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FOUNTAIN WIND PROJECT

Visual Resources Technical Report Addendum

Submitted in Response to Data Adequacy
Requests by the California Energy Commission

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1 Introduction

This Visual Resources Technical Report Addendum (addendum) serves as a consolidated response to California Energy Commission (CEC) data requests made of Fountain Wind LLC (Applicant) during the CEC certification process for the Fountain Wind Project (project), proposed in Shasta County, California. The addendum updates and revises portions of the Visual Resources Technical Report produced in 2019 (2019 Technical Report), which supported and was appended to Shasta County's Environmental Impact Report for the project.

The current project layout has fewer turbines than those assessed in 2019. Further, coordination with CEC regarding data requests received on February 10, 2023, determined the need for assessment of additional views. This addendum addresses the effects of the project as currently proposed from a revised set of viewpoints. It also completes responses to CEC Data Requests VIS-01, VIS-02, VIS-03, VIS-05, VIS-06, VIS-08, and VIS-09.

Section 2 of this addendum summarizes key components of the project as currently proposed. Section 3 describes the approach to this additional study as it relates to the full discussion of methods in the 2019 Technical Report, which remains applicable. Section 4 presents updated viewshed analysis figures that reflect the current project layout and informed selection of additional Key Observation Points (KOPs) introduced in Section 5. Section 6 presents a discussion of visual effects to each of the representative views assessed here, similar in scope to what was included in the 2019 Technical Report.

2 Project as Currently Proposed

This section responds to Data Requests VIS-01, VIS-03, VIS-06, and VIS-09.

The project assessed in this addendum consists of up to 48 turbines with a maximum output of 7.2 megawatts each and maximum heights of approximately 610 feet (with hub heights up to approximately 328 feet and rotor diameters up to 558 feet). The layout of the project as currently proposed is shown in Figure 1 (all figures are at the end of this addendum), which also shows the currently proposed locations for an operations and maintenance (O&M) facility, access roads, and the following components, all proposed to be located in the interior of the project area: a 5-mile overhead collection line; three permanent meteorological towers (METs); and a substation switchyard. Table VIS-06 provides dimensions for main project components and is provided in Appendix A.

This addendum focuses on the current turbine layout, visibility of the overhead collection line, and clearing for access roads. The 34.5-kV overhead collection system would be installed on wood poles at a maximum height of 90 feet. An approximately 80-foot-wide corridor would be cleared; this corridor would be maintained during the operations phase.

The project site would be accessed via existing, gated logging roads located off State Route (SR) 299. During construction, new internal access roads would have a 20-foot-wide driving surface plus a 10-foot-



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wide buffer on either side, resulting in an approximately 40-foot-wide disturbance area. In some areas, including the few segments of access roads visible from publicly accessible locations (see Section 6.2.5 below), the cleared construction area could be up to 200 feet wide to accommodate cut-and-fill, stormwater controls, road design, crane travel, and blade-delivery-vehicle turning radii. New road surfaces would be graded and graveled. The existing logging road network within the project site would be widened and modified according to the aforementioned specifications to safely accommodate turbine component delivery vehicles and heavy equipment.

2.1 Night Lighting

New sources of night light from the project would be associated with turbine hazard safety lighting required by the Federal Aviation Administration (FAA) and lighting installed on new project facilities.

Designated turbines and METs would have flashing red lights installed to improve nighttime visibility for aviation and that comply with FAA standards and Advisory Circular 70/7460-1L. In accordance with these standards, the Applicant would prepare a lighting plan for the project and obtain FAA approval that would specify the installation of flashing red lights on designated turbines and METs to improve nighttime visibility for aviation. Because the height of the proposed turbines would be greater than 500 feet, it is expected that each would need to be lit with two flashing lights.

Project operations would require night lighting for safety and security. Exterior lighting affixed to the O&M building and other facilities interior to the site would be downward-facing and hooded to reduce potential effects for spillover light or glare outside of the developed area. The exterior lighting is not expected to be observable from any publicly accessible location and is not assessed further in this addendum. Security lighting at gates would be similarly shielded and downward-facing to the extent practicable and would be motion-activated where possible.

Construction would most typically take place between the hours of 6 a.m. and 5 p.m. but could vary during summer or winter months to accommodate specific construction needs or site conditions; e.g., to avoid traffic or high winds or to facilitate the project schedule.

3 Additional Methods

The following portions of the 2019 Technical Report Methods section are updated here as necessary to specify steps taken to identify additional KOPs, simulate views toward project features from them, and evaluate effects.

3.1 Viewshed Analyses

This section responds to Data Requests VIS-01, VIS-02, and VIS-09.

Viewshed analyses were updated as described in the 2019 Technical Report to assess project component visibility accounting for the current turbine layout and the overhead collector lines. All



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viewshed figures show the area within a 10-mile radius of the project area (i.e., the collective footprint containing the turbines and other components) and account for the screening of forested areas as classified in the National Land Cover Database (NLCD), with trees assumed to be 40 feet high.

Figure 2 shows the area of theoretical visibility of the turbines at maximum height (with a blade tip at the apex of its rotation). Figure 3 shows the area of theoretical visibility of the turbines at hub height, assumed to be where any required FAA lighting would be mounted on the turbines. This viewshed serves as an indication of where turbine lighting would be visible at night. Figure 4 shows the area of theoretical visibility of the overhead collector line, with poles assumed to be uniformly 90 feet high with spans of approximately 400 feet.

3.2 Simulations

The simulations included in this addendum were produced using the same process as described in the 2019 Technical Report. Using Autodesk 3ds Max™, Stantec Consulting Services Inc. (Stantec) visualization specialists built a 3D model of the revised project and then developed a simulated perspective (camera view) to match the geo-referenced location of each KOP, as well as the bearing and focal length of each photograph. Using digital elevation model (DEM) data as the land base upon which existing elements in each view (e.g., buildings, vegetation, infrastructure) were modeled based on aerial imagery, they placed the project model and existing elements into the DEM, then adjusted the camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph within which the model was placed. Visual resources specialists reviewed simulations for photo-realistic quality and consistency with the project plans and layout. Simulations presented in this addendum relied on both previously collected photographs and additional photography collected on May 12, 2023. All photographs were taken with a high-resolution digital single-lens reflex camera with a fixed focal length of 50 millimeters, which is accepted as the best approximation of what the human eye sees in focus within a fixed view.

Figures 5 through 11 present existing and simulated images for each KOP, along with an aerial view inset map to help identify which part of the project layout is visible in the view, a panoramic view to present the context of the single-frame simulated view, viewpoint and photo metadata, and—on a second page—a full-size image of the simulation.

3.3 Assessment of Effects

The set of worksheets used to assess effects in the 2019 Technical Report was revised to include just the views requested by CEC. They are provided in Appendix B. Relying on observations during the site photography and the resulting images of views toward the project site, Stantec's visual resources specialists evaluated the visual quality of existing conditions for each KOP. They assessed natural harmony, cultural order, overall coherence, and landscape composition and vividness for each view, assigning a visual quality rating ranging from "very low" to "very high." This assessment was replicated for the simulated images showing the project as it would be seen from each KOP. Stantec established a visual quality rating for each view showing proposed conditions. Comparison of existing and proposed



project conditions identified key aspects of contrast in visual quality that would result from the project. Potential sources of contrast related to visual character, which are described in terms of form, line, color, and texture, were also identified and are discussed as appropriate.

4 Updated Viewshed Analyses

This section responds to Data Requests VIS-01, VIS-02 and VIS-09.

The updated viewshed analyses informed decisions regarding the possibility of additional KOPs in certain areas and, as warranted, their precise location (pending field verification). Figure 2 presents the maximum viewshed of the revised project layout. It indicates varying extents of visibility along SR 299. The areas with the most consistent visibility are the western approach to Hatchet Mountain Pass, within and near the communities of Round Mountain and Montgomery Creek; the valley north of Burney; and a series of discrete, small areas along SR 299's eastern approach to the Hatchet Mountain Pass.

Figure 3 presents the updated hub height viewshed, included here as part of the CEC request to update all viewshed graphics to reflect the revised project layout. This figure evaluates effects of a 328-foot hub height, which is what would allow for the largest rotor diameter within the maximum turbine height of 610 feet, thus allowing for assessment of largest potential turbines in views included in this addendum. Figure 4 displays the viewshed for the overhead transmission line. It indicates that, outside of the project boundary, line-of-sight visibility would be possible from some areas at higher elevations, such as Burney Mountain to the east, Hatchet Ridge to the north, and scattered areas above and to the west of SR 299 west of Hatchet Mountain Pass summit.

5 Updated Set of Key Observation Points

This section responds to Data Requests VIS-01 and VIS-09.

Data requests and follow-up discussions with CEC, during which results of updated viewshed analyses were reviewed, confirmed the need for close-in views of the project with the current project layout simulated, an assessment of more areas where project turbines would appear beyond edge of single-frame views, evaluation of a less-obstructed view from Burney, and demonstration of access road visibility from a public vantage point.

To address these needs, the KOPs evaluated here consist of the following previous and new viewpoints:

- KOP 2 – Montgomery Creek view to east-southeast (previous KOP). View updated with current project layout.
- KOP 3a – Round Mountain view to east (previous KOP 3). View updated with current project layout.



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- KOP 3b – Round Mountain view to east-southeast (new KOP). View of additional turbines outside of the frame of view from KOP 3a.
- KOP 4a – Hatchet Mountain Pass view to west-southwest (new KOP). View from eastbound SR 299 of project turbines. This view replaces the previous KOP 4.
- KOP 4b – Hatchet Mountain Pass view to southwest (new KOP). View from eastbound SR 299 of project's eastern access road.
- KOP 5a – Central Burney view to west-southwest (previous KOP 5). View updated with current project layout.
- KOP 5b – Northern Burney view to southwest (new KOP). View from rural residential portion of Burney (Black Ranch Road) with no obstructions.

Completely updated or new assessments of effects from these views are below.

6 Revised Results and Discussion

This section responds to Data Requests VIS-01, VIS-08, and VIS-09.

This section updates the discussion of visual character and quality in the 2019 Technical Report. Visual character is described and assessed holistically at the landscape level, with all representative KOPs within what was delineated in the 2019 Technical Report as the Mountain Communities Landscape Unit. Visual quality is assessed for each view and reflects the current project layout as simulated in Figures 5 through 11. Text below summarizes content in the worksheets provided in Appendix B.

6.1 Visual Character

The project would place a collection of 48 wind turbines and their accessory developments (e.g., an overhead collector line, operations and management building, substation, access roads requiring some clearing of forest lands) within a ridgetop setting, near an existing utility-scale wind project, and within an area where timber harvesting activities take place. Though larger in scale, the proposed wind turbines would relate in form, color, line, and texture to the existing Hatchet Ridge turbines in views where the two projects would both be visible. Similarly, access roads and other infrastructure support timber harvesting activities, and a large transmission line is visible within a cleared right-of-way over Hatchet Mountain Pass in many views. To that extent, the project would appear as an expansion of existing uses and activities, with a greater area occupied by structures and landscape features already present in the broader area.

However, where existing wind turbines and other features are not readily apparent, the changes to visual character from the project would be substantial, as seen in simulated views from within the intermountain area (grouped as the Mountain Communities Landscape Unit in the 2019 Technical Report). The addition of these large, visually distinctive structures to close-in views from either side of Hatchet Mountain Pass would introduce power-generation activities, including the motion from the rotating turbine blades, to view



backgrounds that appear heavily forested and minimally developed. The visual character of views from Montgomery Creek (KOP 2), Round Mountain (KOP 3a and KOP 3b), and the area just east of the pass (KOP 4a and KOP 4b) would be altered.

6.2 Visual Quality

Table 1 summarizes the effects of the revised project, as discussed by KOP below.

Table 1. Existing and Simulated Visual Quality by Key Observation Point

Key Observation Point (KOP)	Visual Quality in Existing View	Visual Quality with Project	Figure
KOP 2 – Montgomery Creek	Moderate	Moderately low	5
KOP 3a – Round Mountain	Moderate	Moderately low	6
KOP 3b – Round Mountain	Moderate	Moderately low	7
KOP 4a – Hatchet Mountain Pass – view of turbines	Moderately high	Moderate	8
KOP 4b – Hatchet Mountain Pass – view of access road	High	Moderately low	9
KOP 5a – Central Burney	Moderate	Moderate	10
KOP 5b – Northern Burney	Moderately high	Moderately high	11

Each view discussed below is based on the assessment contained in the worksheets in Appendix B.

Key Observation Point 2: Montgomery Creek

Existing visual quality in the view from KOP 2 is moderate; and with the project, visual quality would be reduced to moderately low (Figure 5). Project turbines would be most visible in the center and center-left of the view, though blade tips would be detectable beyond and below the tree line in the right half of the view. They would be noticeable during operation when rotors are spinning. All turbines visible here would be located between 3 and 5 miles from the viewer. Viewers include Montgomery Creek residents and tourists traveling SR 299 to or returning from destinations to the east, all of whom are presumed to have moderately high to high sensitivity to visual change. Other viewers would include commuters in or passing through Montgomery Creek who are presumed to have more moderate sensitivity to visual change.

Project turbines visible from this location would appear along the view’s backdrop atop a ridgeline that contains no visible development under current conditions. Their scale would match that of the high-voltage transmission lines located on a nearby hill and which define the skyline in the right half of the view. The turbines’ placement to the east and above viewers at this location would make their backlit, darkened appearance highly visible during morning hours. When front-lit in afternoon light they would appear lighter, as shown in Figure 5.

The turbines would not appear as part of any larger pattern of development, new or existing. To that extent, the cultural order and overall coherence of the existing view would be reduced with the project. In addition to adding unique forms and a new type of land use to the view, the irregularly oriented turbines



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would extend the presence of built structures across a portion of the back of the view, drawing viewer attention. Given that the segment of highway from which views to the east would be unobstructed would be around 0.1 mile long, the duration of views from people driving near KOP 2 would be short. Vegetation, terrain, and orientation would partially obscure turbines from points north or south along this stretch of SR 299. The view from KOP 2 presents a narrow view toward the project site. In more sustained views from outside the highway corridor, project turbines would be unique to views, as would their motion.

Six of the turbine nacelles (the closest being 3 miles away) would be visible above the ridgeline. Any night lighting of the turbines would be highly visible from this location and would appear where none is currently present. Vegetation may partially or completely block visibility of light from nearby parts of Montgomery Creek, but the simulated view from KOP 2 is indicative of the potential presence of night lighting in unobstructed and partially obstructed views in the area.

Key Observation Point 3a: Round Mountain

The effects of the project in views from KOP 3a would be similar to those from KOP 2. Existing visual quality in the view from KOP 3a is moderate. With the project, visual quality would be reduced to moderately low (Figure 6). Under current conditions, a rounded and articulated ridgeline appears as an undeveloped backdrop to a narrow valley floor that contains residences, mature trees, and a series of high-voltage transmission lines uniformly oriented across the view. With the project, a number of turbines would be visible to either side of the near ridgeline, at various distances from the viewpoint and extending to various heights based on the elevation of their location. The nearest turbines would be around 5 miles away. Viewers at or near KOP 3a include local residents and tourists who are presumed to have moderately high to high sensitivity to visual change and commuters and workers who are presumed to have more moderate sensitivity to visual change.

Except for one segment of the existing transmission line, nothing appears above the ridgeline in existing views from KOP 3a. This would change with construction of the project, and the skyline in the left portion of the view would be defined by turbines. Turbine blades located beyond and below the mountain saddle in the center of the view would also be intermittently visible when spinning. In this view to the east, nine turbines would appear backlit and dark in morning light. As seen in Figure 6, they would appear light and visible when front-lit by afternoon light.

While the project itself would appear orderly in general—seen no closer than the ridgeline but with varying heights and depths—overall coherence and composition of the view would change. What is currently a natural-appearing backdrop to a densely developed transmission corridor would, with the project, appear dedicated to energy generation. The turbines would add elements of visual interest to views from KOP 3a and in nearby Round Mountain; however, their visibility, unique forms and color, and motion when spinning would diminish the intactness of the existing view which would appear as spatially discrete elements within a mostly uninterrupted ridgeline. Because the highway traverses the western edge of this portion of the mountain valley, and because mature vegetation is often set back from the road, views of the project here would be of short duration but less obstructed. The attention of viewers in this portion of Round Mountain would likely be drawn to the project.



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The nacelles of half of the turbines visible here would be visible above the ridgeline and night lighting would be new and unobstructed from an elevated, highly visible location in views from KOP 3. Some lighting associated with the nearby substation or other uses may be sources of existing night light within the mountain valley.

Key Observation Point 3b: Round Mountain

Project effects to the view from KOP 3b, which represents a rotation of the view from KOP 3a to the east-southeast, would be the same: the moderate visual quality of the existing view would be reduced to moderately low (Figure 7). Current conditions are an extension of those described for the view from KOP 3a. The ridgeline remains varied in form and, in its apparently undeveloped state, serves as the view's backdrop, upon which none of the foreground or middleground features encroach. Rural residences and other structures are visible in the foreground, and the angle of view toward the transmission corridor is such that electrical conductors appear highly reflective. The effect is to reinforce the presence of multiple transmission lines across the entire view. With the project, the entire upper portions of two turbines and the blades of six others would be visible extending above the ridgeline. The nearest turbines would be the two most visible ones in the center of the view, located 3.7 and 4.1 miles away. Viewers at or near KOP 3b are the same as for KOP 3a. Residents and tourists are presumed to have moderately high to high sensitivity to visual change, and commuters are presumed to have more moderate sensitivity to visual change.

Effects to this view are similar to those described for the view from KOP 3a. The extent to which the project would appear orderly would be derived from its relegation to the back of the view. However, the varying elevations and distances of the turbines from KOP3b would result in viewers' eyes being drawn to the two most prominent turbines and distracted by the blades of the turbines further away that are rotating in and out of the view above the ridgeline. This would affect the overall coherence of the view and reduce the quality of the scene's composition. As in the view shown for KOP 3a, the natural-appearing mountain backdrop to a developed valley would, with the project, include evidence of additional development.

Views of the project from KOP 3b would be of short duration like those in KOP 3a, during which turbines would likely draw viewer attention. The turbines with nacelles above the ridgeline would likely be sources of new nighttime light from an elevated, highly visible location.

Key Observation Point 4a: Hatchet Mountain Pass

Existing visual quality in the view from KOP 4a is moderately high, and the project visual quality would be reduced to moderate (Figure 8). In the existing view, the highway corridor is codominant with the conifer forest that extends across the view and defines its horizon. All human-made elements visible within the view are within the roadway, and views along this segment of SR 299 are predominantly limited to the roadway corridor by adjacent vegetation of varying species, form, and density.

Turbines would be prominently visible across the majority of this view outside of the highway, with the most proximate and prominent appearing in the left of the view, 0.8 mile away. The nacelles of seven turbines would be visible, with a slight segment of an eighth turbine visible above the ridgeline to the left



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of the nearest turbine. During operation, this blade tip would rotate in and out of view along the skyline, though viewer attention is likely to be drawn to the turbines that are more completely visible. Viewers include mountain communities' residents and tourists traveling SR 299, who are presumed to have moderately high to high sensitivity to visual change. Commuters passing through the area are presumed to have more moderate sensitivity to visual change.

At this location near the top of Hatchet Mountain Pass, the steep slopes observable from lower elevations have given way to a gentler, more rounded ridgetop topography. The ridgeline with the project turbines extend across the view and appear only slightly higher than the KOP's vantage point. The scale of the turbines enhances the contrast in the view with the addition of new structures of unique use, form, color, texture, and motion. Their gray-white color is typical of turbine appearance during increasingly overhead late morning light. They would appear brighter when more directly front-lit during early morning hours, enhancing contrast with the mostly dark forested area. In afternoon and evening hours, their darkened, backlit forms would be equally noticeable along the horizon.

Views outside of the highway corridor from this segment of SR 299 would be of very short duration; the break in vegetation through which the view from KOP 4a is visible is approximately 300 feet long (and fewer project turbines would be visible looking westward down the highway corridor for a distance of less than one mile). Despite that, when visible, all facets of visual quality discussed in this assessment would be reduced with the project in place. The nearest turbine would obstruct a small portion of the forested skyline, affecting the natural harmony of the existing view. Cultural order would be reduced by placement of built features outside of the roadway, which would also affect the overall coherence of the view. Despite the high degree of vividness projected by the turbines, the visual coherence of the existing view would be substantially altered.

Any night lighting of turbines would be highly visible from this location and light would appear where none is currently present. Roadside vegetation would partially or completely block light from adjacent segments of the highway, but lighting would be intermittently visible throughout the passage over the peak.

Key Observation Point 4b: Hatchet Mountain Pass

Existing visual quality in the view from KOP 4b is high; with the project, visual quality would be reduced to moderately low (Figure 10). Located approximately 0.5 mile west of KOP 4a, KOP 4b affords a similar view through roadside vegetation of a mostly undeveloped scene characterized by uniform forestlands extending across the view beyond a small mountain meadow. An existing road extends across part of the meadow, though it is not immediately recognizable as such. Like the view from KOP 4a, the view from KOP 4b is narrow due to the prevalence of mature trees along the highway corridor, which limits visibility and duration of views of the surrounding mountain landscape.

With the project, the blades of two turbines extending above the horizon would rotate in and out of view. Also noticeable would be the clearing through the forest necessary for construction activities and permanent project access. As seen from KOP 4b, which is approximately 0.1 mile east of the project's proposed eastern access road, a linear clearing ranging from 110 to 130 feet wide would ascend the near slope above the meadow. Post-construction, a 50-foot-wide roadway (30 feet of graveled road and 10



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feet of shoulder on either side) would be retained permanently.¹ Near the bottom of the hill, it would appear to turn toward the highway. Tree clearing would be visible along the top of the hill since a staging area would be on the other side of the ridgeline. Viewers of these changes would be the same as for KOP 4a: mountain communities' residents and tourists traveling SR 299 who are presumed to have moderately high to high sensitivity to visual change and commuters passing through the area who are presumed to have more moderate sensitivity to visual change.

As with the view from KOP 4a, all facets of visual quality discussed in this assessment would be reduced with the project in place. Viewers would have a direct, though brief, view of the clearing required for the access road. The corridor's path up the slope and over the ridgeline would substantially alter the natural harmony evident in the existing view by segmenting the forest. This human-made path would replace the natural-appearing skyline as the view's most prominent linear feature: a strong curvilinear swath which, in concert with the fluctuating visibility of turbine blades atop the ridgeline, would result in lower cultural order. When front-lit in morning light, the graveled road would appear enhanced, accentuating the presence of the new linear feature. In the afternoon, when backlit, the removal of the trees would be viewed as a comparatively large rectilinear divot along the ridgetop. Compared with the existing view, the composition of the scene with the project in place would be substantially lessened.

Any night lighting would be highly visible from this location; light would appear where none is currently present. Roadside vegetation would partially or completely block visibility of light from adjacent segments of the highway, and visibility of lighting would likely be intermittent during passage over the summit.

Key Observation Point 5a: Central Burney

Existing visual quality in the view from KOP 5a is moderate and would remain moderate with the project (Figure 10). Hatchet Ridge turbines are visible in the right side of the view, just over 5 miles away. Project turbines would appear to the left of the existing turbines, between 7 and 8.5 miles away. Few of these turbines would be highly visible; most would appear partly obscured by foreground vegetation or intervening topography along the ridgeline, allowing for visibility of just their blades. Viewers at or near KOP 5 include local residents and tourists, who are presumed to have moderately high to high sensitivity to visual change, and commuters, who are presumed to have more moderate sensitivity to visual change.

The angle of view toward these turbines from within central Burney results in their appearing as an extension of an existing string of turbines along Hatchet Ridge. They would be visible to varying degrees and would not, given their position relative to the Hatchet Ridge turbines, appear as unique features in views. Rather, their consistency in appearance would result in a retained coherence and composition in the view. The project turbines, though larger than existing turbines, would appear at a similar scale due to their greater distance from the viewpoint. Because they would appear atop or beyond the current row of

¹ This width is based on a previous iteration of the project description. The current project description (Section 2) specifies a 40-foot-wide roadway, with 20 feet of drivable surface and a 10-foot buffer to either side. Evaluation here of the wider drivable surface within a cleared corridor that remains 110- to 130-foot wide is intentional, allows for flexibility should additional width up to 30 feet of drivable surface be necessary in the future, and likely poses little to no discernable difference from the narrower roadway.



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turbines on the ridgeline backdrop, the intactness of the existing view would be retained. No new structures would appear to encroach on other features in the view. The view's orientation to the west-southwest would result in the turbines appearing well-lit in morning light and backlit and slightly darkened in the afternoon during late fall, winter, and early spring.

Viewers in most of Burney would have inconsistent views of the project, particularly those who would see the project while passing through the downtown area, where foreground buildings and trees would obstruct certain views toward areas outside of town. At night, the turbine lighting already visible from within Burney would appear extended across Hatchet Ridge. However, while the Hatchet Ridge turbine lights appear as a row, given that project's linear layout, lighting associated with the project would, based on the nacelle positions visible in Figure 7b, appear horizontally and vertically layered where visible.

Key Observation Point 5b: Northern Burney

Existing visual quality in the view from KOP 5b is moderately high and would remain moderately high with the project (Figure 11). In this view from the less-populated and developed portion of northern Burney, natural elements are dominant with built features observable throughout. Active farmland with irrigation systems, fences, and gates, occupies the majority of the foreground beyond the roadway, with the edges of forested areas visible. A distribution line is visible extending across the valley, and ranch structures are detectable across the valley.

Hatchet Ridge Wind Project turbines are visible in the right side of the view, between approximately 6 and 6.5 miles away. A transmission corridor cuts through the otherwise forested Hatchet Ridge and is visible to the left of the turbine nearest the center of the view. Project turbines, as close as 8 miles away, would appear to the left of this corridor and the existing turbines. The nacelles of two turbines would be visible, and just the blades of six additional turbines would be visible above the tree line and intermittently visible during operation, when spinning. Viewers at or near KOP 5b include local residents and tourists. Black Ranch Road provides access to regional trails to the north, outside of the 10-mile study area. These viewers are presumed to have moderately high to high sensitivity to visual change. Commuters are presumed to have more moderate sensitivity to visual change.

As with the view from central Burney, the angle of view toward these turbines gives the appearance of an extension of an existing string of turbines along Hatchet Ridge. They would be consistent in scale, form, and color with existing turbines, which would not substantially alter the quality of the view. No new structures would appear to encroach on other features in the view. The view's orientation to the southwest would result in the turbines appearing well-lit in morning light and backlit and slightly darkened in the afternoon during late fall, winter, and early spring, when the sun sits lower in the sky.

Viewers in this portion of Burney would have sustained, unobstructed views of the project, though it should be noted that new turbines would not be visible in views from this area without existing turbines also visible. At night, the turbine lighting already visible would appear extended across Hatchet Ridge. However, the spatial gaps between the existing and proposed turbines would appear different from the uniform pattern of the existing turbines visible from this location. Nighttime conditions, with FAA lights visible, would accentuate this difference.



6.3 Viewer Experience

This section responds to Data Request VIS-05.

Each discussion of the KOPs above identifies likely viewers from the representative viewpoints and their assumed levels of sensitivity to visual change. Regardless of viewer type, the manner in which viewers would experience the project as they traverse Hatchet Mountain Pass would be one of varying visibility, with few locations along SR 299 where sustained views of the project would be visible. Observations made and noted during multiple visits to the project area affirm this, as does the current viewshed figure indicating maximum visibility of the project based on blade tip height (Figure 2).

Figure 2 also indicates areas off the highway where there would likely be line-of-sight visibility of project turbines. However, it must be noted that the viewshed analyses conducted for this assessment account for lands classified in the NLCD as “forested” and assume, conservatively, a uniform tree height of 40 feet for all such lands. The analyses do not account for structures, individual trees, or stands of trees that are not classified as forest (e.g., street trees or yard trees) that impede visibility. The view from central Burney (KOP 5a) is a good example of this in that the viewshed map indicates visibility of between 9 and 16 turbines, but the photo-simulation of the view, which includes trees within central Burney, demonstrates that the actual number of turbines viewed would be fewer than that. Figure 2 also suggests that only portions of the mountain communities within a 10-mile radius of the project would have line-of-sight visibility toward project turbines, with most of Round Mountain falling within the project viewshed, especially along SR 299. Roughly half of Montgomery Creek and lesser proportions of Montgomery Creek Rancheria and Roaring Creek Rancheria would be within the project viewshed.

Eastbound viewers approaching Hatchet Mountain Pass beginning in the oak woodland foothills east of Redding have broad and sustained views of Hatchet Mountain. The Hatchet Ridge wind turbines are visible to varying degrees from this location and more easily identified during late afternoon light (when front-lit) or in early morning (when backlit and silhouetted). During midday, overhead light, distance, and atmospheric haze tends to diminish the turbines’ visual presence. As travelers gain elevation and oak woodland transitions to the mixed conifer setting that defines the vegetative community within the mountain pass, the SR 299 becomes increasingly winding, with some segments dropping into small canyons. This shortens views and orients viewers both toward and away from the upland portion of the mountain area. Alternating orientation toward and away from the project site is an effect that is sustained over the duration of the passage. As viewers approach the project, its visibility would be variable due to viewer orientation and intervening topography and vegetation, which would narrow the field of view. This is how the existing Hatchet Ridge wind turbines are currently viewed. Therefore, project visibility would be highly dependent upon the viewer’s direction of travel, and may be less than what is conservatively depicted in the viewshed in Figure 2.

The southern portion of the community of Round Mountain provides the first sustained view toward the Hatchet Ridge turbines from a closer vantage point. As viewers approach central Round Mountain, the Hatchet Ridge turbines are visible down the highway corridor. Where not obstructed by roadside trees, some portions of this roadway segment would afford views of both projects, with existing turbines visible to the northeast and proposed turbines to the east. Project turbines would be clearly visible from Round



FOUNTAIN WIND PROJECT

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Mountain, as shown in Figure 2 and as observed during site photography. The views from KOP 3a and KOP 3b are representative of static, sustained views throughout the community along with shorter-duration views from moving vehicles along SR 299 and other roads.

By the time travelers reach the community of Montgomery Creek, the topography begins to flatten and the duration of views lengthens. But because the farmed timberlands at the project location are now visible, the backdrop of views in this area would appear more consistently as conifer forest. As seen from KOP 2, this provides a more uniform, but still natural-appearing, backdrop to views here. The visual disruption of this backdrop is part of what informed the discussion about reduced visual quality from KOP 2.

During the final approach to the peak, visibility of the Hatchet Ridge turbines becomes more pronounced, partially as an effect of seeing them in a focused view down and above the roadway corridor in some locations. This experience—in terms of proximity, visibility, and view duration—is indicative of how viewers would experience the project in areas with similar characteristics. Visibility of the project site remains sporadic here, though roadside vegetation is more deciduous than lower portions of the pass, meaning that project turbines could be detectable through leafless branches during winter. Figure 2 indicates high project visibility east of Moose Camp Road, likely due to the increased presence of small meadows along the highway that open up views to the south.

Highway travelers approaching the Hatchet Ridge Pass from the east would, shortly after leaving Burney, occasionally have views of Hatchet Mountain, including existing turbines. An extended mountain valley, where Sierra Pacific Industry's Burney Station is located, affords sustained views of the Hatchet Ridge turbines, with some visibility of the project's turbines.

Further west from this valley, after another winding and narrow increase in elevation to the summit, viewers would have sustained, close views of the project turbines if not for the intervening forestlands adjacent to the road. Figure 2 indicates periodic visibility in this area, in the vicinity of KOP 4a and KOP 4b. Field observations confirmed that the view toward the project site to the southwest along the majority of this stretch of highway would be substantially or entirely obstructed. However, the views from KOP 4a and KOP 4b demonstrate how visible project components, namely turbines and access road segments near SR 299, would be in unimpeded views from this area.

7 Conclusions

Assessment of additional and revised views in this addendum does not alter the conclusions of the 2019 Technical Report, and those conclusions are affirmed through the analysis of additional or replacement views. Development of the Fountain Wind Project would reduce visual quality in views from the Montgomery Creek, Round Mountain, and from the portions of the eastern slope of Hatchet Ridge Pass where the Hatchet Ridge turbines are not visible. In views from Burney, further east of the project, in which existing turbines along Hatchet Ridge are visible, visual quality would not be substantially reduced.



Appendix A Table VIS-06: Approximate Dimensions and Colors, Materials, and Finishes of Major Project Components



CEC Data Request VIS-06: (Provide a) table that describes the dimensions (height, length, and width, or diameter) and proposed color(s), materials, finishes, patterns, and other proposed design characteristics of each major component visible from public viewpoints beyond the project site shall be provided. The table shall include wind turbines, electrical collector lines, operations and maintenance buildings, meteorological towers, and any other built project components that would be visible to the public.

Table VIS-06. Approximate Dimensions and Colors, Materials, and Finishes of Major Project Components

Component	Turbines (V162)				Overhead Collector Line		Aboveground Facilities							
Subcomponent	Nacelle	Hub	Blade	Tower (sections)	Poles	Conductor	MET	Substation	Switching Station	O&M Facility	Storage Sheds	Concrete Batch Plant	Microwave Relay Tower (if required)	Access Roads
Dimensions	Height: 12.5 feet Width: 21.3 feet Length: 41.7 feet	Height: 16.1 feet Width: 14.4 feet Length: 16.1 feet Base to hub height: up to 328 feet	Height: 10.5 feet Width: 14.4 feet Length: 261.2 feet Base to blade tip height: up to 610 feet	Height: between 31.2 and 75.1 feet each	Height: up to 90 feet	Height: 20 – 30 feet Length: up to 5 miles	Height: up to 394 feet Width (Base): 30 feet	5 acres	8 acres	5 acres	10 feet by 20 feet	15 acres (temporary)	Height: 150 feet	Width: 20 feet Length: up to 19 miles
Color	white	white	white	white	brown or gray	gray	aviation-safe orange and white	gray	gray	white and gray	multi	--	gray	gray
Materials	fiberglass	cast iron	fiberglass, carbon fiber, metal	steel	wood or steel	aluminum	steel	metal and concrete	metal and concrete	steel and concrete	painted steel	--	steel	gravel or dirt
Finish (reflectance)	moderate	moderate	low	low	low to moderate	low	moderate	low to moderate	low to moderate	low to moderate	moderate	--	moderate	low

Fountain Wind Project
REVISED KEY OBSERVATION POINTS WORKSHEETS

Revised Key Observation Points Worksheets

Appendix B **REVISED KEY OBSERVATION POINTS**
WORKSHEETS



Fountain Wind Project - Assessment of Visual Effects

Existing Conditions			
KOP 2	Location: Montgomery Creek		Photo Date: 13-Dec-18
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Residents, tourists, commuters, workers	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): East-Southeast / Inferior			
Viewpoint Description (Figure Caption):	View to the east-southeast from the entrance to Montgomery Creek Elementary School from State Route 299.		

VISUAL CHARACTER							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	Overlapping layers of undulating ridgelines visible.	Fore	x	Buildings	Elementary school shed visible beyond school bus in left of view.	Fore	x
		Mid	x			Mid	-
		Back	x			Back	-
Water	NA	Fore		Infrastructure	Utility line extends across view - strong linear/vertical component. Lighting, signage, fence and paving all associated w/ school.	Fore	x
		Mid				Mid	x
		Back				Back	-
Vegetation	Blend of evergreen and deciduous trees of varying species and forms visible throughout the view; individually identifiable in foreground.	Fore	x	Structures	Fences and other farm appurtenances visible in foreground. Structures partially visible along hillside.	Fore	x
		Mid	x			Mid	-
		Back	x			Back	x
Animals	NA	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Sunny.	Fore		Motion	Viewpoints adjacent to highway, but few sources of motion within view aside from traffic to / from school	Fore	x
		Mid				Mid	-
		Back				Back	-

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	4	Ridgelines and hilltops appear to increase in elevation with distance from the viewpoint, giving the appearance of a uniform grade change. No discernable pattern / order to vegetation. Typical view of natural setting from highway corridor.
Cultural Order	4	View epitomizes pattern of development in area: larger developments (i.e., commercial, institutional) relegated within valley floor, with other uses (residential, transmission / infrastructural) extending into nearby foothills, with more distant hills appearing as mostly undeveloped.
Overall Coherence	3	High-voltage power lines cut across view, appearing to extend built features into and above foothills nearest the viewpoint. Transmission towers atop nearby hillside provide slight symmetry with vertical form of school light pole.
Landscape Composition and Vividness	3	Mountain backdrop frames the view and appears to enclose developed / populated areas. Few memorable components, transmission structures atop hill are view's most vivid features.
Overall Visual Quality Score	3.5	Moderate. This view is typical of conditions along the highway corridor, with views toward the mostly undeveloped hills and mountains interrupted by transmission or distribution facilities.

With Project			
KOP 2	Location: Montgomery Creek		Date of Eval: 26-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Residents, tourists, commuters, workers	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): East-Southeast / Inferior			
Viewpoint Description (Figure Caption):	Simulated view from KOP 2. Project turbines would be most visible in the center of the view, between approximately 3 and 5 miles away.		

VISUAL CHARACTER CONTRAST							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	Project would appear beyond / atop land forms and would not effect changes to existing conditions, though would encroach on ridgeline.	Fore	-	Buildings	No change from project	Fore	
		Mid	x			Mid	
		Back	-			Back	
Water	NA	Fore		Infrastructure	No change from project	Fore	
		Mid				Mid	
		Back				Back	
Vegetation	No change from project	Fore		Structures	New turbines visible atop ridgeline in center of view would prominently reshape skyline with new vertical / angular forms.	Fore	-
		Mid				Mid	x
		Back				Back	-
Animals	No change from project	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Atmospheric conditions did not affect project visibility in simulation.	Fore		Motion	The project turbines would be substantial sources of motion along the ridgeline in the middleground.	Fore	-
		Mid				Mid	x
		Back				Back	-

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	4	No change with project. Turbines would appear atop / beyond ridgeline, not within it or in a location that obstructs views of it.
Cultural Order	3	Project turbines would appear set back from the viewpoint and the mountain valley floor, between 3 and 5 miles away. The most visible turbines would appear concentrated in the center of the view.
Overall Coherence	2	Project turbines would be prominently visible in the center of the view, with nacelles above the ridgeline. In the right half of the view, portions of turbine blades appearing above the near hilltop but behind hilltop vegetation are visible. They would create a focal point in the view, deepening the field of view and altering current conditions of a relatively distant, undeveloped ridgeline backdrop.
Landscape Composition and Vividness	3	The addition of turbines to the center of the view would extend the presence of built, highly visible forms across the majority of the upper portion of the view. The project would also introduce a new use to the view, altering the composition of the landscape by adding electricity generation to the highest portion of the view, beyond the transmission facilities and elementary school.
Overall Visual Quality Score	3.0	Moderately Low. Turbines would appear along currently undeveloped portion of ridgeline, adding memorable features but also a new use affecting overall composition of view.

* Foreground = zone including area up to 0.25 - 0.5 mile from viewer; Middleground = zone extending between 0.25 - 0.5 mile from viewer to 3 - 5 miles away; Background = zone extending from 3-5 miles away from viewer to infinity.
 ** 1 = Very Low; 2 = Low; 3 = Moderately Low; 4 = Moderate; 5 = Moderately High; 6 = High; 7 = Very High

Fountain Wind Project - Assessment of Visual Effects

Existing Conditions			
KOP 3a	Location: Round Mountain	Photo Date:	13-Dec-18
Landscape Unit or Type: Mountain Communities		Viewer Type(s): Residents, workers, commuters, tourists	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): East / Inferior			
Viewpoint Description (Figure Caption): View to the east from the Round Mountain Post Office, just south of the Hill Country Community Clinic.			

VISUAL CHARACTER									
Natural Environment			Distance Zones *		Cultural Environment			Distance Zones *	
Land	An irregular ridgeline serves as backdrop to a varied slope (gradual and wide in some areas, steep and crevassed elsewhere) and valley	Fore	-	Buildings	A residence typical of those in the area is visible on the east side of the highway. A second building is visible beyond trees.	Fore	x		
		Mid	-			Mid	-		
		Back	x			Back	-		
Water	NA	Fore		Infrastructure	Multiple towers adjacent to Round Mountain Substation are visible. Towers discernable on ridgeline. Conductors visible along top of view.	Fore	x		
		Mid				Mid	x		
		Back				Back	x		
Vegetation	A variety of individually identifiable trees is visible across the valley floor in the foreground. Vegetative cover of hills and ridge is more uniform.	Fore	x	Structures	None other than buildings and transmission / distribution infrastructure and appurtenance structures (fences, gates).	Fore			
		Mid	x			Mid			
		Back	-			Back			
Animals	NA	Fore		Artifacts / Art	NA	Fore			
		Mid				Mid			
		Back				Back			
Atmospheric	Sunny.	Fore		Motion	Vehicles traveling along SR 299 in either direction are visible in views to the east from the post office.	Fore	x		
		Mid				Mid	-		
		Back				Back	-		

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	4	This view is emblematic of the ridge-and-valley form that characterizes the Mountain Communities landscape unit. Mature vegetation is visible throughout the valley floor, and in a patchier pattern throughout the somewhat rugged mountain backdrop. The natural skyline is disrupted slightly by two discernable transmission towers.
Cultural Order	3	Transmission infrastructure consists of varied forms but appears generally unidirectional (Round Mountain Substation is just left of view) and limited to valley floor with exception of discernable towers along ridgeline. Prominent presence of residence and other non-utility structures on opposite side of SR 299 reduces cultural order in the view.
Overall Coherence	3	Moderately low due to contrast resulting from residence and shed visible amid a landscape otherwise dedicated to electricity transmission.
Landscape Composition and Vividness	4	Transmission towers are the view's most vivid features, along with the mountain backdrop and mature trees closest to the viewpoint. The mostly undeveloped mountain slope and ridgeline provide a clearly defined backdrop to the valley floor.
Overall Visual Quality Score	3.5	Moderate. Ridgeline is a somewhat scenic backdrop to a valley floor that appears visually cluttered despite an overall intactness due to the transmission infrastructure being contained to that area.

With Project			
KOP 3a	Location: Round Mountain	Date of Eval:	26-May-23
Landscape Unit or Type: Mountain Communities		Viewer Type(s): Residents, workers, commuters, tourists	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): East / Inferior			
Viewpoint Description (Figure Caption): Simulated view from KOP 3a. The most visible Project turbines would be in the left of the view, around 5 miles away. Other turbines present in this view would be mostly obscured by the ridgeline.			

VISUAL CHARACTER CONTRAST									
Natural Environment			Distance Zones *		Cultural Environment			Distance Zones *	
Land	Nearest turbine 4.7 miles away. Turbines would visibly encroach on ridgeline but would not appear to alter land.	Fore	-	Buildings	No change from project.	Fore			
		Mid	-			Mid			
		Back	x			Back			
Water	NA	Fore		Infrastructure	No change from project.	Fore			
		Mid				Mid			
		Back				Back			
Vegetation	No change from project except along skyline.	Fore		Structures	Project turbines would be visible to varying extents across the entire ridgeline.	Fore	-		
		Mid				Mid	x		
		Back				Back	x		
Animals	NA	Fore		Artifacts / Art	NA	Fore			
		Mid				Mid			
		Back				Back			
Atmospheric	Atmospheric conditions did not affect project visibility in simulation.	Fore		Motion	Would introduce sources of motion to view background, across entire view (blades, when spinning, would be visible in center and right of	Fore	x		
		Mid				Mid	-		
		Back				Back	x		

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	4	In the background of the view, the project would appear as a prominent interruption in the mostly natural skyline. However, the natural harmony visible to viewers would be retained, if subordinate to built features.
Cultural Order	3	Turbines would be prominent new features in the view, increasing the presence of electricity-related facilities in the landscape. Their vertical forms would relate to the closer transmission towers, and the mostly linear presence along the ridgeline would appear across the view much like the conductor lines visible throughout the foreground.
Overall Coherence	2	With the project, the view changes from one in which electricity transmission is visible as a component to one in which a generation facility is also prominently featured. All other features in the would be subordinate to the varied forms associated with such uses. While thematically consistent, the overall coherence would be reduced.
Landscape Composition and Vividness	3	The turbines would be highly memorable features, given their relative scale and concentration along the ridgeline. Their relegation to the background of the view would retain some intactness in the existing view's composition.
Overall Visual Quality Score	3.0	Moderately low. The project would reinforce a cultural order related to power generation and transmission, but the introduction of prominent new forms would reduce the view's cohesiveness.

* Foreground = zone including area up to 0.25 - 0.5 mile from viewer; Middleground = zone extending between 0.25 - 0.5 mile from viewer to 3 - 5 miles away; Background = zone extending from 3-5 miles away from viewer to infinity.

** 1 = Very Low; 2 = Low; 3 = Moderately Low; 4 = Moderate; 5 = Moderately High; 6 = High; 7 = Very High

Fountain Wind Project - Assessment of Visual Effects

Existing Conditions			
KOP 3b	Location: Round Mountain	Photo Date:	13-Dec-18
Landscape Unit or Type: Mountain Communities		Viewer Type(s): Residents, workers, commuters, tourists	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): East-Southeast / Inferior			
Viewpoint Description (Figure Caption): View to the east-southeast from the Round Mountain Post Office, just south of the Hill Country Community Clinic.			

VISUAL CHARACTER									
Natural Environment			Distance Zones *		Cultural Environment			Distance Zones *	
Land	An irregular ridgeline serves as backdrop to a varied slope (gradual and wide in some areas, steep and crevassed elsewhere) and valley	Fore	-	Buildings	Residences and other structures typical of those in the area is visible on the east side of the highway, in clear view and visible beyond trees.	Fore	x		
		Mid	-			Mid	-		
		Back	x			Back	-		
Water	NA	Fore		Infrastructure	Multiple towers adjacent to Round Mountain Substation are visible. Conductors visible along top of view but not encroaching on ridgeline.	Fore	x		
		Mid				Mid	x		
		Back				Back	x		
Vegetation	A variety of individually identifiable trees is visible across the valley floor in the foreground. Vegetative cover of hills and ridge is more uniform.	Fore	x	Structures	None other than buildings and transmission / distribution infrastructure and appurtenance structures (fences, gates).	Fore			
		Mid	x			Mid			
		Back	-			Back			
Animals	NA	Fore		Artifacts / Art	NA	Fore			
		Mid				Mid			
		Back				Back			
Atmospheric	Sunny.	Fore		Motion	Vehicles traveling along SR 299 in either direction are visible in views to the east-southeast from the post office.	Fore	x		
		Mid				Mid	-		
		Back				Back	-		

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	4	As with the view from KOP 3a, this view is emblematic of the ridge-and-valley form that characterizes the Mountain Communities landscape unit. Mature vegetation is visible throughout the valley floor, and in a patchier pattern throughout the somewhat rugged mountain backdrop. The natural skyline is unencroached upon by transmission facilities.
Cultural Order	3	Transmission infrastructure consists of varied forms but appears generally unidirectional (Round Mountain Substation is just left of view) and limited to valley floor with exception of discernable towers along ridgeline. Presence of residences and other non-utility structures on opposite side of SR 299 reduces cultural order in the view.
Overall Coherence	4	Moderate. While there is an element of visual contrast resulting from residences, gates, fences, etc., their presence is subordinate within a landscape otherwise dedicated to electricity transmission.
Landscape Composition and Vividness	4	Transmission towers are the view's most vivid features, along with the mountain backdrop and mature trees closest to the viewpoint. The mostly undeveloped mountain slope and ridgeline provide a clearly defined backdrop to the valley floor.
Overall Visual Quality Score	3.8	Moderate. Ridgeline is a somewhat scenic backdrop to a valley floor that appears visually cluttered despite an overall intactness due to the transmission infrastructure being contained to that area.

With Project			
KOP 3b	Location: Round Mountain	Date of Eval:	26-May-23
Landscape Unit or Type: Mountain Communities		Viewer Type(s): Residents, workers, commuters, tourists	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): East-Southeast / Inferior			
Viewpoint Description (Figure Caption): Simulated view from KOP 3b. The two Project turbines most visible in the center of the view would be 3.7 and 4.1 miles away.			

VISUAL CHARACTER CONTRAST									
Natural Environment			Distance Zones *		Cultural Environment			Distance Zones *	
Land	Nearest turbine just over 3 miles away. Turbines would visibly encroach on ridgeline but would not appear to alter land.	Fore	-	Buildings	No change from project.	Fore			
		Mid	-			Mid			
		Back	x			Back			
Water	NA	Fore		Infrastructure	No change from project.	Fore			
		Mid				Mid			
		Back				Back			
Vegetation	No change from project except along skyline.	Fore		Structures	Project turbines would be visible across the entire ridgeline in the view from KOP 2.	Fore	-		
		Mid				Mid	x		
		Back				Back	x		
Animals	NA	Fore		Artifacts / Art	NA	Fore			
		Mid				Mid			
		Back				Back			
Atmospheric	Atmospheric conditions did not affect project visibility in simulation.	Fore		Motion	Would introduce sources of motion to view background, across entire view.	Fore	x		
		Mid				Mid	-		
		Back				Back	x		

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	4	In the background of the view, the project would appear as a limited, but prominent interruption in the mostly natural skyline. However, the natural harmony visible to viewers would be retained, if subordinate to built features.
Cultural Order	3	Two turbines would be clearly visible new features in the view, increasing the presence of electricity-related facilities in the landscape. The blades of two other turbines would rotate above/below ridgeline. Their vertical forms would relate to the closer transmission towers. The introduction of motion to the view from the turbines would be accentuated by the intermittently visible turbine blades.
Overall Coherence	2	With the project, the view changes from one in which electricity transmission is visible as a component to one in which a generation facility is also prominently featured. All other features in the would be subordinate to the varied forms associated with such uses. While thematically consistent, the overall coherence would be reduced, particularly due to the visibility of turbines atop the center of the view.
Landscape Composition and Vividness	3	The turbines would be highly memorable features, given their relative scale and concentration atop the ridgeline. Their relegation to the background of the view would retain some intactness in the existing view's composition.
Overall Visual Quality Score	3.0	Moderately low. The project would reinforce a cultural order related to power generation and transmission, but the introduction of prominent new forms would reduce the view's cohesiveness.

* Foreground = zone including area up to 0.25 - 0.5 mile from viewer; Middleground = zone extending between 0.25 - 0.5 mile from viewer to 3 - 5 miles away; Background = zone extending from 3-5 miles away from viewer to infinity.

** 1 = Very Low; 2 = Low; 3 = Moderately Low; 4 = Moderate; 5 = Moderately High; 6 = High; 7 = Very High

[PROJECT NAME] - Assessment of Visual Effects

Existing Conditions			
KOP 4a	Location: Hatchet Mountain Pass		Photo Date: 12-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Tourists, commuters, workers	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): West-Southwest / Inferior			
Viewpoint Description (Figure Caption): View to the west-southwest from SR 299, west of the Hatchet Ridge Wind Farm access road. Variably dense roadside vegetation along this segment of SR 299 limits visibility of the Project site.			

VISUAL CHARACTER							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	Slightly undulating, mostly hilly to mountainous ridgetop setting with some flat areas evident.	Fore	X	Buildings	NA	Fore	
		Mid	X			Mid	
		Back	-			Back	
Water	NA	Fore		Infrastructure	All development limited to highway corridor (roadway, some signage).	Fore	X
		Mid				Mid	-
		Back				Back	-
Vegetation	Strong vertical forms throughout, observable to back of view w/ relatively short depth of field. Some variation in form / color, some	Fore	X	Structures	None.	Fore	
		Mid	X			Mid	
		Back	-			Back	
Animals	NA	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Sunny.	Fore		Motion	Highway traffic.	Fore	X
		Mid				Mid	-
		Back				Back	-

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	5	Limited visibility outside of the tree-lined highway corridor gives the sense of a forested mountain pass. Where visible - intermittently and for short durations - densely vegetated hillsides and the gently sloping hillsides of the top of Hatchet Ridge are observable.
Cultural Order	4	The highway corridor is a strong linear feature; however, its presence represents the extent of human-made modifications visible in this view, and its visual compartmentalization to the immediate foreground and right of view limits its encroachment on areas outside of the corridor.
Overall Coherence	5	The intactness of this view results in the clear appearance of a highway traversing an undeveloped mountain pass.
Landscape Composition and Vividness	5	This view derives its vividness from the timberlands adjacent to and visible from the roadway. Typical of the area, the trees in aggregate portray a naturalistic setting visible from a relatively narrow highway. Views of the terrain at the top of the pass are not as dramatic or vivid as views of the pass.
Overall Visual Quality Score	4.8	Moderately high. The somewhat homogenous vegetative setting reveals a leveling off of the underlying terrain. Viewer experience is of passing over a minor mountain crestline.

With Project			
KOP 4a	Location: Hatchet Mountain Pass		Date of Eval: 26-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Tourists, commuters, workers	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): West-Southwest / Inferior			
Viewpoint Description (Figure Caption): Simulated view from KOP 4a. Project turbines would be visible to different extents at distances of 0.8 mile to 3.4 miles away.			

VISUAL CHARACTER CONTRAST							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	No change from project.	Fore		Buildings	NA	Fore	
		Mid				Mid	
		Back				Back	
Water	NA	Fore		Infrastructure	No change from project.	Fore	
		Mid				Mid	
		Back				Back	
Vegetation	No change from project, except for obstruction of a small segment of forested area behind the nearest turbine.	Fore		Structures	Strong contrast from prominent visibility of multiple turbines.	Fore	-
		Mid				Mid	x
		Back				Back	x
Animals	NA	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Atmospheric conditions did not affect project visibility in simulation.	Fore		Motion	Project turbines would be highly visible sources of motion, visible in views looking down and away from the roadway corridor.	Fore	-
		Mid				Mid	x
		Back				Back	x

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	4	The turbines would appear atop / beyond ridgeline, not within it or in a location that obstructs views of it, aside from a small portion of forested ridgeline that would be obscured by the nearest turbine. To that extent the natural harmony of the existing view would be just slightly altered.
Cultural Order	3	The presence of turbines would extend evidence of human development across the view, though they would appear orderly along and beyond the ridgeline and set back from the viewpoint.
Overall Coherence	3	The contrast between the view's existing coherence and conditions with the Project would derive solely from the presence of turbines. The visual experience of crossing a mountain pass from a visually subordinate 2-lane highway would remain, except that the pass would now appear dominated by turbines of visually unique form, color and scale.
Landscape Composition and Vividness	4	Proposed changes would be substantial and constitute strong contrast. While the natural qualities of the ridgetop environment would not appear altered, the proximity of such a change would draw viewer's attention and substantially alter the visual character in such views. Turbines would be vivid and would add memorable features, but proximity to viewpoint would affect the overall composition of the view.
Overall Visual Quality Score	3.5	Moderate. While the addition of turbines to this would substantially alter the scene, project would appear atop/beyond the ridgeline w/o displacing or altering underlying natural features.

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[PROJECT NAME] - Assessment of Visual Effects

Existing Conditions			
KOP 4b	Location: Hatchet Mountain Pass		Photo Date: 12-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Tourists, commuters, workers	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): Southwest / All			
Viewpoint Description (Figure Caption): View to the southwest from SR 299, just east of the Project's eastern access road. The ridgeline along the back of the view is within 0.5 mile of the viewpoint.			

VISUAL CHARACTER							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	Close-in views from within the top of the Pass reveal relatively little topographic variation, but hillside is accentuated by the cleared meadow.	Fore	x	Buildings	None visible.	Fore	
		Mid	-			Mid	
		Back	-			Back	
Water	NA	Fore		Infrastructure	An existing access road is visible across a portion of the view near the far end of the meadow.	Fore	x
		Mid				Mid	-
		Back				Back	-
Vegetation	Beyond the rounded roadside brush and small, grassy meadow, active timberland consisting mostly of conifers dominates the view.	Fore	x	Structures	None visible.	Fore	
		Mid	-			Mid	
		Back	-			Back	
Animals	NA	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Sunny	Fore		Motion	NA	Fore	
		Mid				Mid	
		Back				Back	

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	6	The scene in this view is of a small meadow clearing backed by an uninterrupted, mature evergreen forest that extends to the horizontal and vertical (along the back of the view) limits of the frame.
Cultural Order	6	Road extending across far end of meadow is the only human-made feature observable and it is not immediately recognizable as such without prior knowledge; from this vantage point, appears recessed or otherwise absorbed into the landscape enough to not appear as a road.
Overall Coherence	6	In general, this scene appears as a mountain meadow at the foot of a forest.
Landscape Composition and Vividness	5	While natural features characterize this view and the opening in roadside vegetation affords a focal view of the forested landscape beyond the highway, this is a typical scene across Hatchet Ridge, where active timber farming results in widespread visibility of mature woodlands and topography allows for meadows of various sizes.
Overall Visual Quality Score	5.8	High. Though consisting mostly of elements visible throughout the intermountain area, this view provides an example of the mtn timber landscape without much evidence of human intervention.

With Project			
KOP 4b	Location: Hatchet Mountain Pass		Date of Eval: 26-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Tourists, commuters, workers	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): Southwest / All			
Viewpoint Description (Figure Caption): Simulated view from KOP 4b. The clearing of trees for the access road is apparent from this location.			

VISUAL CHARACTER CONTRAST							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	The clearing for the access road reveals a strip of land ascending the hillside in the middle of the view.	Fore	x	Buildings	None	Fore	
		Mid	-			Mid	
		Back	-			Back	
Water	NA	Fore		Infrastructure	The proposed access road is visible within the cleared corridor.	Fore	x
		Mid				Mid	-
		Back				Back	-
Vegetation	The access road varies in width from 100' to 130'. All trees and vegetation within the area required for temporary access would be removed from view.	Fore	x	Structures	Turbine blades are visible extending above the ridgeline.	Fore	x
		Mid	-			Mid	-
		Back	-			Back	-
Animals	NA	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Atmospheric conditions did not affect project visibility in simulation.	Fore		Motion	When operational, the blades of the turbines shown here would rotate in and out of view.	Fore	-
		Mid				Mid	x
		Back				Back	-

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	3	The mature evergreen forest would appear separated into two sections, an effect accentuated by the additional clearing required for the larger area on the back side of the ridge, the ground level of which is not visible.
Cultural Order	3	A curvilinear / irregular road ascends the forested hill in the foreground, extending to the top of the ridgeline where it encroaches on the existing natural-appearing wooded ridgeline. The blades, but not nacelles or towers, of two turbines would be intermittently visible. Binary visibility of human-made structures contributes to further disorder.
Overall Coherence	4	Within the Project's broader context, viewers experience partial visibility of wind turbines and access roads throughout Hatchet Ridge and its approaches to the east and west, given the existing presence of timber harvesting activities and Hatchet Ridge Wind Project. The integrity and unity of the existing view is diminished, however.
Landscape Composition and Vividness	3	With the Project, this view becomes a scene of a relatively wide road cutting through a mature evergreen forest to provide access to wind turbines that are only partially and intermittently visible.
Overall Visual Quality Score	3.3	Moderately low. Human activity is now prominently visible in a manner that encroaches on both uninterrupted forest lands and skyline.

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Fountain Wind Project - Assessment of Visual Effects

Existing Conditions			
KOP 5a	Location: Central Burney	Photo Date:	18-Apr-19
Landscape Unit or Type:	Mountain Communities	Viewer Type(s):	Residents, tourists, commuters, workers
View Orientation / Viewer Position to Project (Inferior, Level, or Superior):	West-Southwest / Inferior		
Viewpoint Description (Figure Caption):	View to the west-southwest from downtown Burney. The existing Hatchet Ridge Wind project is visible in the right portion of the view, just over 5 miles away.		

VISUAL CHARACTER									
Natural Environment			Distance Zones *		Cultural Environment			Distance Zones *	
Land	Clearly defined, rounded and gradual ridgeline is visible in portions of view background. Viewpoint vicinity flat and developed.	Fore	x	Buildings	Commercial portion along Burney's Main Street. Relatively large-scale, angular and rectilinear buildings, as well as cottage-scale buildings.	Fore	x		
		Mid	-			Mid	-		
		Back	x			Back	-		
Water	NA	Fore		Infrastructure	Road corridor, including stop lights, occupies large portion of view.	Fore	x		
		Mid				Mid	-		
		Back				Back	-		
Vegetation	Individual trees along ridgeline barely discernable. Mature trees of varying form, color, and scale visible throughout urban area.	Fore	x	Structures	Hatchet Ridge turbines visible. A nearby flagpole and street lights / parking lot lights are among the tallest components for the view.	Fore	x		
		Mid	-			Mid	-		
		Back	x			Back	x		
Animals	NA	Fore		Artifacts / Art	NA	Fore			
		Mid				Mid			
		Back				Back			
Atmospheric	Sunny	Fore		Motion	Hatchet Ridge turbine blade rotation visible from here. Main Street is also SR 299; relatively high volume of through and local traffic.	Fore	x		
		Mid				Mid	-		
		Back				Back	x		

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	3	Ridge and valley composition of Mountain Communities landscape is evident, but developed ridgeline and urban vegetation do not contribute to any substantial degree of natural harmony.
Cultural Order	4	Development appears concentrated within - but not completely relegated to - valley portion of view. Within the urbanized foreground, order is typical of a commercial portion of a small city or town. Existing turbines limited to ridgeline backdrop.
Overall Coherence	4	In views allowing for visibility of the project site, SR 299 / Main Street occupies a substantial portion of the field of vision. Urban forms and vegetation appear to line the roadway and a ridgeline with active electrical generation and transmission activities appears in portions of the background.
Landscape Composition and Vividness	3	None of the observable components are particularly memorable as viewed from this particular location; Hatchet Ridge turbines are vivid, particularly when operating, but are visible here from a distance that reduces their apparent scale. Clean and orderly mountain town streetscape, typical of what viewers would likely expect.
Overall Visual Quality Score	3.5	Moderate. This view affords a view of Burney's mountain backdrop,

With Project			
KOP 5a	Location: Central Burney	Date of Eval:	26-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s):	Residents, tourists, commuters, workers
View Orientation / Viewer Position to Project (Inferior, Level, or Superior):	West-Southwest / Inferior		
Viewpoint Description (Figure Caption):	Simulated view from KOP 5a. Project turbines would be visible near the center of the view, to the left of existing Hatchet Ridge turbines, between 7 and 8.5 miles away.		

VISUAL CHARACTER CONTRAST									
Natural Environment			Distance Zones *		Cultural Environment			Distance Zones *	
Land	No change from project.	Fore		Buildings	NA	Fore			
		Mid				Mid			
		Back				Back			
Water	NA	Fore		Infrastructure	No change from project.	Fore			
		Mid				Mid			
		Back				Back			
Vegetation	No change from project.	Fore		Structures	Jagged / rigid blade tips would be visible just above the skyline in the center-right of the view, partially obscured by trees.	Fore	-		
		Mid				Mid	-		
		Back				Back	x		
Animals	NA	Fore		Artifacts / Art	NA	Fore			
		Mid				Mid			
		Back				Back			
Atmospheric	Atmospheric conditions did not affect project visibility in simulation.	Fore		Motion	Project turbines would extend the horizontal space currently occupied by Hatchet Ridge turbines in which rotating blades would be visible.	Fore	-		
		Mid				Mid	-		
		Back				Back	x		

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	3	The partial visibility of project turbines in the center-right portion of the view, appearing above and beyond the supermarket parking lot, would not detract from the existing natural harmony in the view.
Cultural Order	4	Project turbines, though larger than the existing turbines in view, would appear at a similar scale due to their greater distance from the viewpoint. Because they would appear atop or beyond the current ridgeline backdrop, the integrity of the existing view would be retained. No new structures would appear to encroach on other features in the view.
Overall Coherence	4	Project turbines would expand the portion of the view within which power generation structures would be visible. However, the structures would appear consistent in appearance and at a greater distance than existing, similar structures. The addition of turbines would not substantially affect the overall coherence of the view.
Landscape Composition and Vividness	3	With the project, a currently undeveloped segment of the ridgeline would appear with turbines. Additional turbines would attract viewer attention, but would not be likely to do more than the existing, visible turbines do.
Overall Visual Quality Score	3.5	Moderate. Project turbines visible in a relatively narrow portion of the view, from this distance, would not substantially alter the visual quality of the view, which already includes turbines.

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[PROJECT NAME] - Assessment of Visual Effects

Existing Conditions			
KOP 5b	Location: North Burney		Photo Date: 12-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Residents, commuters, workers, recreationists	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): Southwest / Inferior			
Viewpoint Description (Figure Caption):	View to the southwest from Black Ranch Road in north Burney. Hatchet Ridge Wind project turbines are visible in the right third of the view, as close as 6.2 miles away.		

VISUAL CHARACTER							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	Flat, agricultural lands extend across the first 1.5 miles of the view. Foothills, local ridgelines, and a mountain peak are all visible.	Fore	x	Buildings	A ranch appears visible across the valley in the left half of the view, partially obscured.	Fore	-
		Mid	x			Mid	x
		Back	x			Back	-
Water	Burney Creek runs across the view at the far end of the valley, though it is not detectable in view. Snow appears atop a high peak.	Fore	-	Infrastructure	A transmission corridor is evident descending the mountain slope in the center-right of the view. Distribution lines in valley.	Fore	-
		Mid	x			Mid	x
		Back	x			Back	x
Vegetation	Farmlands in foreground, backed by valley oaks and mostly conifers along left edge and middle- and back-ground of view, upslope.	Fore		Structures	Fence, gate, and other facilities in immediate foreground. Turbines atop distant ridgeline in right third of view.	Fore	x
		Mid				Mid	-
		Back				Back	x
Animals	NA	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Sunny	Fore		Motion	Active farmlands in foreground (including moveable watering machinery). Operating wind turbines in background, along ridgetop.	Fore	x
		Mid				Mid	x
		Back				Back	x

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	5	The foothills and mountains form a mostly natural-appearing backdrop to the working landscape evident in the valley, which itself appears predominantly natural. The cluster of evergreen trees in the left of the view relate to both the wooded hillsides and, in form, to the mountain they partially obscure.
Cultural Order	3	Disparate uses typical of a rural residential / agricultural setting are observable across the view. Beyond the roadway corridor, ag equipment extends across most of the near side of the valley and an electrical distribution line is detectable across the far side. A ranch / home is in the left of the view, Hatchet Ridge Wind turbines and a cleared transmission corridor are visible atop / along the ridgetop in the right.
Overall Coherence	5	Holistically, this is an agrarian landscape, within which viewers see a variety of structures associated with or supportive of cultivation and low-density residential, with power generation and transmission components relegated to the back of the view.
Landscape Composition and Vividness	5	The view reflects a rural residential aesthetic. Development is subordinate to the view's natural features, which contribute vividness in a variety of colors, forms, and, within the mountainous backdrop, layered ridgelines.
Overall Visual Quality Score	4.5	Moderately high. The topographic and vegetative variety evidenced in this view appears to host / support human activities rather than be occupied or substantially encroached upon by them.

With Project			
KOP 5b	Location: North Burney		Date of Eval: 26-May-23
Landscape Unit or Type:	Mountain Communities	Viewer Type(s): Residents, commuters, workers, recreationists	
View Orientation / Viewer Position to Project (Inferior, Level, or Superior): Southwest / Inferior			
Viewpoint Description (Figure Caption):	Simulated view from KOP 5b. Project turbines would appear to the left of and beyond Hatchet Ridge turbines and be visible as close as just over 8 miles away.		

VISUAL CHARACTER CONTRAST							
Natural Environment		Distance Zones *		Cultural Environment		Distance Zones *	
Land	No change with project.	Fore		Buildings	No change with project.	Fore	
		Mid				Mid	
		Back				Back	
Water	No change with project.	Fore		Infrastructure	No change with project.	Fore	
		Mid				Mid	
		Back				Back	
Vegetation	No change with project.	Fore		Structures	Project turbines would be partially visible extending further south from existing wind project. Most turbines identifiable by blades only.	Fore	-
		Mid				Mid	-
		Back				Back	x
Animals	NA	Fore		Artifacts / Art	NA	Fore	
		Mid				Mid	
		Back				Back	
Atmospheric	Atmospheric conditions did not affect project visibility in simulation.	Fore		Motion	Additional turbines would add to visible motion along view's background when both wind projects are operational.	Fore	-
		Mid				Mid	-
		Back				Back	x

VISUAL QUALITY		
	Score**	Notes
Natural Harmony	5	No change with Project.
Cultural Order	3	From this portion of Burney the Project would appear as an extension of the Hatchet Ridge Wind project, with new turbines appearing to the left of and beyond Hatchet Ridge. The longer distance between KOP 5b and proposed (as opposed to existing) turbines means that the difference in size between the proposed turbines and the existing ones in view would be difficult to discern.
Overall Coherence	5	The qualities of the existing view that give it a moderately high degree of overall coherence would not be altered by the addition of turbines to the left of existing turbines.
Landscape Composition and Vividness	5	Under current conditions, existing turbines are visible in approximately one-third of the ridgetop in a view characterized by the vividness of more dominant natural or natural-appearing features. The extension of visible turbines across half of the view would not substantially alter the general composition of the existing view, nor the level of vividness currently derived from visibility of turbines.
Overall Visual Quality Score	4.5	Moderately high. The additional turbines would appear from this area as a nominal extension of existing, similar structures. No other changes would be readily visible.

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