

Appendix H

Visual Resources Study

**United States Department of the Interior
Bureau of Land Management**

**MESA WIND REPOWER
Visual Resources Study**

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for Aspen Environmental Group

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1. Methodology for Analysis

This report provides the visual contrast analysis and simulations for the Mesa Wind Repower Project (MWRP). The MWRP is a repower of an existing 30 megawatt wind project. It would amend the existing right-of-way grant to remove more than 400 existing 36-year-old turbines and construct, operate, maintain, and decommission up to 11 new turbines located entirely within the existing Mesa Wind right-of-way on Bureau of Land Management (BLM) administered land.

An *adverse visual effect* typically occurs within public view when: (1) an action perceptibly changes existing features of the physical environment so that they no longer appear to be characteristic of the subject locality or region; (2) an action introduces new features to the physical environment that are perceptibly uncharacteristic of the region and/or locale; or (3) visually prominent natural or cultural features of the landscape become less visible (e.g., partially or totally blocked from view) or are removed. Changes that seem uncharacteristic are those that appear out of place, discordant, or distracting. The degree of the visual effect depends upon how noticeable the adverse change is. The noticeability of a visual effect is a function of project features, context, and viewing conditions (angle of view, distance, primary viewing directions, and duration of view).

The factors considered in determining adverse effects on visual resources included: (1) scenic quality of the MWRP site and vicinity; (2) available visual access and visibility and the frequency and duration under which the landscape is viewed; (3) viewing conditions (distance, angle of observation, relative size or scale, spatial relationships, motion, light conditions, seasonable variability and use, atmospheric conditions, and recovery time) and the degree to which the MWRP components would dominate the view of the observer; (4) resulting contrast (form, line, color, and texture) of the project facilities or activities with existing landscape characteristics; (5) the extent to which MWRP features or activities would block views of higher value landscape features; and (6) the level of public interest in the existing landscape characteristics and concern over potential changes.

After review of the MWRP project viewshed analysis, the BLM selected six Key Observation Points (KOPs) that would represent key views of the project. Digital techniques were used to produce simulations of the MWRP as it would appear with implementation as seen from the KOPs. The Proposed Action and alternatives simulations assisted in the on-site assessment of the contrast of the action alternatives with existing landscape elements.

BLM VRM Contrast Analysis Methodology

Under the BLM's Visual Resource Management (VRM) Visual Contrast Rating (VCR) System, the Proposed Action and alternatives are analyzed for their effects on visual resources using an assessment of the visual contrast within the landscape created by components of the MWRP. Impacts to the visual resource values and conformance with VRM Class Objectives are evaluated through a contrast rating process described below. The degree to which the Proposed Action and alternatives adversely affect the visual quality of a landscape is directly related to the amount of visual contrast between the action alternatives and the existing landscape character.

Visual Contrast Ratings were determined at each KOP using the BLM's VRM System manual (BLM 1986). The Visual Contrast Rating forms are provided in Section 3 of this appendix. Under the VRM System, the degree to which a project or activity affects the visual quality of a landscape depends on the visual contrast created between the project components and the major features, or predominant qualities, in the existing landscape. Visual contrast evaluates a project's consis-

tency with the visual elements of form, line, color, and texture already established in the viewshed. In a sense, visual contrast indirectly indicates a particular landscape's ability to absorb a project's components and location without resulting in an uncharacteristic appearance. Other elements that are considered in evaluating visual contrast include the degree of natural screening by vegetation and landforms; placement of structures relative to existing vegetation, landforms, and other structures; observer's angle of view relative to the project; distance from the point of observation; viewing duration/spatial relationships; atmospheric conditions; season of use; lighting conditions; and relative size or scale of a project. Once the degree of anticipated contrast is determined (ranging from none to strong), a conclusion on the overall level of change is made (ranging from very low to high) and compared to the applicable VRM Class Objective for a determination of conformance with the Interim VRM Class Objectives.

For the MWRP, the applicable VRM Classes are **VRM Class II** (for the access road) and **VRM Class IV** (for the wind ROW including all WTGs). The management objectives for these VRM Classes are as follows.

VRM Class II. *The objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.*

VRM Class IV. *The objective is to provide for management activities that require major modification of the landscape character. The level of change to the characteristic landscape can be high. Management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repetition of the basic landscape elements.*

2. Key Observation Points

Six representative KOPs were established to assess the various factors that are considered in the evaluation of a landscape's existing visual resources. These KOPs were selected in consultation with the BLM and are representative of the most critical locations from which the Project and alternatives would be seen. KOPs were located based on their usefulness in evaluating existing landscapes and potential impacts on various viewing populations. KOP locations include: (1) sensitive residential communities in close proximity to the Project (Bonnie Bell, Whitewater, and Snow Creek Village), (2) important recreation facilities (PCT), (3) important travel routes (SR-111 and I-10), and (4) more distant communities (Cabazon) with views of the Project. These locations provide representative examples of the existing landscape context and viewing conditions for the Project and are shown on Figure H 1. At each KOP, the existing landscape was characterized and photographed. The following paragraphs describe each of the six KOPs.

KOP 1 – Bonnie Bell. KOP 1 was established on Whitewater Canyon Road in the residential enclave of Bonnie Bell (see Figure H 2A). This KOP was selected because of the high visual sensitivity of this nearby residential area and its proximity to the Project site. Viewing to the northwest, this view captures a portion of the southern foothills of the San Bernardino Mountains. The rocky ridge in the center of Figure H-2A is approximately 0.5 mile west of Bonnie Bell and marks the eastern-most extent of the Mesa site. This area includes a foreground desert community landscape backdropped by rounded, rugged desert hills and curvilinear to angular ridges that support vegetation patterns that range from sparse to patchy clumps to irregular groupings.

Grasses and shrubs are of subdued color consisting of tans, browns, and muted greens. The rugged foothills and pronounced ridgelines confine views to the foreground distance zone and provide a backdrop of visual interest. The residential structures comprise geometric forms that appear somewhat weathered and rough-hewn and are substantially obscured in shaded depths by surrounding trees and vegetation. The applicable VRM Class Rating is Class IV along the hilltops and ridges underlying the footprint of the Proposed Action and Alternative C WTGs that would be visible from this viewpoint. The KOP 1 Contrast Rating Form is provided in Section 3.

KOP 2 – Whitewater. KOP 2 was established on Haugen-Lehmann Way in the residential community of Whitewater (Figure H 3A). This KOP was selected because of the high visual sensitivity of this nearby residential area and its proximity to the Project site. Viewing to the northeast, this view captures a portion of the southern foothills of the San Bernardino Mountains and the dry, rocky alluvial fan where the community of Whitewater is located. The curvilinear ridge in the center of Figure H-3A is approximately 1.25 miles northeast of KOP 2. This area includes a foreground desert residential community landscape of scattered houses, utility lines, and sparse to irregular groupings of arid vegetation of subdued color, consisting of tans, browns, and muted greens. The residential structures comprise geometric forms and the numerous WTGs of the existing Mesa and Alta Mesa projects are readily visible as skylined vertical features along the ridgeline in the background. The applicable VRM Class Rating is Class IV along the western hilltops and ridges underlying the footprint of the Proposed Action and Alternative C WTGs that would be visible from this viewpoint. The KOP 2 Contrast Rating Form is provided in Section 3.

KOP 3 – Snow Creek Village. KOP 3 was established on northbound Snow Creek Road, just north of the Snow Creek Village residential enclave (see Figure H 4A). This KOP was selected because of the high visual sensitivity of this residential area and its unobstructed sightlines to the Mesa Project. As shown in Figure H-4A, viewing to the north, the open, panoramic view over the alluvial plain of the eastern portion San Gorgonio Pass captures a portion of the southern foothills of the San Bernardino Mountains. These angular to horizontal ridges provide a backdrop of visual interest to the foreground flat desert landscape that appears somewhat non-descript and common to the western Coachella Valley. The vegetation consists of low-growing grasses and shrubs of subdued color consisting of tans, browns, and muted greens. The vegetation appears patchy to more continuous at distance. The angular to horizontal tan ridge that occupies the center of the image is approximately 3.6 miles north of KOP 3 and is the location of the western portion of the Mesa Project. Some of the existing gray, lattice-support WTGs are visible along the western slopes of the ridge and along the ridgetop. The applicable VRM Class Rating is Class IV along the western hilltops and ridgeline underlying the footprint of the Proposed Action and Alternative C WTGs that would be visible from this viewpoint. The KOP 3 Contrast Rating Form is provided in Section 3.

KOP 4 – Pacific Crest National Scenic Trail. KOP 4 was established on the PCT, approximately 0.4 miles northwest of the nearest existing WTGs along the ridge (to the east) in Figure H 5A. This KOP was selected because of the high visual sensitivity of the PCT and its very close proximity to the Mesa Project. As shown in Figure H-5A, the view to the southeast for the southbound hiker on the PCT would be fairly constrained by parallel ridges. Views to the east and southeast down the trail would be dominated by a very dense distribution of vertical, lattice-support legacy towers. The simple linear to complex geometric forms and lines create substantial industrial landscape character in an area that would otherwise be characterized as a rugged, desert backcountry landscape. Landforms are predominantly angular to horizontal rocky ridges with patchy clumps to irregular groupings of shrubs and grasses. Overall natural landscape colors consist of muted earth tones of tan, brown, gray, and green. The applicable VRM Class Ratings for this portion of the Mesa Project area is VRM Class IV for all other areas underlying the footprint of the Proposed

Action and Alternative C WTGs that would be visible from this viewpoint. The KOP 4 Contrast Rating Form is provided in Section 3.

KOP 5 – Cabazon and I-10. KOP 5 was established at the Circle K parking lot, adjacent to the Main Street off-ramp from eastbound I-10, approximately 6.3 miles west-southwest of the Mesa site (see Figure H 6A). This KOP was selected to be representative of the typically obstructed views of the Project from the community of Cabazon and from the I-10. As shown in Figure 3.12-6A, viewing to the east-northeast, the view encompasses primarily an urban freeway landscape of travel lanes, off-ramps, overpasses, and frontage businesses, backdropped by the southeast extent of the San Bernardino Mountains and the distant Mesa legacy towers (along with others) on the eastern-most ridgelines forming the northern boundary of San Gorgonio Pass. The angular to horizontal ridges provide a backdrop of some visual interest to the foreground freeway landscape that typifies the view within San Gorgonio Pass. The vegetation consists of low-growing grasses and shrubs of subdued color consisting of tans, browns, and muted greens. The vegetation appears patchy to more continuous at distance along the hillslopes and ridgelines. The Mesa legacy towers with their lattice support structures can barely be distinguished along the angular to horizontal tan ridges that backdrop the center of the image presented as Figure H-6A. The applicable VRM Class Ratings are Class IV for the Proposed Action and Alternative C WTGs that would be visible from this viewpoint. The KOP 5 Contrast Rating Form is provided in Section 3.

KOP 6 – SR-111. KOP 6 was established on westbound SR-111, approximately 0.8 mile east of Snow Creek Road and approximately 2.7 miles south of the Mesa Project (see Figure H 7A). This KOP was selected as representative of the available views of Project from major roads in the area. As shown in Figure H-7A, viewing to the north, the open, panoramic view over the alluvial plain of the eastern portion San Gorgonio Pass captures a portion of the southern foothills of the San Bernardino Mountains. These angular to horizontal ridges provide a backdrop of visual interest to the foreground flat desert landscape that appears somewhat non-descript and common to the western Coachella Valley. The vegetation consists of low-growing grasses and shrubs of subdued color consisting of tans, browns, and muted greens. The vegetation appears patchy and irregular. Existing legacy turbines of the Project and the Alta Mesa Project are visible along the ridgelines in Figure H-7A. The turbines visible in the center of the image are part of the Alta Mesa Project. The applicable VRM Class Rating is Class IV along the ridgelines underlying the footprint of the Proposed Action and Alternative C WTGs that would be visible from this viewpoint. The KOP 6 Contrast Rating Form is provided in Section 3.


3. Contrast Rating Forms

The following pages provide the MWRP Proposed Action Contrast Rating Forms for each of the KOPs. An additional Contrast Rating Form is also provided for Alternative C (Reduced Turbine Alternative) as viewed from KOP 1.

Visual Contrast Rating Data Sheet

Mesa Wind Repower Project Environmental Assessment

KEY VIEWPOINT DESCRIPTION

Key Observation Point <div style="text-align: center; font-size: 1.5em;">1</div>	
Location Whitewater Canyon Road in the residential community of Bonnie Bell, viewing northwest.	
VRM Class <div style="text-align: center; font-size: 1.5em;">IV</div>	
Analyst Michael Clayton	
Date February 11, 2020	

Latitude: 33.946581° Longitude: -116.642462°

CHARACTERISTIC LANDSCAPE DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Rounded to angular hills and ridges	Patchy clumps to irregular groupings and continuous	Partially obscured geometric forms and linear fence posts in residential area
Line	Curvilinear to diagonal	Irregular and indistinct	Partially obscured diagonal to vertical; irregular for ridgeline WTGs
Color	Light tans to gray	Tans and greens for trees and shrubs, golden tans for grasses	Brown for residential features, white to light gray for ridgeline WTGs
Texture	Smooth to granular and coarse	Matte	Rough-hewn to matte for residential features, smooth for WTGs

PROPOSED ACTIVITY DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Same	Same	Geometric to simple linear
Line	Same	Same	Prominent vertical for supports and horizontal, vertical and diagonal for blades
Color	Same	Same	White
Texture	Same	Same	Smooth

DEGREE OF CONTRAST

	LANDFORM / WATER				VEGETATION				STRUCTURES			
	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG
Form	✓				✓							✓
Line	✓				✓							✓
Color	✓				✓						✓	
Texture	✓				✓						✓	


LEVEL OF CHANGE & VRM CLASS CONSISTENCY

Term: <input type="checkbox"/> Short <input checked="" type="checkbox"/> Long	Level of Change: <input type="checkbox"/> Very Low <input type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input checked="" type="checkbox"/> High
Does the Project Design Meet VRM Objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Visual Contrast Rating Data Sheet

Mesa Wind Repower Project Environmental Assessment

KEY VIEWPOINT DESCRIPTION

Key Observation Point <div style="text-align: center; font-weight: bold; font-size: 1.2em;">2</div>	
Location Haugen-Lehmann Way in the rural residential community of White Water, viewing northeast.	
VRM Class <div style="text-align: center; font-weight: bold; font-size: 1.2em;">IV</div>	
Analyst <div style="text-align: center;">Michael Clayton</div>	
Date <div style="text-align: center;">February 11, 2020</div>	

Latitude: 33.928073° Longitude: -116.689067°

CHARACTERISTIC LANDSCAPE DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Rounded to angular hills and ridges to horizontal alluvial fan	Patchy clumps to irregular groupings and continuous	Partially obscured geometric forms, prominent utility poles and energy facilities
Line	Curvilinear to diagonal	Irregular and indistinct	Vertical to diagonal and horizontal
Color	Light tans to gray	Tans and muted greens for trees and shrubs, golden tans for grasses	Variable for residences, white to light gray and brown for utility and energy facilities
Texture	Smooth to granular and coarse	Matte	Smooth to rough-hewn to matte

PROPOSED ACTIVITY DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Same	Same	Geometric to simple linear
Line	Same	Same	Prominent vertical for supports and horizontal, vertical and diagonal for blades
Color	Same	Same	White
Texture	Same	Same	Smooth

DEGREE OF CONTRAST

	LANDFORM / WATER				VEGETATION				STRUCTURES			
	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG
Form	✓				✓						✓	
Line	✓				✓						✓	
Color	✓				✓						✓	
Texture	✓				✓					✓		


LEVEL OF CHANGE & VRM CLASS CONSISTENCY

Term: <input type="checkbox"/> Short <input checked="" type="checkbox"/> Long	Level of Change: <input type="checkbox"/> Very Low <input type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High
Does the Project Design Meet VRM Objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Visual Contrast Rating Data Sheet

Mesa Wind Repower Project Environmental Assessment

KEY VIEWPOINT DESCRIPTION

Key Observation Point <div style="text-align: center; font-weight: bold; font-size: 1.2em;">3</div>	
Location Snow Creek Road, just north of the rural residential enclave of Snow Creek Village, viewing north across San Geronio Pass.	
VRM Class <div style="text-align: center; font-weight: bold; font-size: 1.2em;">IV</div>	
Analyst Michael Clayton	
Date February 11, 2020	

Latitude: 33.894064° Longitude: -116.682789°

CHARACTERISTIC LANDSCAPE DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Horizontal valley floor, horizontal to angular mountains and ridgelines	Patchy clumps to irregular and continuous at distance	Foreground linear utility poles to ridgetop linear wind turbines
Line	Horizontal to diagonal and irregular	Irregular and indistinct to horizontal as defined by valley floor	Vertical (poles and turbines) to diagonal (conductors and road)
Color	Light tans to gray	Tans and muted to dark greens for shrubs, golden tans for grasses	Gray (road) to brown (poles) to white (turbines)
Texture	Smooth to granular and coarse	Matte	Smooth to Matte

PROPOSED ACTIVITY DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Same	Same	Simple linear
Line	Same	Same	Prominent vertical for supports and horizontal, vertical and diagonal for blades
Color	Same	Same	White
Texture	Same	Same	Smooth

DEGREE OF CONTRAST

	LANDFORM / WATER				VEGETATION				STRUCTURES			
	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG
Form	✓				✓					✓	✓	
Line	✓				✓					✓	✓	
Color	✓				✓						✓	
Texture	✓				✓					✓		


LEVEL OF CHANGE & VRM CLASS CONSISTENCY

Term: <input type="checkbox"/> Short <input checked="" type="checkbox"/> Long	Level of Change: <input type="checkbox"/> Very Low <input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High
Does the Project Design Meet VRM Objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Visual Contrast Rating Data Sheet

Mesa Wind Repower Project Environmental Assessment

KEY VIEWPOINT DESCRIPTION

Key Observation Point 4	
Location Pacific Crest Trail, approximately 0.4 mile northwest of the nearest existing WTGs along the ridge to the left (east) in the image.	
VRM Class II / IV	
Analyst Michael Clayton	
Date February 11, 2020	

Latitude: 33.963924° Longitude: -116.666803°

CHARACTERISTIC LANDSCAPE DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Rounded to angular hills and ridges	Patchy clumps to irregular groupings and continuous	Simple linear to complex geometric
Line	Curvilinear to diagonal and irregular	Irregular and indistinct	Prominent vertical (supports) to vertical, horizontal, and diagonal (supports & blades)
Color	Light tans to brown and gray	Tans and muted greens for shrubs, golden tans for grasses	Gray and white
Texture	Smooth to granular and coarse	Matte	Smooth

PROPOSED ACTIVITY DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Same	Same	Simple linear (supports and blades), tubular (supports)
Line	Same	Same	Prominent vertical (supports) to horizontal, vertical, and diagonal (blades)
Color	Same	Same	White and gray
Texture	Same	Same	Smooth

DEGREE OF CONTRAST

	LANDFORM / WATER				VEGETATION				STRUCTURES			
	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG
Form	✓				✓					✓	✓	
Line	✓				✓					✓	✓	
Color	✓				✓					✓	✓	
Texture	✓				✓					✓	✓	


LEVEL OF CHANGE & VRM CLASS CONSISTENCY

Term: <input type="checkbox"/> Short <input checked="" type="checkbox"/> Long	Level of Change: <input type="checkbox"/> Very Low <input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High
Does the Project Design Meet VRM Objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Visual Contrast Rating Data Sheet

Mesa Wind Repower Project Environmental Assessment

KEY VIEWPOINT DESCRIPTION

Key Observation Point <div style="text-align: center; font-weight: bold; font-size: 1.2em;">5</div>	
Location Circle K parking lot in Cabazon, along the south side of Interstate 10 and approximately 6.25 miles west-southwest of the Project site.	
VRM Class <div style="text-align: center; font-weight: bold; font-size: 1.2em;">II / IV</div>	
Analyst Michael Clayton	
Date February 11, 2020	

Latitude: 33.918137° Longitude: -116.779724°

CHARACTERISTIC LANDSCAPE DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Horizontal valley floor to rounded and angular hills and ridges	Patchy clumps to irregular groupings and continuous	Partially obscured geometric forms and linear posts, lights, and roads
Line	Horizontal to curvilinear and diagonal	Irregular and indistinct	Horizontal to partially obscured diagonal to vertical
Color	Light tans to gray	Tans and muted to greens for shrubs, golden tans for grasses	Tans, gray, white and yellow
Texture	Smooth to granular and coarse	Matte	Smooth to matte

PROPOSED ACTIVITY DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Same	Same	Simple linear
Line	Same	Same	Barely distinct vertical to diagonal
Color	Same	Same	White and gray
Texture	Same	Same	Smooth

DEGREE OF CONTRAST

	LANDFORM / WATER				VEGETATION				STRUCTURES			
	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG
Form	✓				✓					✓		
Line	✓				✓					✓		
Color	✓				✓					✓		
Texture	✓				✓					✓		


LEVEL OF CHANGE & VRM CLASS CONSISTENCY

Term: <input type="checkbox"/> Short <input checked="" type="checkbox"/> Long	Level of Change: <input type="checkbox"/> Very Low <input checked="" type="checkbox"/> Low <input type="checkbox"/> Moderate <input type="checkbox"/> High
Does the Project Design Meet VRM Objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Visual Contrast Rating Data Sheet

Mesa Wind Repower Project Environmental Assessment

KEY VIEWPOINT DESCRIPTION

Key Observation Point <div style="text-align: center; font-weight: bold; font-size: 1.2em;">6</div>	
Location Westbound SR-111, approximately 0.8 mile east of Snow Creek Road and approximately 2.5 miles south of the Project site.	
VRM Class <div style="text-align: center; font-weight: bold; font-size: 1.2em;">IV</div>	
Analyst Michael Clayton	
Date February 11, 2020	Latitude: 33.909743° Longitude: -116.655530°

CHARACTERISTIC LANDSCAPE DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Horizontal valley floor, horizontal to angular mountains and ridgelines	Patchy clumps to irregular	Distant ridgetop linear wind turbines
Line	Horizontal to diagonal and irregular	Irregular and indistinct	Vertical (turbines) to diagonal (some rotors)
Color	Light tans to gray to bluish hues at distance	Tans and muted to dark greens for shrubs, golden tans for grasses	White
Texture	Smooth to granular and coarse	Matte	Smooth

PROPOSED ACTIVITY DESCRIPTION

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Same	Same	Simple linear
Line	Same	Same	Prominent vertical for supports and horizontal, vertical and diagonal for blades
Color	Same	Same	White
Texture	Same	Same	Smooth

DEGREE OF CONTRAST

	LANDFORM / WATER				VEGETATION				STRUCTURES			
	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG
Form	✓				✓					✓	✓	
Line	✓				✓					✓	✓	
Color	✓				✓						✓	✓
Texture	✓				✓					✓	✓	


LEVEL OF CHANGE & VRM CLASS CONSISTENCY

Term: <input type="checkbox"/> Short <input checked="" type="checkbox"/> Long	Level of Change: <input type="checkbox"/> Very Low <input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High
Does the Project Design Meet VRM Objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Visual Contrast Rating Data Sheet

Mesa Wind Repower Project Environmental Assessment

KEY VIEWPOINT DESCRIPTION

Key Observation Point 1 – Alternative C (RTA)	
Location Whitewater Canyon Road in the residential community of Bonnie Bell, viewing northwest.	
VRM Class <div style="text-align: center; font-size: 1.2em;">IV</div>	
Analyst Michael Clayton	
Date February 11, 2020	

Latitude: 33.946581° Longitude: -116.642462°

CHARACTERISTIC LANDSCAPE DESCRIPTION – Alternative C (RTA)

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Rounded to angular hills and ridges	Patchy clumps to irregular groupings and continuous	Partially obscured geometric forms and linear fence posts in residential area
Line	Curvilinear to diagonal	Irregular and indistinct	Partially obscured diagonal to vertical; irregular for ridgeline WTGs
Color	Light tans to gray	Tans and greens for trees and shrubs, golden tans for grasses	Brown for residential features, white to light gray for ridgeline WTGs
Texture	Smooth to granular and coarse	Matte	Rough-hewn to matte for residential features, smooth for WTGs

PROPOSED ACTIVITY DESCRIPTION – Alternative C (RTA)

	LANDFORM / WATER	VEGETATION	STRUCTURES
Form	Same	Same	Geometric to simple linear
Line	Same	Same	Noticeable vertical for supports and horizontal, vertical and diagonal for blades
Color	Same	Same	White with gray shadowing
Texture	Same	Same	Smooth

DEGREE OF CONTRAST – Alternative C (RTA)

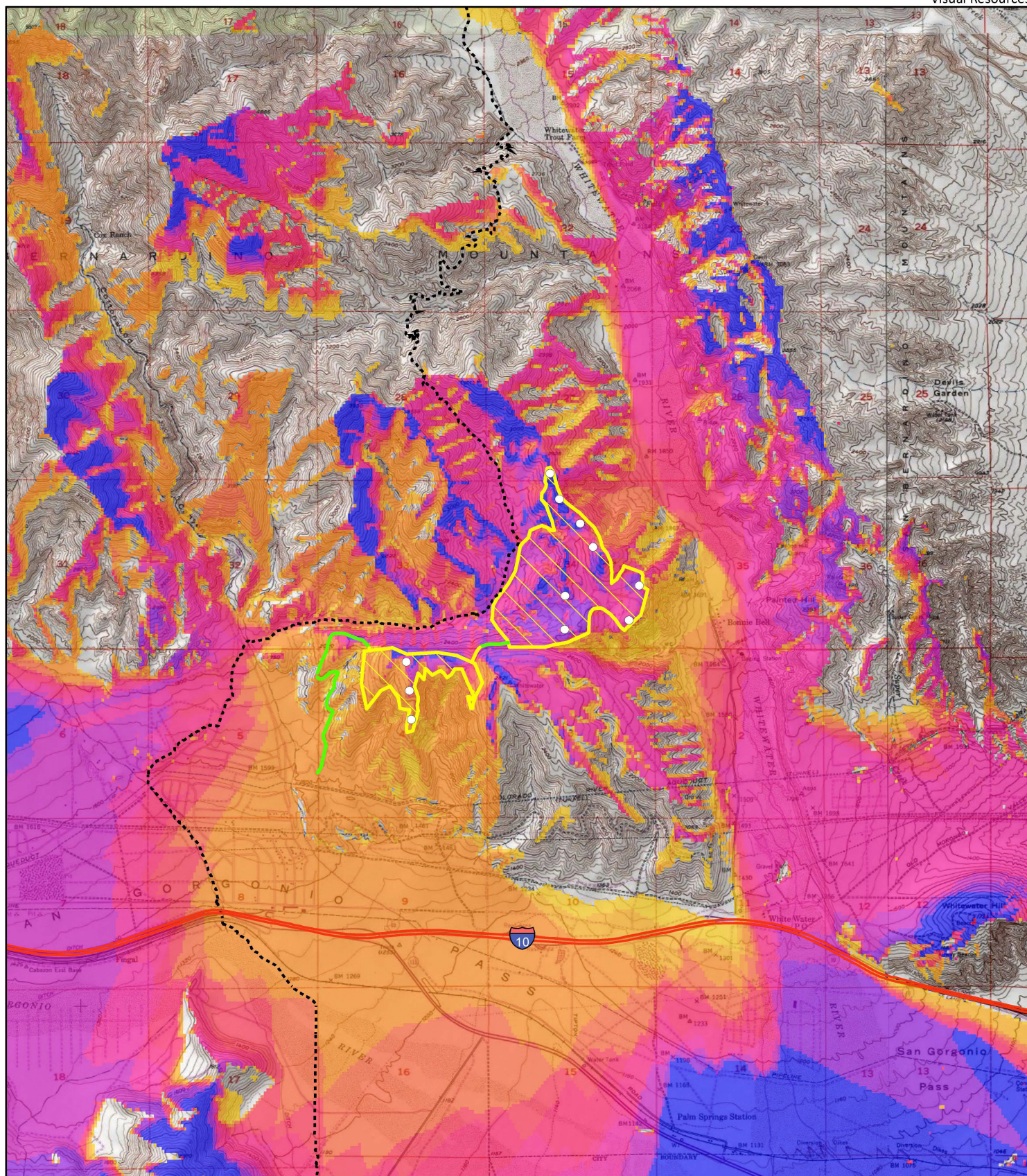
	LANDFORM / WATER				VEGETATION				STRUCTURES			
	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG	NONE	WEAK	MODERATE	STRONG
Form	✓				✓					✓	✓	
Line	✓				✓					✓	✓	
Color	✓				✓					✓	✓	
Texture	✓				✓					✓	✓	

LEVEL OF CHANGE & VRM CLASS CONSISTENCY

Term: <input type="checkbox"/> Short <input checked="" type="checkbox"/> Long	Level of Change: <input type="checkbox"/> Very Low <input checked="" type="checkbox"/> Low <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> High
Does the Project Design Meet VRM Objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

4. Figures

The following pages provide a viewshed analysis, a KOP map, a detailed discussion of each KOP simulations, and the existing view photographs and visual simulations for the MWRP Proposed Action as viewed from each of six KOPs. Cumulative simulations are also provided for KOPs 1 through 3. A simulation of Alternative C (Reduced Turbine Analysis) and cumulative simulation of the Reduced Turbine Analysis are also provided for KOP 1. A discussion of impacts from night lighting associated with the proposed action can be reviewed in Section 3.9.2 of the EA.



- Proposed Turbine
- ⋯ Pacific Crest Trail

0 0.5 1 Miles

Mesa Wind Existing ROW

- VRM Class 4
- Access Road
- VRM Class 2
- VRM Class 4

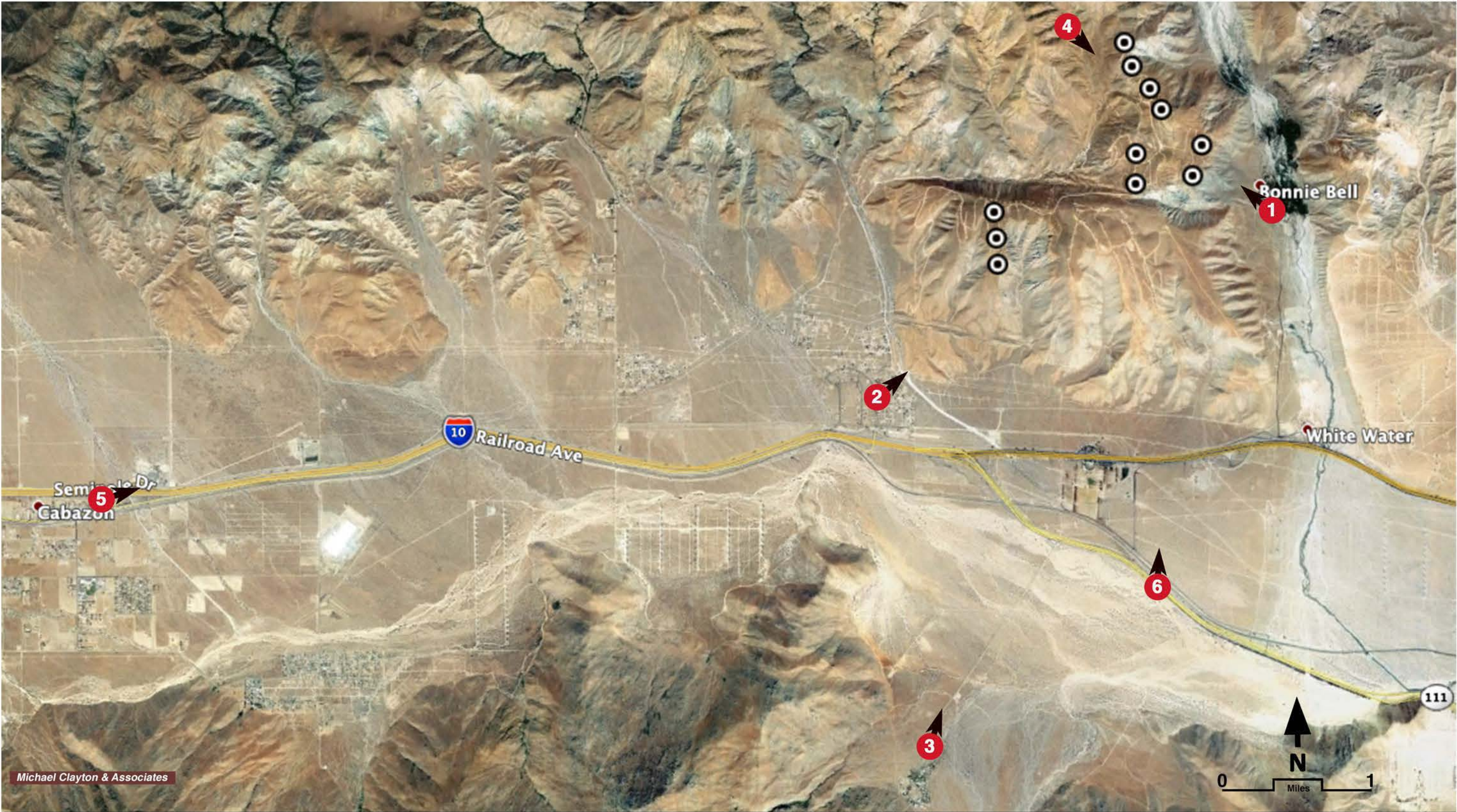
Number of visible turbines*

- | | | | |
|---|---|---|----|
| 1 | 4 | 7 | 10 |
| 2 | 5 | 8 | 11 |
| 3 | 6 | 9 | |

*Based on USGS 1/3 arc-second DEM

Figure H-0

Viewshed Analysis



LEGEND



Key Observation Point (KOP)



Proposed Wind Turbine Generators (WTGs)

KOP Map

Mesa Wind Repower Project EA
Visual Resources
Figure H-1

KOP 1 – Bonnie Bell

As previously noted, Figure H-2A presents the existing view from KOP 1 on northbound Whitewater Canyon Road in the residential enclave of Bonnie Bell. The view presented in Figure H-2B presents a visual simulation that depicts the removal of several existing (and smaller) legacy turbines and the addition of several larger WTGs along the ridgeline. As shown in the simulation, the new turbines would be visually prominent, vertical, built structures introduced into a landscape lacking similar built features of industrial or technological character and structural scale. At a viewing distance ranging from approximately 0.5 mile to approximately 1.0 mile, the turbines would be centrally located in the field of view from KOP 1 and would appear moderate in scale, comparable to the surrounding ridges. Views from within the community would be static, offering extended view durations of the WTG features. The visually prominent, linear and vertical structural characteristics of the turbines would cause a strong degree of contrast with the rounded to horizontal natural landforms, with respect to the design elements of form and line. A moderate degree of contrast would result for the element of color, with the white or shadow gray color of the turbines contrasting with the muted earth tones of the natural landscape features. The smooth turbine surfaces would cause a moderate degree of contrast with the coarser natural landscape textures of the rocky slopes and ridges and vegetation. The ridge-top turbines would skyline (extend above the horizon), exacerbating structure prominence and impairing views of the background sky. Although wind turbines in the San Geronio Pass area (to the south) are somewhat visible from Bonnie Bell, they exhibit limited visibility, do not skyline, do not appear as prominent landscape features (from Bonnie Bell), and do not attract the attention of the casual observer in Bonnie Bell.

The resulting overall visual change caused by the Alternative B (Proposed Action) development scenario would be moderate-to-high and would degrade the existing visual character and quality of the landscape as viewed from KOP 1 and similar locations on Whitewater Canyon Road and within the residential enclave of Bonnie Bell. Although the resulting visual effect would be adverse, the moderate-to-high level of change would be allowed under the VRM Class IV management objective that applies to the footprint of the wind turbines that would be visible from Bonnie Bell.



Michael Clayton & Associates

Latitude: 33.946605° Longitude: -116.642514°

This image presents the **Existing View** to the northwest from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. This view captures a portion of the ridge that forms the western border of Whitewater Canyon. The ridgeline landscape appears relatively undeveloped, though a few WTGs are slightly visible above the ridgeline in the left side of the image.

KOP 1
Bonnie Bell
Existing View

Mesa Wind Repower Project EA
Visual Resources
Figure H-2A



Michael Clayton & Associates

Latitude: 33.946605° Longitude: -116.642514°

This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. As shown in the simulation, the existing, lower-capacity (and smaller) WTGs on the site would be removed and the proposed, larger WTGs would be added along the ridgeline. The viewing distances from KOP 1 to the proposed WTGs would range from approximately 0.6 mile to approximately 1.0 mile.

KOP 1
Bonnie Bell
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-2B

KOP 2 – Whitewater

Figure H-3A presents the existing view from KOP 2 on Haugen-Lehmann Way in the residential community of Whitewater. The view presented in Figure H-3B presents a visual simulation that depicts the removal of numerous existing (and smaller) WTGs and the addition of three, larger WTGs along the ridgeline closest to the community. As shown in the simulation, the new turbines would be visually prominent, vertical, built structures introduced into a landscape lacking structures of similar scale. However, other numerous, existing WTGs (along ridgelines farther to the east) are also visible from KOP 2 though they appear less prominent due to smaller scale and greater viewing distance (approximately 1.6 to 2.0 miles). Still, the proliferation of these numerous, existing WTGs along the ridgelines establish a more industrial character to the otherwise natural appearing hilltop landscapes.

At a viewing distance ranging from approximately 1.2 miles to approximately 1.5 miles, the proposed Mesa WTGs would be centrally located in the field of view from KOP 2 and would appear moderate in scale, comparable to the surrounding ridges (landforms). Views from within the community would be static, offering extended view durations of the Mesa repower features. Although the linear and vertical structural characteristics of the proposed WTGs would result in a moderate-to-high degree of contrast (in terms of form and line) with the rounded to horizontal natural landforms, the proposed WTGs would be consistent with the numerous, existing WTGs that proliferate along the ridgelines in the background. Therefore, an overall moderate degree of contrast would result from the proposed WTGs with respect to the design elements of form and line. Similarly, a moderate degree of contrast would result for the element of color, with the white color and gray shadowing of the turbines contrasting with the muted earth tones of the natural landscape features. However, the turbine color would appear consistent with the color already established in the landscape by the numerous existing (being replaced) and adjacent WTGs. The smooth turbine surfaces would result in an overall weak degree of contrast with the coarser natural landscape textures of the rocky slopes and ridges, vegetation, and smooth structural surfaces established by the numerous existing WTGs.

The resulting overall visual change caused by the Alternative B (Proposed Action) development scenario would be moderate (due to structural scale) but would minimally degrade the existing visual character and quality of the landscape as established by the numerous existing WTGs as viewed from KOP 2 (and similar locations in the Whitewater community). Although the resulting visual effect would be adverse, the moderate level of change would be allowed under the VRM Class IV management objective that applies to the footprint of the WTGs that would be visible from Whitewater.



This image presents the **Existing View** to the northeast from **KOP 2** on Haugen-Lehmann Way in the rural residential community of White Water. This view captures a portion of the sparsely vegetated hillslopes and ridges that border the eastern perimeter of the residential community. The ridges northeast of the community presently host numerous WTGs associated with two separate projects, as is apparent in the image.

KOP 2
White Water
Existing View

Mesa Wind Repower Project EA
Visual Resources
Figure H-3A



This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 2** on Haugen-Lehmann Way in the rural residential community of White Water. As shown in the simulation, the numerous, existing, lower-capacity (and smaller) WTGs on the site would be removed and the proposed, larger WTGs would be added along the ridgeline. The viewing distances from KOP 1 to the proposed WTGs would range from approximately 1.2 miles to approximately 1.5 miles.

KOP 2
White Water
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-3B

KOP 3 – Snow Creek Village

Figure H-4A presents the existing view from KOP 3 on Snow Creek Road just north of the Snow Creek Village residential enclave. Figure H-4B presents a visual simulation that depicts the removal of numerous existing (and smaller) WTGs and the addition of several larger WTGs (some partially screened by another wind energy development). As shown in the simulation, the three western-most proposed WTGs would be visually prominent, vertical, built structures introduced into a landscape with similar structural features but lacking the scale of the proposed WTGs. The proliferation of the numerous existing WTGs along the ridgeline in the center of the image establishes an apparent industrial character and structural clutter in an otherwise natural appearing hilltop landscape.

At a viewing distance ranging from approximately 3.3 miles to approximately 4.4 miles, the proposed WTGs that would be visible from KOP 3 would be centrally located in the field of view and would appear subordinate-to-moderate in scale, compared to the surrounding foothills and moderate-to-large in scale compared to the existing, smaller WTGs. Views from the Snow Creek Village community would be static, offering extended view durations of the Project features. Although the linear and vertical structural characteristics of the proposed WTGs would result in a moderate degree of contrast (in terms of form and line) with the rounded to horizontal natural landforms, the proposed WTGs would be consistent with the numerous, existing WTGs situated along the adjacent ridgelines. Therefore, an overall weak-to-moderate degree of contrast would result from the proposed WTGs with respect to the design elements of form and line. A moderate degree of contrast would result for the element of color, with the white color of the WTGs contrasting with the muted earth tones of the natural landscape features, though they would appear more consistent with the color already established in the landscape by the smaller WTGs being replaced and the WTGs associated with the adjacent wind energy development to the east (as shown in Figure H-4B). The smooth turbine surfaces would result in a weak-to-moderate degree of contrast with the coarser natural landscape textures of the rocky slopes, ridges, and vegetation and would result in a weak degree of contrast with the smooth structural surfaces established by the numerous existing WTGs.

The resulting overall visual change associated with Alternative B would be low-to-moderate but would minimally degrade the existing visual character and quality of the landscape, which is substantially influenced by the numerous existing WTGs visible from KOP 3 (and similar locations in Snow Creek Village). Although the resulting visual effect would be adverse, the resulting low-to-moderate level of change would be allowed under the VRM Class IV management objective that applies to the footprint of the WTGs that would be visible from Snow Creek Village and Snow Creek Road.



This image presents the **Existing View** to the north from **KOP 3** on Snow Creek Road, just north of the rural residential enclave of Snow Creek Village. This view across San Gorgonio Pass encompasses a portion of the southeastern extent of the San Bernardino Mountains and the ridgeline north of 1-10 where the proposed Project would be located. The scattered grouping of WTGs along the westerly-sloping ridgeline in the left center of the image would be replaced by the proposed Project.

KOP 3
Snow Creek Village
Existing View

Mesa Wind Repower Project EA
Visual Resources
Figure H-4A



This image presents a **Visual Simulation** to the north from **KOP 3** on Snow Creek Road, just north of the rural residential enclave of Snow Creek Village. As shown in the simulation, the existing, lower-capacity (and smaller) WTGs on the site (left center portion of the image) would be removed, and the larger, proposed WTGs would be added along the ridgeline. The viewing distances from KOP 3 to the proposed WTGs would range from approximately 3.3 miles to approximately 4.4 miles.

KOP 3
Snow Creek Village
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-4B

KOP 4 – Pacific Crest National Scenic Trail

Figure H-5A presents the existing view to the southeast from KOP 4 on the PCT, approximately 0.4 miles northwest of the nearest existing WTGs shown in the figure. Figure H-5B presents a visual simulation that depicts the removal of the numerous existing, lattice-tower WTGs and installation of the much larger, but substantially fewer, monopole WTGs along the ridge east and southeast of the PCT. As shown in the simulation, the turbines would appear as visually prominent, vertical, built structures replacing the many smaller, more structurally complex lattice support turbines that combine to create a landscape with considerable industrial or technological character. At a viewing distance ranging from approximately 0.4 mile to 1.3 miles, the turbines would be centrally located in the field of view from KOP 4 and would appear large in scale compared to other existing, smaller turbines adjacent to the Mesa development area, and would appear co-dominant in scale compared to the surrounding ridges. Although the proposed WTGs would skyline more and appear substantially larger than the existing WTGs, the overall industrial character, structural complexity, and number of visible turbines would be reduced along the ridgelines.

The turbines would be located in VRM Class IV areas. Views from the PCT would essentially be static given the slow rate of travel along the trail, offering extended view durations of the Project features. The simple linear, vertical, structural characteristics of the WTGs would cause a moderate degree of contrast with both the existing smaller structures and rounded, curvilinear to horizontal landforms, with respect to the design element of form. Line contrast would be weak-to-moderate given the prevalence of both vertical structural lines and curvilinear to horizontal landscape lines. Due to the greater mass of the proposed turbines, the white color (if not in shadow) would appear brighter and more prominent relative to the white color of the adjacent tubular support turbines (beyond the frame of view in Figures H-5A and H-5B). The resulting visual contrast for color would be moderate compared to the existing built structures and the muted earth tones of the natural landscape features. The smooth turbine surfaces would cause a weak-to-moderate degree of contrast with the existing structures (weak contrast) and coarser natural landscape textures of the rocky slopes and ridges, and vegetation (moderate contrast). The skyline effect of the ridge-top turbines would exacerbate structural prominence and would impair views of the background sky, which is also a characteristic of the existing development.

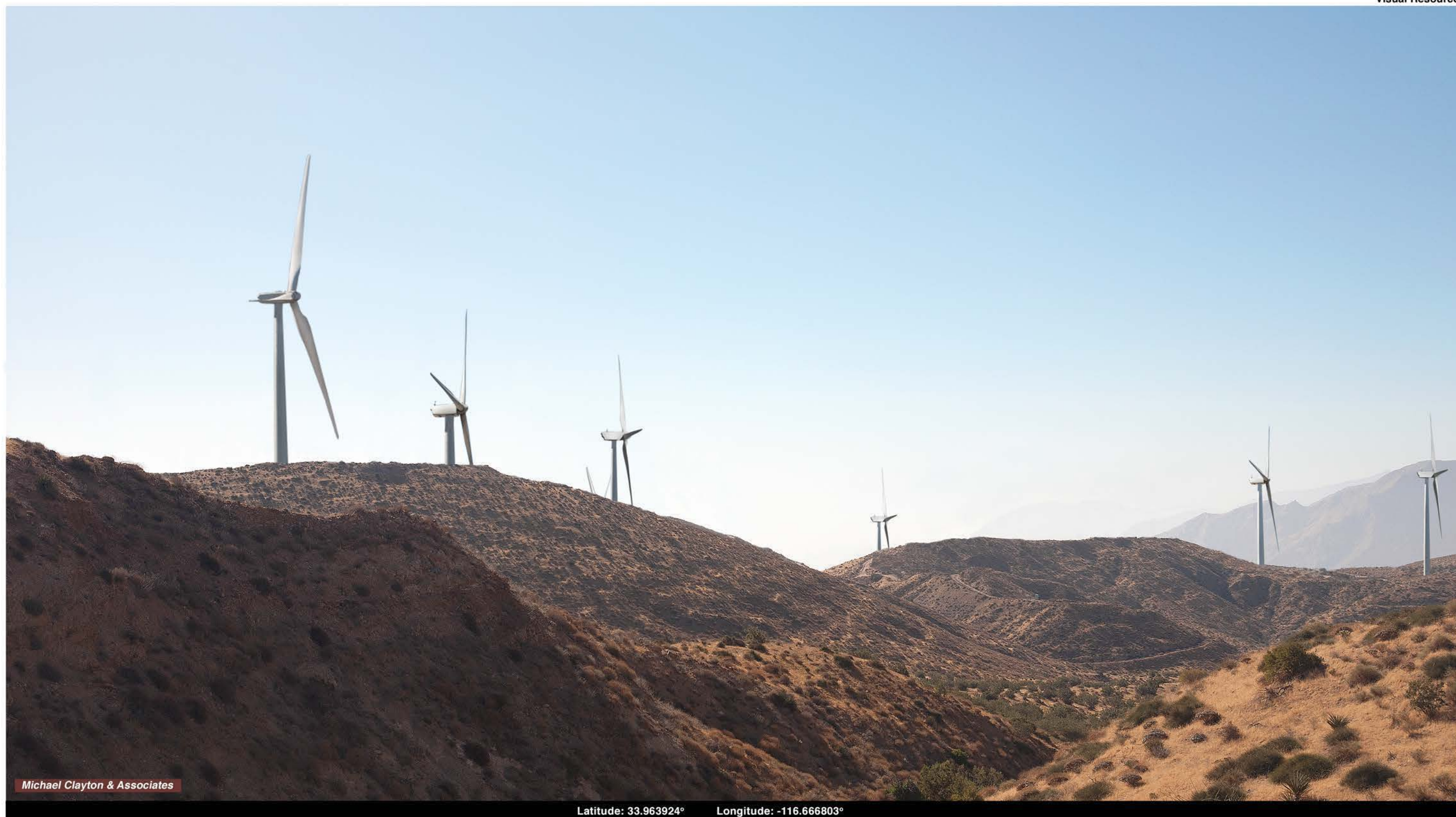
The resulting overall visual change would be low-to-moderate. As a result of the existing developed context of the site, the existing character of the landscape would be retained and the WTGs would not substantially degrade the existing visual character and quality of the landscape as viewed from KOP 4 and similar locations along the PCT. Rather, the resulting visual effect would be somewhat beneficial in its reduction of the existing industrial character and built structural complexity. In this context, the low-to-moderate level of change would be appropriate for VRM Class IV management objectives that apply to the footprint of the Proposed Action.



This image presents the **Existing View** to the southeast from **KOP 4** on the Pacific Crest Trail, approximately 0.4 mile northwest of the nearest existing WTGs shown along the left side of the image. The numerous existing WTGs impart considerable industrial character to an otherwise generally, natural-appearing landscape. All of the existing lattice-structure WTGs shown in this image would be replaced by the proposed Project.

KOP 4
Pacific Crest Trail
Existing View

Mesa Wind Repower Project EA
Visual Resources
Figure H-5A



This image presents a **Visual Simulation** of the the proposed Project as viewed from **KOP 4** on the Pacific Crest Trail, approximately 0.4 mile northwest of the the nearest proposed WTGs shown along the left side of the image. As shown in the simulation, the existing, lower-capacity (and smaller) WTGs on the site would be removed, and the larger, proposed WTGs would be added along the ridges. The viewing distances would range from approximately 0.4 mile to approximately 1.3 miles.

KOP 4
Pacific Crest Trail
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-5B

KOP 5 – Cabazon and I-10

Figure H6A presents the existing view from KOP 5 in Cabazon at the Circle K parking lot, adjacent to the Main Street off-ramp from I-10. Figure H6B presents a visual simulation that depicts the removal of the numerous existing (and smaller) WTGs and the installation of several, larger WTGs (some partially to fully screened by terrain). As shown in the simulation, the vertical support towers would be most noticeable when backdropped by terrain and less so when backdropped by sky. Regardless, given the greater viewing distance from KOP 5 (ranging from 6.3 to 7.8 miles), and in the context of the foreground to middle ground freeway corridor landscape features, the proposed WTGs would be minimally noticeable. Also, the removal of the numerous existing WTGs would be less visually consequential (less visual benefit) due to their limited visibility from Cabazon.

As a result, the linear and vertical structural characteristics of the proposed WTGs would result in a weak degree of contrast (in terms of form and line) with the rounded to horizontal natural landforms and angular to curvilinear ridgeline. A weak degree of contrast would also result with respect to the element of color, with the white color of the WTGs contrasting somewhat with the muted earth tones of the background ridges but much less so with the background sky. At this more extended viewing distance and limited discernibility, the smooth turbine surfaces would result in only a weak degree of contrast with the coarser natural landscape textures of the rocky slopes, ridges, and vegetation, and would result in a weak degree of contrast with the smooth structural surfaces established by the numerous existing WTGs.

The resulting overall visual change would be low and would minimally degrade the existing visual character and quality of the landscape, and the resulting low level of visual change would be allowed under VRM Class IV management objectives that apply to the footprint of the WTGs that would be visible from Cabazon.



Michael Clayton & Associates

Latitude: 33.918137° Longitude: -116.779724°

This image presents the **Existing View** to the east-northeast from **KOP 5** in Cabazon at the Circle K parking lot, adjacent to the Main Street off-ramp from I-10, approximately 6.3 miles west-southwest of the location of the proposed Project. This view encompasses an urban freeway landscape of travel lanes, off-ramps, overpasses, and frontage businesses, backdropped by the southeast extent of the San Bernardino Mountains and existing WTGs along distant ridgelines at the proposed Project site.

**KOP 5
Cabazon
Existing View**

**Mesa Wind Repower Project EA
Visual Resources
Figure H-6A**



Michael Clayton & Associates

Latitude: 33.918137° Longitude: -116.779724°

This image presents the **Visual Simulation** of the proposed Project as viewed from **KOP 5** in Cabazon at the Circle K parking lot, adjacent to the Main Street off-ramp from I-10. As shown in the simulation, the existing, lower-capacity (and smaller) WTGs on the distant ridgelines (Project site) would be replaced by the larger, and substantially fewer, proposed WTGs. The viewing distances would range from approximately 6.3 miles to approximately 7.8 miles.

**KOP 5
Cabazon**
Visual Simulation

**Mesa Wind Repower Project EA
Visual Resources
Figure H-6B**

KOP 6 – SR-111

Figure H-7A presents the existing view from KOP 6 on SR-111, approximately 0.8 mile east of Snow Creek Road. Figure H-7B presents a visual simulation that depicts the removal of numerous existing (and smaller) WTGs (left side of image) and the addition of several larger WTGs (some partially screened by another wind energy development). As shown in the simulation, the western-most proposed WTGs would be visually prominent, vertical, built structures introduced into a landscape with similar structural features but lacking the large scale of the proposed WTGs. The proliferation of the numerous existing WTGs along the ridgeline in the center of the image establishes an apparent industrial character and structural clutter in an otherwise natural appearing hilltop landscape.

At a viewing distance ranging from approximately 2.6 to 2.9 miles, the proposed WTGs that would be visible from KOP 6 would be centrally located in the field of view and would appear subordinate-to-moderate in scale, compared to the surrounding foothills and moderate-to-large in scale compared to the existing, smaller WTGs. Views from SR-111 would be transitory, offering brief-to-moderate view durations of the Project features. Although the linear and vertical structural characteristics of the proposed WTGs would result in a moderate degree of contrast (in terms of form and line) with the rounded to horizontal natural landforms, the proposed WTGs would be consistent with the numerous, existing WTGs situated along the adjacent ridgelines. Therefore, the overall form and line contrast would be weak-to-moderate with respect to the design elements of form and line. A moderate-to-strong degree of contrast would result for the element of color, with the white color of the WTGs contrasting with the muted earth tones of the background natural landscape features, though they would appear more consistent with the color already established in the landscape by the smaller WTGs being replaced, and with the WTGs associated with the adjacent wind energy development to the east (as shown in Figure H-7B). The smooth turbine surfaces would result in a weak-to-moderate degree of contrast with the coarser natural landscape textures of the rocky slopes, ridges, and vegetation, and would result in a weak degree of contrast with the smooth structural surfaces established by the numerous existing WTGs.

The resulting overall visual change associated with Alternative B would be low-to-moderate and would minimally degrade the existing visual character and quality of the landscape, which is substantially influenced by the numerous existing WTGs visible from KOP 6 (and similar locations along SR-111). Although the resulting visual effect would be adverse, the resulting low-to-moderate level of change would be allowed under the VRM Class IV management objective that applies to the footprint of the WTGs that would be visible from SR-111.



This image presents the **Existing View** to the north from **KOP 6** on SR-111, approximately 0.8 mile east of Snow Creek Road and approximately 2.7 miles south of the location of the proposed Project. This view encompasses the southeastern extent of the San Bernardino Mountains and the ridges north of I-10 where the proposed Project would be located. The distant grouping of WTGs, backdropped by more distant ridges in the left portion of the image, would be replaced by the proposed Project.

KOP 6
SR-111
Existing View

Mesa Wind Repower Project EA
Visual Resources
Figure H-7A



This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 6** on SR-111, approximately 0.8 mile east of Snow Creek Road. As shown in the simulation, the existing, lower-capacity (and smaller) WTGs on the site (left center portion of the image) would be removed, and the larger, proposed WTGs would be added along the ridgeline. The viewing distance from KOP 6 to the proposed WTGs would be approximately 2.7 miles.

KOP 6
SR-111
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-7B

Cumulative Simulations

For the purposes of the cumulative simulations, one additional project was included – the adjacent Alta Mesa Repower. Alta Mesa is co-located with the Mesa WTGs on adjacent ridges in the east and south of the ROW, and, it would be difficult for viewing populations to discern where the Mesa Project ends and the Alta Mesa Project begins. Three representative cumulative simulations were prepared for KOPs 1 through 3.



Latitude: 33.946581° Longitude: -116.642462°

This image presents a **Cumulative Simulation** of the **revised** Alta Mesa and Mesa Wind Repower projects as viewed from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. As shown in the simulation, portions of seven Alta Mesa WTGs would be visible along the ridgelines west of Bonnie Bell. Three Mesa Wind Project WTGs (right side of image) would also be visible along a ridgeline west of Bonnie Bell. All of the existing turbines would be removed under the proposed projects.

**KOP 1
Bonnie Bell
Cumulative Simulation**

**Alta Mesa & Mesa Wind
Repower Projects
Figure H-8**



Latitude: 33.928073° Longitude: -116.689067°

This image presents a **Cumulative Simulation** of both the proposed Alta Mesa and Mesa Wind Repower Projects as viewed from **KOP 2** on Haugen-Lehmann Way in the rural residential community of White Water. As shown in the simulation, portions of 11 Alta Mesa WTGs would be visible along the ridgeline bordering the eastern perimeter of the residential community. Three (left-center) Mesa Wind WTGs would be visible on the ridge to the immediate northeast of the community. All existing turbines would be removed.

KOP 2
White Water
Cumulative Simulation

Alta Mesa & Mesa Wind
Repower Projects
Figure H-9



This image presents a **Cumulative Simulation** of both the proposed Alta Mesa and Mesa Wind Repower Projects as viewed from **KOP 3** on Snow Creek Road, just north of the rural residential enclave of Snow Creek Village. As shown in the simulation, portions of 14 Alta Mesa WTGs would be prominently visible in the center and right side of image. Three Mesa Wind WTGs would be prominently visible in the left side of image while the blade tips of five more WTGs would be barely noticeable in the central part of the image.

KOP 3
Snow Creek Village
Cumulative Simulation

Alta Mesa & Mesa Wind
Repower Projects
Figure H-10

Reduced Turbine Alternative

KOP 1 – Bonnie Bell. As previously noted, Figure H-2A presents the existing view from KOP 1 on northbound Whitewater Canyon Road in the residential enclave of Bonnie Bell. Figure H-2B presents a simulation of the Proposed Action from KOP 1, and Figure H-11 presents a visual simulation that depicts the Reduced Turbine Alternative that includes elimination of the two eastern-most proposed WTGs. These two WTGs would be the most visually prominent turbines and their elimination under this alternative would substantially reduce the overall visibility of this alternative from KOP 1. As shown in the simulation, the southern-most (remaining) WTG (to the left in the image) would be partially screened by terrain when viewed from KOP 1 as would the northern-most WTG where only the rotor (blade) tips would be visible. In Figure H-2B, this WTG was screened from view by an intervening WTG (one that was eliminated in this Alternative). At a viewing distance of approximately 1.0 mile, the two visible WTGs would be noticeable but not prominent in the field of view from KOP 1 and would appear subordinate in scale, comparable to the surrounding landforms. A Visual Contrast Rating form for Alternative C KOP 1 is included in Appendix H with the KOP designation of 1-RTA. Specifically, with the elimination of the two most prominent of the three WTGs visible from KOP 1, the visual contrast ratings for all four of the visual attributes of form, line, color, and texture would be reduced to weak-to-moderate levels from the moderate and strong levels of contrast that would occur under the Proposed Action (Alternative B). The resulting weak-to-moderate visual contrast under the Reduced Turbine Alternative would cause a low-to-moderate level of change that would be consistent with the applicable VRM Class IV management objective that applies to the footprint of the wind turbines that would be visible from Bonnie Bell.

KOP 2 – Whitewater. As previously noted, Figure H-3A presents the existing view from KOP 2 on Haugen-Lehmann Way in the rural residential community of Whitewater. Figure H-3B presents a simulation of the Proposed Action from KOP 2 which includes three prominent WTGs. The revised Reduced Turbine Alternative would move one of these turbines to the northern portion of the ROW leaving two WTGs visible from Haugen-Lehmann Way, see Figure H-13. The elimination of one turbine under the revised alternative would reduce the overall visibility of this alternative from KOP 2 compared with the Proposed Action. However, at a viewing distance of approximately 1.5 miles, the two remaining visible WTGs would still be noticeable. The resulting overall visual change caused by the revised Reduced Turbine Alternative development scenario would remain be moderate but improved compared with the Proposed Action.

KOP 4 – Pacific Crest Trail. As previously noted, Figure H-5A presents the existing view from KOP 4 on the Pacific Crest Trail, approximately 0.4 miles northwest of the nearest proposed WTGs in the image. Figure H-5B presents a simulation of the Proposed Action from KOP 4. There are seven WTGs visible in from KOP 4 in this scenario. At a viewing distance of approximately 0.4 to 1.3 miles, the seven visible WTGs would be noticeable. Under the revised Reduced Turbine Alternative, there would still be seven visible WTGs, but the placement would be revised, see Figure H-14. The main difference would be that the WTGs would be clustered more under the Reduced Turbine Alternative, slightly reducing how noticeable each WTG is within the clusters. However, overall, the revised Reduced Turbine Alternative would remain similar to that of the Proposed Action and would be consistent with the applicable VRM Class IV management objective that applies to the footprint of the wind turbines that would be visible from the Pacific Crest Trail.



Michael Clayton & Associates

Latitude: 33.946605° Longitude: -116.642514°

This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. The existing, lower-capacity (and smaller) WTGs on the site would be removed and the proposed, larger WTGs would be added along the ridgeline. As shown in the simulation, three Mesa Wind WTGs would be partially visible to the residents of Bonnie Bell.

KOP 1
Bonnie Bell
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-11



Latitude: 33.946581° Longitude: -116.642462°

This image presents a **Cumulative Simulation** of the **revised** Alta Mesa and Mesa Wind Repower projects as viewed from **KOP 1** on Whitewater Canyon Road at the south end of the residential community of Bonnie Bell. As shown in the simulation, portions of seven Alta Mesa WTGs would be visible along the ridgelines west of Bonnie Bell. Portions of three Mesa Wind Project WTGs (right center to far right of image) would also be visible along the ridgeline. All of the existing turbines would be removed from the ridges.

**KOP 1
Bonnie Bell
Cumulative Simulation**

**Alta Mesa & Mesa Wind
Repower Projects
Figure H-12**



This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 2** on Haugen-Lehmann Way in the rural residential community of White Water. As shown in the simulation, the numerous, existing, lower-capacity (and smaller) WTGs on the site would be removed and the proposed, larger WTGs would be added along the ridgeline. From KOP 2, two Mesa Wind WTGs would be visible at viewing distances ranging from approximately 1.4 miles to 1.5 miles.

KOP 2
White Water
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-13



This image presents a **Visual Simulation** of the the proposed Project as viewed from **KOP 4** on the Pacific Crest Trail, approximately 0.4 mile northwest of the the nearest proposed WTGs shown along the left side of the image. As shown in the simulation, the existing, lower-capacity (and smaller) WTGs on the site would be removed, and the larger, proposed WTGs would be added along the ridges. The viewing distances would range from approximately 0.4 mile to approximately 1.1 miles.

KOP 4
Pacific Crest Trail
Visual Simulation

Mesa Wind Repower Project EA
Visual Resources
Figure H-14

5. References

BLM (Bureau of Land Management). 1986. Manual H-8431. Visual Resource Contrast Rating.
https://www.blm.gov/sites/blm.gov/files/program_recreation_visual%20resource%20management_quick%20link_BLM%20Handbook%20H-8431-1%2C%20Visual%20Resource%20Contrast%20Rating.pdf