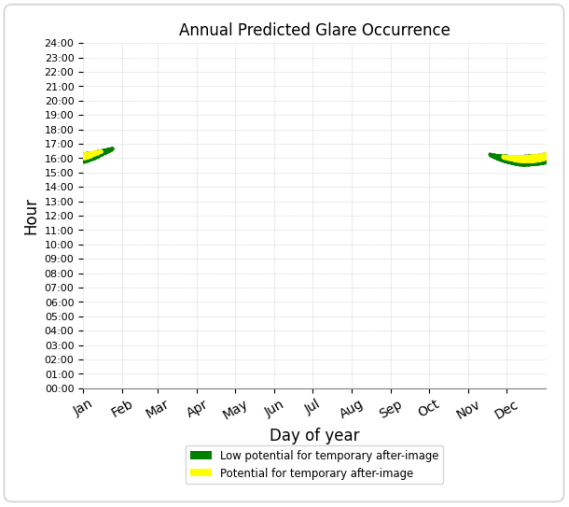
Receptor results ordered by category of glare

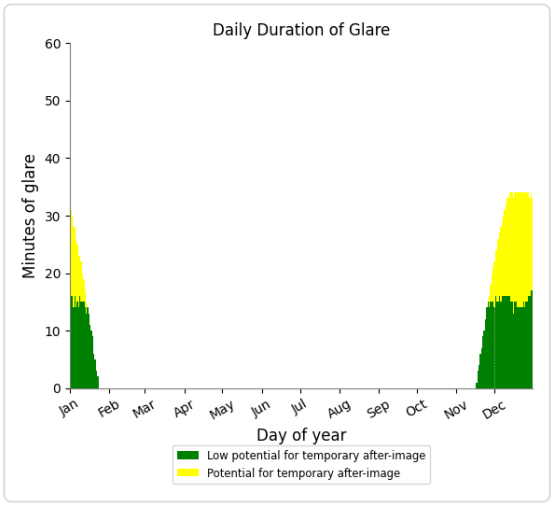
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 200 ft agl	893	14.9	656	10.9
2 - 500 ft agl	1,716	28.6	2,335	38.9
3 - 200 ft agl	143,201	2,386.7	20,639	344.0
3 - 500 ft amsl	143,395	2,389.9	15,951	265.9
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
4 - 200 ft agl	0	0.0	0	0.0
4 - 500 ft agl	0	0.0	0	0.0
5 - 500 ft agl	0	0.0	0	0.0

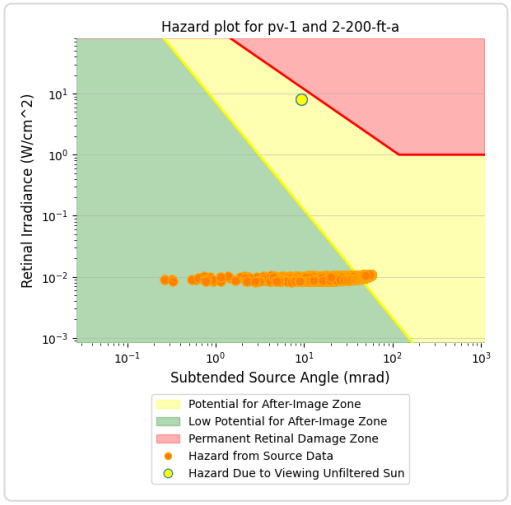
PV 1 and Route: 2 - 200 ft agl

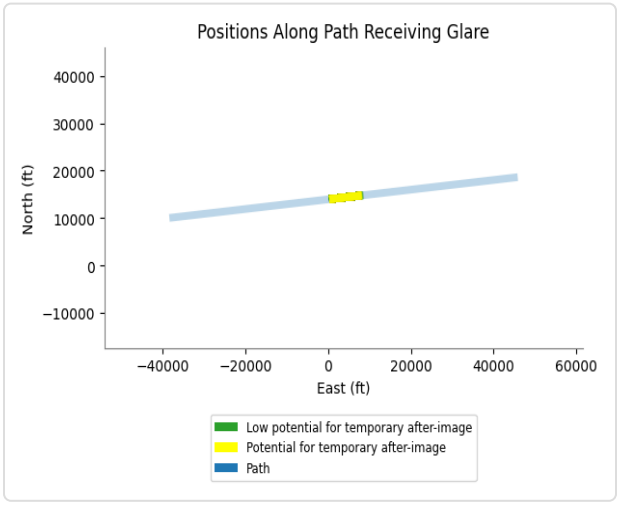
Yellow glare: 656 min.

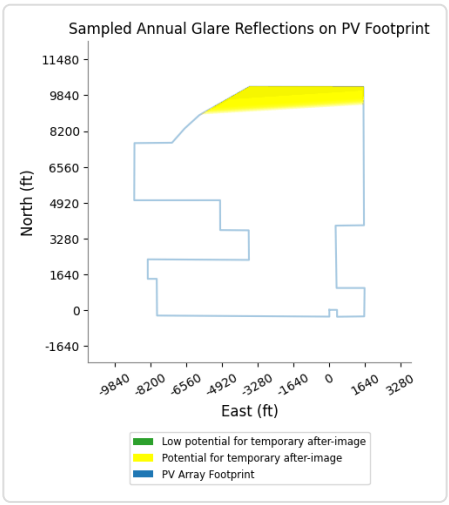
Green glare: 893 min.







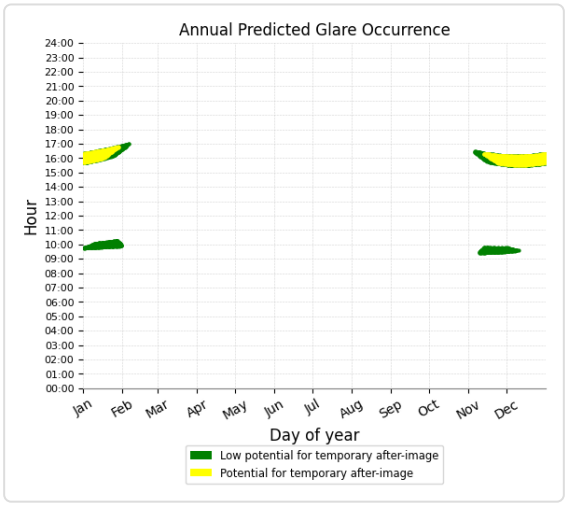


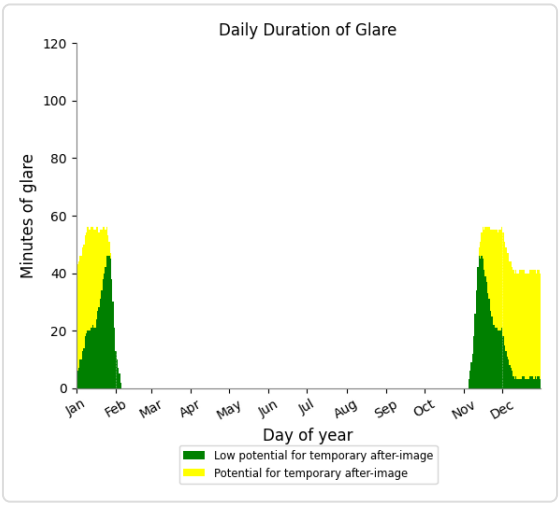


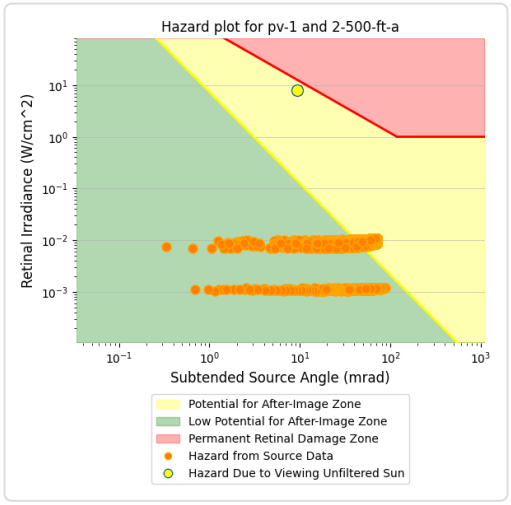
PV 1 and Route: 2 - 500 ft agl

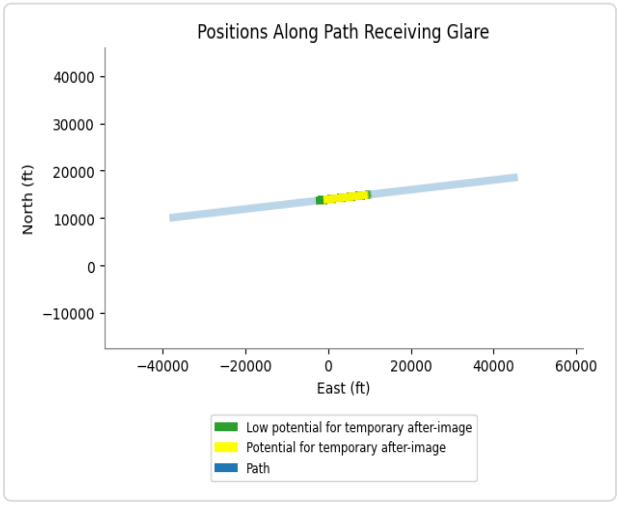
Yellow glare: 2,335 min.

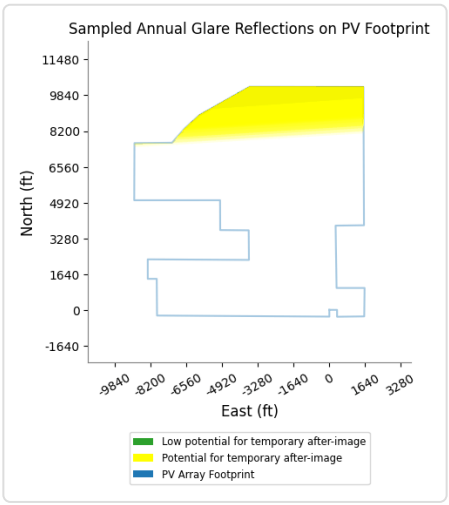
Green glare: 1,716 min.







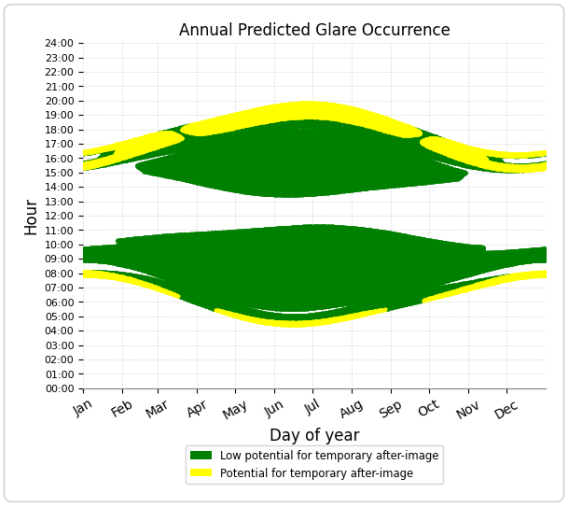


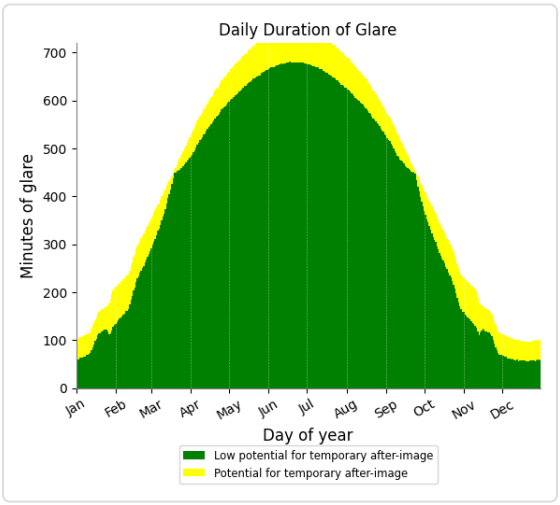


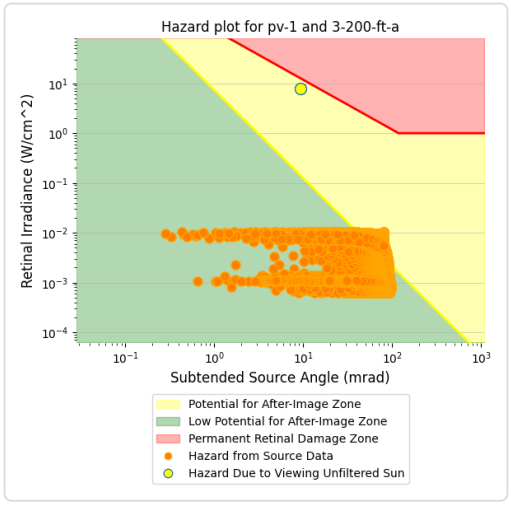
PV 1 and Route: 3 - 200 ft agl

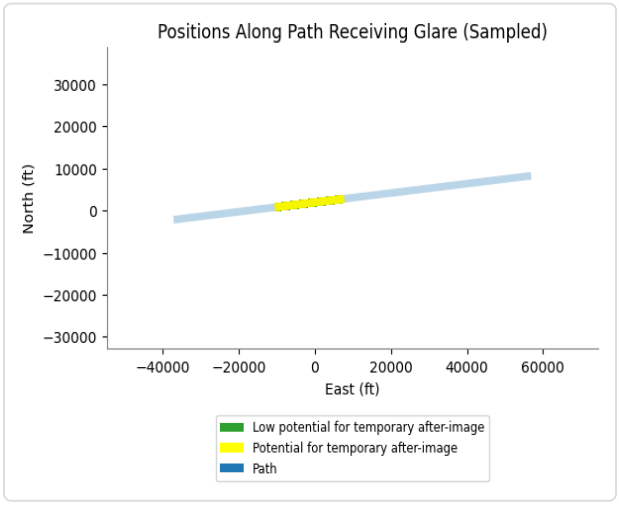
Yellow glare: 20,639 min.

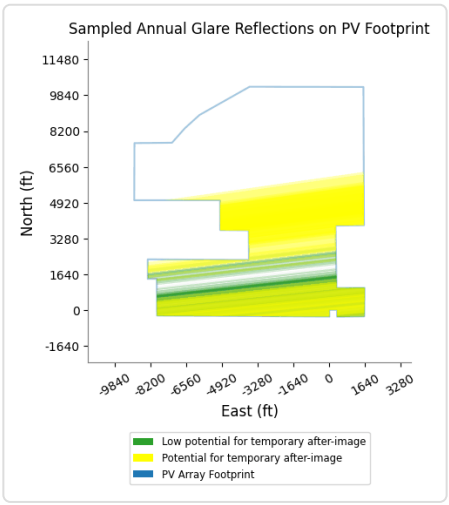
Green glare: 143,201 min.







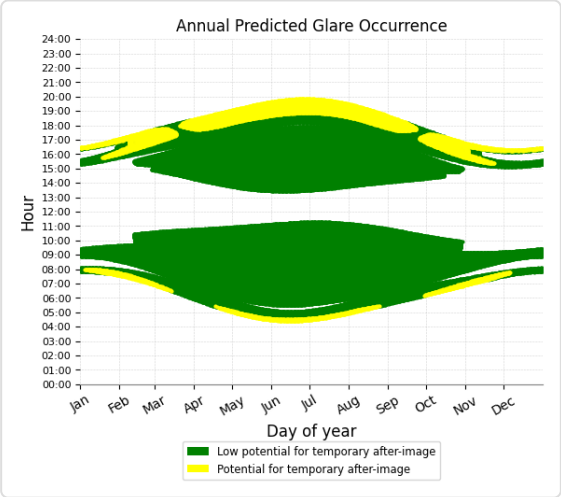


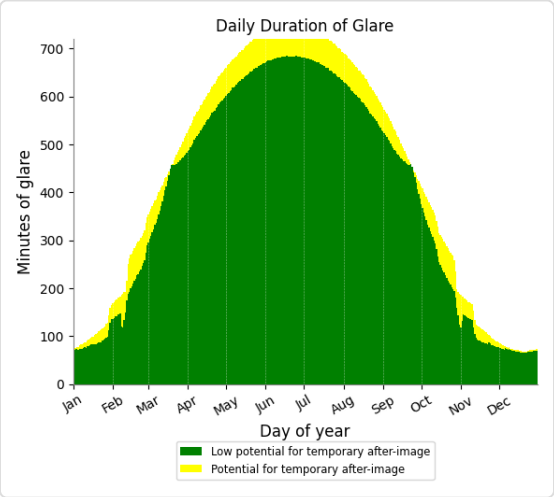


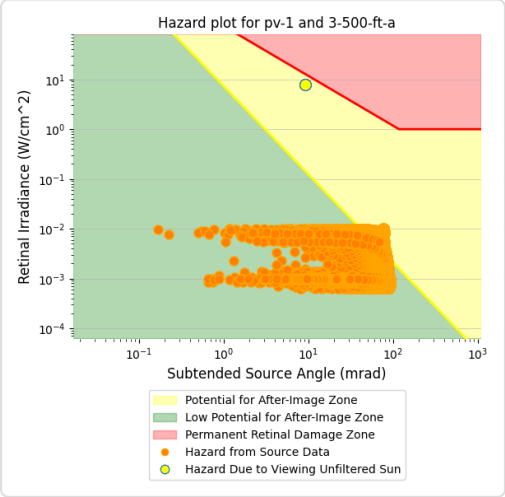
PV 1 and Route: 3 - 500 ft amsl

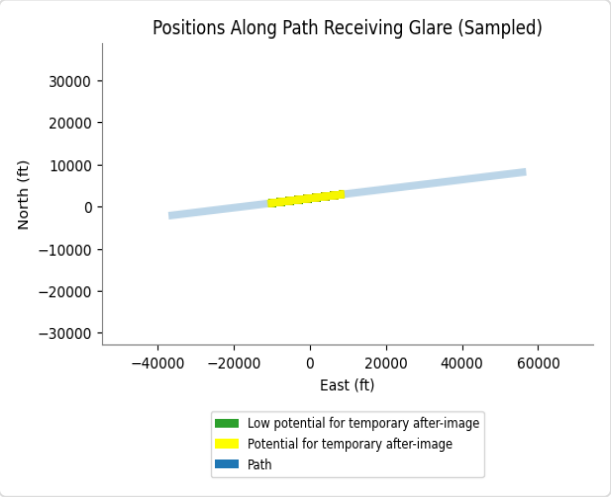
Yellow glare: 15,951 min.

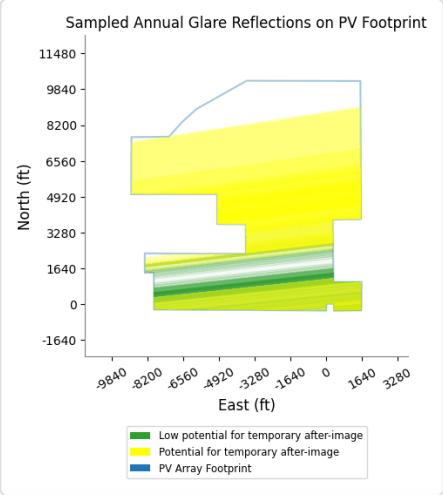
Green glare: 143,395 min.











PV 1 and Route: 1 - 200 ft agl

No glare found

PV 1 and Route: 1 - 500 ft agl

No glare found

PV 1 and Route: 4 - 200 ft agl

No glare found

PV 1 and Route: 4 - 500 ft agl

No glare found

PV 1 and Route: 5 - 500 ft agl

No glare found

PV: PV 2 potential temporary after-image

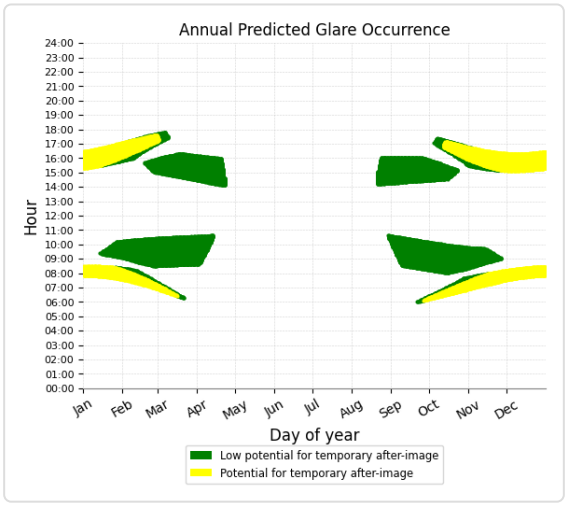
Receptor results ordered by category of glare

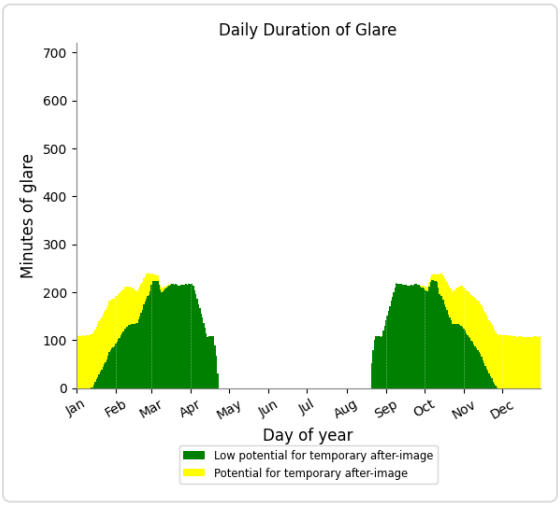
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 200 ft agl	29,068	484.5	13,408	223.5
2 - 500 ft agl	40,791	679.9	14,324	238.7
3 - 200 ft agl	129,461	2,157.7	22,034	367.2
3 - 500 ft amsl	129,470	2,157.8	19,170	319.5
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
4 - 200 ft agl	0	0.0	0	0.0
4 - 500 ft agl	0	0.0	0	0.0
5 - 500 ft agl	0	0.0	0	0.0

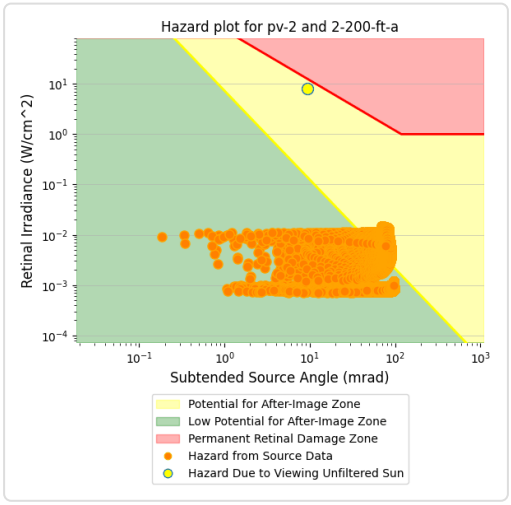
PV 2 and Route: 2 - 200 ft agl

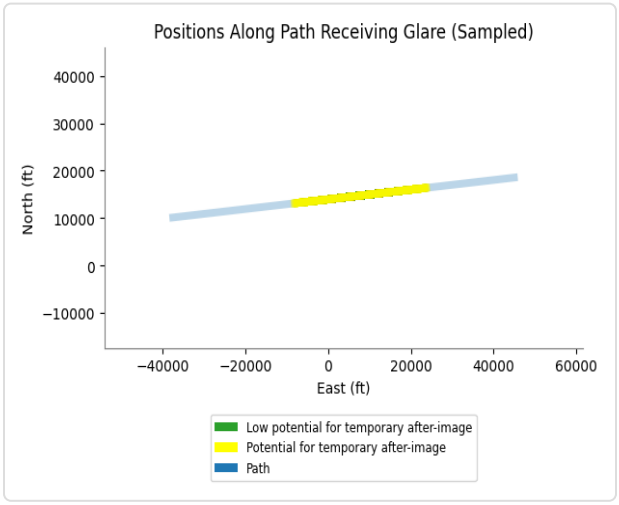
Yellow glare: 13,408 min.

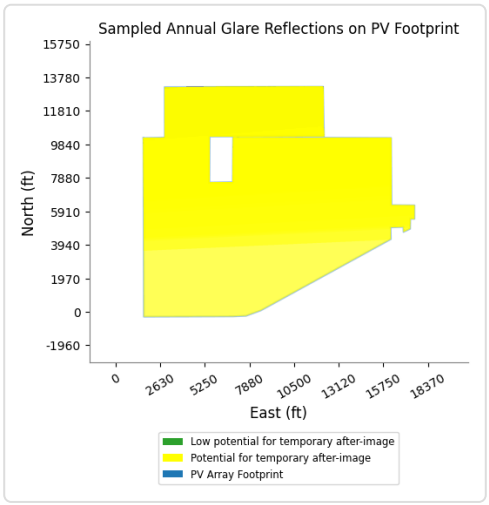
Green glare: 29,068 min.







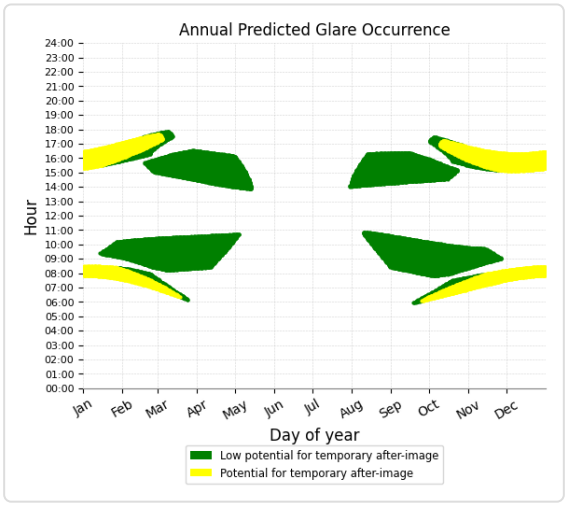


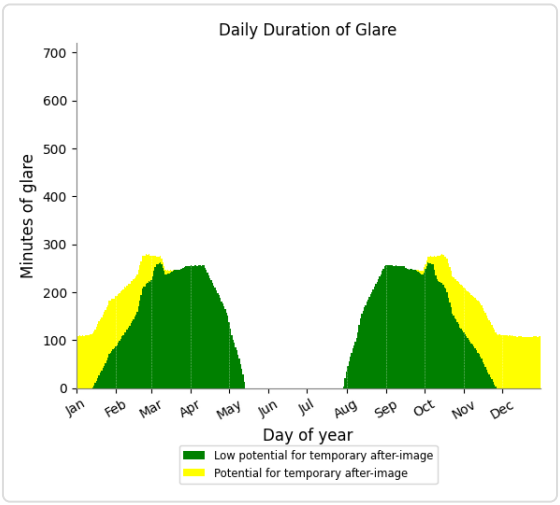


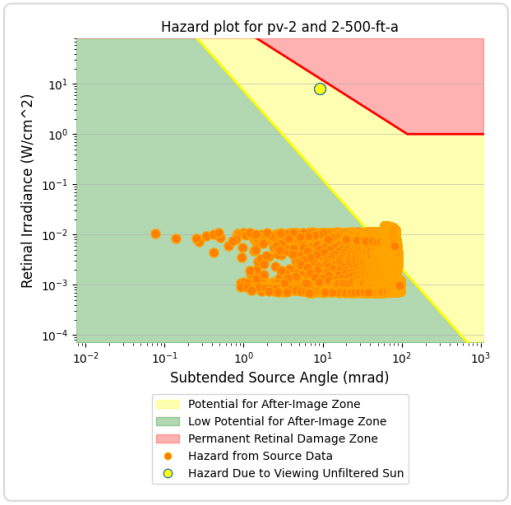
PV 2 and Route: 2 - 500 ft agl

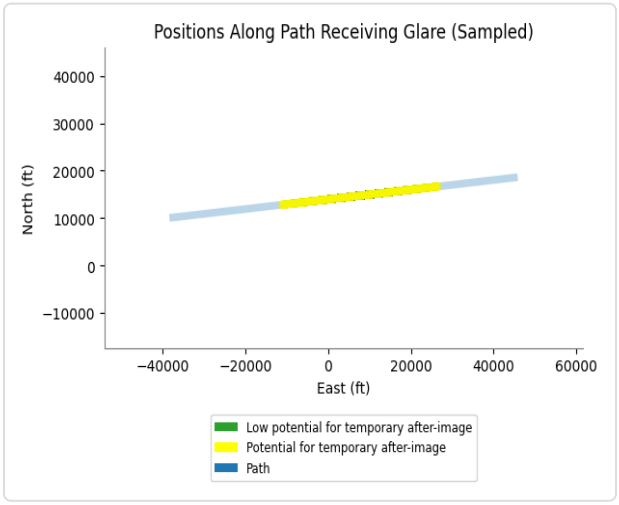
Yellow glare: 14,324 min.

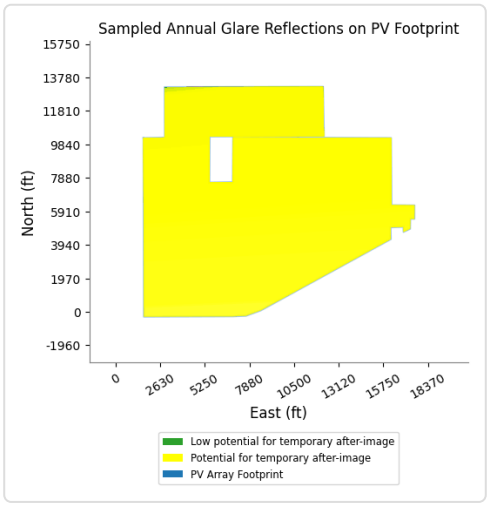
Green glare: 40,791 min.







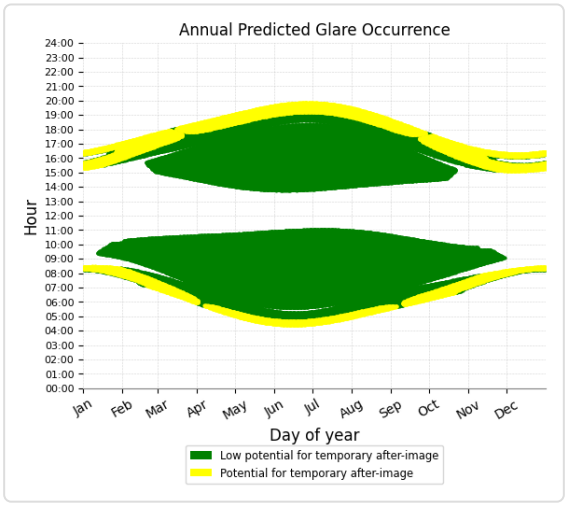


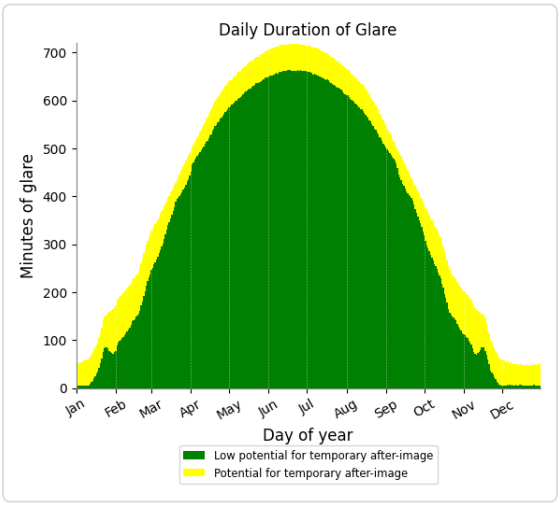


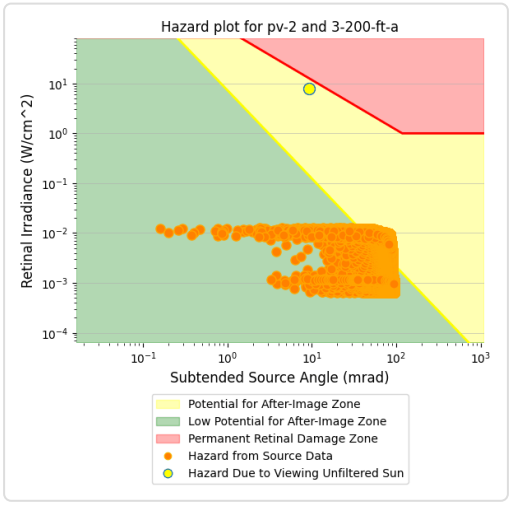
PV 2 and Route: 3 - 200 ft agl

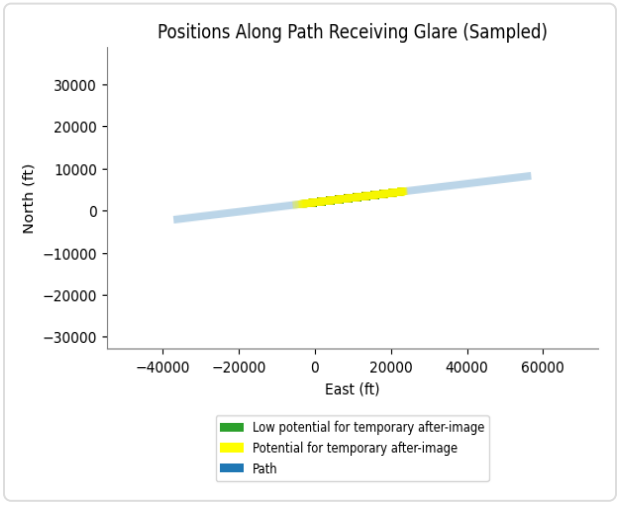
Yellow glare: 22,034 min.

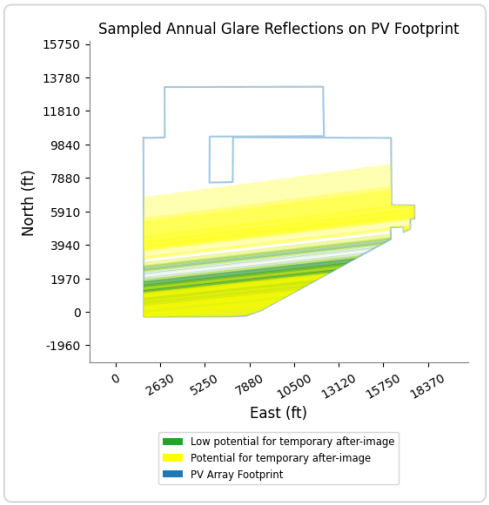
Green glare: 129,461 min.





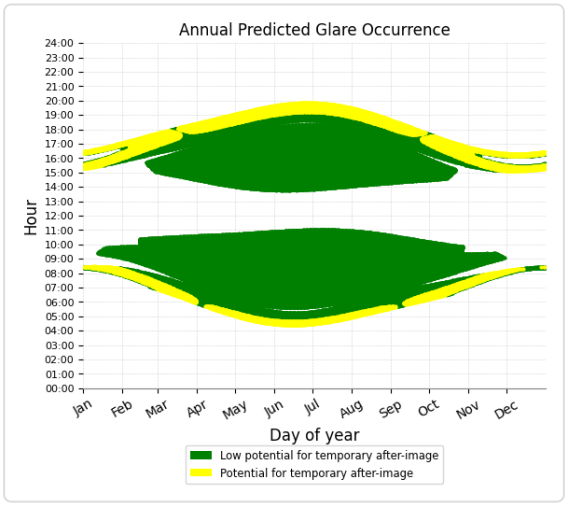


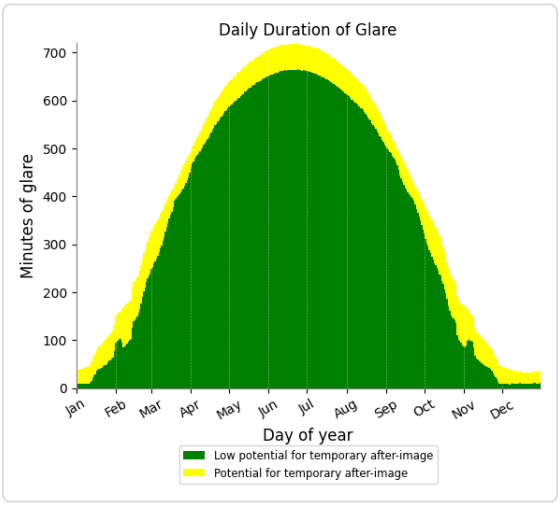


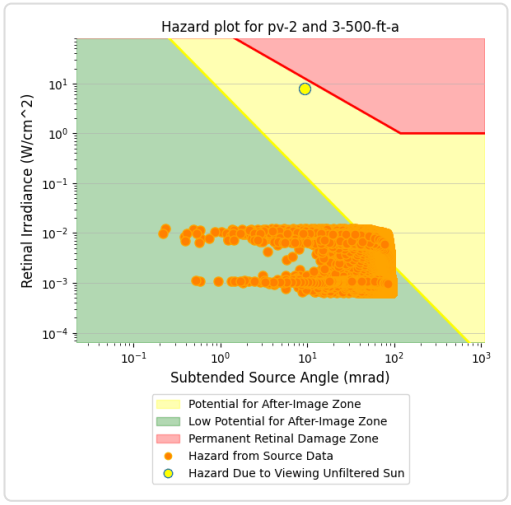


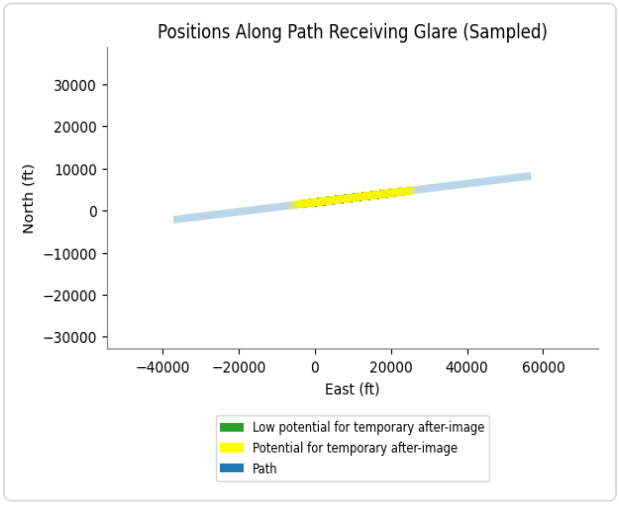
PV 2 and Route: 3 - 500 ft amsl

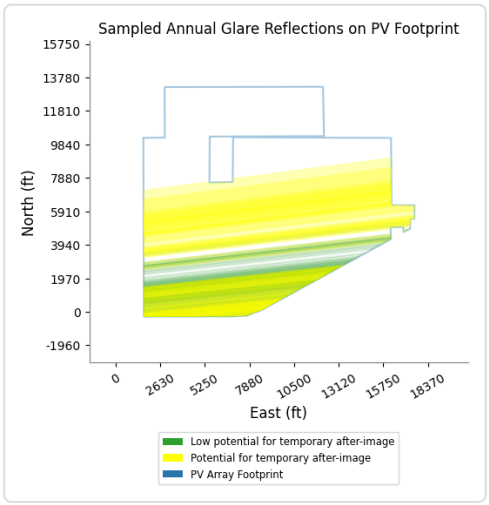
Yellow glare: 19,170 min.
Green glare: 129,470 min.











PV 2 and Route: 1 - 200 ft agl

No glare found

PV 2 and Route: 1 - 500 ft agl

No glare found

PV 2 and Route: 4 - 200 ft agl

No glare found

PV 2 and Route: 4 - 500 ft agl

No glare found

PV 2 and Route: 5 - 500 ft agl

No glare found

PV: PV 3 potential temporary after-image

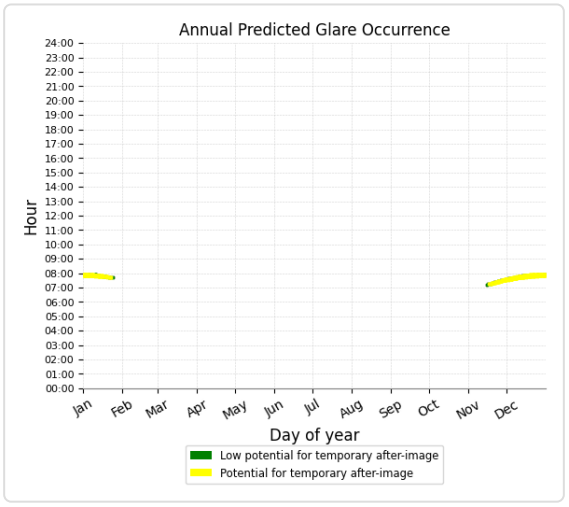
Receptor results ordered by category of glare

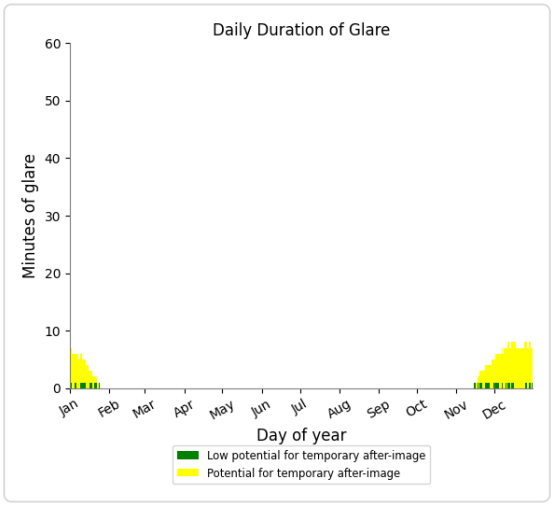
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 200 ft agl	34	0.6	333	5.5
2 - 500 ft agl	191	3.2	481	8.0
3 - 200 ft agl	19,372	322.9	11,667	194.4
3 - 500 ft amsl	27,927	465.4	12,846	214.1
4 - 200 ft agl	1,560	26.0	1,042	17.4
4 - 500 ft agl	1,378	23.0	2,275	37.9
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
5 - 500 ft agl	0	0.0	0	0.0

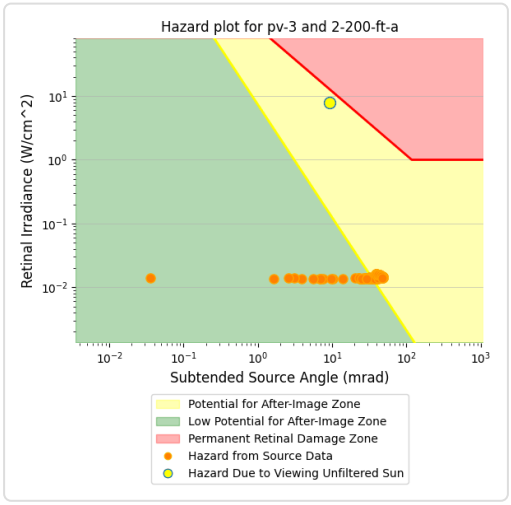
PV 3 and Route: 2 - 200 ft agl

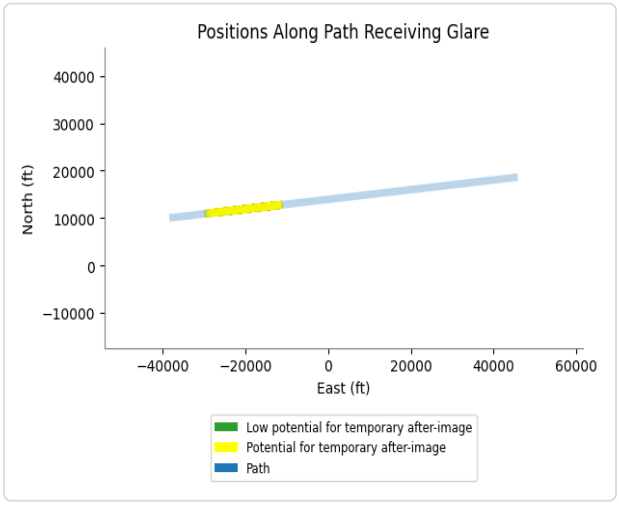
Yellow glare: 333 min.

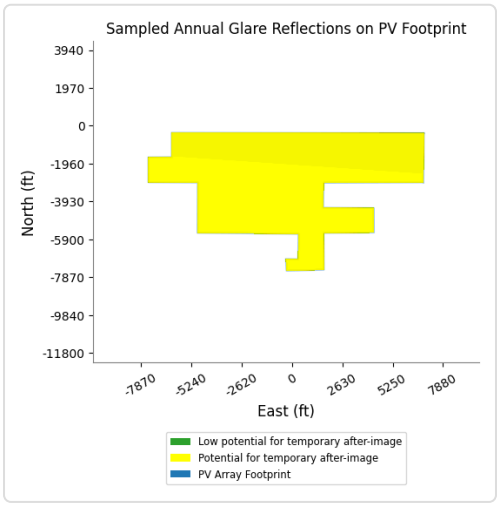
Green glare: 34 min.







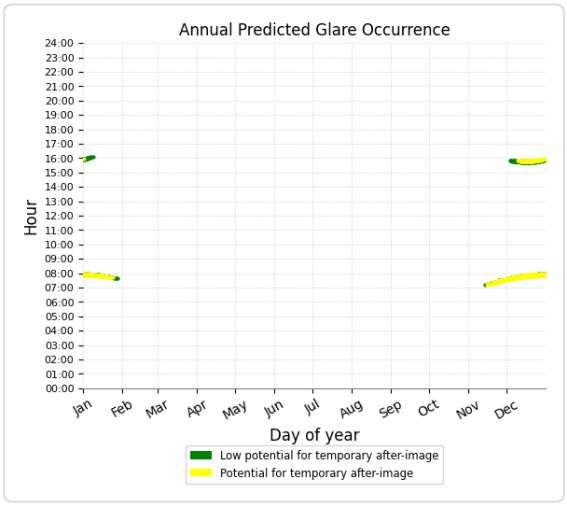


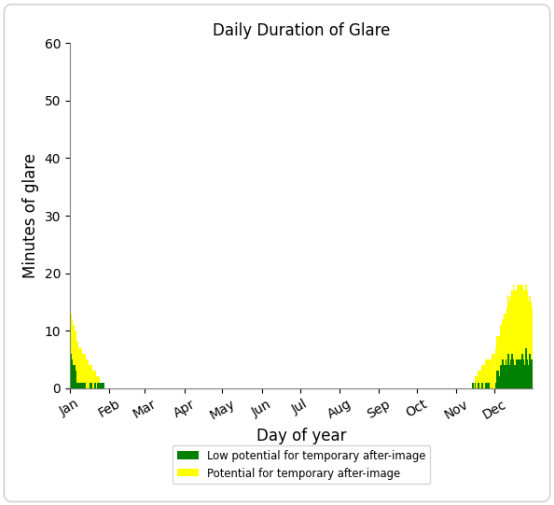


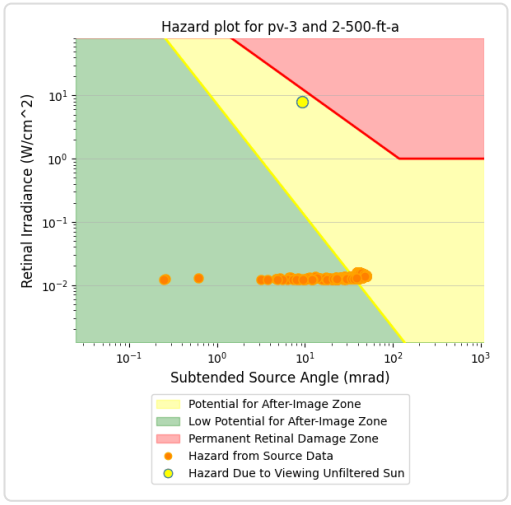
PV 3 and Route: 2 - 500 ft agl

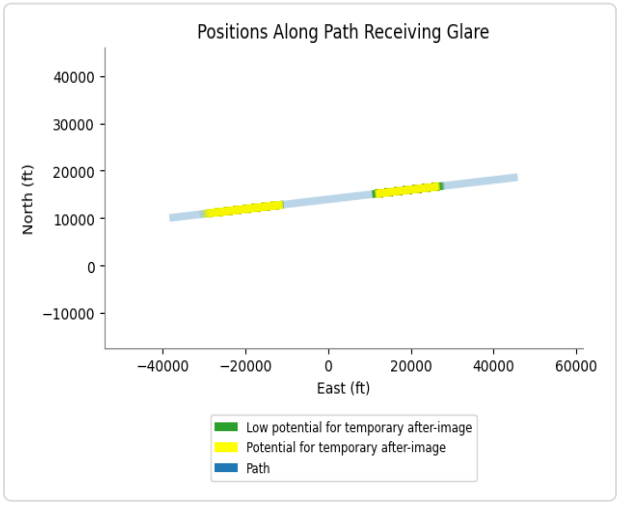
Yellow glare: 481 min.

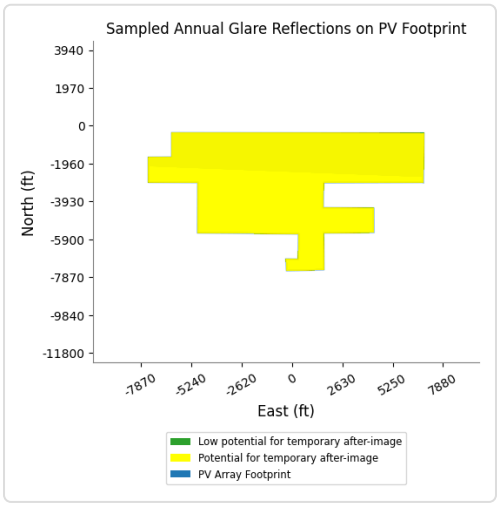
Green glare: 191 min.







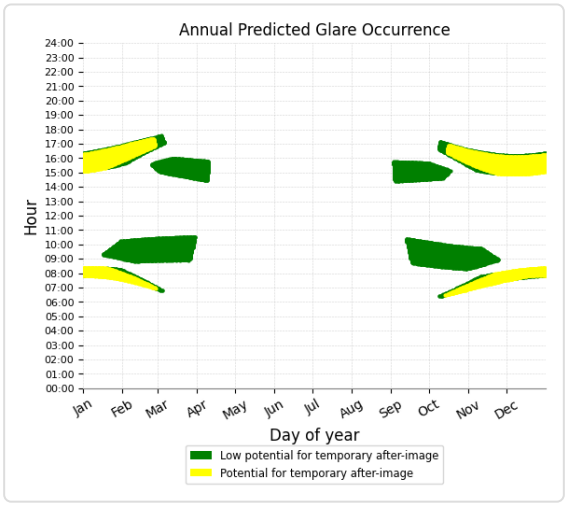


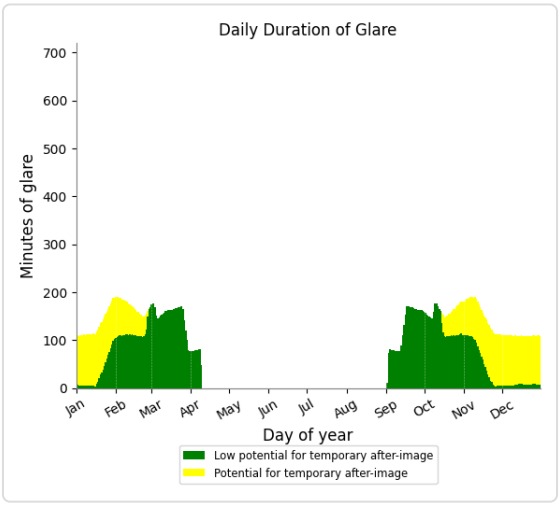


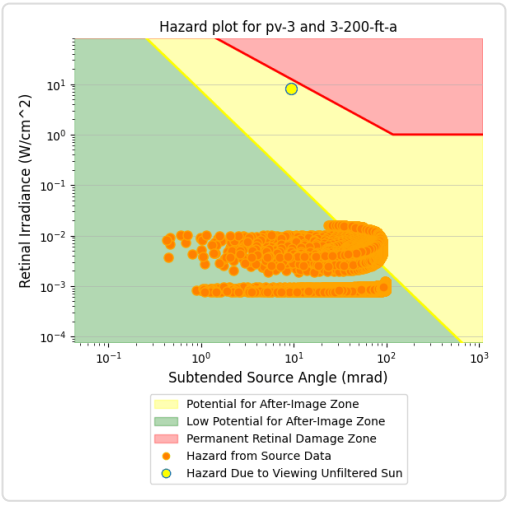
PV 3 and Route: 3 - 200 ft agl

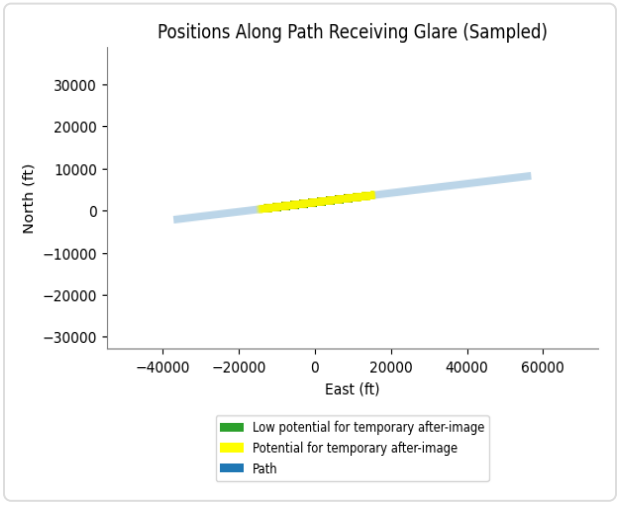
Yellow glare: 11,667 min.

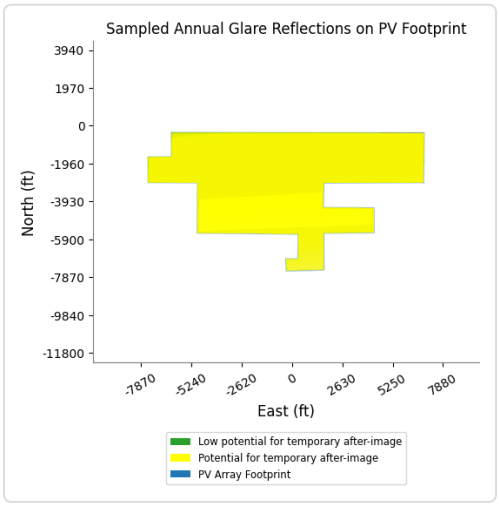
Green glare: 19,372 min.







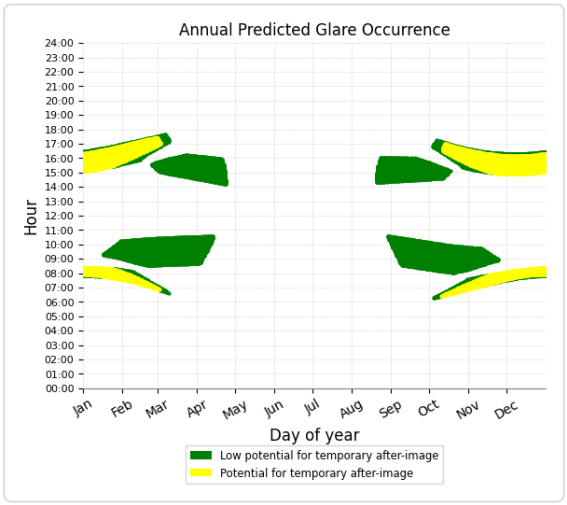


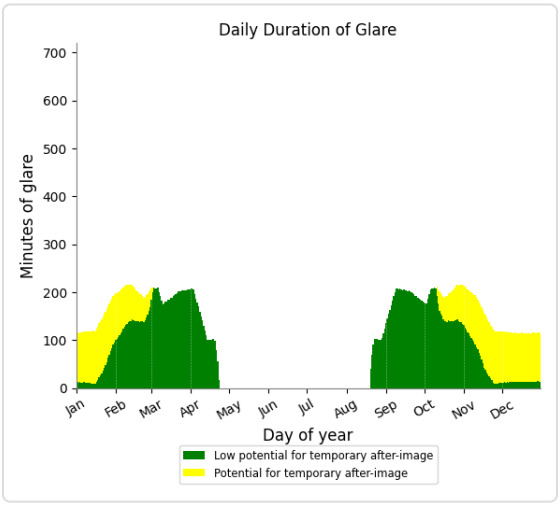


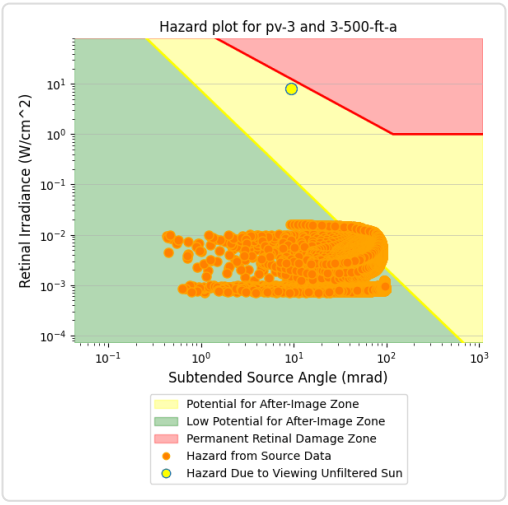
PV 3 and Route: 3 - 500 ft amsl

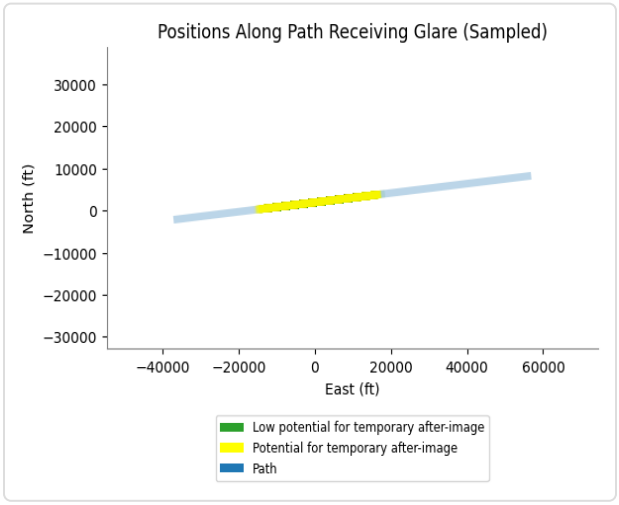
Yellow glare: 12,846 min.

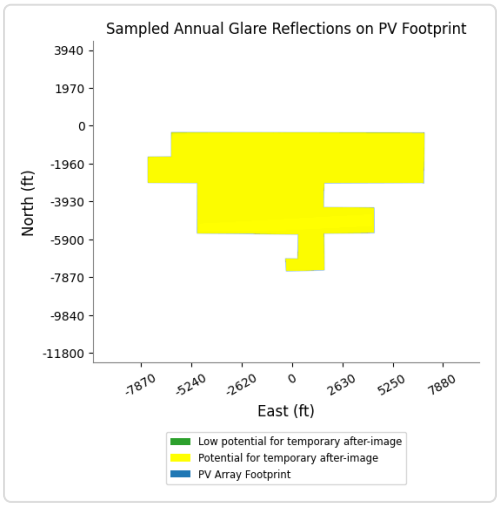
Green glare: 27,927 min.







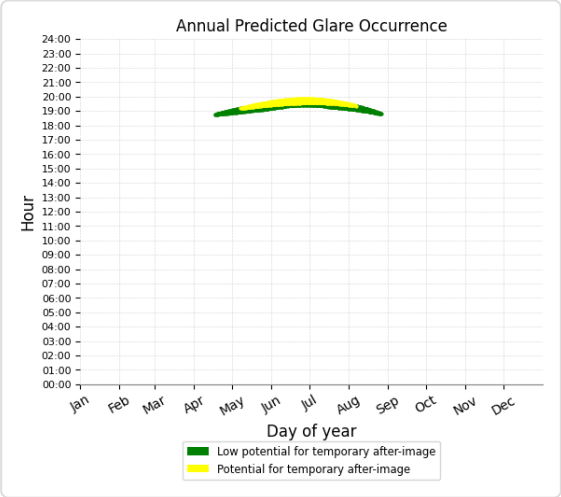


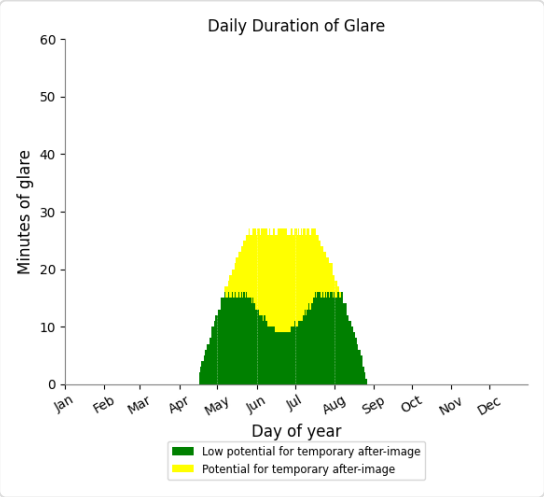


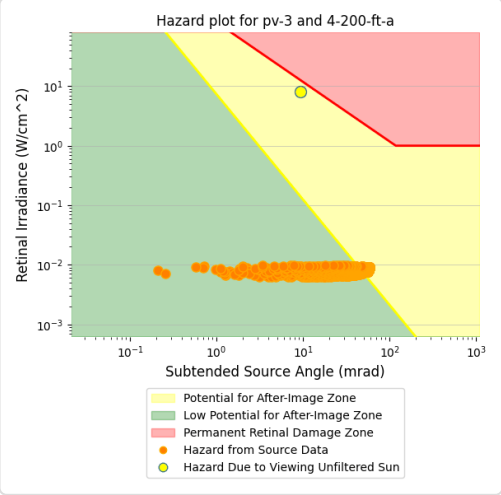
PV 3 and Route: 4 - 200 ft agl

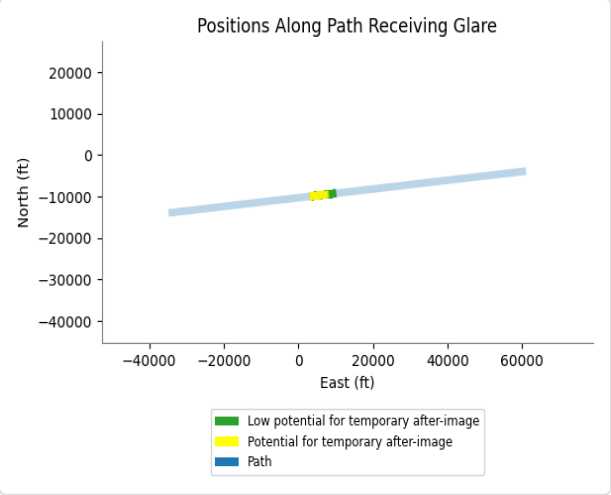
Yellow glare: 1,042 min.

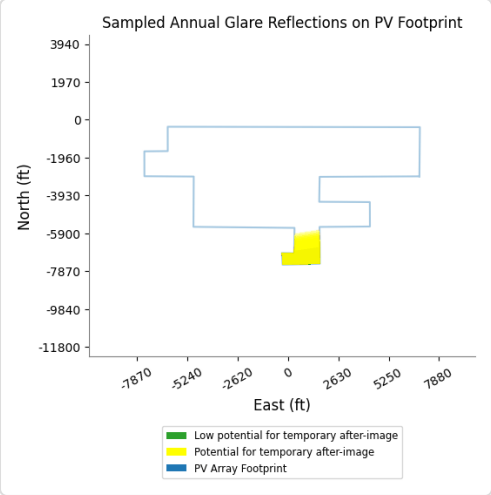
Green glare: 1,560 min.







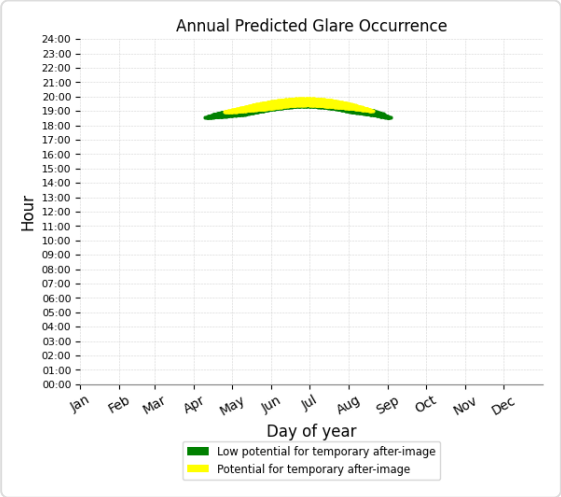


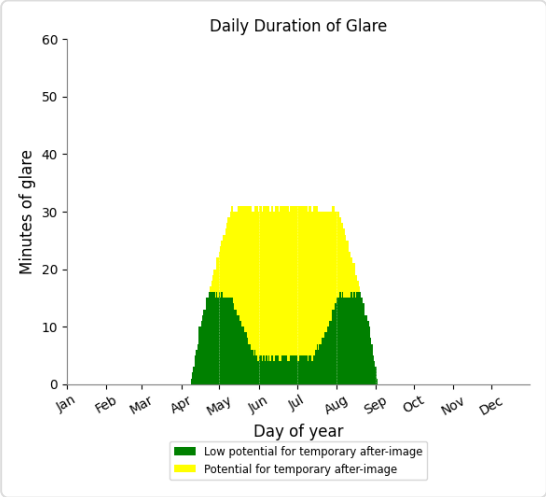


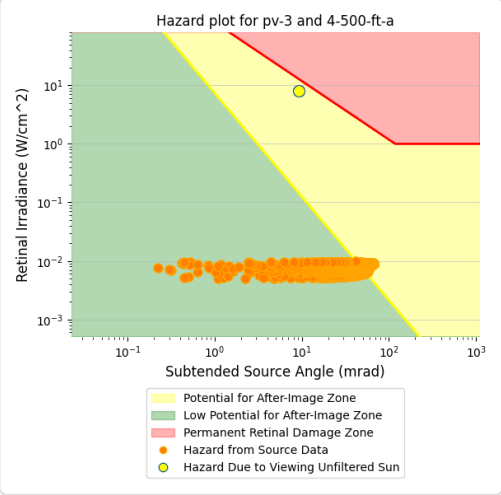
PV 3 and Route: 4 - 500 ft agl

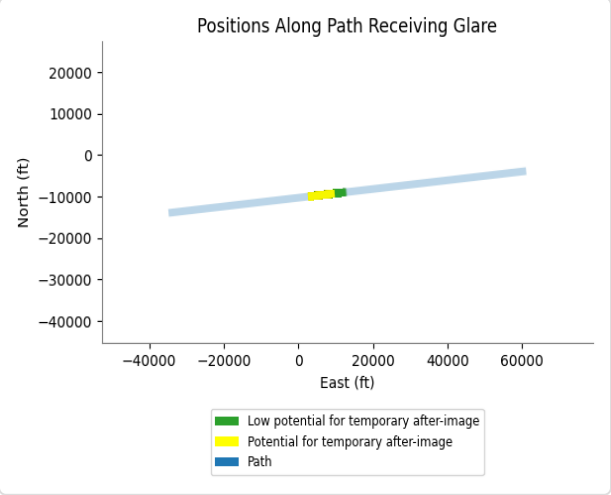
Yellow glare: 2,275 min.

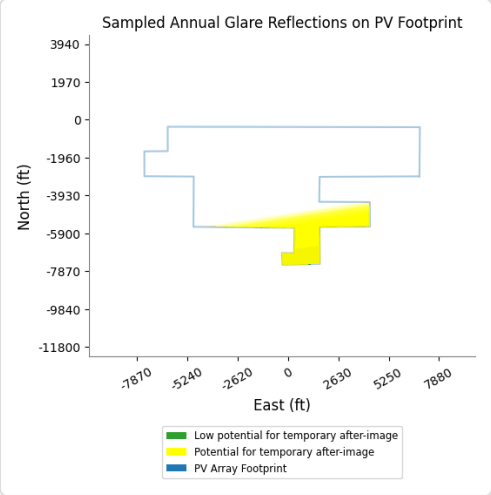
Green glare: 1,378 min.











PV 3 and Route: 1 - 200 ft agl

No glare found

PV 3 and Route: 1 - 500 ft agl

No glare found

PV 3 and Route: 5 - 500 ft agl

No glare found

PV: PV 4 potential temporary after-image

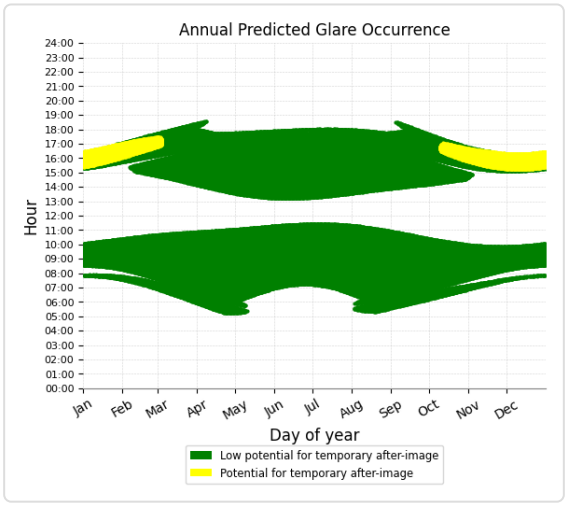
Receptor results ordered by category of glare

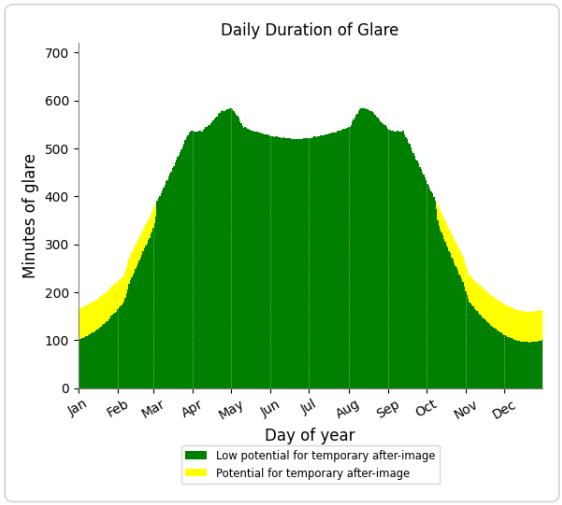
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
3 - 200 ft agl	140,704	2,345.1	8,297	138.3
3 - 500 ft amsl	137,453	2,290.9	8,202	136.7
4 - 200 ft agl	1,626	27.1	1,397	23.3
4 - 500 ft agl	1,982	33.0	2,535	42.2
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
2 - 200 ft agl	0	0.0	0	0.0
2 - 500 ft agl	0	0.0	0	0.0
5 - 500 ft agl	0	0.0	0	0.0

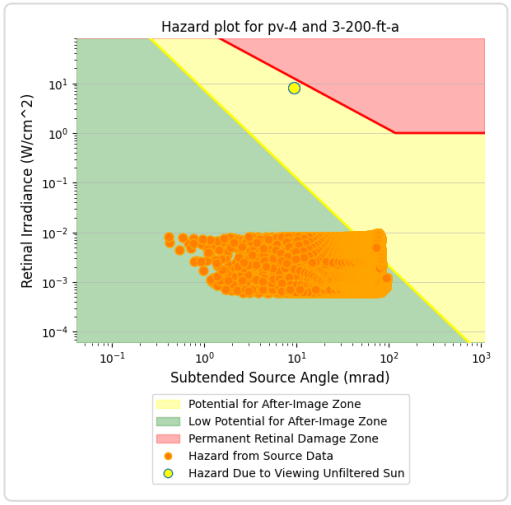
PV 4 and Route: 3 - 200 ft agl

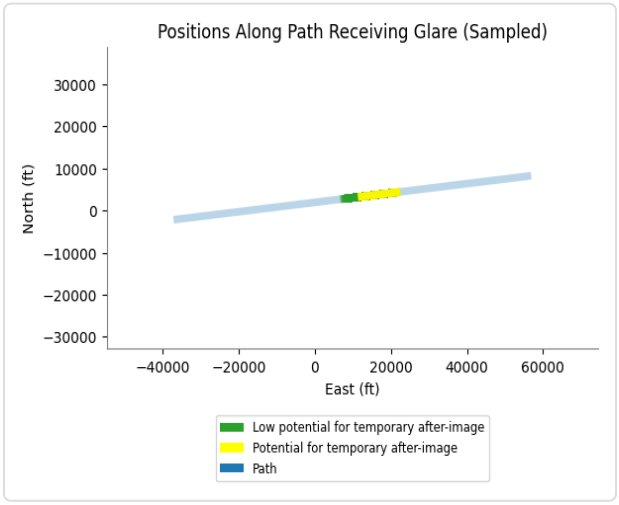
Yellow glare: 8,297 min.

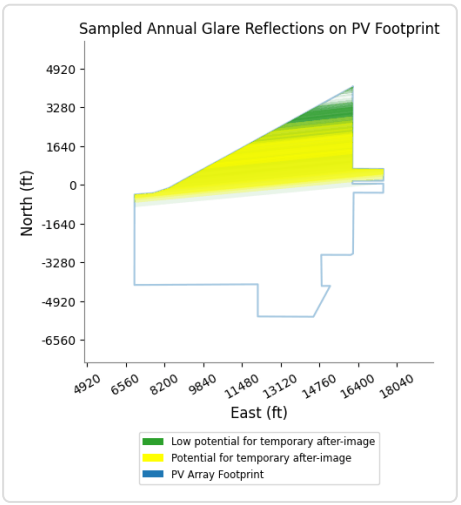
Green glare: 140,704 min.







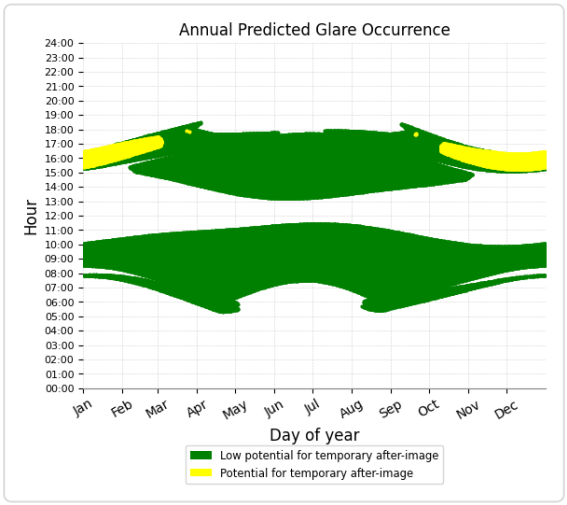


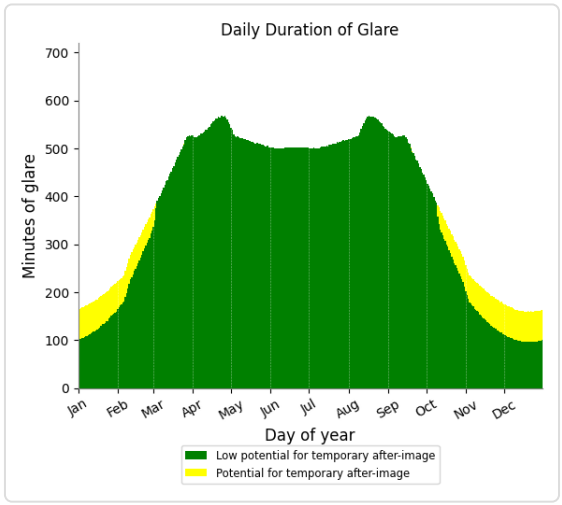


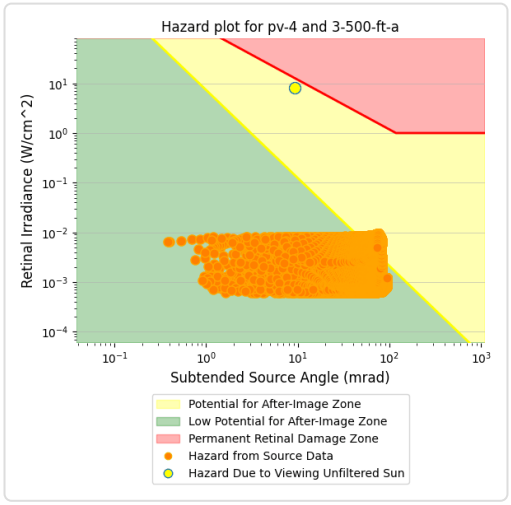
PV 4 and Route: 3 - 500 ft amsl

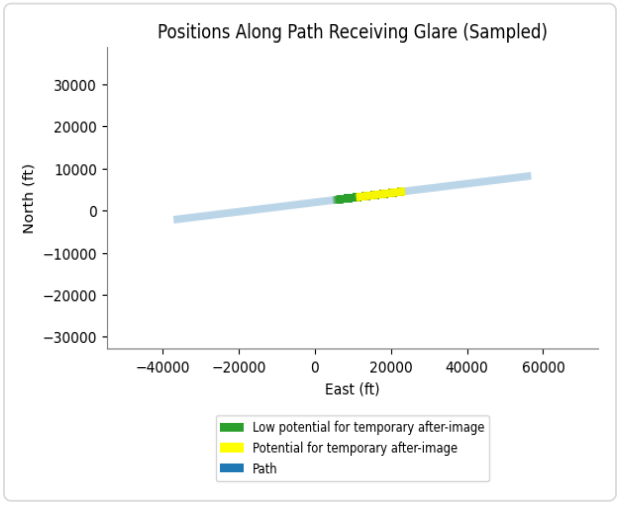
Yellow glare: 8,202 min.

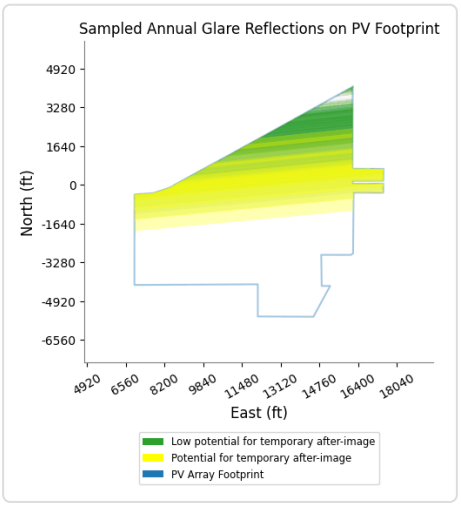
Green glare: 137,453 min.







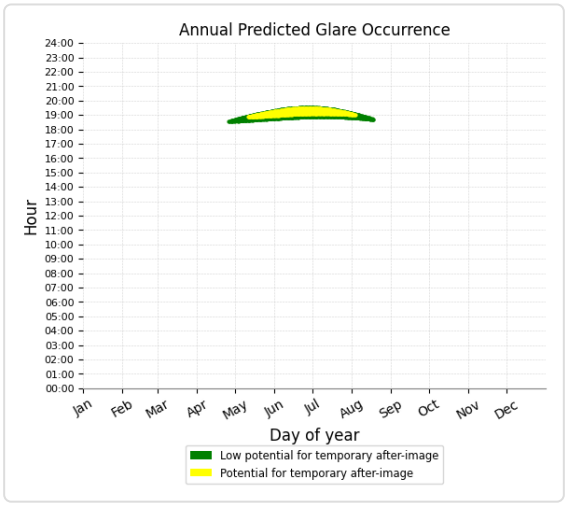


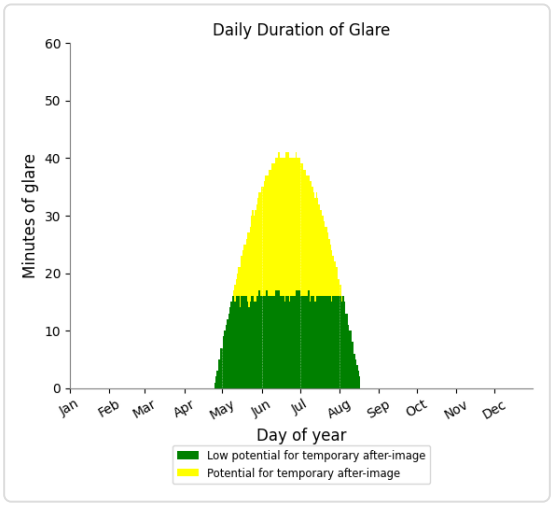


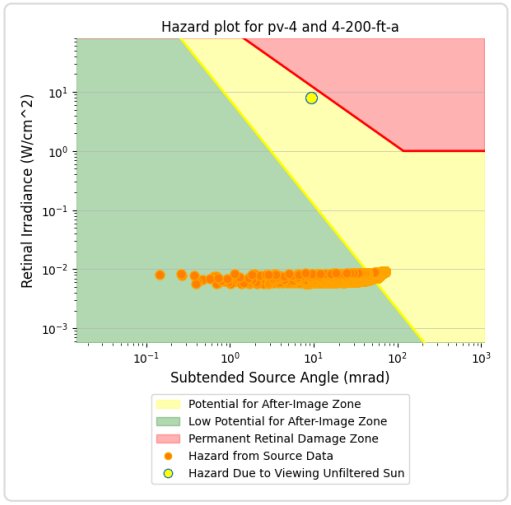
PV 4 and Route: 4 - 200 ft agl

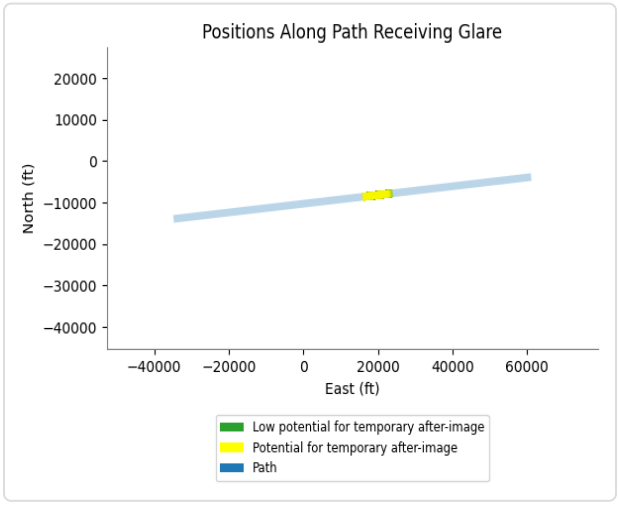
Yellow glare: 1,397 min.

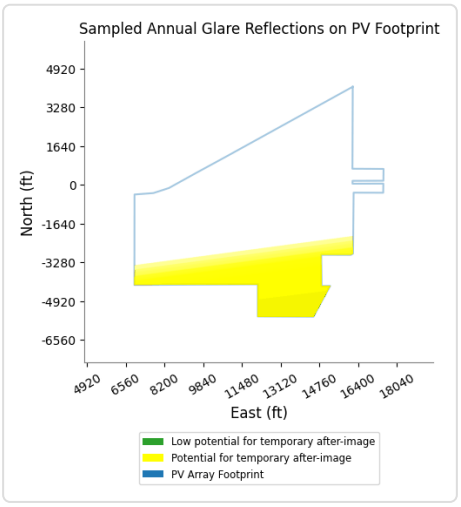
Green glare: 1,626 min.







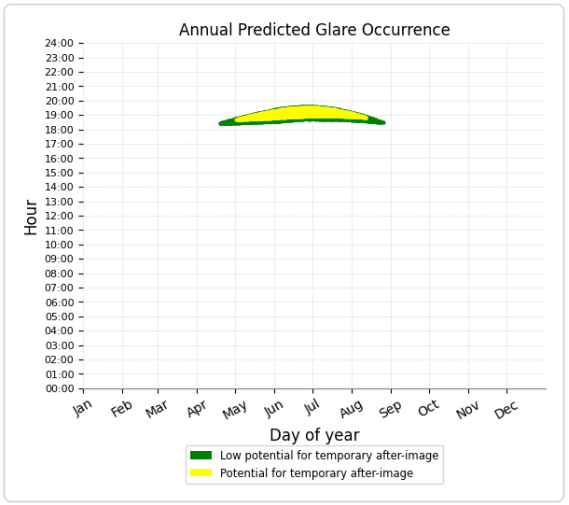


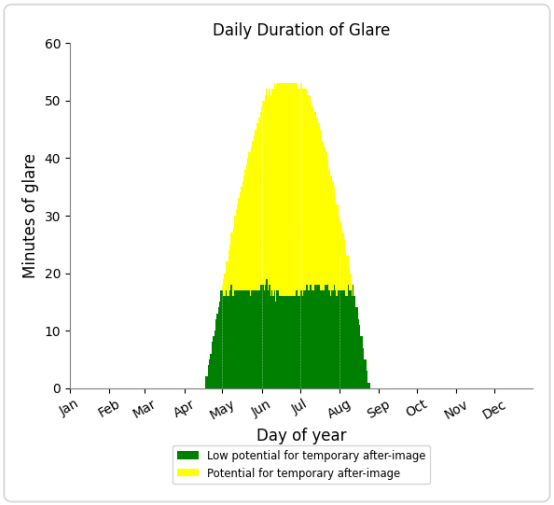


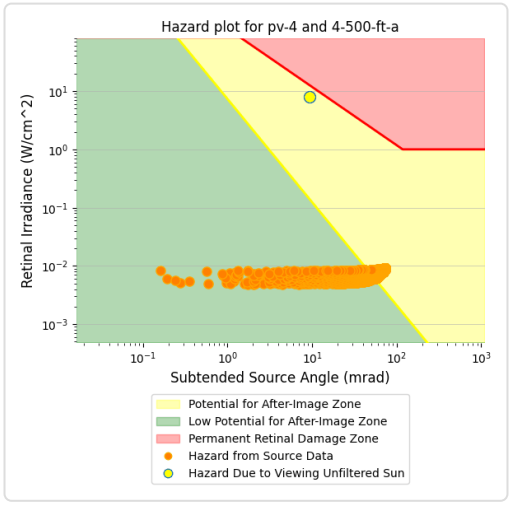
PV 4 and Route: 4 - 500 ft agl

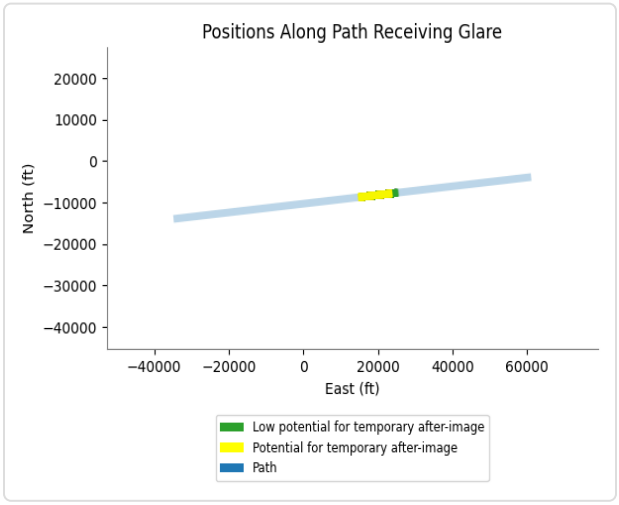
Yellow glare: 2,535 min.

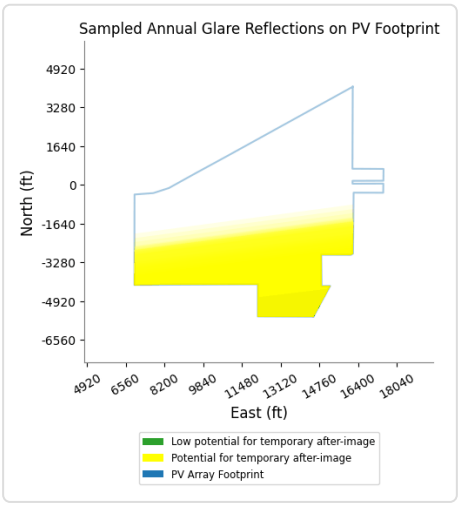
Green glare: 1,982 min.











PV 4 and Route: 1 - 200 ft agl

No glare found

PV 4 and Route: 1 - 500 ft agl

No glare found

PV 4 and Route: 2 - 200 ft agl

No glare found

PV 4 and Route: 2 - 500 ft agl

No glare found

PV 4 and Route: 5 - 500 ft agl

No glare found

PV: PV 5 potential temporary after-image

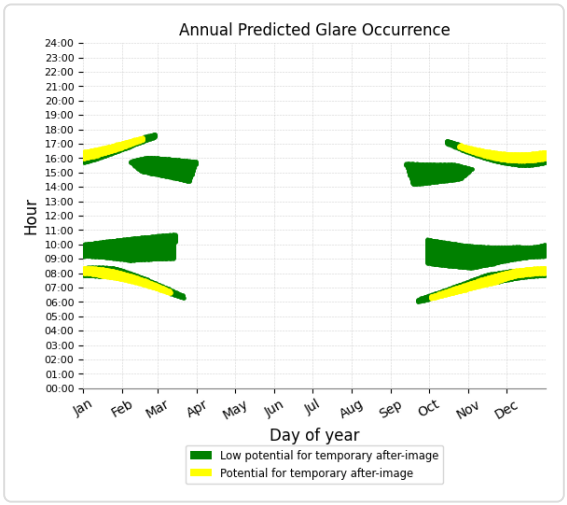
Receptor results ordered by category of glare

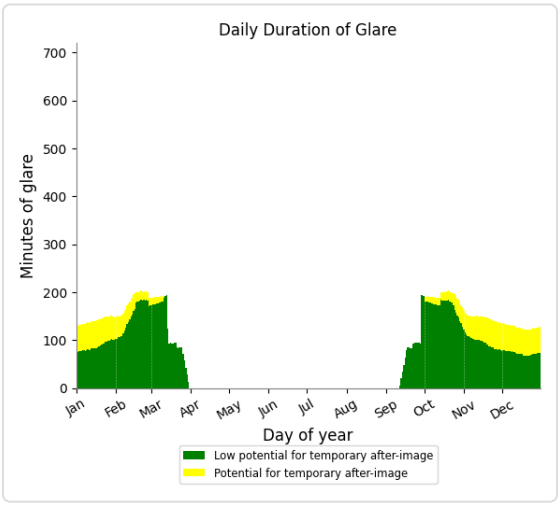
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
3 - 200 ft agl	22,665	377.8	6,552	109.2
3 - 500 ft amsl	31,254	520.9	6,174	102.9
4 - 200 ft agl	644	10.7	102	1.7
4 - 500 ft agl	1,084	18.1	487	8.1
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
2 - 200 ft agl	0	0.0	0	0.0
2 - 500 ft agl	0	0.0	0	0.0
5 - 500 ft agl	0	0.0	0	0.0

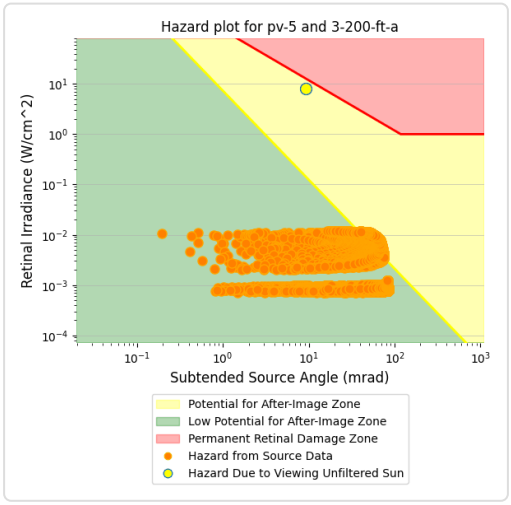
PV 5 and Route: 3 - 200 ft agl

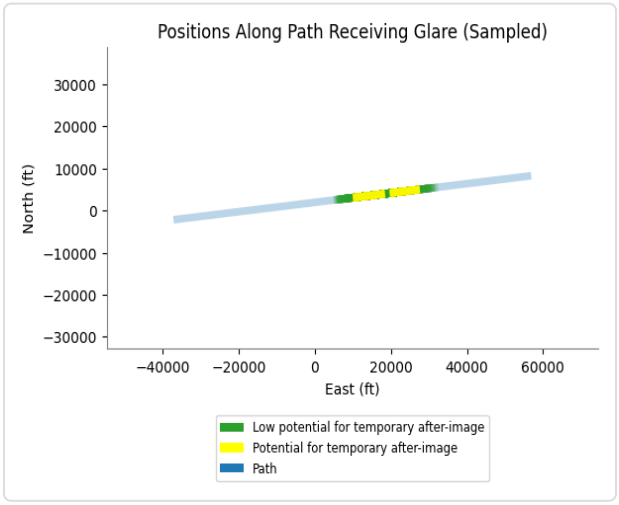
Yellow glare: 6,552 min.

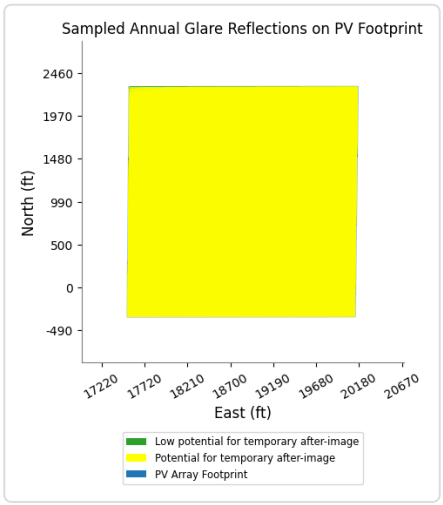
Green glare: 22,665 min.







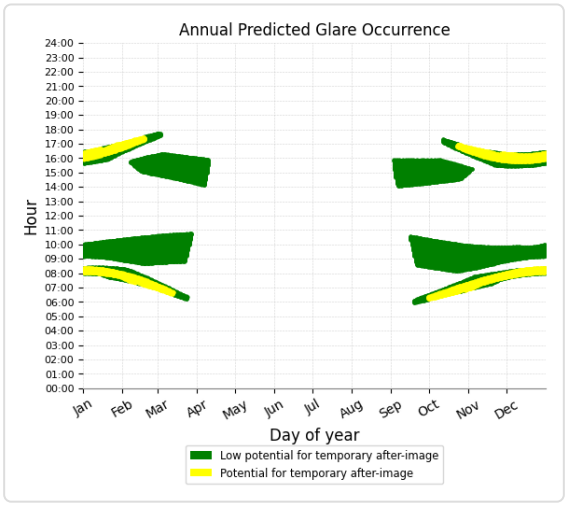


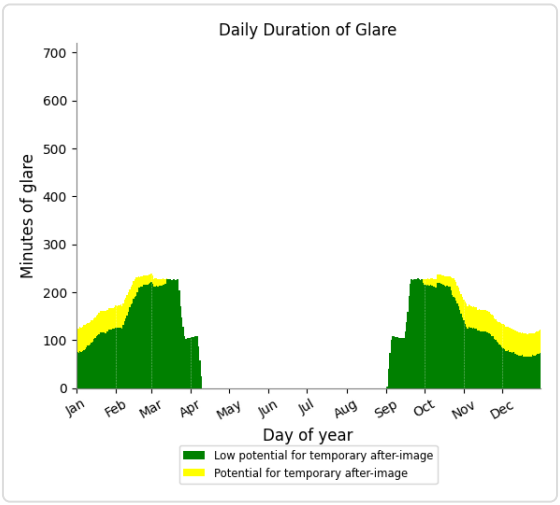


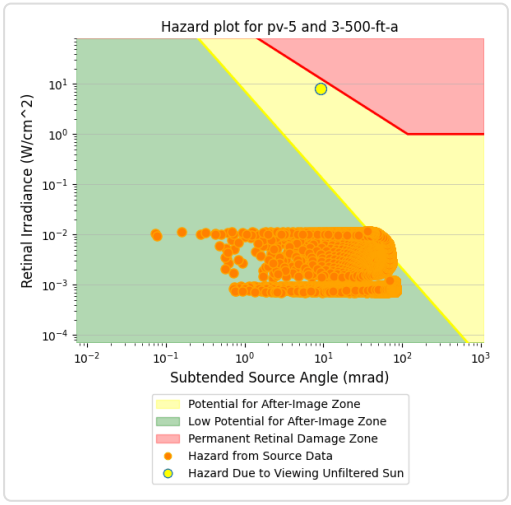
PV 5 and Route: 3 - 500 ft amsl

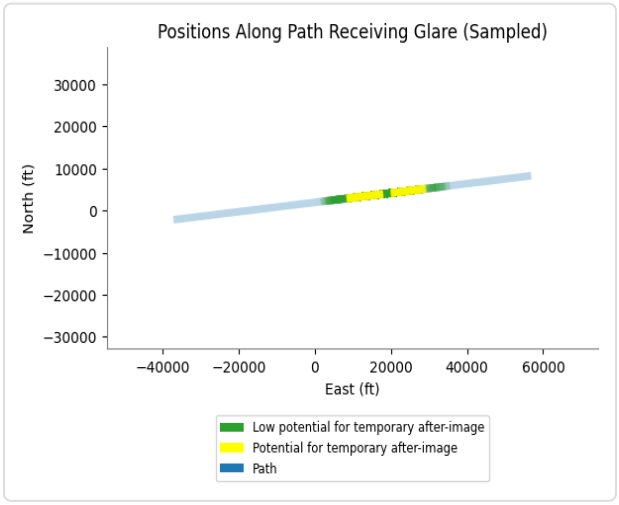
Yellow glare: 6,174 min.

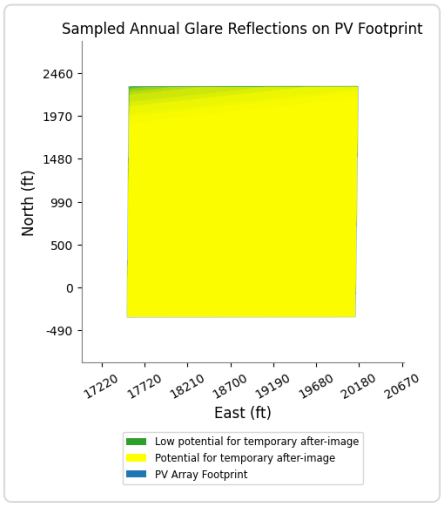
Green glare: 31,254 min.







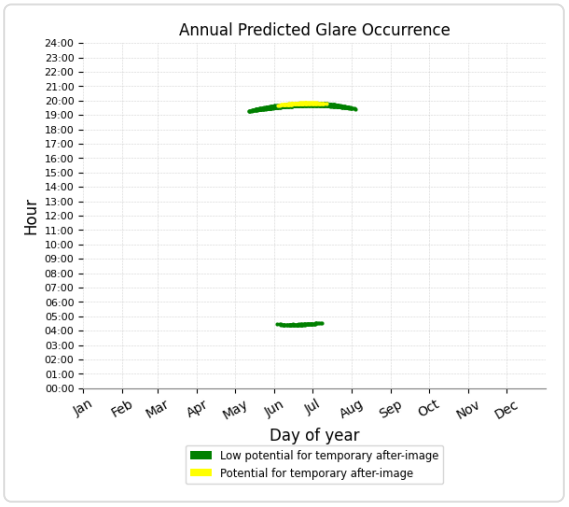


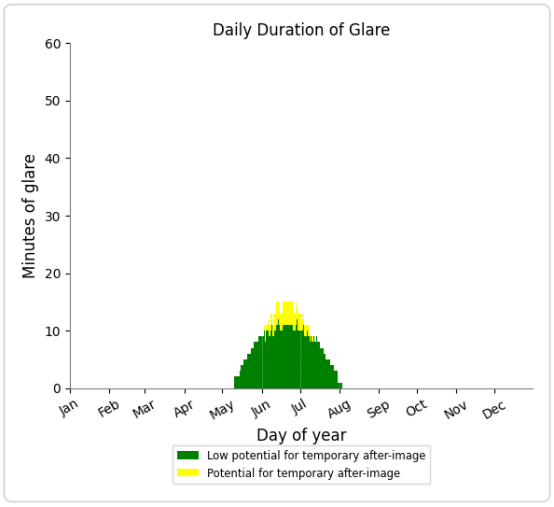


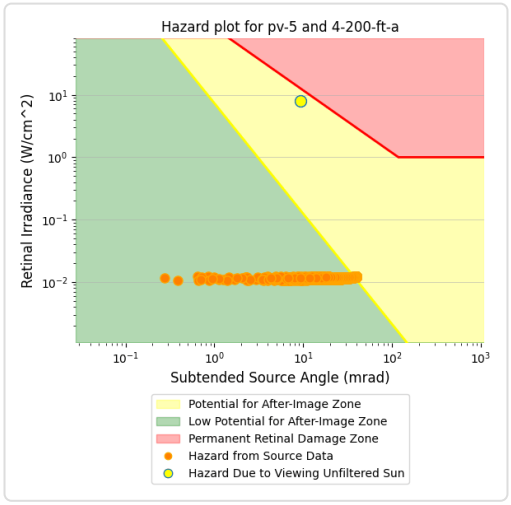
PV 5 and Route: 4 - 200 ft agl

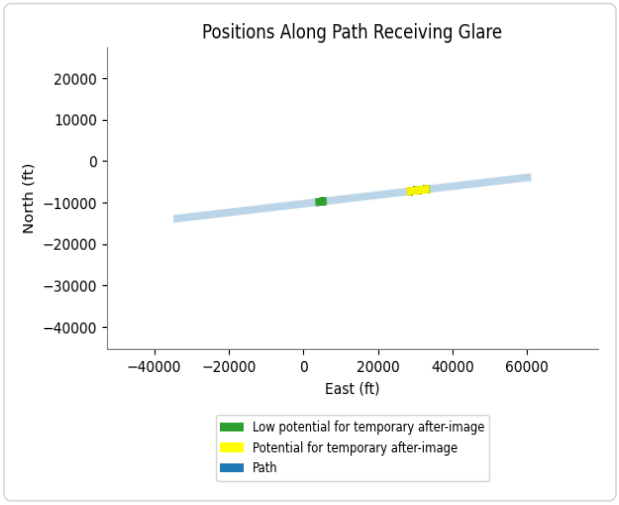
Yellow glare: 102 min.

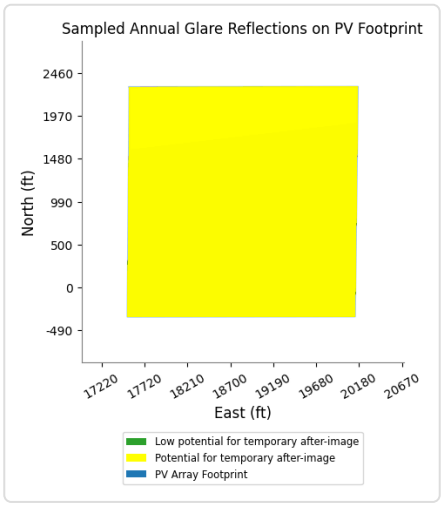
Green glare: 644 min.







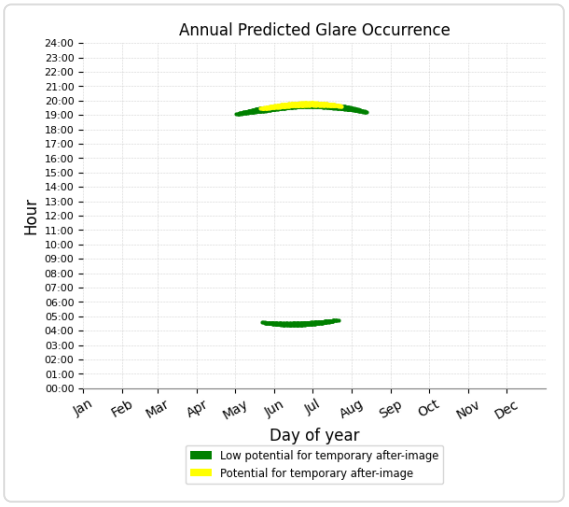


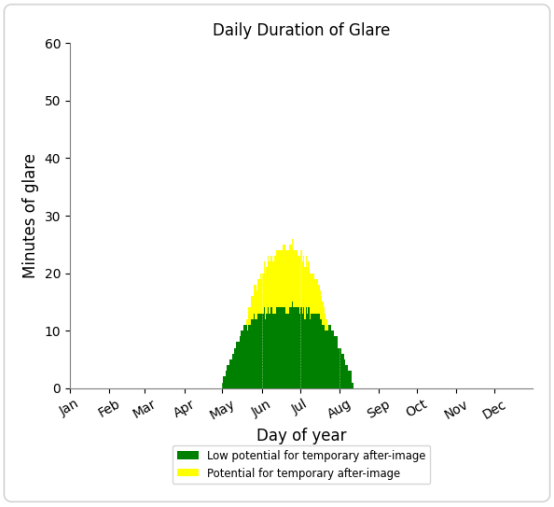


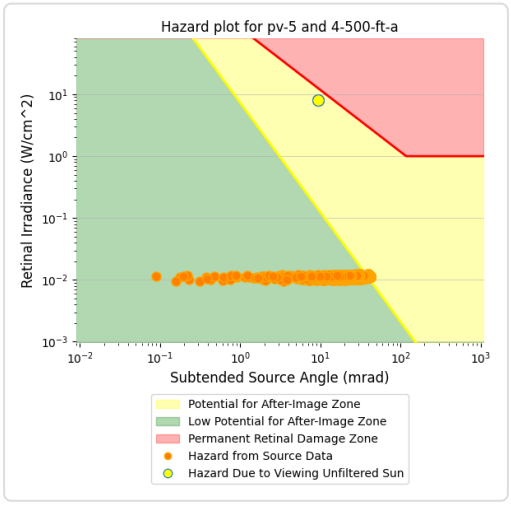
PV 5 and Route: 4 - 500 ft agl

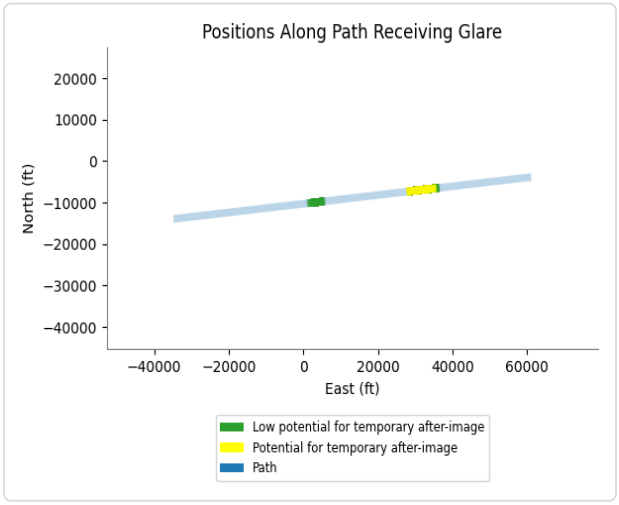
Yellow glare: 487 min.

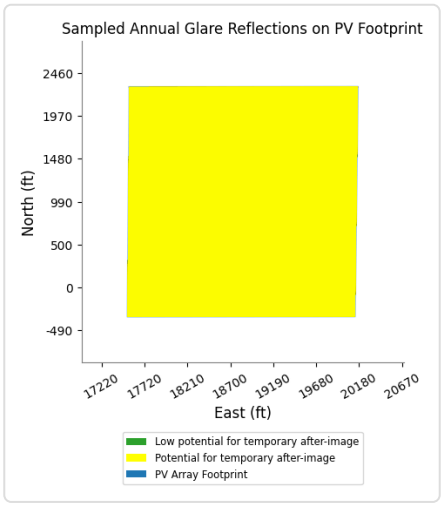
Green glare: 1,084 min.











PV 5 and Route: 1 - 200 ft agl

No glare found

PV 5 and Route: 1 - 500 ft agl

No glare found

PV 5 and Route: 2 - 200 ft agl

No glare found

PV 5 and Route: 2 - 500 ft agl

No glare found

PV 5 and Route: 5 - 500 ft agl

No glare found

PV: PV 6 potential temporary after-image

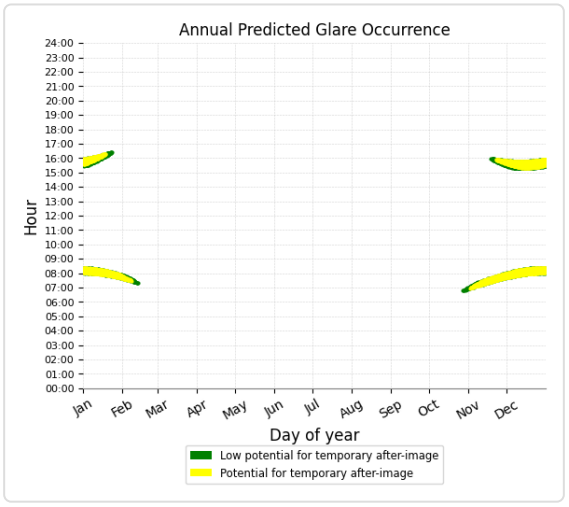
Receptor results ordered by category of glare

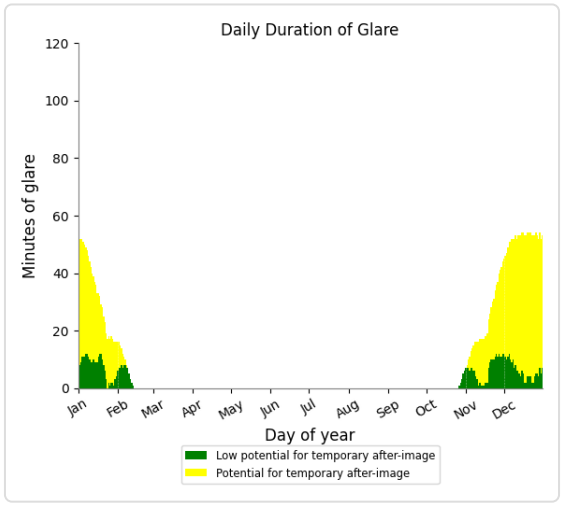
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 200 ft agl	720	12.0	2,758	46.0
2 - 500 ft agl	739	12.3	3,346	55.8
3 - 200 ft agl	1,971	32.9	6,353	105.9
3 - 500 ft amsl	2,605	43.4	7,288	121.5
4 - 200 ft agl	120,864	2,014.4	22,421	373.7
4 - 500 ft agl	121,291	2,021.5	19,714	328.6
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
5 - 500 ft agl	0	0.0	0	0.0

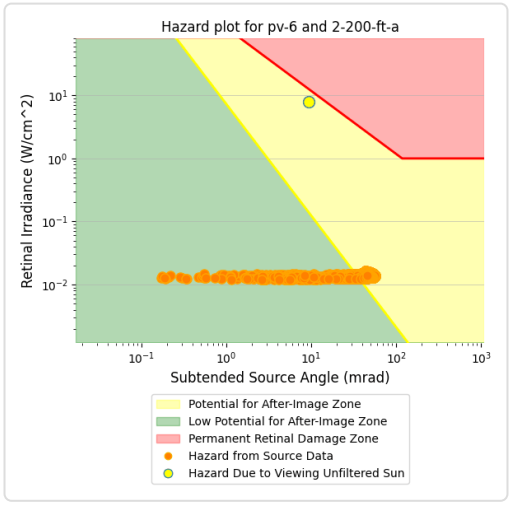
PV 6 and Route: 2 - 200 ft agl

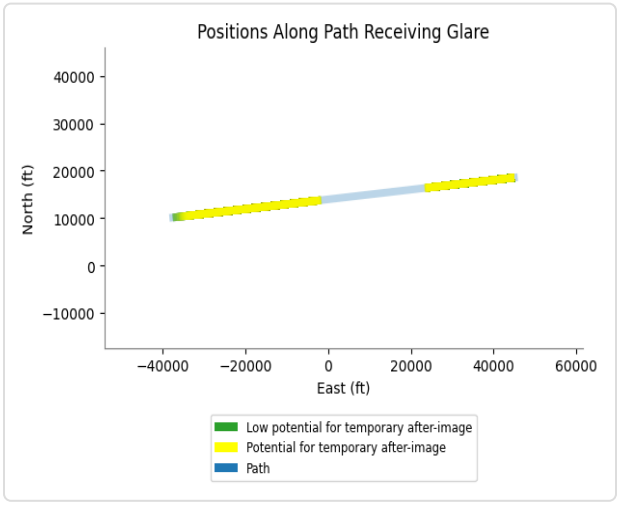
Yellow glare: 2,758 min.

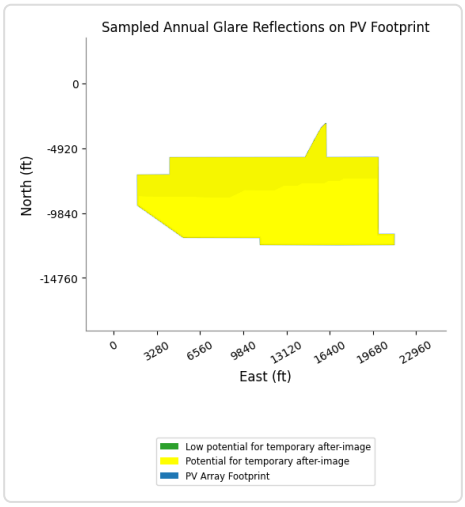
Green glare: 720 min.







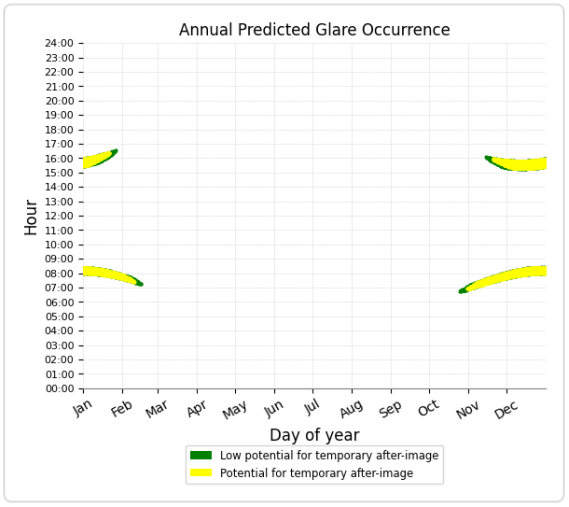


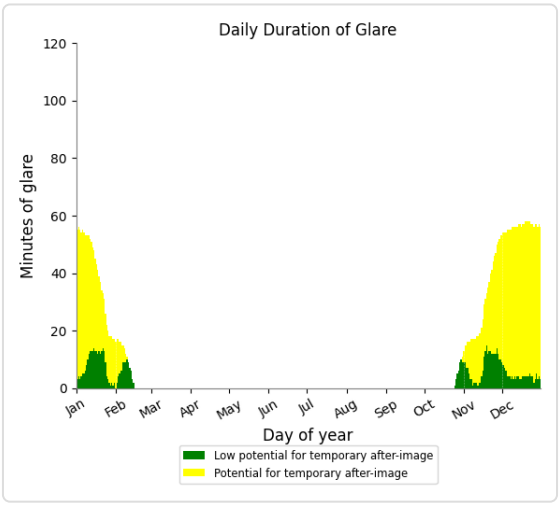


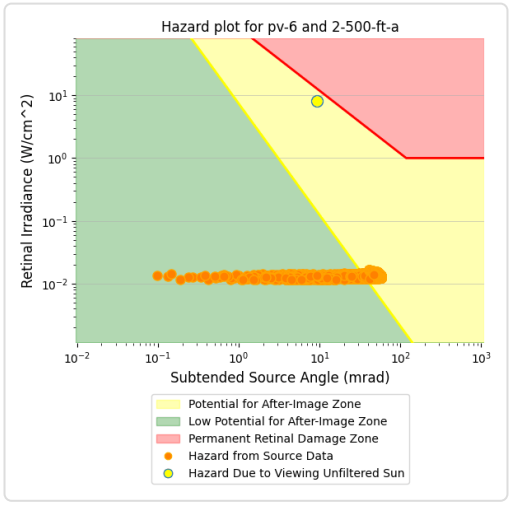
PV 6 and Route: 2 - 500 ft agl

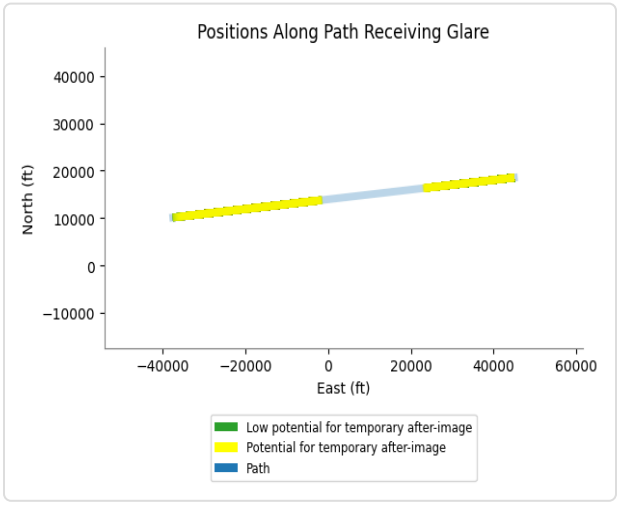
Yellow glare: 3,346 min.

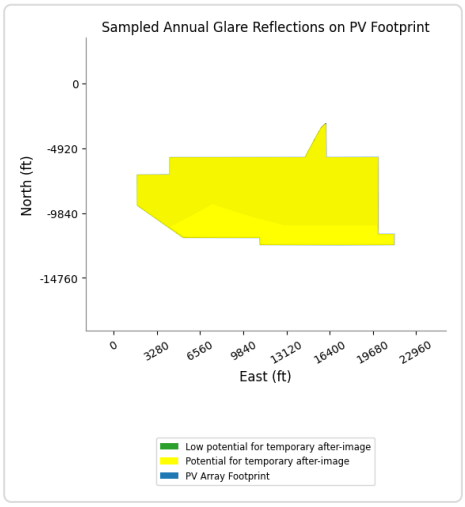
Green glare: 739 min.







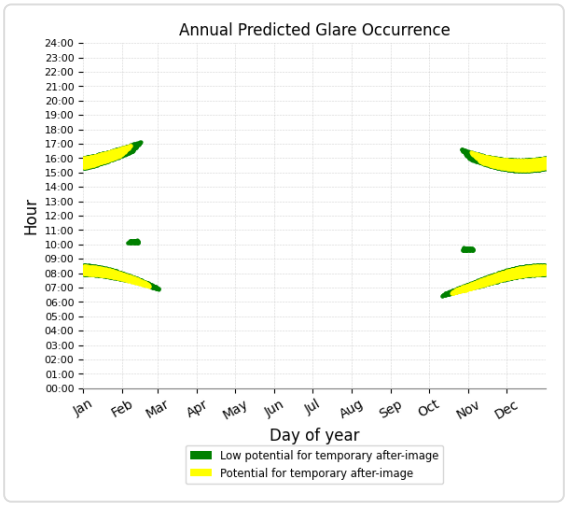


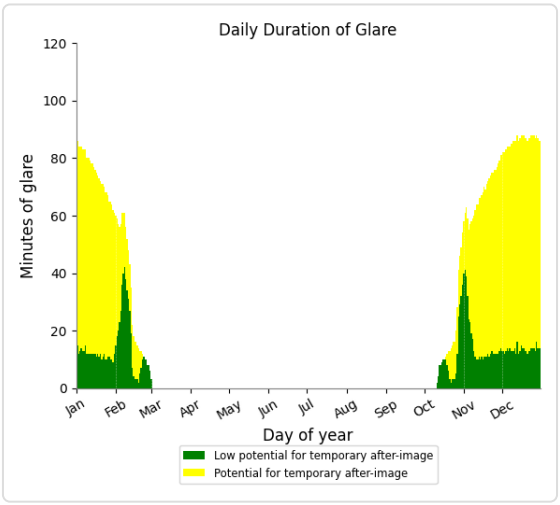


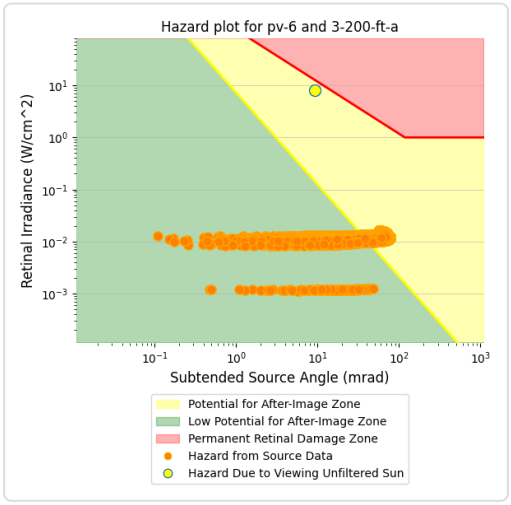
PV 6 and Route: 3 - 200 ft agl

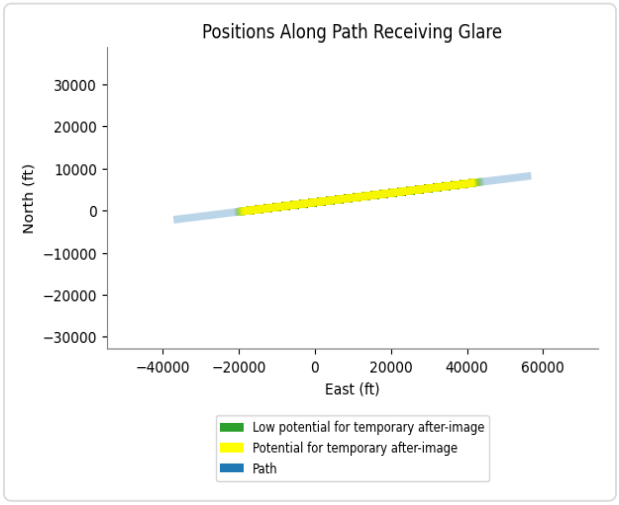
Yellow glare: 6,353 min.

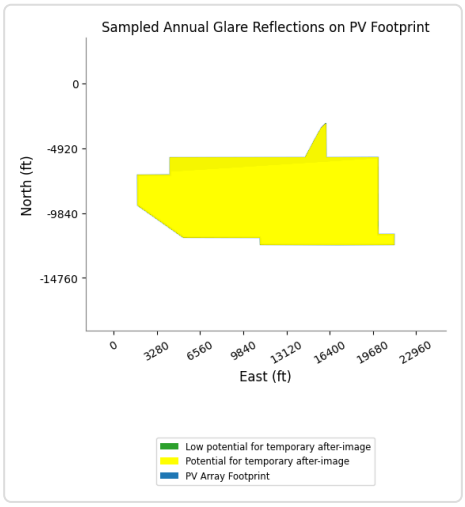
Green glare: 1,971 min.







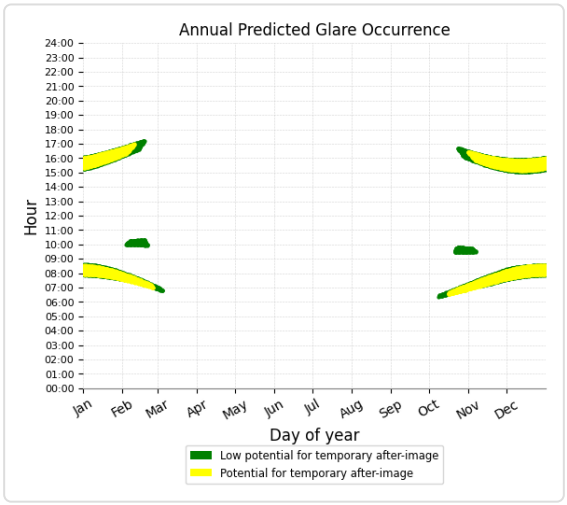


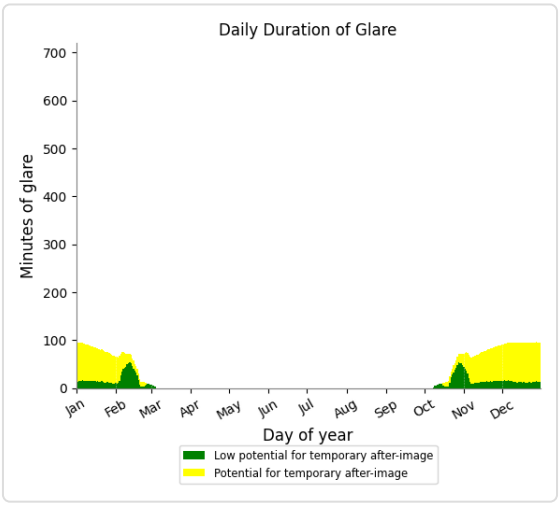


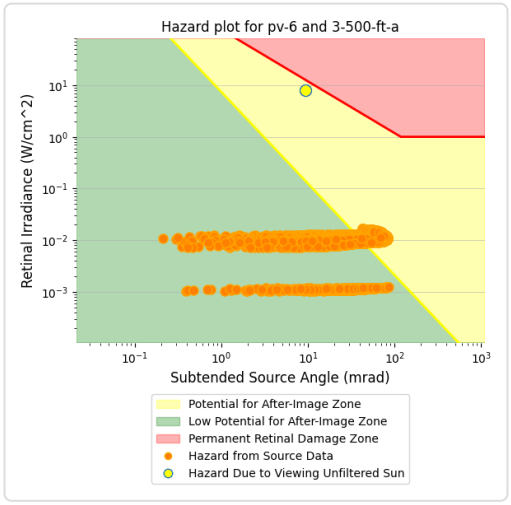
PV 6 and Route: 3 - 500 ft amsl

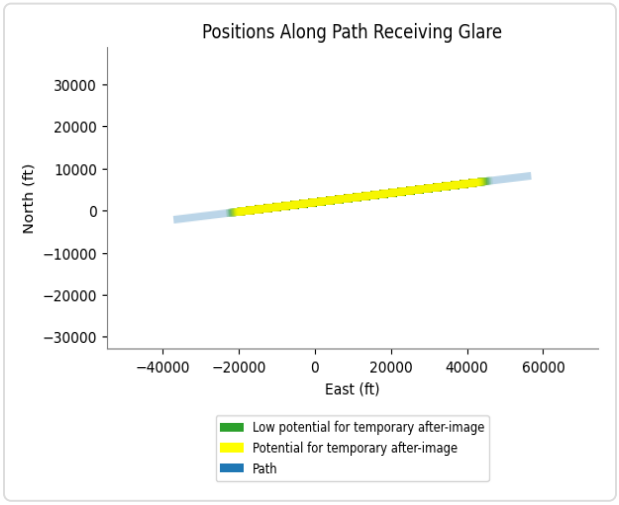
Yellow glare: 7,288 min.

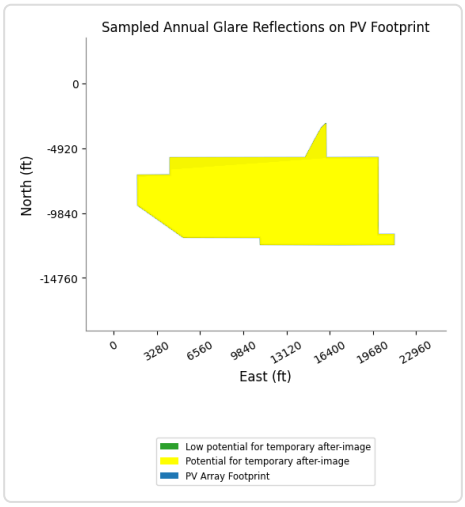
Green glare: 2,605 min.







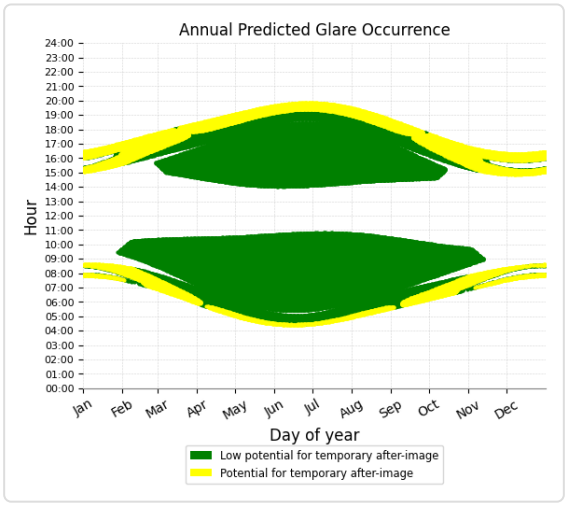


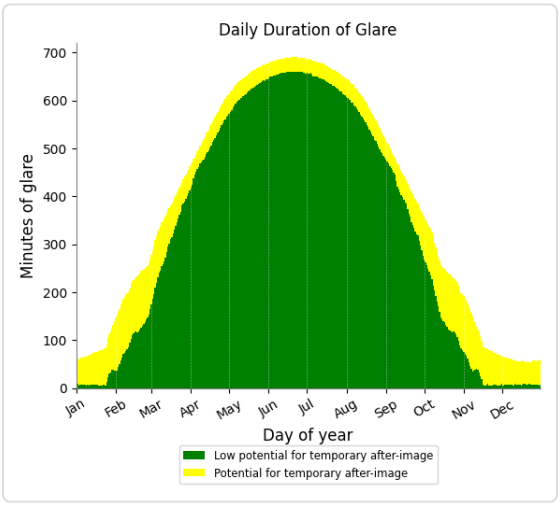


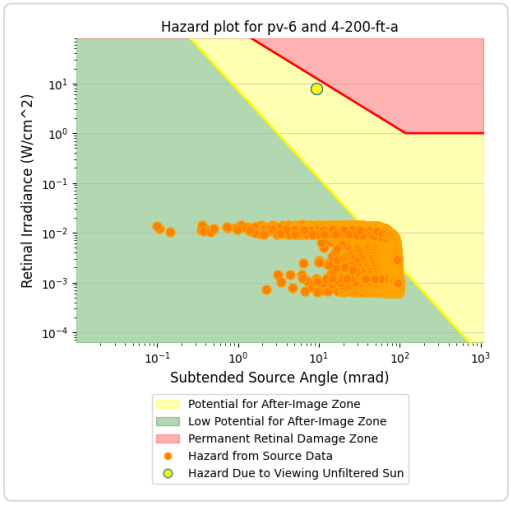
PV 6 and Route: 4 - 200 ft agl

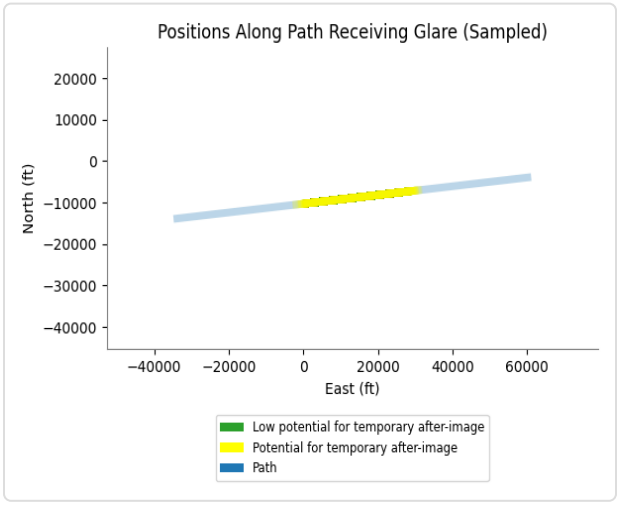
Yellow glare: 22,421 min.

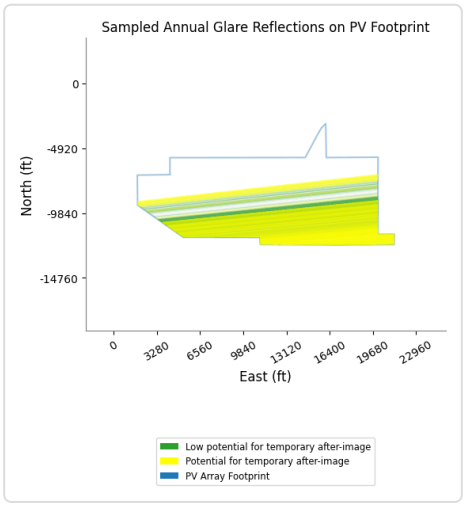
Green glare: 120,864 min.





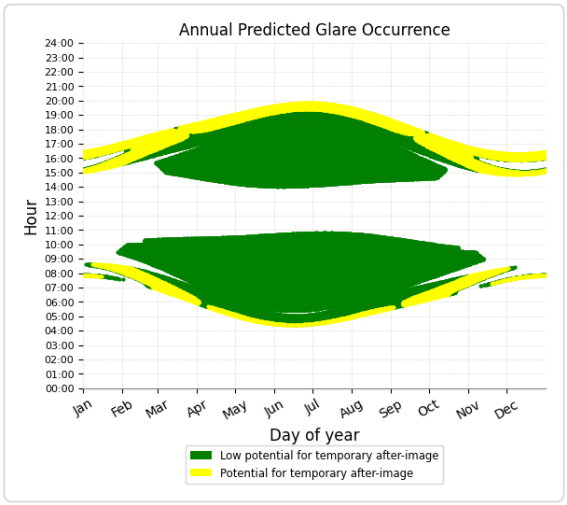


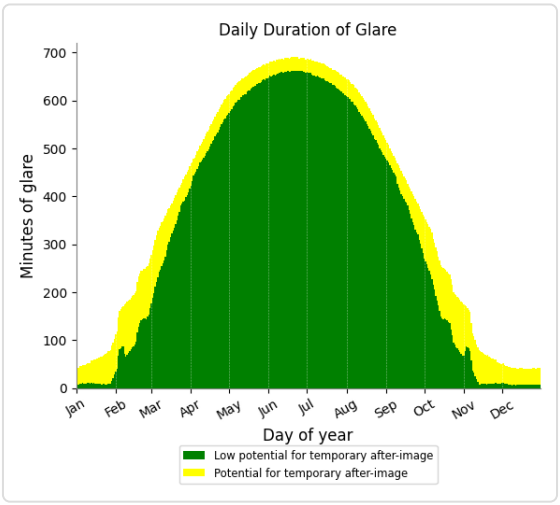


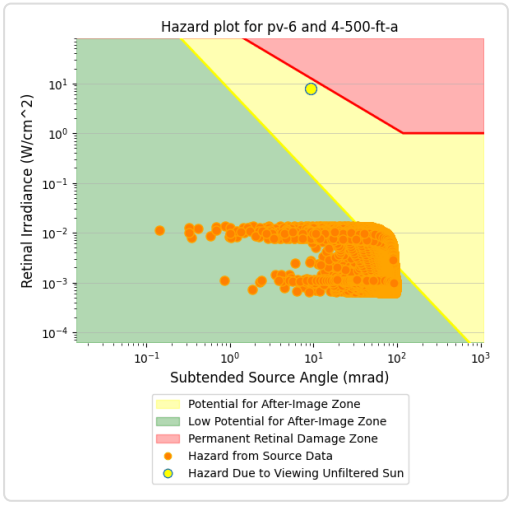


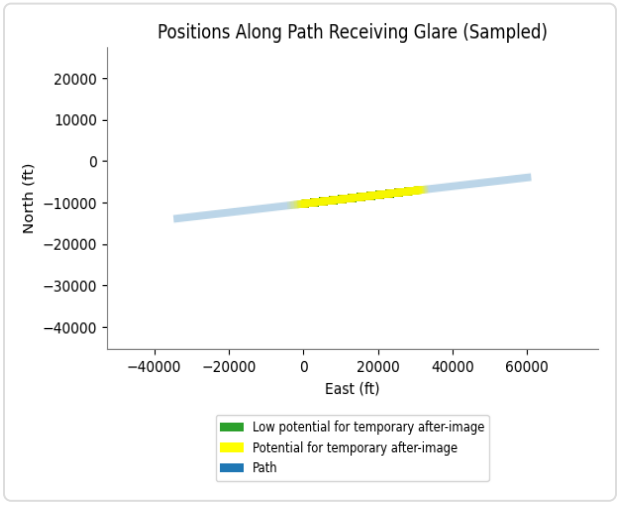
PV 6 and Route: 4 - 500 ft agl

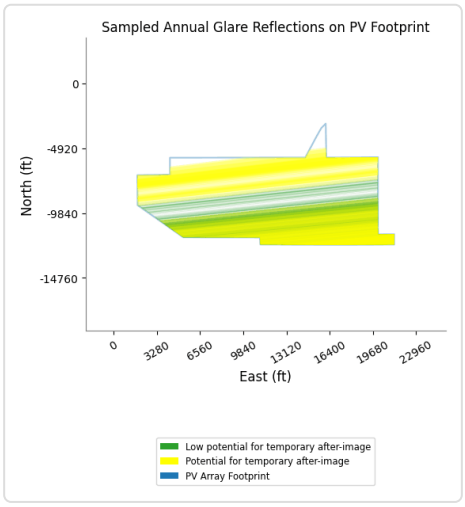
Yellow glare: 19,714 min.
Green glare: 121,291 min.











PV 6 and Route: 1 - 200 ft agl

No glare found

PV 6 and Route: 1 - 500 ft agl

No glare found

PV 6 and Route: 5 - 500 ft agl

No glare found

PV: PV 7 potential temporary after-image

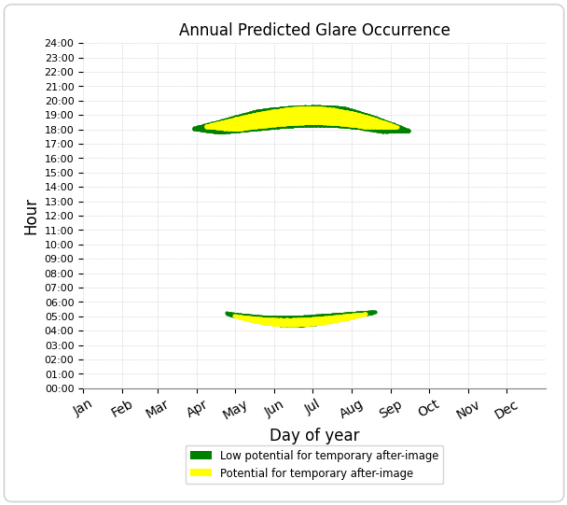
Receptor results ordered by category of glare

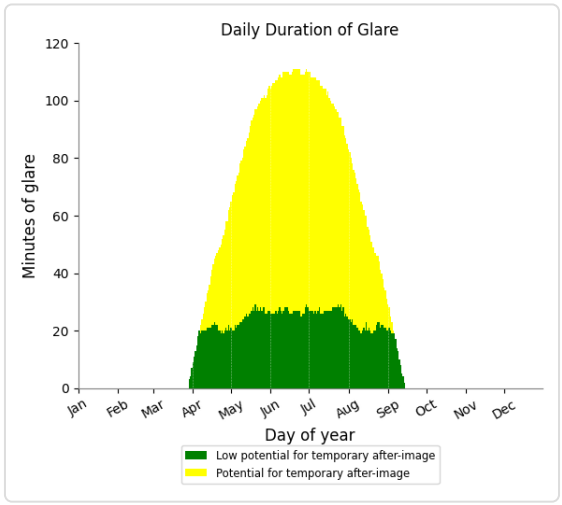
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
4 - 200 ft agl	3,868	64.5	8,396	139.9
4 - 500 ft agl	6,046	100.8	9,336	155.6
1 - 200 ft agl	0	0.0	0	0.0
1 - 500 ft agl	0	0.0	0	0.0
2 - 200 ft agl	0	0.0	0	0.0
2 - 500 ft agl	0	0.0	0	0.0
3 - 200 ft agl	0	0.0	0	0.0
3 - 500 ft amsl	0	0.0	0	0.0
5 - 500 ft agl	0	0.0	0	0.0

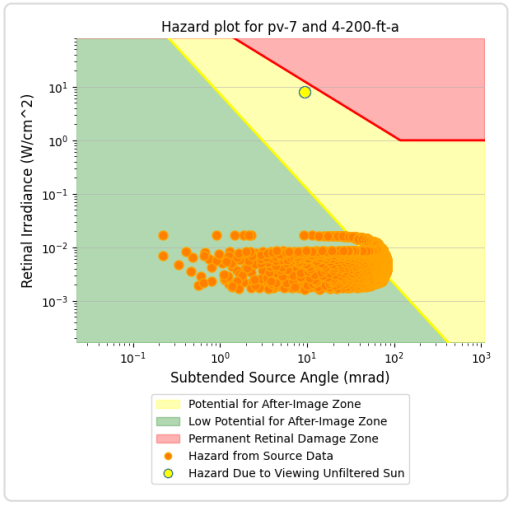
PV 7 and Route: 4 - 200 ft agl

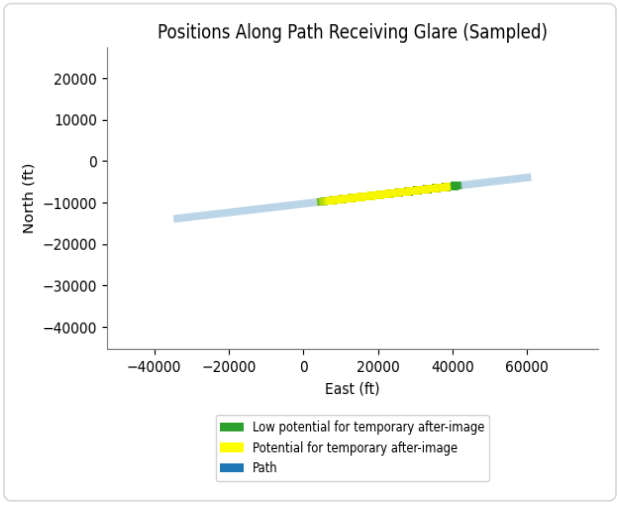
Yellow glare: 8,396 min.

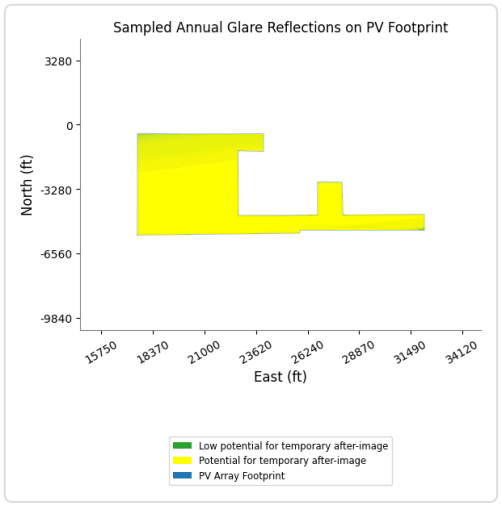
Green glare: 3,868 min.





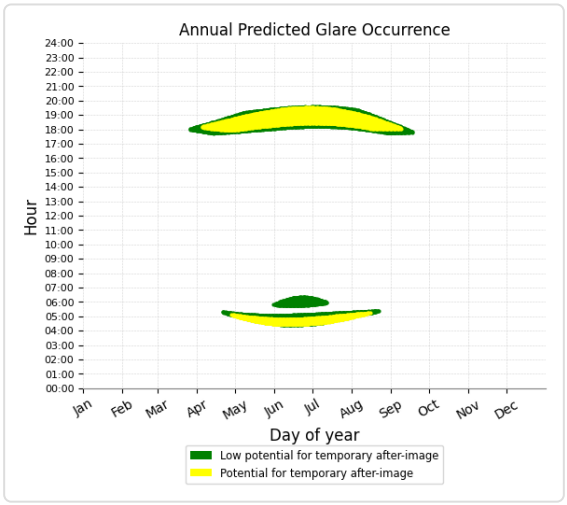


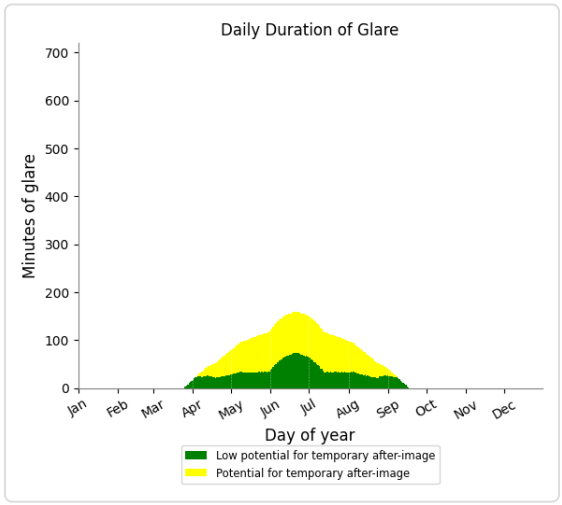


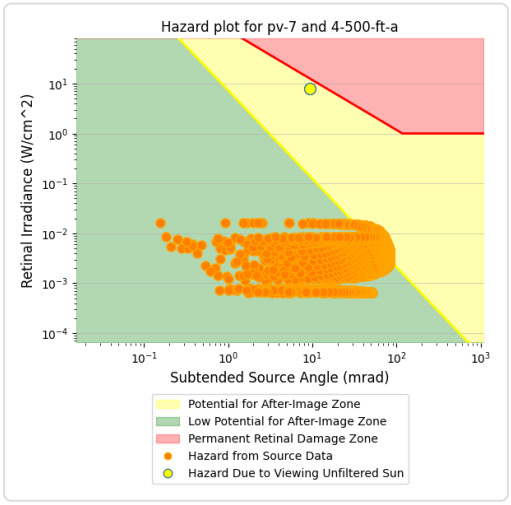


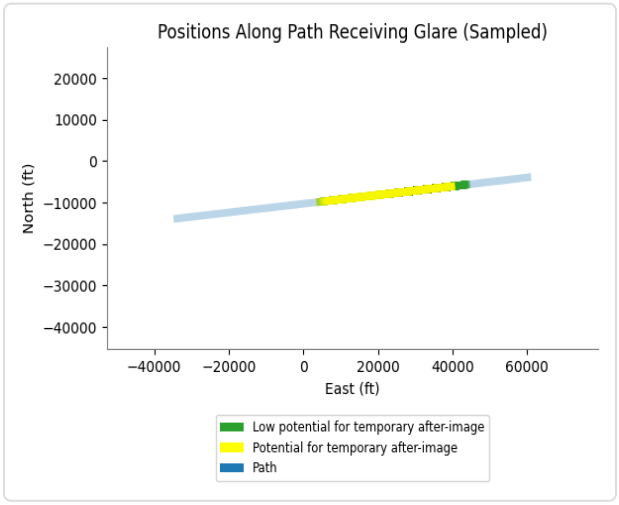
PV 7 and Route: 4 - 500 ft agl

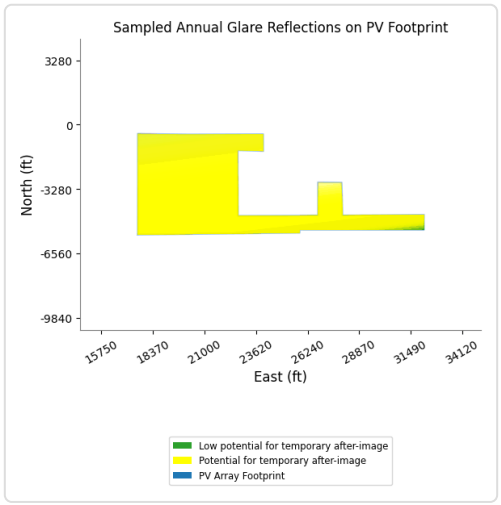
Yellow glare: 9,336 min.
Green glare: 6,046 min.











PV 7 and Route: 1 - 200 ft agl

No glare found

PV 7 and Route: 1 - 500 ft agl

No glare found

PV 7 and Route: 2 - 200 ft agl

No glare found

PV 7 and Route: 2 - 500 ft agl

No glare found

PV 7 and Route: 3 - 200 ft agl

No glare found

PV 7 and Route: 3 - 500 ft amsl

No glare found

PV 7 and Route: 5 - 500 ft agl

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.
Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.
Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.
The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.
The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.
The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FORGESOLAR GLARE ANALYSIS

Project: **Deschutes Solar OR North**

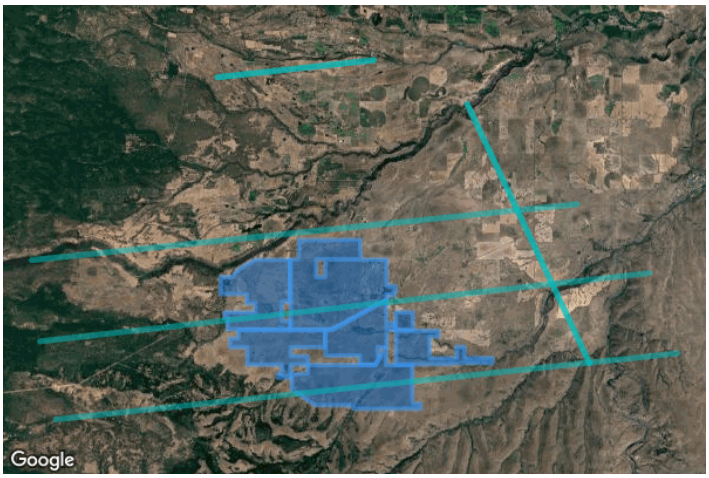
Site split between two analyses because site layout exceeded 3.1 mile radius. This analysis covers the area north of SR 216.

Site configuration: **3000 and 4000 ft amsl**

Client: BrightNight

Created 14 Jul, 2025
Updated 14 Jul, 2025
Time-step 1 minute
Timezone offset UTC-8
Minimum sun altitude 0.0 deg
DNI peaks at 1,000.0 W/m^2
Category 100 MW to 1 GW
Site ID 154753.25325

Ocular transmission coefficient 0.5
Pupil diameter 0.002 m
Eye focal length 0.017 m
Sun subtended angle 9.3 mrad
PV analysis methodology V2



Summary of Results

Glare with potential for temporary after-image predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV 1	SA tracking	SA tracking	148,582	2,476.4	16,962	282.7	-
PV 2	SA tracking	SA tracking	195,811	3,263.5	30,588	509.8	-
PV 3	SA tracking	SA tracking	39,222	653.7	18,081	301.4	-
PV 4	SA tracking	SA tracking	137,474	2,291.2	11,490	191.5	-
PV 5	SA tracking	SA tracking	42,587	709.8	5,160	86.0	-
PV 6	SA tracking	SA tracking	126,514	2,108.6	29,866	497.8	-
PV 7	SA tracking	SA tracking	10,866	181.1	9,935	165.6	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

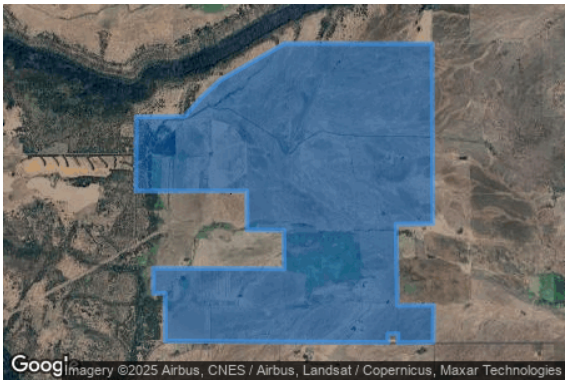
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 4000 ft amsl	76,824	1,280.4	25,293	421.6
3 - 4000 ft amsl	485,842	8,097.4	62,657	1,044.3
4 - 4000 ft amsl	137,548	2,292.5	34,132	568.9
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	842	14.0	0	0.0

Component Data

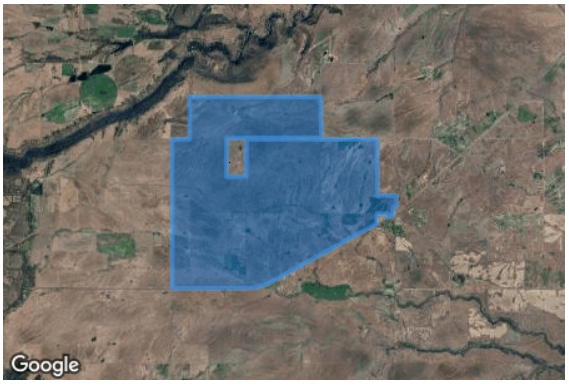
PV Arrays

Name: PV 1
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



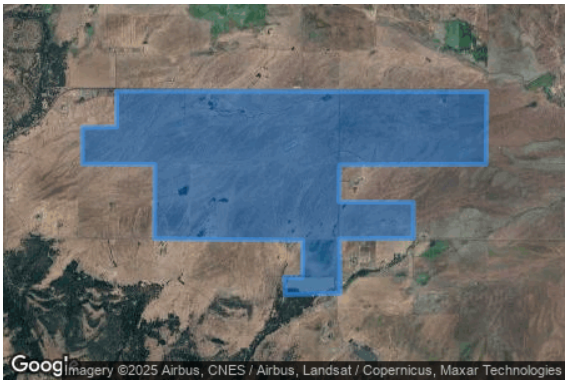
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.114884	-121.324287	2113.46	4.92	2118.38
2	45.114880	-121.322908	2110.01	4.92	2114.93
3	45.114017	-121.322908	2114.59	4.92	2119.51
4	45.114062	-121.318081	2096.63	4.92	2101.55
5	45.117636	-121.318016	2089.76	4.92	2094.68
6	45.117636	-121.322994	2100.98	4.92	2105.90
7	45.125481	-121.323166	2112.88	4.92	2117.80
8	45.125526	-121.318123	2106.29	4.92	2111.21
9	45.142920	-121.318221	2092.79	4.92	2097.71
10	45.142951	-121.338456	2123.53	4.92	2128.45
11	45.139394	-121.347361	2169.72	4.92	2174.64
12	45.137729	-121.349957	2185.91	4.92	2190.83
13	45.135913	-121.352231	2185.25	4.92	2190.17
14	45.135867	-121.358905	2208.58	4.92	2213.50
15	45.128677	-121.358948	2232.38	4.92	2237.30
16	45.128677	-121.343691	2152.34	4.92	2157.26
17	45.124922	-121.343670	2137.69	4.92	2142.61
18	45.124892	-121.338606	2131.60	4.92	2136.52
19	45.121167	-121.338563	2133.42	4.92	2138.34
20	45.121243	-121.356544	2158.18	4.92	2163.10
21	45.118790	-121.356539	2169.10	0.00	2169.10
22	45.118790	-121.354946	2165.80	0.00	2165.80
23	45.114172	-121.354892	2182.35	4.92	2187.27
24	45.114033	-121.324273	2117.84	4.92	2122.76

Name: PV 2
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



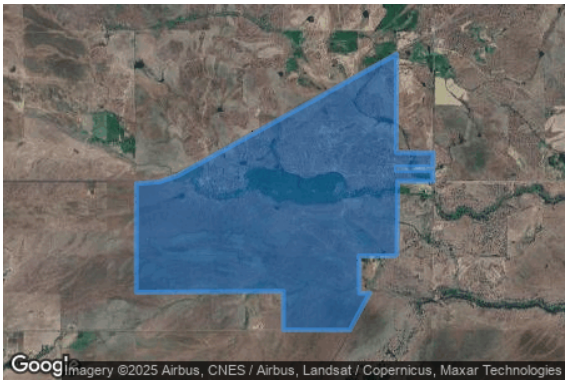
Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.142914	-121.317970	2091.00	4.92	2095.92
2	45.142989	-121.313099	2075.90	4.92	2080.82
3	45.151116	-121.313142	2067.00	4.92	2071.92
4	45.151177	-121.277050	1981.10	4.92	1986.02
5	45.143216	-121.276836	1981.80	4.92	1986.72
6	45.143141	-121.302862	2054.50	4.92	2059.42
7	45.135740	-121.302926	2095.10	4.92	2100.02
8	45.135808	-121.297626	2069.00	4.92	2073.92
9	45.143028	-121.297540	2037.40	4.92	2042.32
10	45.142937	-121.261546	1947.60	4.92	1952.52
11	45.132103	-121.261434	2037.80	4.92	2042.72
12	45.132072	-121.256219	2021.40	4.92	2026.32
13	45.129893	-121.256230	2043.60	4.92	2048.52
14	45.129900	-121.257164	2039.00	4.92	2043.92
15	45.128288	-121.257207	2047.60	4.92	2052.52
16	45.127781	-121.258719	2046.30	4.92	2051.22
17	45.128583	-121.258741	2042.60	4.92	2047.52
18	45.128515	-121.261648	2051.60	4.92	2056.52
19	45.126623	-121.261595	2058.70	4.92	2063.62
20	45.115125	-121.291188	2053.70	4.92	2058.62
21	45.114247	-121.294600	2066.30	4.92	2071.22
22	45.114156	-121.297561	2077.40	4.92	2082.32
23	45.114096	-121.317876	2097.20	4.92	2102.12

Name: PV 3
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.106808	-121.297749	2083.21	4.92	2088.13
2	45.113821	-121.297652	2079.14	4.92	2084.06
3	45.113880	-121.348552	2171.73	4.92	2176.65
4	45.110405	-121.348542	2183.37	4.92	2188.29
5	45.110375	-121.353262	2198.44	4.92	2203.36
6	45.106824	-121.353252	2208.05	4.92	2212.97
7	45.106778	-121.343298	2184.63	4.92	2189.55
8	45.099601	-121.343355	2217.93	4.92	2222.85
9	45.099450	-121.322959	2175.62	4.92	2180.54
10	45.095830	-121.323034	2211.53	4.92	2216.45
11	45.095867	-121.325502	2218.45	4.92	2223.37
12	45.094190	-121.325362	2243.08	4.92	2248.00
13	45.094330	-121.317842	2193.01	4.92	2197.93
14	45.099586	-121.317906	2159.14	4.92	2164.06
15	45.099647	-121.307735	2121.77	4.92	2126.69
16	45.103130	-121.307756	2112.44	4.92	2117.36
17	45.103176	-121.317970	2137.21	4.92	2142.13
18	45.106735	-121.317884	2119.66	4.92	2124.58

Name: PV 4
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.126283	-121.261651	2060.33	4.92	2065.25
2	45.118254	-121.282200	2064.71	4.92	2069.63
3	45.116289	-121.287297	2059.68	4.92	2064.60
4	45.114521	-121.291803	2056.85	4.92	2061.77
5	45.113938	-121.294340	2067.73	4.92	2072.65
6	45.113772	-121.297435	2078.23	4.92	2083.15
7	45.103281	-121.297454	2088.15	4.92	2093.07
8	45.103364	-121.277219	2037.31	4.92	2042.23
9	45.099631	-121.277219	2060.20	4.92	2065.12
10	45.099603	-121.268098	2043.71	4.92	2048.63
11	45.103184	-121.265354	2014.03	4.92	2018.95
12	45.103173	-121.266743	2017.96	4.92	2022.88
13	45.106785	-121.266818	2034.20	4.92	2039.12
14	45.106778	-121.261974	2029.44	4.92	2034.36
15	45.106940	-121.261598	2031.79	4.92	2036.71
16	45.114000	-121.261506	2027.71	4.92	2032.63
17	45.113993	-121.256650	2019.45	4.92	2024.37
18	45.115051	-121.256634	2022.34	4.92	2027.26
19	45.115037	-121.261689	2032.12	4.92	2037.04
20	45.115371	-121.261684	2031.33	4.92	2036.25
21	45.115386	-121.256625	2024.78	4.92	2029.70
22	45.116756	-121.256598	2034.52	4.92	2039.44
23	45.116775	-121.261700	2041.00	4.92	2045.92

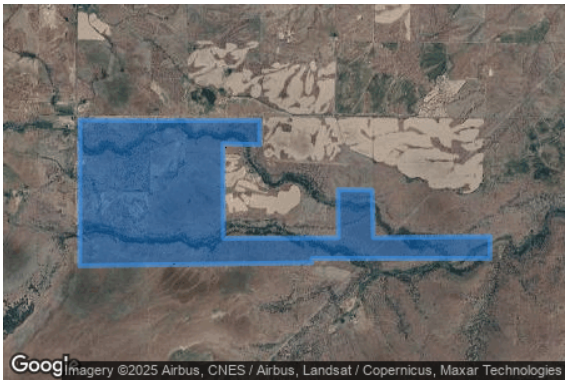
Name: PV 5
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.121208	-121.256344	2044.40	4.92	2049.32
2	45.113985	-121.256430	2019.40	4.92	2024.32
3	45.114000	-121.246324	2016.50	4.92	2021.42
4	45.121223	-121.246195	2031.60	4.92	2036.52

Name: PV 6
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.095883	-121.307752	2134.84	4.92	2139.76
2	45.095770	-121.317340	2187.91	4.92	2192.83
3	45.089513	-121.317255	2225.20	4.92	2230.12
4	45.082841	-121.303833	2366.61	4.92	2371.53
5	45.082811	-121.281302	2198.98	4.92	2203.90
6	45.081353	-121.281170	2194.00	4.92	2198.92
7	45.081277	-121.258232	2121.02	4.92	2125.94
8	45.081368	-121.241817	2120.03	4.92	2124.95
9	45.083518	-121.241776	2056.49	0.00	2056.49
10	45.083486	-121.246541	2058.77	0.00	2058.77
11	45.085210	-121.246587	2017.73	4.92	2022.65
12	45.099532	-121.246565	1994.29	4.92	1999.21
13	45.099449	-121.261768	2024.27	4.92	2029.19
14	45.106507	-121.261940	2028.67	4.92	2033.59
15	45.105568	-121.263249	2025.27	4.92	2030.19
16	45.103887	-121.264600	2013.96	4.92	2018.88
17	45.099457	-121.267948	2044.08	4.92	2049.00
18	45.099402	-121.307749	2123.51	4.92	2128.43

Name: PV 7
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.3
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.099527	-121.256122	2019.55	4.92	2024.47
2	45.106524	-121.256101	2031.86	4.92	2036.78
3	45.113642	-121.256101	2021.24	4.92	2026.16
4	45.113566	-121.246080	2010.53	4.92	2015.45
5	45.113612	-121.231382	2005.29	4.92	2010.21
6	45.111234	-121.231360	1980.09	4.92	1985.01
7	45.111340	-121.236403	1992.67	4.92	1997.59
8	45.102193	-121.236338	1939.32	4.92	1944.24
9	45.102253	-121.220588	1925.72	4.92	1930.64
10	45.106888	-121.220588	1966.02	4.92	1970.94
11	45.106858	-121.215911	1975.82	4.92	1980.74
12	45.102253	-121.215739	1925.28	4.92	1930.20
13	45.102375	-121.199689	1800.60	4.92	1805.52
14	45.100239	-121.199710	1786.15	4.92	1791.07
15	45.100231	-121.224182	1958.51	4.92	1963.43
16	45.099819	-121.224199	1948.30	4.92	1953.22

Route Receptors

Name: 1 - 3000 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.218249	-121.360751	2171.00	829.00	3000.00
2	45.225308	-121.269041	2171.00	829.00	3000.00

Name: 1 - 4000 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.218250	-121.360750	2171.00	1829.00	4000.00
2	45.225310	-121.269040	2171.00	1829.00	4000.00

Name: 2 - 4000 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.142767	-121.469628	2887.00	1113.00	4000.00
2	45.165889	-121.149994	2887.00	1113.00	4000.00

Name: 3 - 4000 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.109206	-121.464775	3165.00	835.00	4000.00
2	45.137427	-121.107547	3165.00	835.00	4000.00

Name: 4 - 4000 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.104239	-121.091240	3218.00	782.00	4000.00
2	45.076918	-121.455631	3218.00	782.00	4000.00

Name: 5 - 3000 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.100234	-121.142757	1894.00	1106.00	3000.00
2	45.207127	-121.214340	1894.00	1106.00	3000.00

Name: 5 - 4000 ft amsl
Path type: Two-way
Azimuthal view angle: 50.0°
Downward view angle: 90.0°

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	45.100230	-121.142760	1894.00	2106.00	4000.00
2	45.207130	-121.214340	1894.00	2106.00	4000.00

Glare Analysis Results

Summary of Results

Glare with potential for temporary after-image predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV 1	SA tracking	SA tracking	148,582	2,476.4	16,962	282.7	-
PV 2	SA tracking	SA tracking	195,811	3,263.5	30,588	509.8	-
PV 3	SA tracking	SA tracking	39,222	653.7	18,081	301.4	-
PV 4	SA tracking	SA tracking	137,474	2,291.2	11,490	191.5	-
PV 5	SA tracking	SA tracking	42,587	709.8	5,160	86.0	-
PV 6	SA tracking	SA tracking	126,514	2,108.6	29,866	497.8	-
PV 7	SA tracking	SA tracking	10,866	181.1	9,935	165.6	-

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
2 - 4000 ft amsl	76,824	1,280.4	25,293	421.6
3 - 4000 ft amsl	485,842	8,097.4	62,657	1,044.3
4 - 4000 ft amsl	137,548	2,292.5	34,132	568.9
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	842	14.0	0	0.0

PV: PV 1 potential temporary after-image

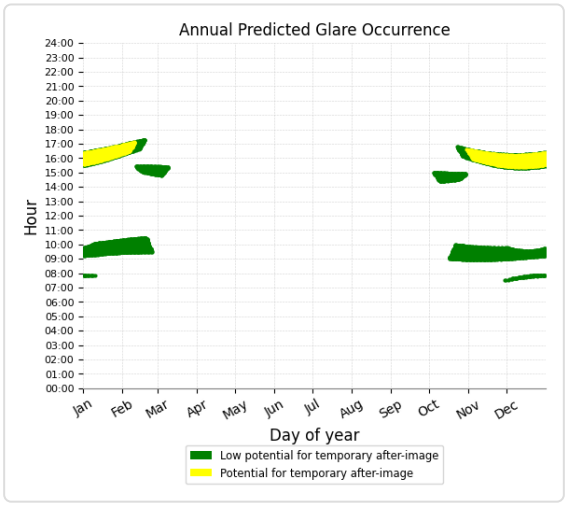
Receptor results ordered by category of glare

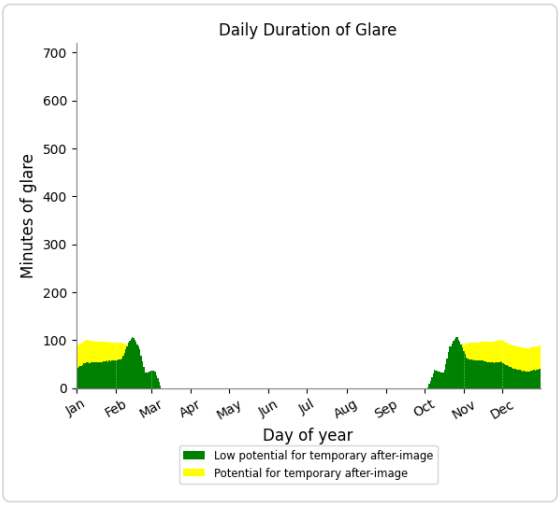
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 4000 ft amsl	8,446	140.8	4,253	70.9
3 - 4000 ft amsl	140,136	2,335.6	12,709	211.8
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
4 - 4000 ft amsl	0	0.0	0	0.0
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	0	0.0	0	0.0

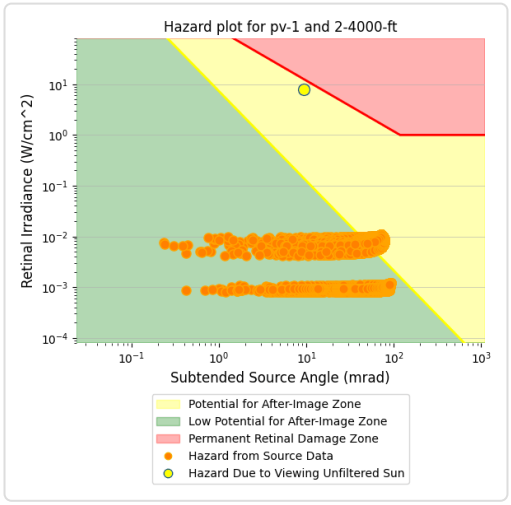
PV 1 and Route: 2 - 4000 ft amsl

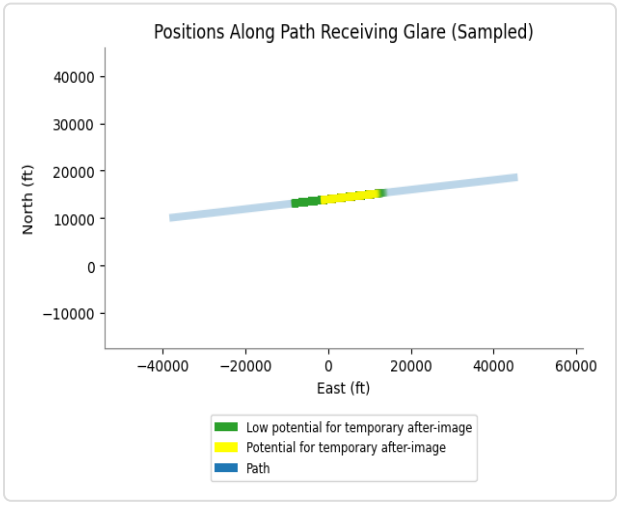
Yellow glare: 4,253 min.

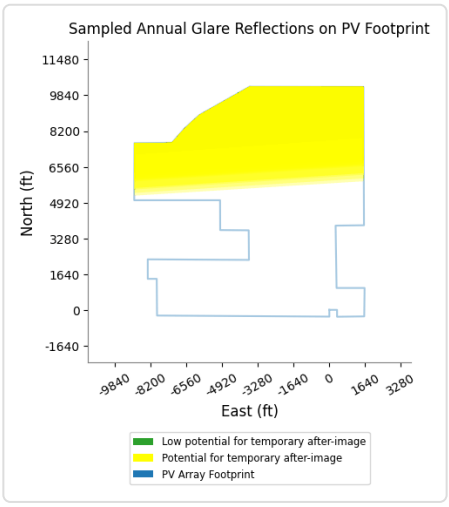
Green glare: 8,446 min.





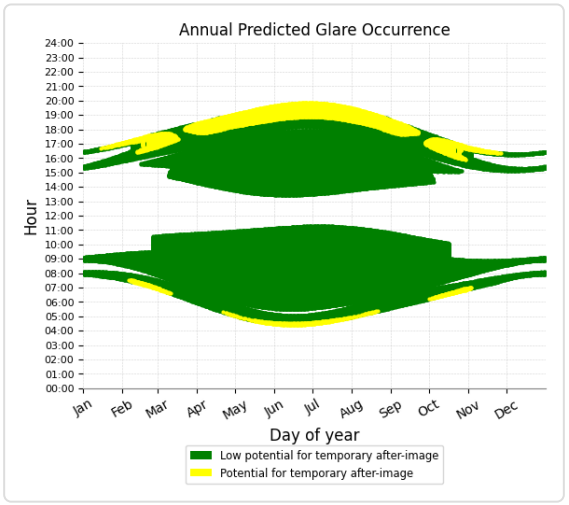


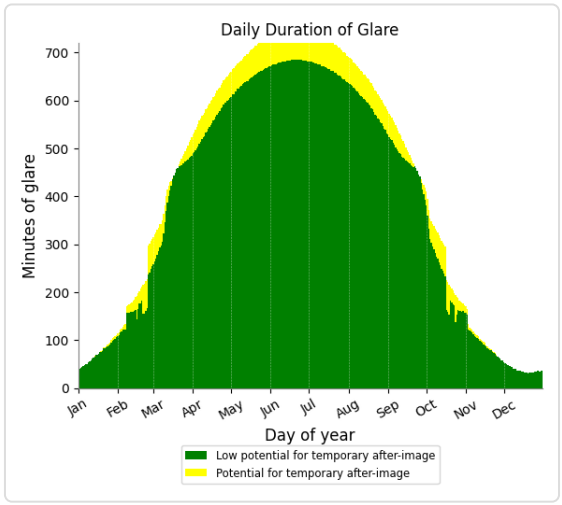


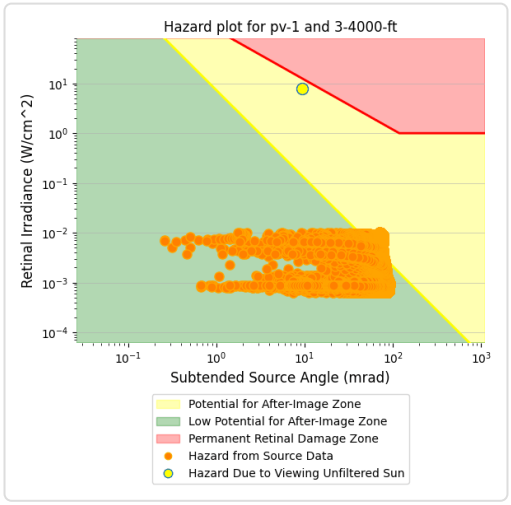


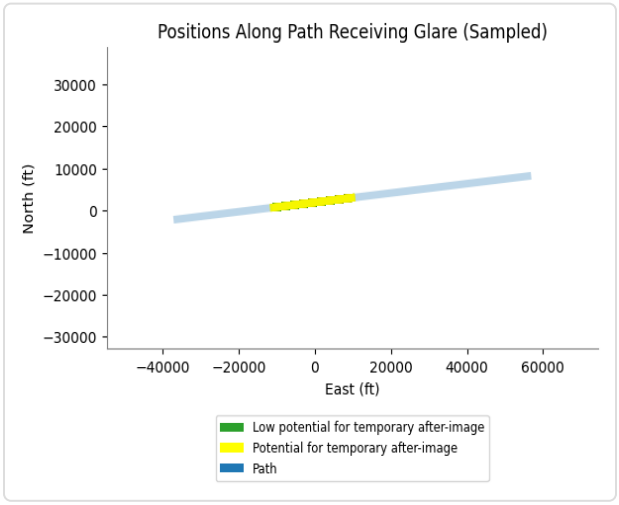
PV 1 and Route: 3 - 4000 ft amsl

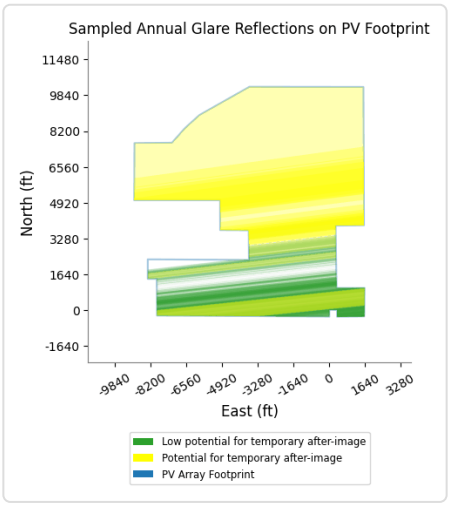
Yellow glare: 12,709 min.
Green glare: 140,136 min.











PV 1 and Route: 1 - 3000 ft amsl

No glare found

PV 1 and Route: 1 - 4000 ft amsl

No glare found

PV 1 and Route: 4 - 4000 ft amsl

No glare found

PV 1 and Route: 5 - 3000 ft amsl

No glare found

PV 1 and Route: 5 - 4000 ft amsl

No glare found

PV: PV 2 potential temporary after-image

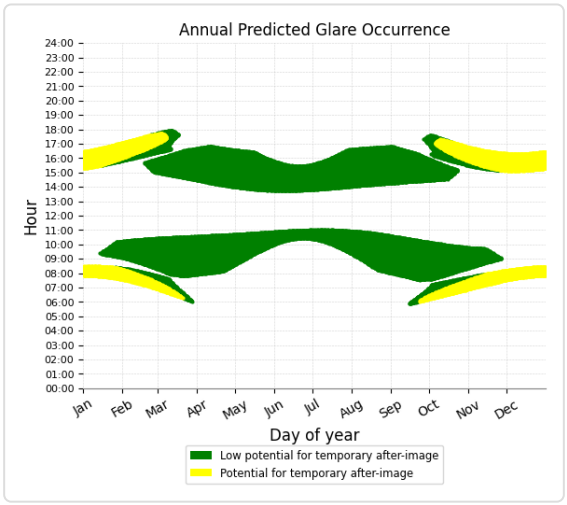
Receptor results ordered by category of glare

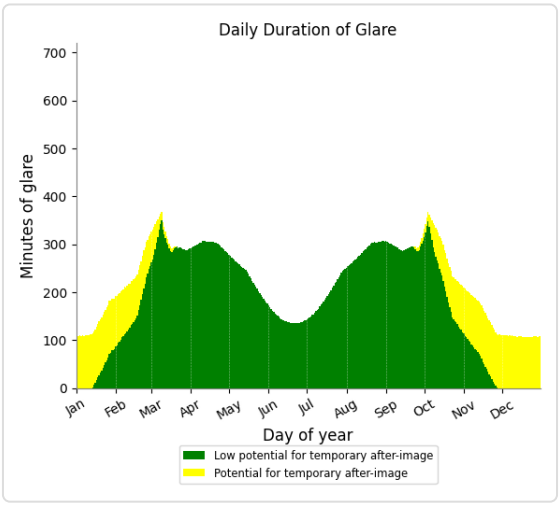
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 4000 ft amsl	67,032	1,117.2	15,093	251.6
3 - 4000 ft amsl	128,779	2,146.3	15,495	258.2
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
4 - 4000 ft amsl	0	0.0	0	0.0
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	0	0.0	0	0.0

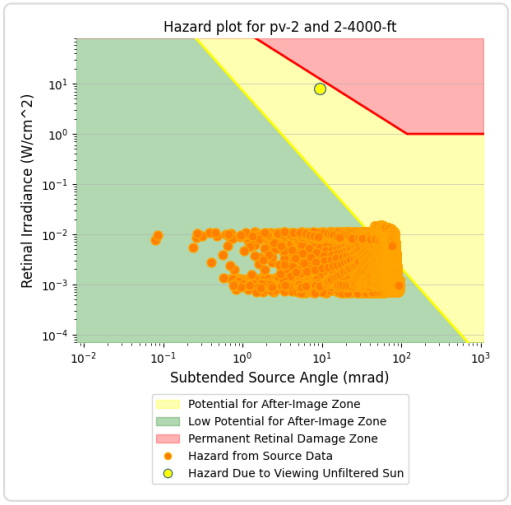
PV 2 and Route: 2 - 4000 ft amsl

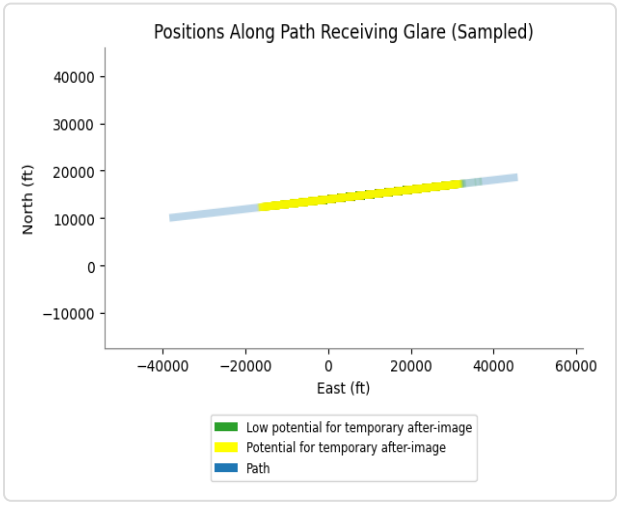
Yellow glare: 15,093 min.

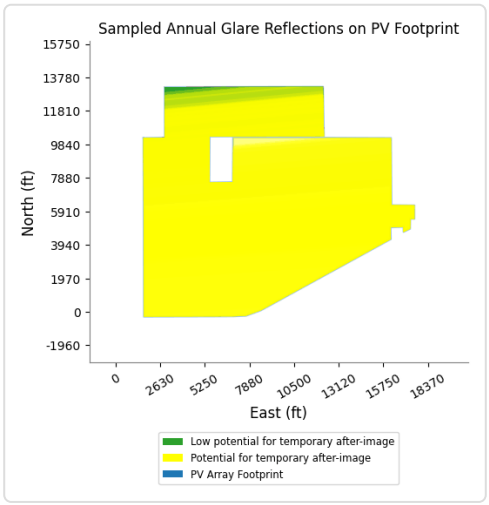
Green glare: 67,032 min.







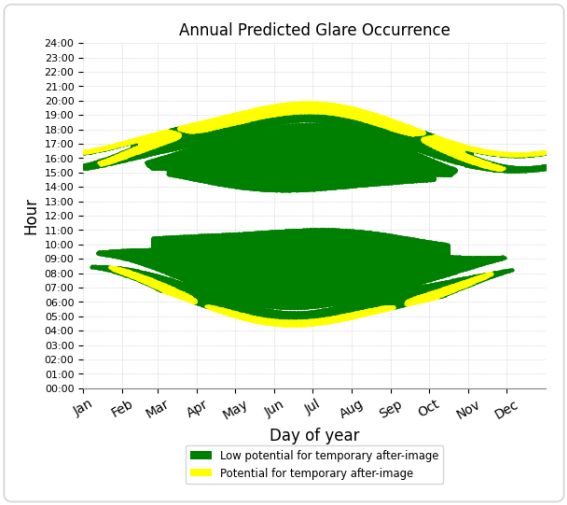


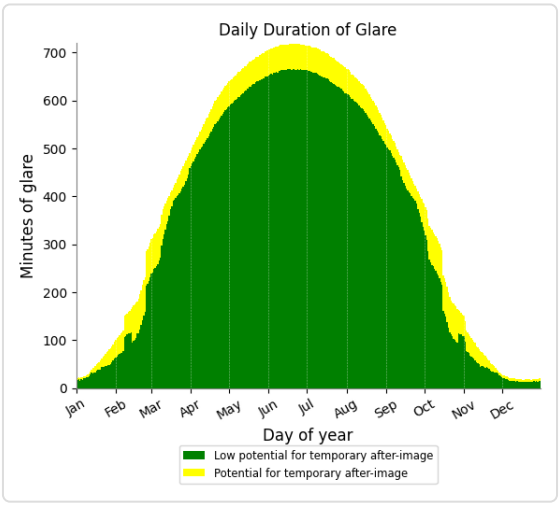


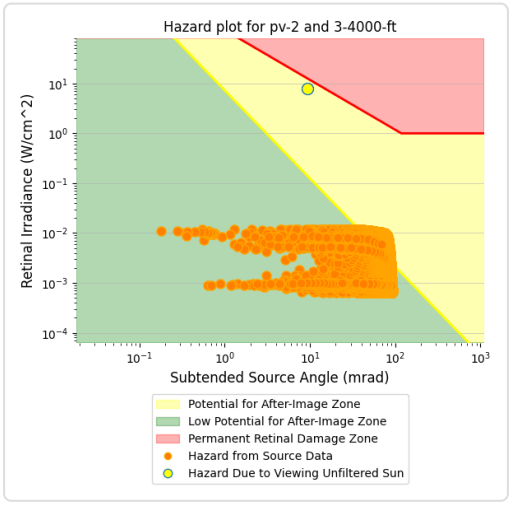
PV 2 and Route: 3 - 4000 ft amsl

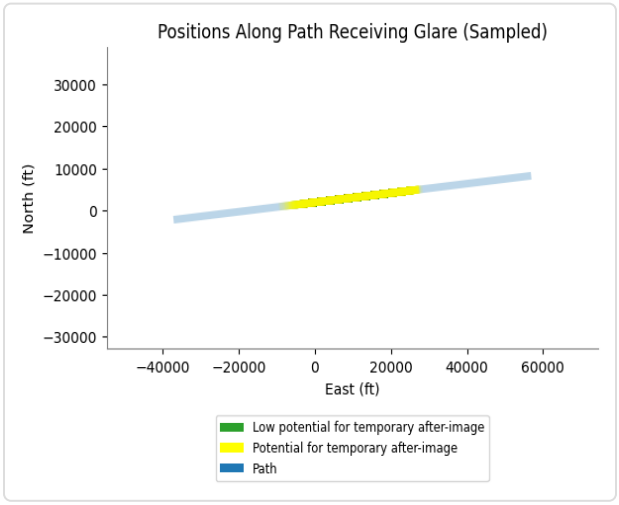
Yellow glare: 15,495 min.

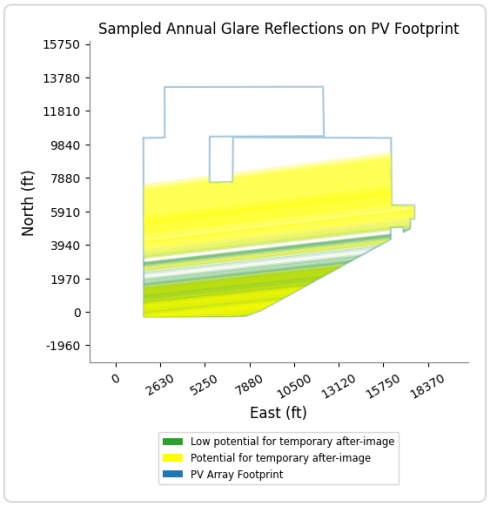
Green glare: 128,779 min.











PV 2 and Route: 1 - 3000 ft amsl

No glare found

PV 2 and Route: 1 - 4000 ft amsl

No glare found

PV 2 and Route: 4 - 4000 ft amsl

No glare found

PV 2 and Route: 5 - 3000 ft amsl

No glare found

PV 2 and Route: 5 - 4000 ft amsl

No glare found

PV: PV 3 potential temporary after-image

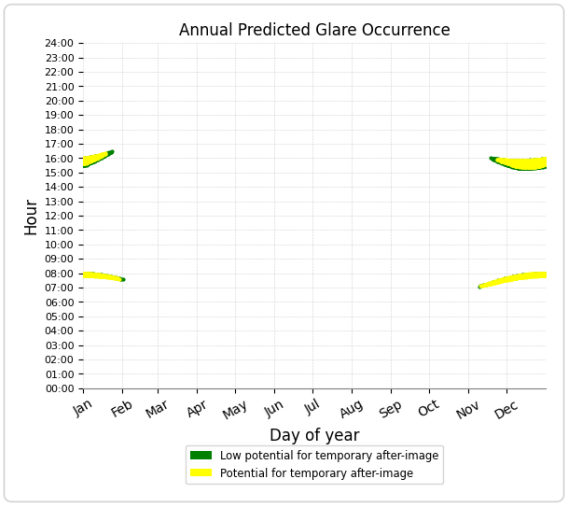
Receptor results ordered by category of glare

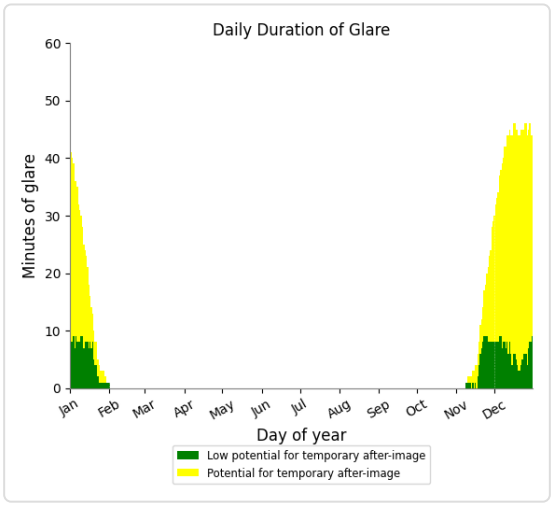
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 4000 ft amsl	478	8.0	1,681	28.0
3 - 4000 ft amsl	36,980	616.3	13,736	228.9
4 - 4000 ft amsl	1,764	29.4	2,664	44.4
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	0	0.0	0	0.0

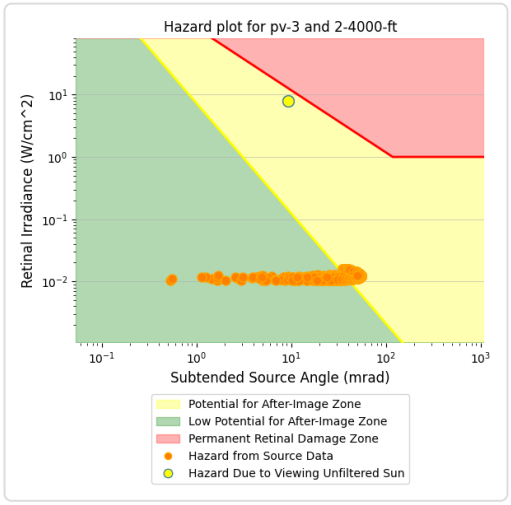
PV 3 and Route: 2 - 4000 ft amsl

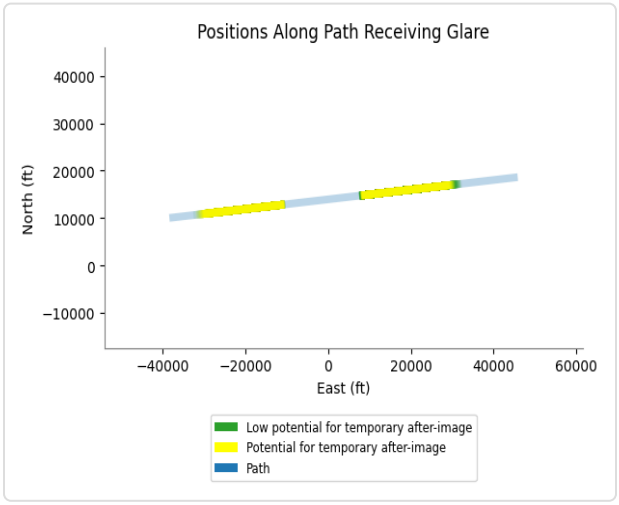
Yellow glare: 1,681 min.

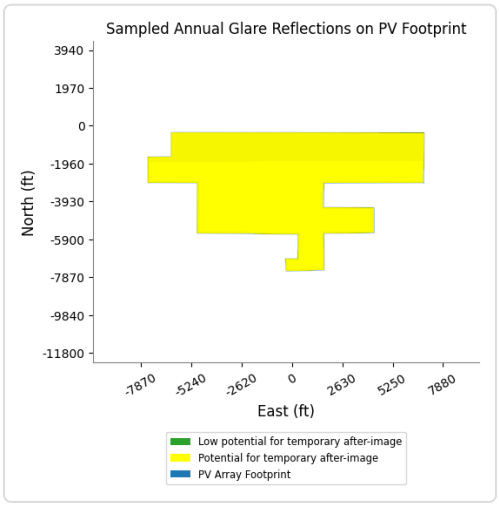
Green glare: 478 min.







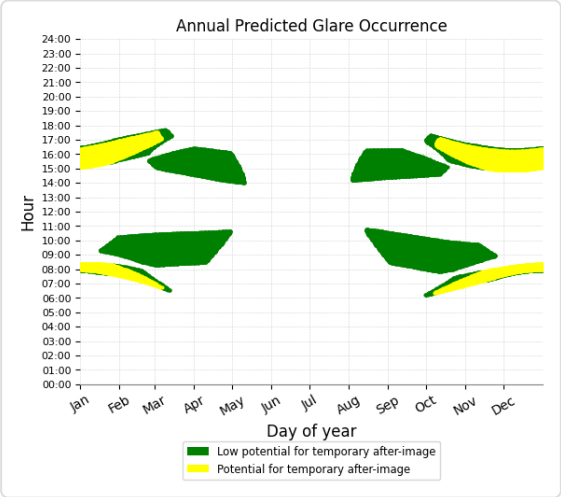


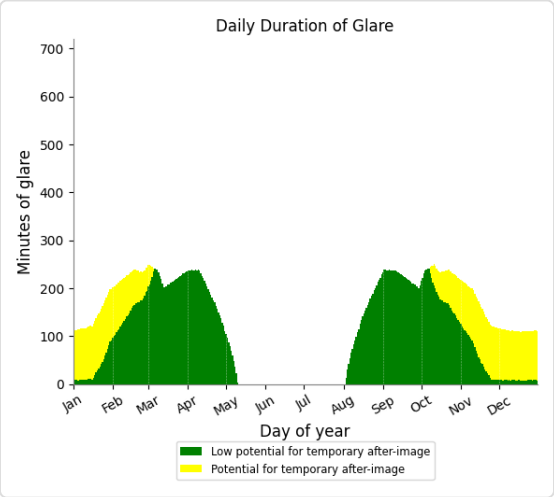


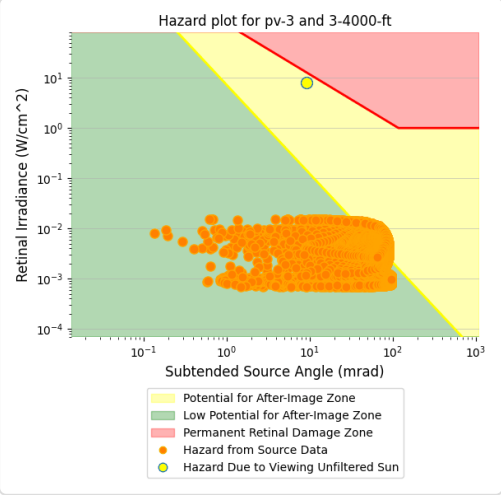
PV 3 and Route: 3 - 4000 ft amsl

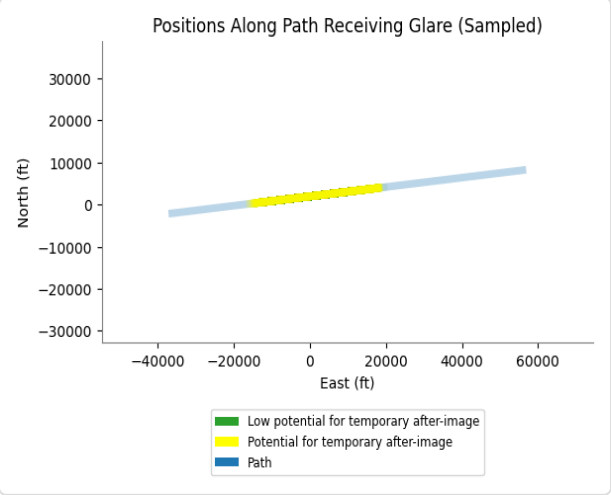
Yellow glare: 13,736 min.

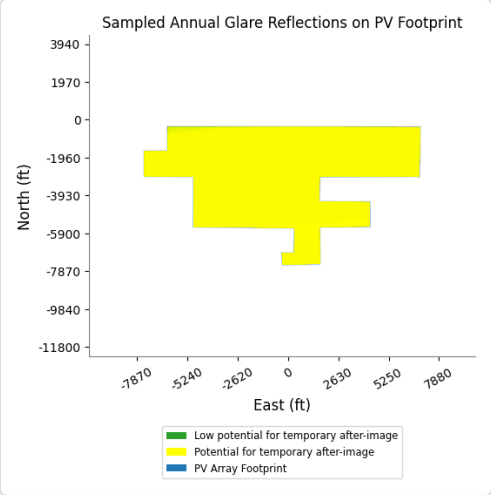
Green glare: 36,980 min.







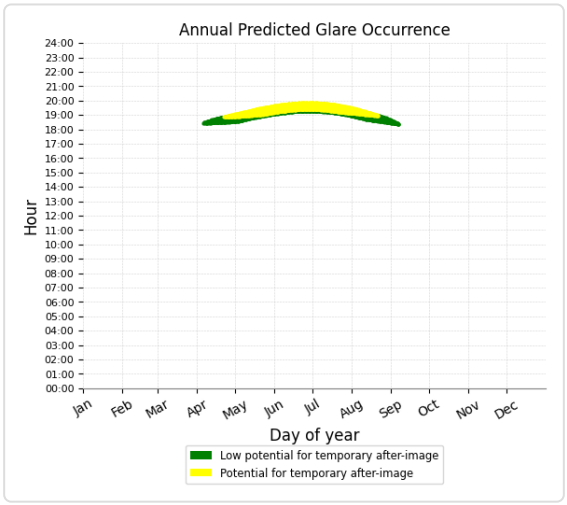


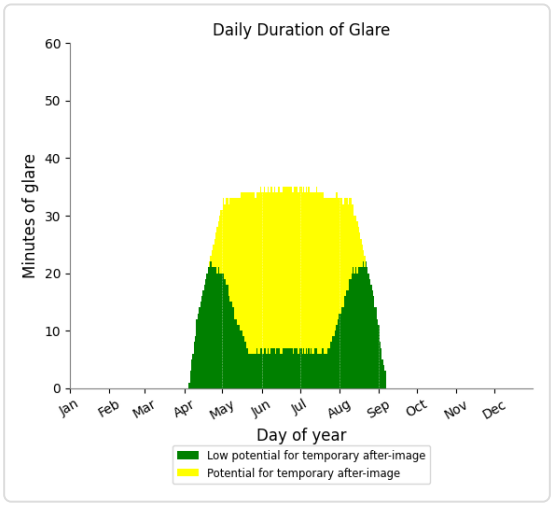


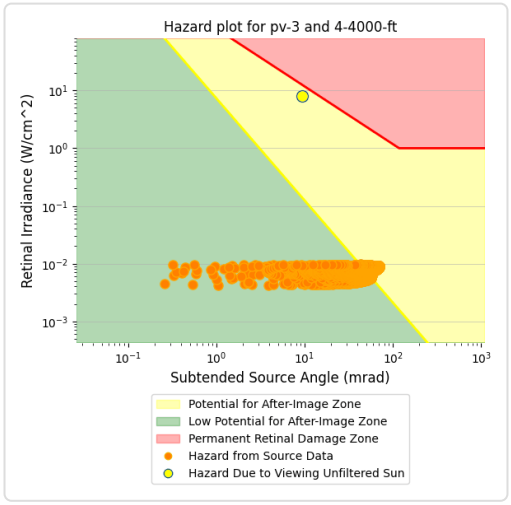
PV 3 and Route: 4 - 4000 ft amsl

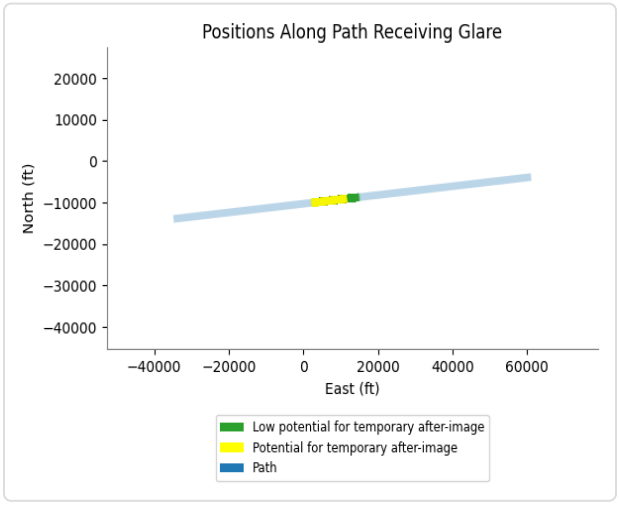
Yellow glare: 2,664 min.

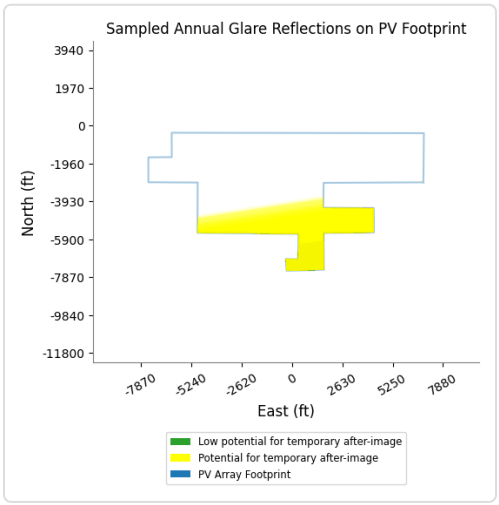
Green glare: 1,764 min.











PV 3 and Route: 1 - 3000 ft amsl

No glare found

PV 3 and Route: 1 - 4000 ft amsl

No glare found

PV 3 and Route: 5 - 3000 ft amsl

No glare found

PV 3 and Route: 5 - 4000 ft amsl

No glare found

PV: PV 4 potential temporary after-image

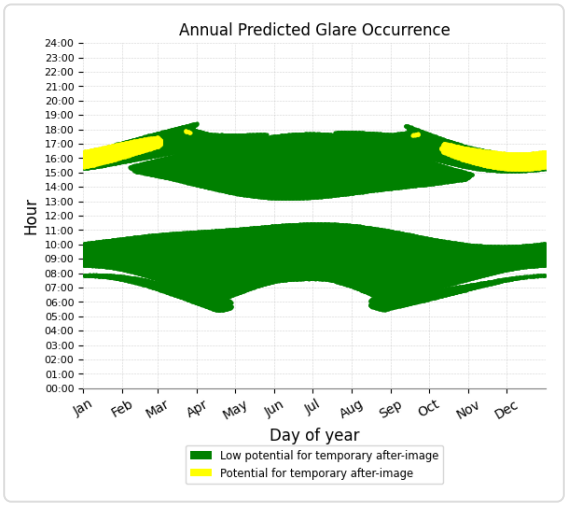
Receptor results ordered by category of glare

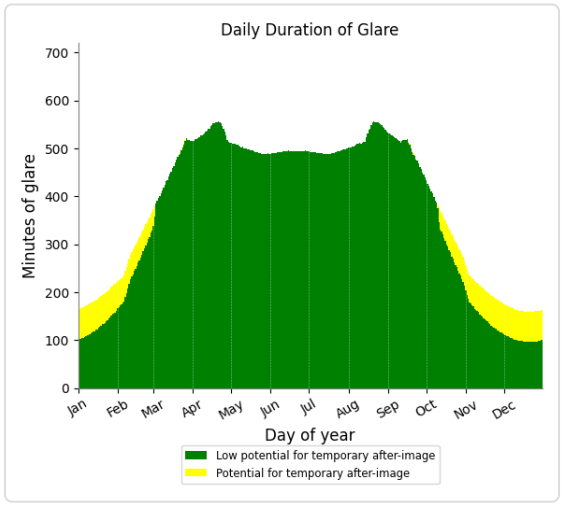
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
3 - 4000 ft amsl	135,218	2,253.6	8,123	135.4
4 - 4000 ft amsl	2,256	37.6	3,367	56.1
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
2 - 4000 ft amsl	0	0.0	0	0.0
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	0	0.0	0	0.0

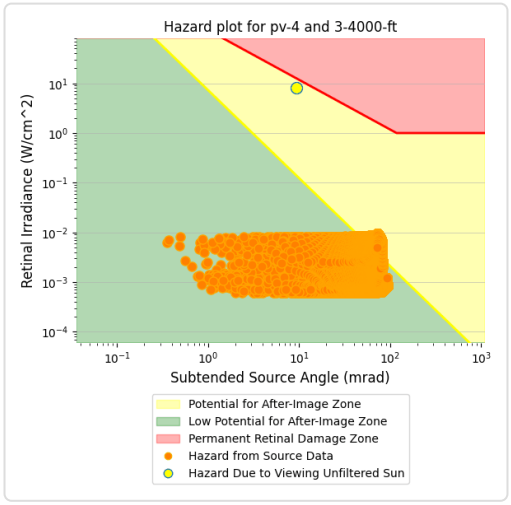
PV 4 and Route: 3 - 4000 ft amsl

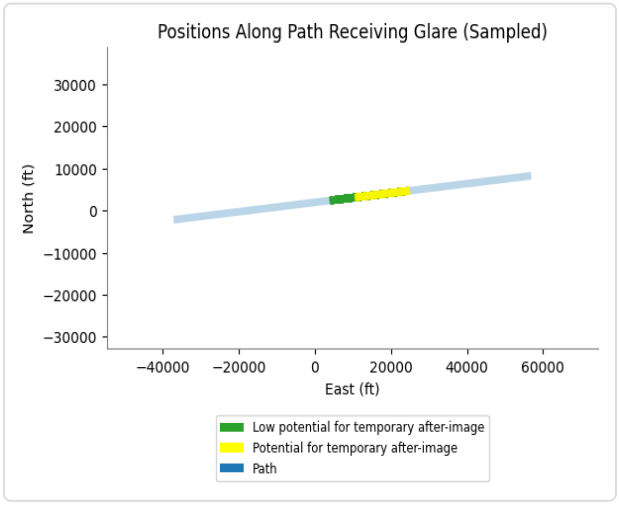
Yellow glare: 8,123 min.

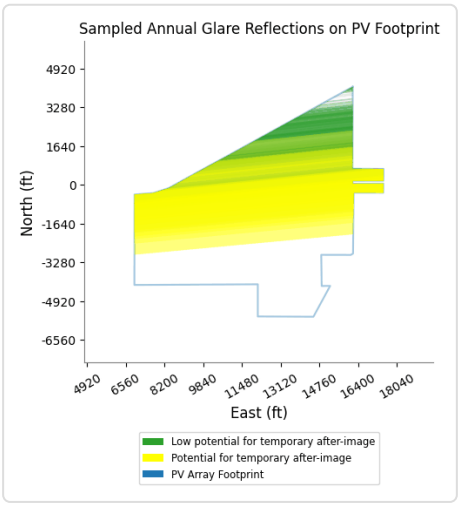
Green glare: 135,218 min.







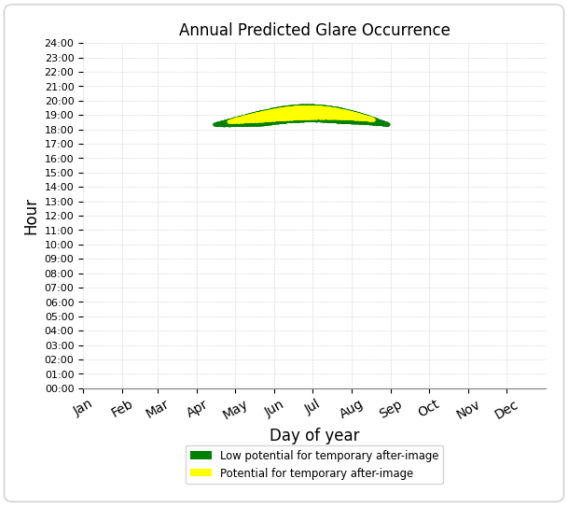


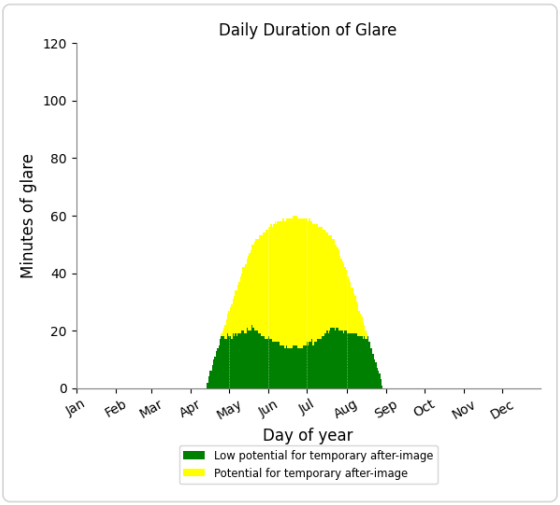


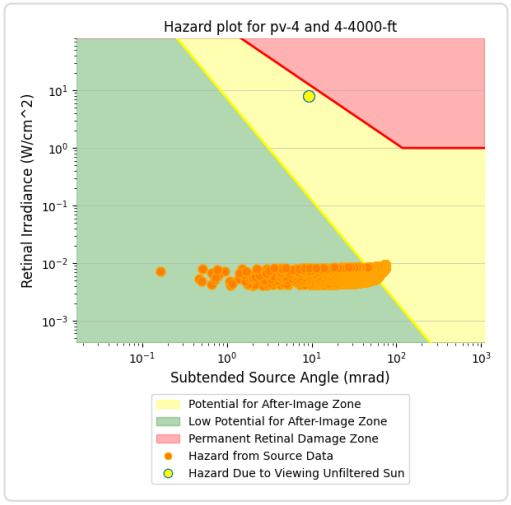
PV 4 and Route: 4 - 4000 ft amsl

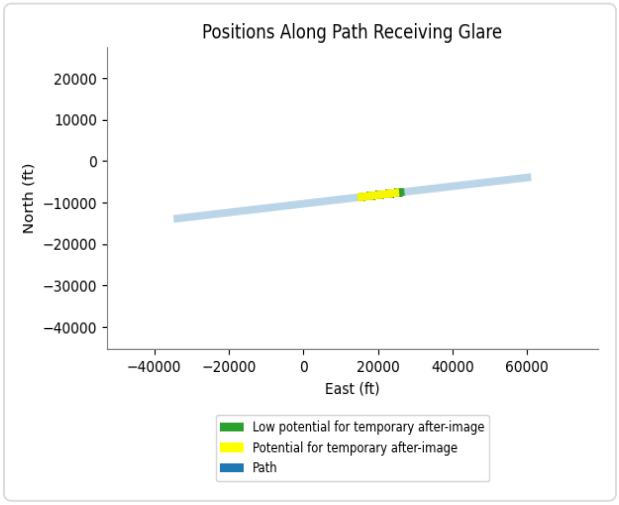
Yellow glare: 3,367 min.

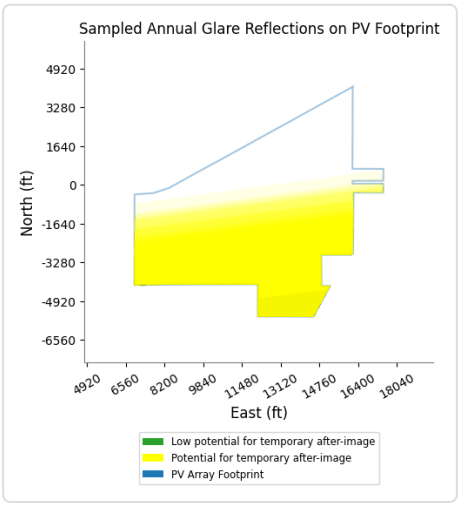
Green glare: 2,256 min.











PV 4 and Route: 1 - 3000 ft amsl

No glare found

PV 4 and Route: 1 - 4000 ft amsl

No glare found

PV 4 and Route: 2 - 4000 ft amsl

No glare found

PV 4 and Route: 5 - 3000 ft amsl

No glare found

PV 4 and Route: 5 - 4000 ft amsl

No glare found

PV: PV 5 potential temporary after-image

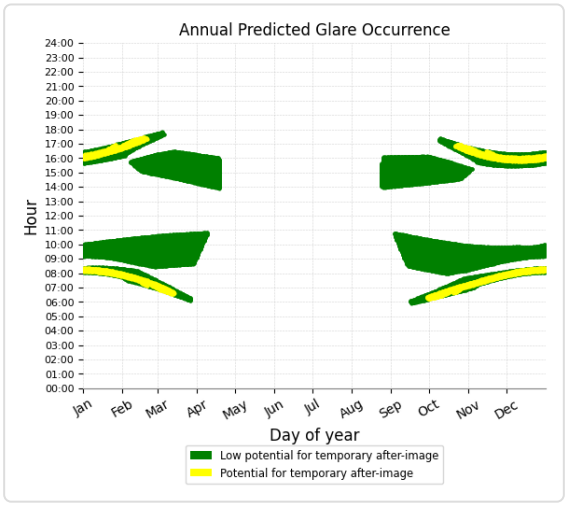
Receptor results ordered by category of glare

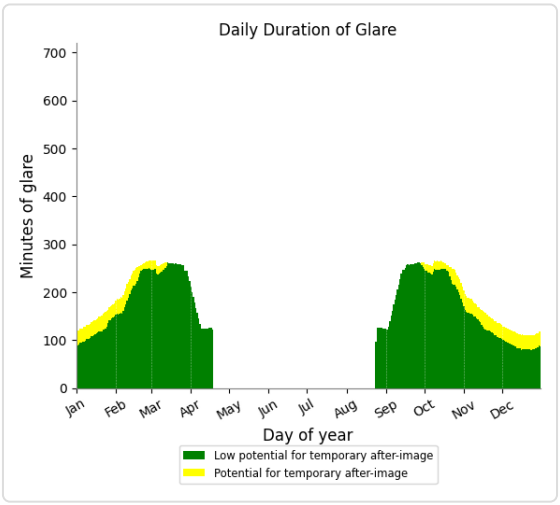
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
3 - 4000 ft amsl	41,169	686.1	4,363	72.7
4 - 4000 ft amsl	1,418	23.6	797	13.3
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
2 - 4000 ft amsl	0	0.0	0	0.0
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	0	0.0	0	0.0

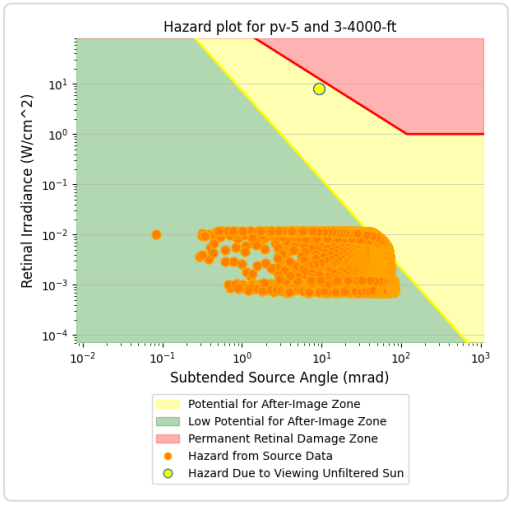
PV 5 and Route: 3 - 4000 ft amsl

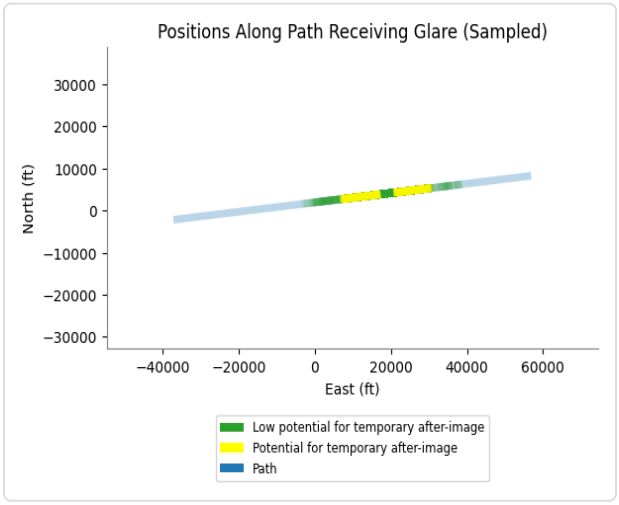
Yellow glare: 4,363 min.

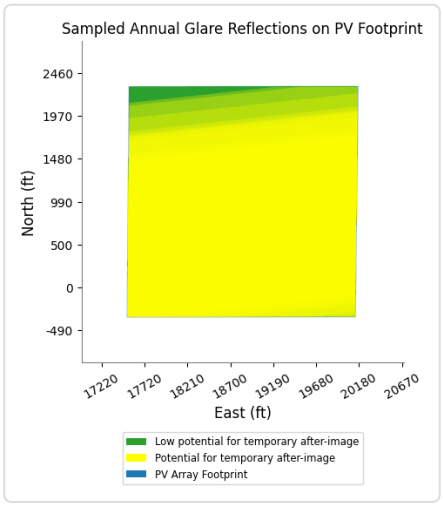
Green glare: 41,169 min.







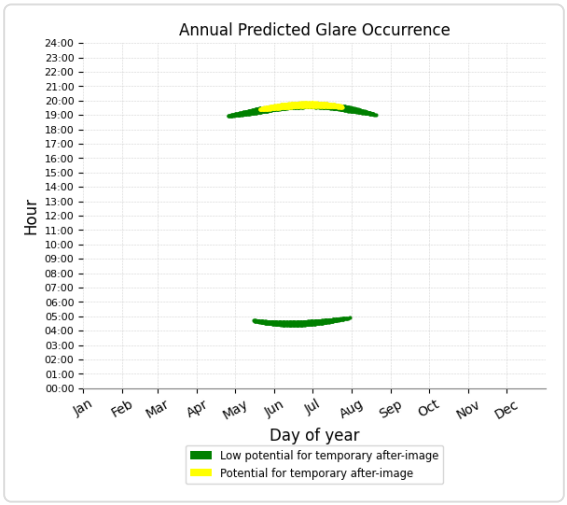


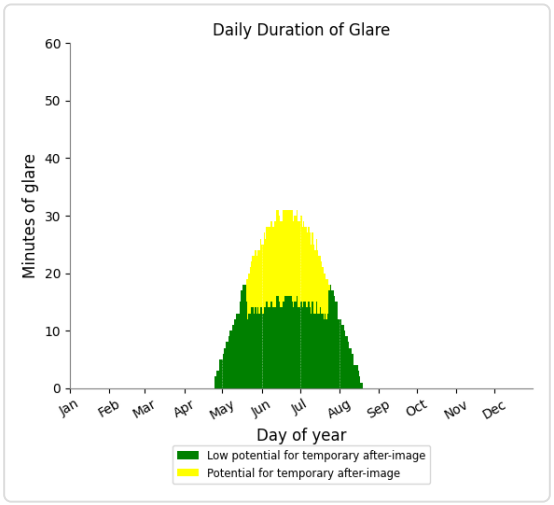


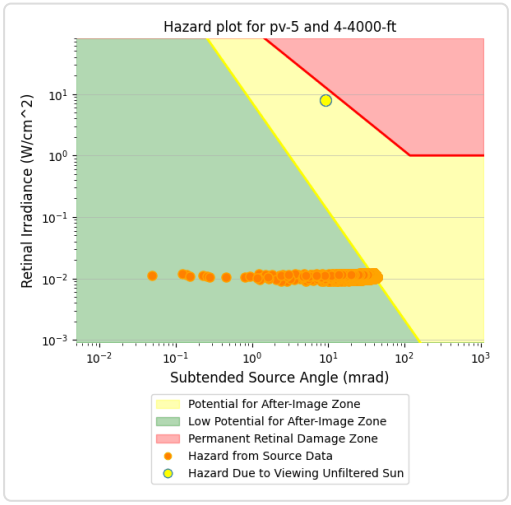
PV 5 and Route: 4 - 4000 ft amsl

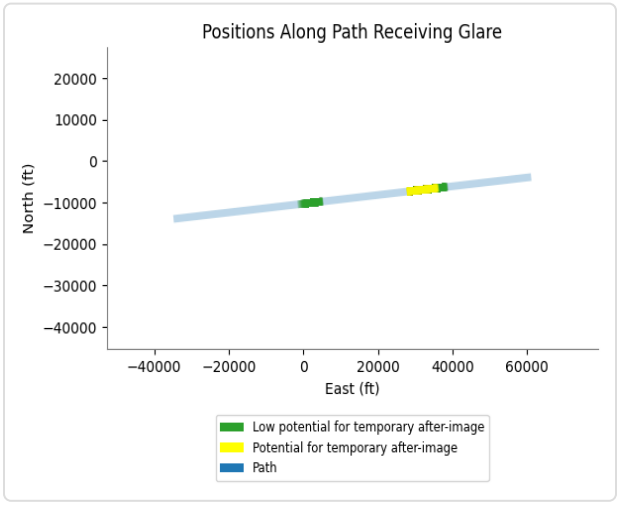
Yellow glare: 797 min.

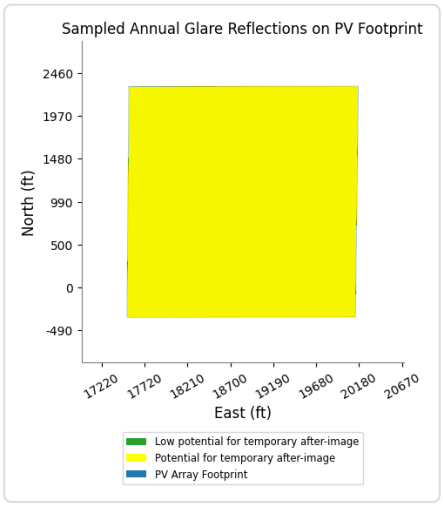
Green glare: 1,418 min.











PV 5 and Route: 1 - 3000 ft amsl

No glare found

PV 5 and Route: 1 - 4000 ft amsl

No glare found

PV 5 and Route: 2 - 4000 ft amsl

No glare found

PV 5 and Route: 5 - 3000 ft amsl

No glare found

PV 5 and Route: 5 - 4000 ft amsl

No glare found

PV: PV 6 potential temporary after-image

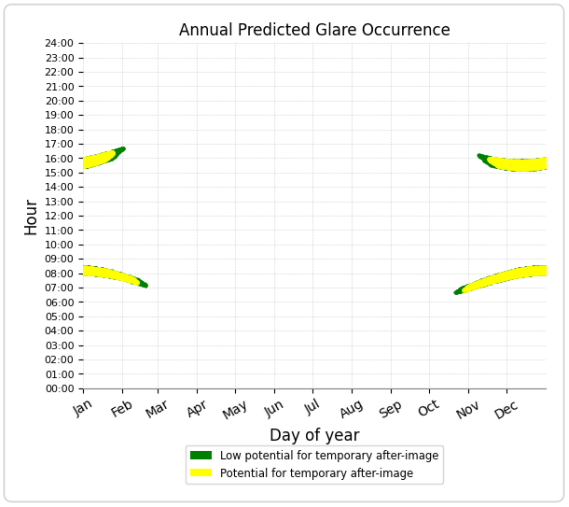
Receptor results ordered by category of glare

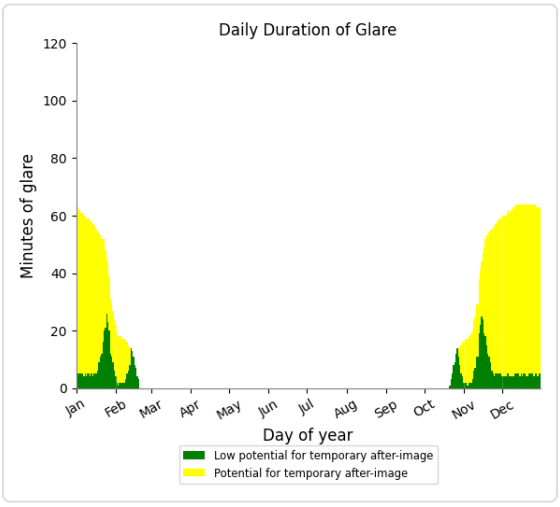
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
2 - 4000 ft amsl	868	14.5	4,266	71.1
3 - 4000 ft amsl	3,560	59.3	8,231	137.2
4 - 4000 ft amsl	121,244	2,020.7	17,369	289.5
5 - 4000 ft amsl	842	14.0	0	0.0
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
5 - 3000 ft amsl	0	0.0	0	0.0

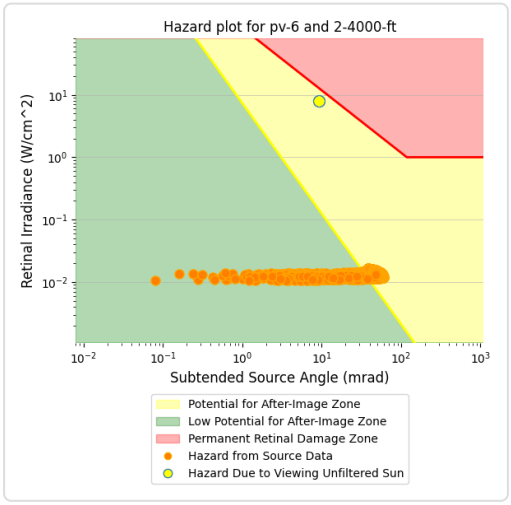
PV 6 and Route: 2 - 4000 ft amsl

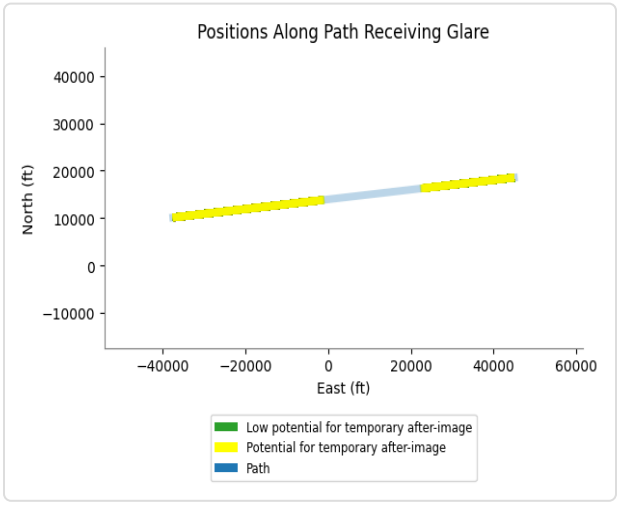
Yellow glare: 4,266 min.

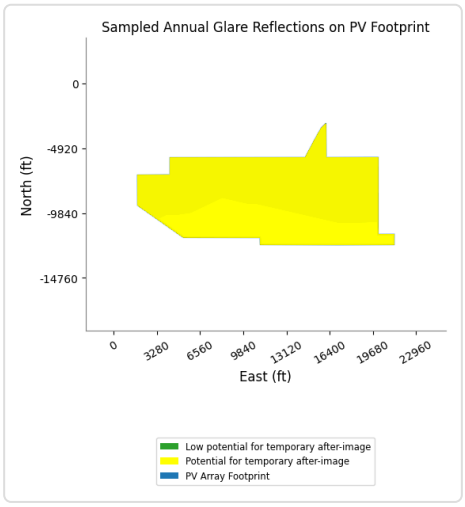
Green glare: 868 min.







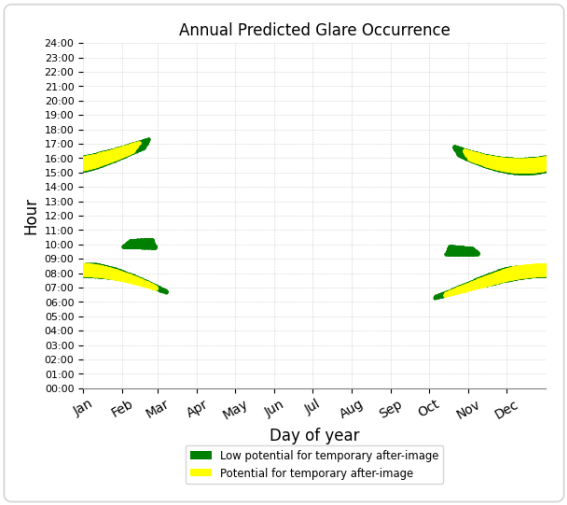


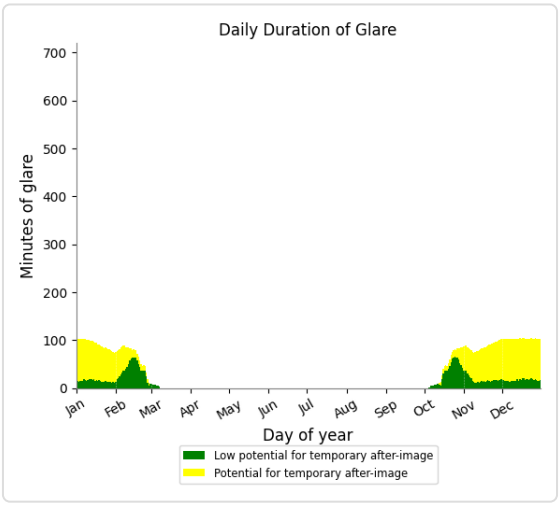


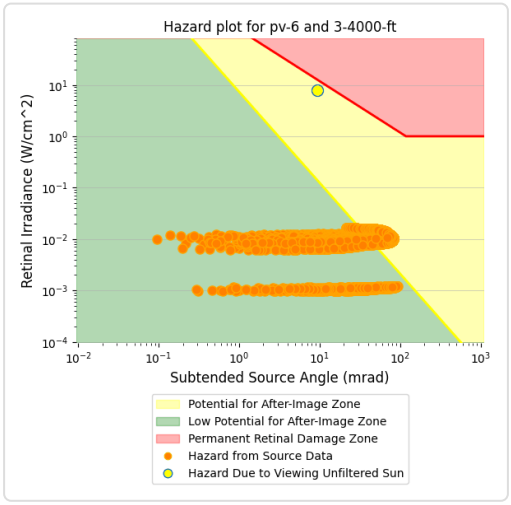
PV 6 and Route: 3 - 4000 ft amsl

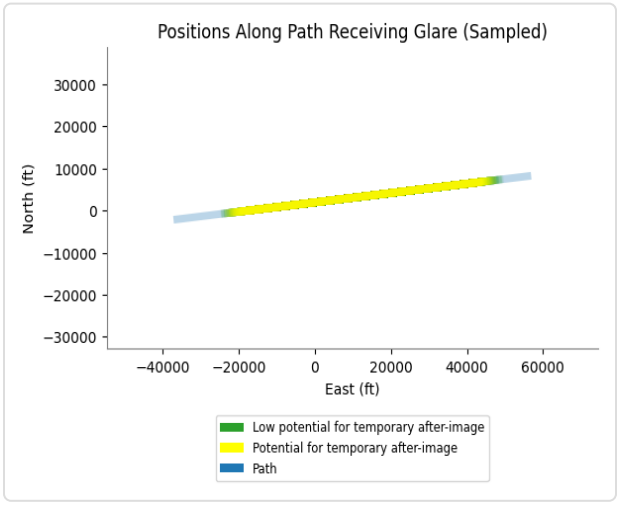
Yellow glare: 8,231 min.

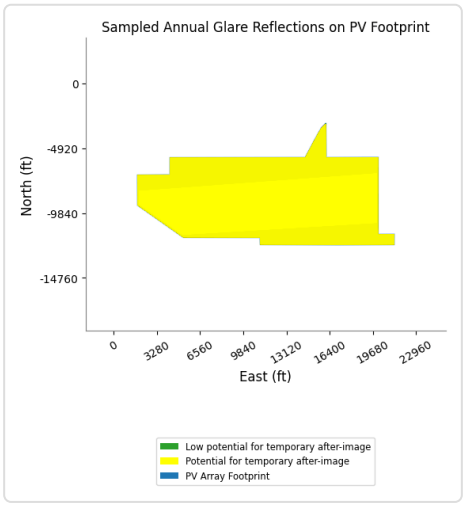
Green glare: 3,560 min.







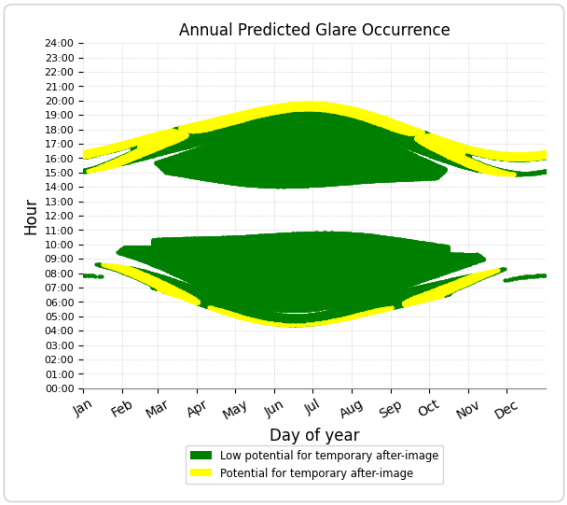


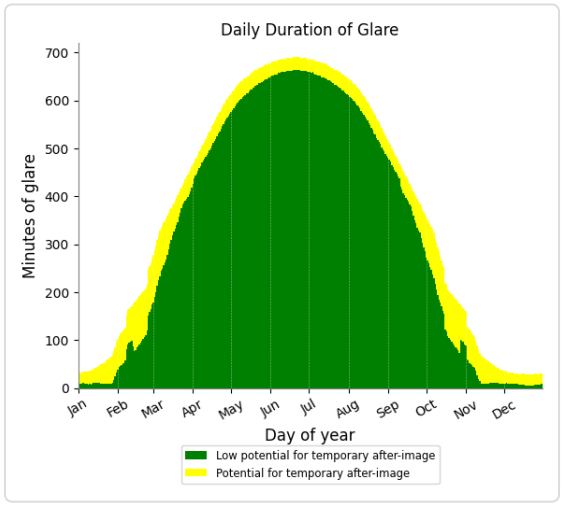


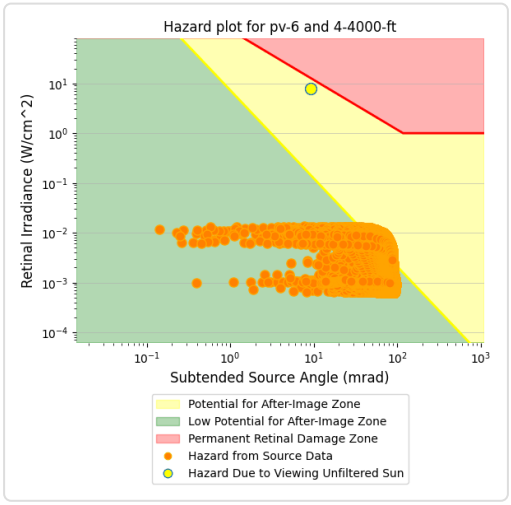
PV 6 and Route: 4 - 4000 ft amsl

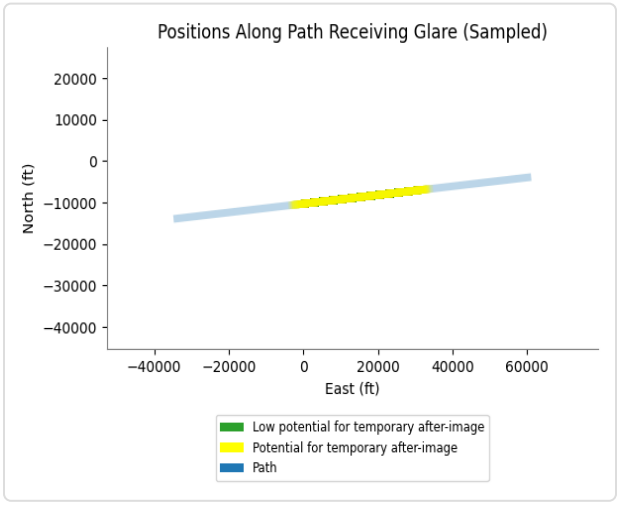
Yellow glare: 17,369 min.

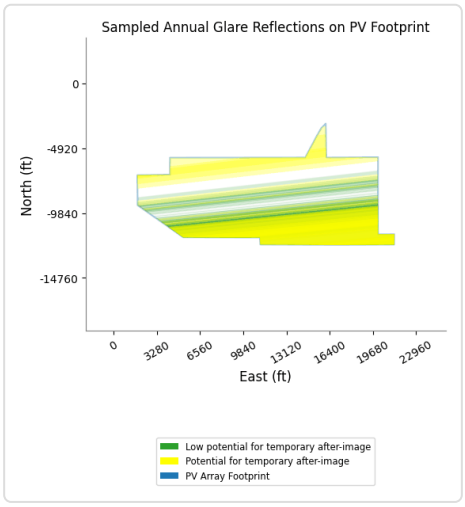
Green glare: 121,244 min.







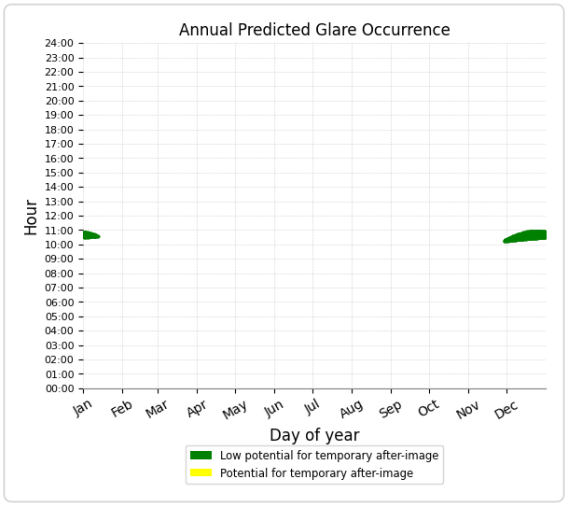


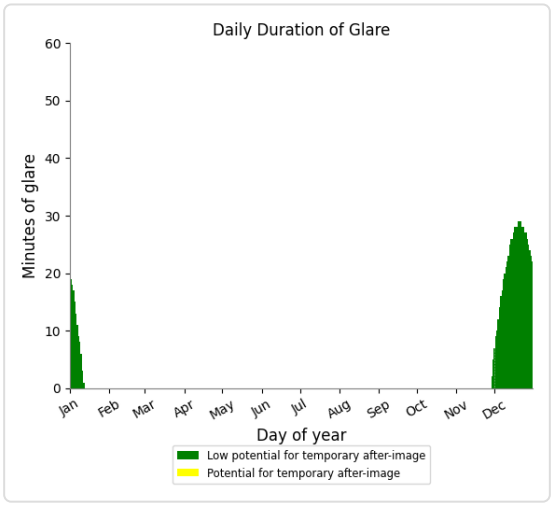


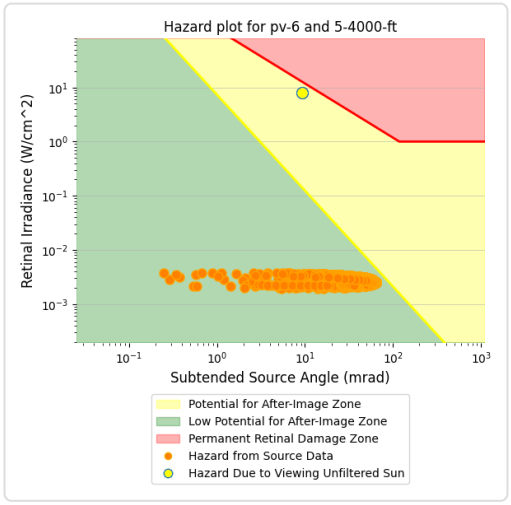
PV 6 and Route: 5 - 4000 ft amsl

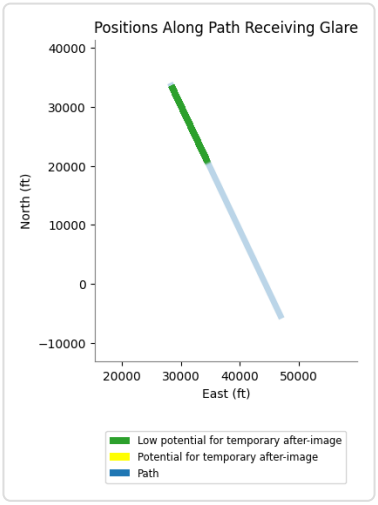
Yellow glare: none

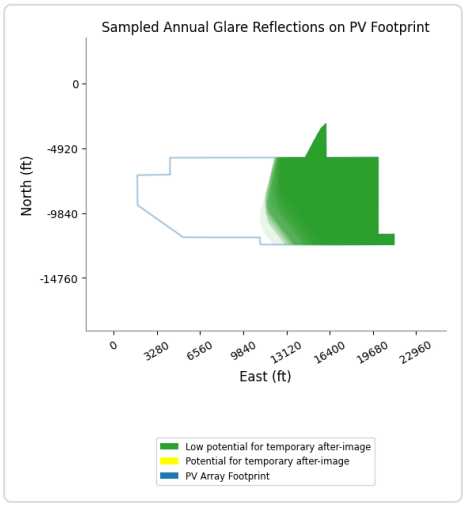
Green glare: 842 min.











PV 6 and Route: 1 - 3000 ft amsl

No glare found

PV 6 and Route: 1 - 4000 ft amsl

No glare found

PV 6 and Route: 5 - 3000 ft amsl

No glare found

PV: PV 7 potential temporary after-image

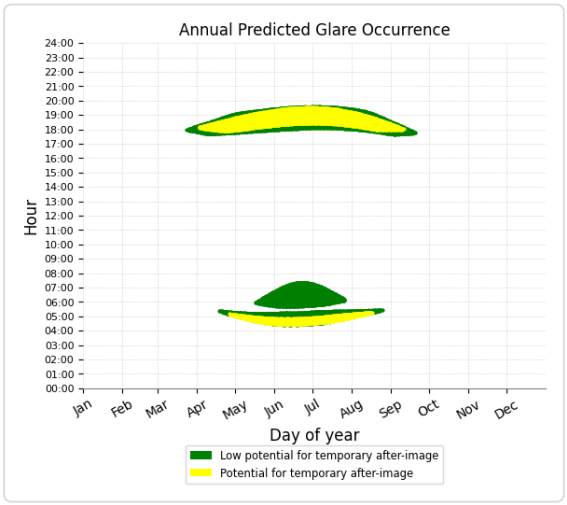
Receptor results ordered by category of glare

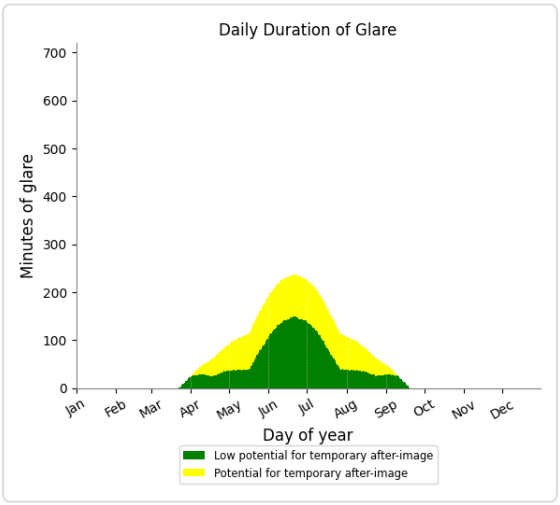
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
4 - 4000 ft amsl	10,866	181.1	9,935	165.6
1 - 3000 ft amsl	0	0.0	0	0.0
1 - 4000 ft amsl	0	0.0	0	0.0
2 - 4000 ft amsl	0	0.0	0	0.0
3 - 4000 ft amsl	0	0.0	0	0.0
5 - 3000 ft amsl	0	0.0	0	0.0
5 - 4000 ft amsl	0	0.0	0	0.0

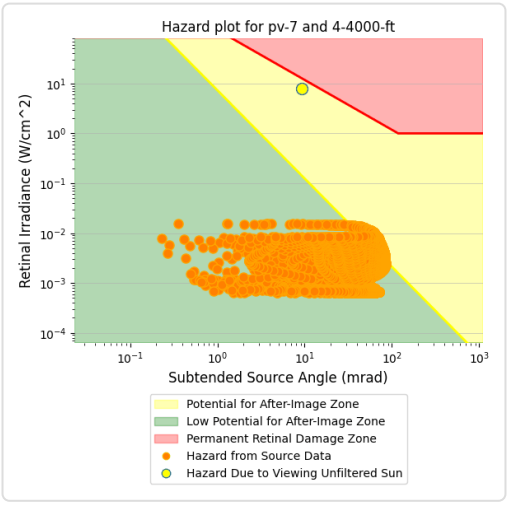
PV 7 and Route: 4 - 4000 ft amsl

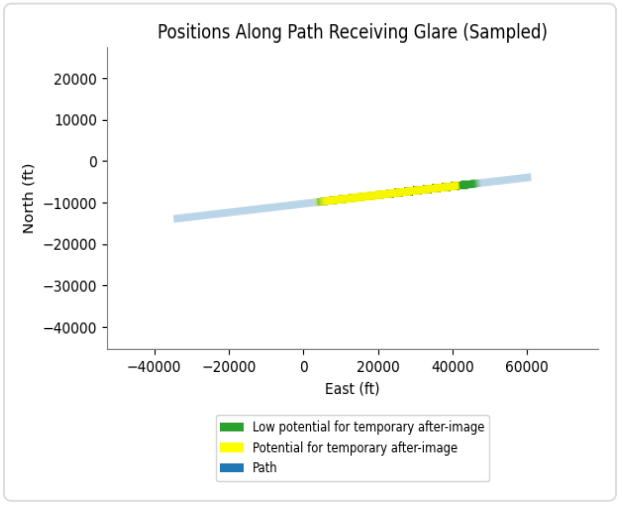
Yellow glare: 9,935 min.

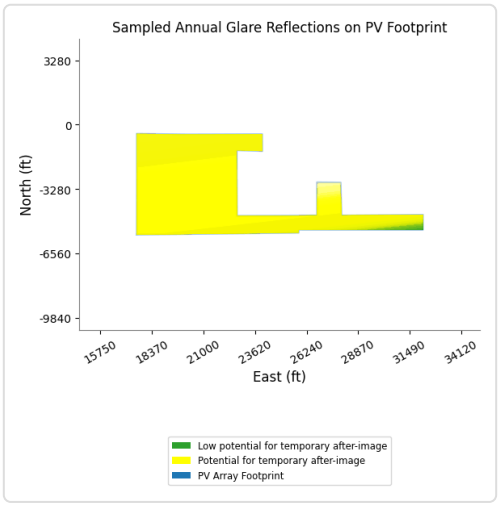
Green glare: 10,866 min.











PV 7 and Route: 1 - 3000 ft amsl

No glare found

PV 7 and Route: 1 - 4000 ft amsl

No glare found

PV 7 and Route: 2 - 4000 ft amsl

No glare found

PV 7 and Route: 3 - 4000 ft amsl

No glare found

PV 7 and Route: 5 - 3000 ft amsl

No glare found

PV 7 and Route: 5 - 4000 ft amsl

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.
Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.
Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.
The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.
The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.
The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

From: Peacher, Kimberly N CIV USN NAVFAC NW SVD WA (USA) <kimberly.n.peacher.civ@us.navy.mil>
Sent: Wednesday, July 30, 2025 10:48 AM
To: Jaron Wright <Jaron@brightnightpower.com>; Bijan Damavandi <Bijan@brightnightpower.com>
Cc: ESTERSON Sarah * ODOE <sarah.esterson@energy.oregon.gov>
Subject: RE: Deschutes/DoD Glare Study Discussions

Good morning Jaron and Bijan,

Thanks again for the call this morning. Also appreciate you running the G/G analysis for the Deschutes solar proposal in relation to the low level military training areas.

We will take the feedback from the analysis back to the flight room. No additional information is needed unless, of course, the project footprint expands or significantly moves.

Thank you.

V/R,

Kimberly Peacher
Community Planning & Liaison Officer
Northwest Training Range Complex
(360) 930-4085
NIPR: Kimberly.peacher@navy.mil
SIPR: Kimberly.peacher@navy.smil.mil

ATTACHMENT 7 RECORD OF CORRESPONDENCE WITH WASCO COUNTY PUBLIC WORKS

From: Arthur Smith <arthurs@co.wasco.or.us>
Sent: Monday, October 27, 2025 7:25 AM
To: Jaron Wright <Jaron@brightnightpower.com>
Subject: Re: Deschutes Solar + BESS Public Works Discussions

Good morning,

Is this not for a proposed solar project? Regardless, this is our standard road use agreement for wind or solar projects that will be hauling heavy loads and potentially damaging our county roads.

Arthur

On Thu, Oct 23, 2025 at 1:01 PM Jaron Wright <Jaron@brightnightpower.com> wrote:

> Good afternoon Arthur,
> Attached is the Template Road Use Agreement you provided back in August, with our proposed edits. I realized just now that you mentioned this template would be similar to what would be required for the Deschutes project. Is there another template we should be using for refining this contract? If so, whom should I be reaching out to at the County for assistance on this front?
>
> Thanks in advance, I appreciate your help.
>
> Jaron
>
> BRIGHTNIGHT
> Power when you need it
>
> **Jaron Wright**
> Senior Director, Development
> E jaron@brightnightpower.com
> P +1-850-502-3618
>
> ---
>
> **From:** Arthur Smith <arthurs@co.wasco.or.us>
> **Sent:** Monday, August 25, 2025 10:28 AM
> **To:** Jaron Wright <Jaron@brightnightpower.com>
> **Cc:** Bijan Damavandi <Bijan@brightnightpower.com>; Arturo Alvarez <arturo.alvarez@brightnightpower.com>
> **Subject:** Re: Deschutes Solar + BESS Public Works Discussions
>
> Good morning,
>
> Attached is a template Road Use agreement that should be similar to what the county would require for the Deschutes Solar project.
>
> Arthur
>
> On Thu, Aug 21, 2025 at 12:19 PM Jaron Wright <Jaron@brightnightpower.com> wrote:

Hello Arthur,
Hope your day is going well. We just received an update regarding the traffic/transportation study on our Deschutes Solar project. Attached is the Transportation Study you requested. Please see below for intel on the traffic study:

All construction truck traffic will travel on interstate and state highways and then access the site from one of 3 access points off Highway 216. All 3 access points are onto County Roads. Per the routing and hauling study, there will not be any turning radius issues. However, we would like to confirm the specific roads to discuss with County Works Department and understand if you have any concerns about weight limits of the bridges/culverts, road conditions, etc.

- Reservation Road has a paved asphalt surface that is in very good condition. There is a bridge and culvert crossing south of East Wapinitia Road.
- Walters Road has a paved asphalt surface that is in very good condition. There is a culvert crossing north of Back Walters Road.
- Victor Road has a partial asphalt and gravel surface in fair condition. There is a culvert crossing approximately 1,300 feet north of Highway 216.

Local commuting traffic may enter the site from alternate access points, also onto County roads. We don't believe these roads would get much use for site access since regardless of point of origin, most traffic will be entering the site from Highway 216. Portions of these roads within the site boundary may be used to move equipment/materials around the site.

- Back Walters Road has a compacted gravel surface and is in good condition. There is a culvert crossing 3,000 feet east of Walters Road.
- Endersby Road has an asphalt surface and is in fair condition. There are several culverts along this road.

- East Wapinitia Road has a compacted gravel surface and is in fair condition. There are no culverts or bridges on this road.

I've included my colleagues Bijan and Arturo in this email. Bijan is co-leading this project with me, and Arturo is our head of engineering. If you would like to have a follow up call to discuss any questions you may have, I'd be glad to set up a call. As follow up, did you hear back from County Legal as to whether they had a Road Use Permit template we could use to make the process easier for you?

Thanks in advance for your review and consideration of this data Arthur.

Regards,
Jaron

BRIGHTNIGHT
Power when you need it

Jaron Wright
Senior Director, Development
E jaron@brightnightpower.com
P +1-850-502-3618

From: Arthur Smith <arthurs@co.wasco.or.us>
Sent: Wednesday, July 23, 2025 2:25 PM
To: Jaron Wright <Jaron@brightnightpower.com>
Cc: Bijan Damavandi <Bijan@brightnightpower.com>
Subject: Re: Deschutes Solar + BESS Public Works Discussions

I will check with our county legal counsel. Thanks

On Wed, Jul 23, 2025 at 2:22 PM Jaron Wright <Jaron@brightnightpower.com> wrote:

> Thanks Arthur,
> Did you mention that the county has a road use permit template that you could share with us?
>
> Regards,
> Jaron
>
> BRIGHTNIGHT
> Power when you need it
>
> **Jaron Wright**
> Senior Director, Development
> E jaron@brightnightpower.com
> P +1-850-502-3618

From: Arthur Smith <arthurs@co.wasco.or.us>
Sent: Wednesday, July 23, 2025 1:02 PM
To: Jaron Wright <Jaron@brightnightpower.com>
Cc: Bijan Damavandi <Bijan@brightnightpower.com>
Subject: Re: Deschutes Solar + BESS Public Works Discussions

Thank you for reaching out. The transportation study and proposed routes will be key for the county to be able to issue a road use permit for this project. Any questions, please feel free to contact me. Thanks

Arthur

On Wed, Jul 23, 2025 at 11:13 AM Jaron Wright <Jaron@brightnightpower.com> wrote:

> Arthur,
> Pleasure making your acquaintance today. I've included Bijan Damavandi in this correspondence, as he is the lead developer for this solar project.
>
> As discussed, BrightNight Power is building a 1,000MW solar + BESS project in the town of Maupin. We are working to submit our EFSC permit by September of this year.
> We will be conducting a haul route study in the near future, which will provide valuable information for discussions on attaining a road use permit with the county.

Our goal will be to confirm the use of specific county roads, what the truck load weights are expected to be, how many truck trips will be needed, ingress and egress needs, along with other details to help inform discussions.

We look forward to working with you on this important energy project. Please let us know if you have any questions on this project, and we'll be glad to provide any additional information you may need.

Regards,
Jaron

Jaron Wright
Senior Director, Development
E jaron@brightnightpower.com
P +1-850-502-3618

--

Arthur Smith | ***Director***
PUBLIC WORKS

arthurs@co.wasco.or.us | www.co.wasco.or.us
541-506-2645 | Fax 541-506-2641
2705 East 2nd Street | The Dalles, OR 97058

--

Arthur Smith | ***Director***
PUBLIC WORKS

arthurs@co.wasco.or.us | www.co.wasco.or.us
541-506-2645 | Fax 541-506-2641
2705 East 2nd Street | The Dalles, OR 97058

--

Arthur Smith | ***Director***
PUBLIC WORKS

arthurs@co.wasco.or.us | www.co.wasco.or.us

541-506-2645 | Fax 541-506-2641
2705 East 2nd Street | The Dalles, OR 97058

--

Arthur Smith | ***Director***
PUBLIC WORKS

arthurs@co.wasco.or.us | www.co.wasco.or.us
541-506-2645 | Fax 541-506-2641
2705 East 2nd Street | The Dalles, OR 97058

ATTACHMENT 8 RECORD OF CORRESPONDENCE WITH THE WASCO COUNTY SHERRIFF'S OFFICE

SHERIFF'S OFFICE

511 Washington St., Ste.102 • The Dalles, OR 97058
p: [541] 506-2580 • **f:** [541] 506-2581 • www.co.wasco.or.us

Pioneering pathways to prosperity.

To**:** Deschutes Solar Project Representatives

From: Lane Magill, Wasco County Sheriff

Date: August 12, 2025

Re: Law Enforcement Services and Public Safety Review for the Deschutes Solar Project

The Wasco County Sheriff's Office is aware of the proposed Deschutes Solar Project. This letter serves to outline the law enforcement services our agency can provide and to detail critical public safety impacts from the recent Bakeoven Solar Project, which must be addressed to ensure community safety and the responsible allocation of our limited resources.

Consistent with our standard policy for such projects, the Sheriff's Office will have the ability to respond to incidents and complaints at the Deschutes Solar Project site as they arise. However, it must be understood that service is contingent upon our existing county-wide call load and the prioritization of other incidents. Our role is limited to the investigation of criminal offenses and does not extend to providing on-site security.

To provide essential context for the potential impacts of this new project, it is imperative to review the public safety outcomes of the Bakeoven Solar Project.

Summary of Bakeoven Solar Project Impacts:

- **Increased Traffic Violations and Accidents:** During the Bakeoven project's construction, the Sheriff's Office received a significant influx of complaints regarding project-related traffic. This included speeding, DUIs, and trespassing, which resulted in a stark increase in incidents compared to the baseline period. This included six motor vehicle accidents directly attributable to project traffic and forced us to implement targeted enforcement patrols to address the issues.
- **Strain on Law Enforcement Resources:** The surge in project-related issues, including 23 separate requests for extra patrols due to citizen complaints, placed a significant strain on our minimally staffed agency. This diverted our resources from other community needs.
- **Negative Impact on Community Livability:** The project's impact went beyond statistics. I received numerous communications from citizens detailing disruptions to their quality of life. Furthermore, our ability to address the full scope of the problems was hindered because many citizens were hesitant to file formal reports

SHERIFF'S OFFICE

511 Washington St., Ste.102 • The Dalles, OR 97058
p: [541] 506-2580 • **f:** [541] 506-2581 • www.co.wasco.or.us

Pioneering pathways to prosperity.

due to a fear of potential retaliation. In one instance, I personally intervened and arrested a highly intoxicated project employee for a domestic disturbance.

Given this recent experience, the Wasco County Sheriff's Office requires a proactive and enforceable plan from the Deschutes Solar Project to ensure these significant public safety and community livability issues are not repeated.

Sincerely,
Lane Magill
Wasco County Sheriff

ATTACHMENT 9 RECORD OF CORRESPONDENCE WITH THE JUNIPER FLAT RURAL FIRE PROTECTION DISTRICT AND AMBULATORY SERVICES

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") is entered into on November 20th , 2025 ("Effective Date"), between DECH bn, LLC, a Delaware limited liability company ("Deschutes Solar"); the Juniper Flat Rural Fire Protection District ("JFRFPD"), a rural fire district organized under Oregon Revised Statutes Chapter 478 ("Fire District"); Southern Wasco County Ambulance Services, Inc., a rural ambulance company ("EMS Provider"); and Wasco County on behalf of the Wasco County Sheriff's Office ("Sheriff's Office").

Recitals

A. JFRFPD provides services within a ninety-three (93) square mile rural fire district that includes the communities of Pine Grove and Wapinitia, farms and ranches on Juniper Flat, and through mutual aid agreements, the communities of Maupin, Tygh Valley, Pine Hollow, Wamic and Shaniko in Wasco County.

B. EMS Provider offers ambulance service for the communities of Tygh Valley, Maupin, Shaniko, and other areas within the ASA-4 Southwest County Area under the Wasco County Ambulance Service Area Plan.

C. Sheriff's Office provides primary law enforcement services in Wasco County, overseeing patrol activities, 911 communications, emergency management, and other response activities.

D. Deschutes Solar proposes to construct and operate a renewable energy facility with solar power generation and battery storage on private agricultural land in south Wasco County, Oregon ("Deschutes Solar and BESS Project") within the Fire District boundary.

E. Deschutes Solar filed a Notice of Intent with the Oregon Department of Energy ("ODOE") on January 17, 2025, and on May 29, 2025, ODOE issued a Project Order establishing the application and study requirements for the Deschutes Solar and BESS Facility Application for Site Certificate ("ASC").

F. Pursuant to OAR 345-022-0110) and OAR 345-022-0030) Deschutes Solar will need to address wildfire prevention and risk mitigation as well as emergency response as part of the ASC, and among other things, will be required to implement mitigation plans for both the construction and operation of the Deschutes Solar and BESS Project.

G. Deschutes Solar, Fire District, and Sheriff's Office want to explore opportunities to work together for the benefit of Fire District, EMS Services, Sheriff's Office, the Deschutes Solar and BESS Project, and to provide value to the local community.

The Parties aspire as follows:

1. Good Faith Coordination and Shared Goals. The Parties seek to work together with a mutual goal of ensuring a safe community.

2. Coordination for Wildfire Risk Analysis. Deschutes Solar is completing a wildfire risk analysis and drafting mitigation plans to minimize and mitigate wildfire risk and risks to public health and safety for the ASC ("Wildfire ASC documents"). The Parties agree to coordinate as follows:

    a. Deschutes Solar will seek input from Fire District when completing the wildfire risk analysis, and Fire District commits to providing timely input, to be provided to Deschutes Solar within two (2) weeks of receiving Deschutes Solar's request and no later than September 5th, 2025.

    b. Deschutes Solar will provide Fire District with draft Wildfire ASC documents for review and comment prior to filing the ASC with ODOE, and Fire District commits to providing timely comments. Documents for review will be sent to Fire District no later than September 12th, 2025; Fire District commits to providing its comments on the Wildfire ASC Documents no later than two (2) weeks its receipt of the Wildfire ASC Documents from Deschutes Solar.

3. Coordination on Public Services and Emergency Response. Deschutes Solar is completing an analysis of the potential impacts to public services including traffic safety and policy and fire protection for the ASC ("Emergency Response ASC documents"). The Parties agree to coordinate as follows:

    a. Deschutes Solar will seek input from EMS Services and Sheriff's Office when completing the public services impacts analysis, and Sheriff's Office commits to providing timely input within two (2) weeks of its receipt thereof.

    b. Deschutes Solar will provide Sheriff's Office with the draft Emergency Response ASC Documents for review and comment prior to filing the ASC with ODOE, and Sheriff's Office commits to providing timely comments within two (2) weeks of its receipt thereof.

4. Will Serve Letters. Fire District, EMS Services, and Sheriff's Office each commit to issuing a "will serve" letter for Deschutes Solar to include in the ASC by August 15, 2025, subject to the availability of resources and standard review and response procedures.

5. Community Benefits Agreement. The Parties desire to enter into a community

benefits agreement ("CBA") whereby Deschutes Solar will provide funding to Fire District and Sheriff's Office for resources to offset potential impacts from the Deschutes Solar and BESS Project, with $200,000 for Fire District and $50,000 for Wasco County on behalf of the Sheriff Office and/or supporting services. Fire District may wish to allocate some of the Fire District community benefit dollars to EMS Services, at its discretion. The CBA would be effective upon EFSC issuing the Final Order and Site Certificate for the Deschutes Solar and BESS Project and any appeal resolved in favor of Deschutes Solar. Deschutes Solar will provide Fire District and Sheriff's Office a draft of the CBA within two (2) months of filing the preliminary ASC with ODOE. For the avoidance of doubt, the terms of the CBA outlined in this Section are non-binding and remain subject to the mutual agreement and execution of the parties to the CBA. To the extent any of the terms in the CBA conflict with any of the terms set forth herein, the

6. Regulatory Approvals. If agency approvals are required to meet the goals of this MOU, as appropriate and within their respective authorities the Parties will work together to secure such approvals. Notwithstanding, the Sheriff's Office shall have no responsibility or role in seeking, endorsing, or facilitating any regulatory approval under this MOU. Nothing herein shall be construed as a commitment by the Sheriff's Office to support or enable any permitting, licensing, or discretionary government action.

7. Counterparts. This MOU may be executed in three or more counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same agreement. Such counterparts may be delivered via facsimile, electronic mail or other transmission method and any counterpart so delivered shall be deemed validly delivered and effective for all purposes.

8. Anti-Corruption & Ethics Compliance. The Parties acknowledge and agree that nothing in this Agreement is intended to, nor shall be construed to, directly or indirectly

    a. influence or affect any official act, decision, or discretion of any public officer, employee, or agency;
    b. offer, authorize, or provide anything of value in exchange for any preferential treatment or official action or otherwise establish any express or implied *quid pro quo* relationship;
    c. violate any applicable federal, state, or local law, including but not limited to:
        i. the federal Program Bribery statute (18 U.S.C. § 666);
        ii. the Honest Services Fraud statute (18 U.S.C. § 1346);
        iii. Oregon Revised Statutes Chapter 244 (Government Ethics Law); or
        iv. any applicable conflict of interest, procurement, or ethics regulations governing public officials or agencies.

Any financial contributions, equipment donations, or services provided in connection with or pursuant to this MOU or the CBA shall be made solely to the public agency or its designated governing body, shall be used exclusively for public purposes, and shall not inure to the benefit of any individual officer or employee.

The Sheriff's Office may receive and utilize such contributions solely in furtherance of its official duties and public mission. However, no such contributions shall be solicited or accepted as a condition of participation in this Agreement, nor shall they be interpreted as influencing or securing any project-related approvals, permits, or discretionary decisions.

The Parties further agree that any such contributions will be publicly disclosed and, where applicable, approved in accordance with the agency's regular budgetary or contracting process. Nothing in this Agreement shall be construed as requiring, implying, or soliciting endorsement or preferential treatment by the Sheriff's Office.

9. Ethics Representations. Each Party hereto certifies and warrants that it has not offered, provided or received and will not offer provide or receive any improper benefit, gratuity or inducement to or from any public official, employee or entity in connection with this MOU or the subject matter discussed herein.
10. Severability. If any provision of this MOU is determined to contravene any anti-corruption, conflict-of-interest, or government ethics law or is otherwise deemed in conflict with any applicable law, rule or regulation, such provision shall be severed, and the remainder of this MOU shall not be affected thereby but shall remain valid and enforceable to the fullest extent permitted by law.

[SIGNATURES ON FOLLOWING PAGE]

Executed in duplicate, and mutually delivered as effective, on the Effective Date.

DECH bn, LLC,
a Delaware limited liability company

By:_____
Name: _____
Its: Authorized Representative

By:_____
Name: _____
Its: Authorized Representative

JUNIPER FLAT RURAL FIRE PROTECTION DISTRICT

By: Eugene A Walters
Name: EUGENE H. WALTERS
Its: Authorized Representative
11/20/2025

SOUTHERN WASCO COUNTY AMBULANCE SERVICES, INC.

By: Alex Carr
Name: Alex Carr
Its: Authorized Representative

WASCO COUNTY

By:_____
Name: _____
Its: Authorized Representative

Executed in duplicate, and mutually delivered as effective, on the Effective Date.

DECH bn, LLC,
a Delaware limited liability company

By:_____
Name: _____
Its: Authorized Representative

By:_____
Name: _____
Its: Authorized Representative

JUNIPER FLAT RURAL FIRE PROTECTION DISTRICT

By:_____
Name: _____
Its: Authorized Representative

SOUTHERN WASCO COUNTY AMBULANCE SERVICES, INC.

By:_____
Name: _____
Its: Authorized Representative

WASCO COUNTY

By:_____
Name: Scott Hege
Its: Commission Chair

Juniper Flat Rural Fire Protection District
53333 Reservation Rd.
Maupin, Oregon 97037
541-328-6388

8-13-2025

Jaron Wright
Senior Director BrightNight Power,

BrightNight Solar Project called the, Deschutes Solar and BESS Facility project is within the Emergency Response boundaries of the Juniper Flat Rural Fire Protection District “JF RFPD” and Southern Wasco County Ambulance “SWCA” ambulance service area (ASA) 4 in which both agencies respond to emergency incidents.

Due to limited resources and funding, both JF RFPD and SWCA is in discussion with BrightNight regarding Fire and EMS mitigation efforts during the project construction and completion phases to lessen to impact of BrightNight Solar Project to both Fire and EMS services.

A high impact of extra traffic and people traveling to and from the BrightNight Solar project could influence both Fire and EMS agencies response capabilities. Both agencies have responded to Motor Vehicle Accidents and EMS incidents on Hwy 97, Hwy 197, Hwy 216, Hwy 3 and the Hwy 26 corridors. These are the routes the BrightNight Solar project personnel will be traveling. These roads are in SWCA ASA’s with the many of the roads being outside the JF RFPD District which JF RFPD does response if called upon.

JF RFPD is a proven high wildfire risk area in which the fire department responds to all types of fires and emergencies. The fire dept has extreme knowledge of the Wildfire Mitigation efforts that are in place and work in our fire district, that needs to be addressed in the Wildfire Mitigation plan.

Eugene Walters, Fire Chief
Juniper Flat RFPD
53333 Reservation Rd.
Maupin Oregon, 97037
Oregon FDID # 00184

Alex Carr, EMS Administrator
Southern Wasco County Ambulance Service, Inc
Maupin, Oregon 97037

From: Jaron Wright <Jaron@brightnightpower.com>
Sent: Friday, November 21, 2025 12:53 PM
To: Alice Sandzen <alice.sandzen@erm.com>
Subject: FW: Proposed Wildfire Mitigation Plans

EXTERNAL MESSAGE

FYI…

Jaron Wright
Senior Director, Development
E jaron@brightnightpower.com
P +1-850-502-3618

From: Jaron Wright
Sent: Friday, November 21, 2025 8:39 AM
To: Eugene Walters <eugene@juniperflatrfpd.com>; Alex Carr <swcaems@hotmail.com>
Cc: Bijan Damavandi <Bijan@brightnightpower.com>
Subject: Proposed Wildfire Mitigation Plans

Good morning Eugene and Alex,
As mentioned in yesterday's call, I'm extending our proposed Construction and Operation Wildfire Mitigation Plans for your review and proposed edits. These attachments are in Word format, so that you can provide edits in Track Changes.
If you can review and respond to this email by Tuesday of next week, I'd be grateful. Please don't hesitate to call me with any questions you may have and I'll be glad to assist.

Have a great weekend,
Jaron

Jaron Wright
Senior Director, Development
E jaron@brightnightpower.com
P +1-850-502-3618