CHAPTER 4.0
ENVIRONMENTAL CONSEQUENCES

4.1 AESTHETICS / VISUAL RESOURCES

This section examines potential impacts to visual resources associated with implementation of the proposed project / proposed action. Visual resources are objects (man-made and natural, moving and stationary) and features (such as landforms and water bodies) that are visible on a landscape. These resources contribute to the scenic or visual quality of the landscape. The analysis of visual impacts focuses primarily on long-term changes associated with operations and maintenance of the proposed project / proposed action.

4.1.1 STUDY METHODS

4.1.1.1 BLM VISUAL RESOURCE MANAGEMENT SYSTEM

The overall objective of the BLM's VRM system is to manage public lands in a manner that will protect the quality of the visual (scenic) values in accordance with Section 102(a)(8) of the FLPMA. The BLM VRM system is a methodical approach to inventorying and managing scenic resources on public lands.

As part of its resource planning efforts, the BLM conducts an inventory and analysis of scenic values of the public lands it administers in order to establish objectives for the management of activities that may affect visual resources located on those lands. Only activities that occur on BLM-administered property are subject to the management objectives related to designated VRM methodology and the VRCR system. The VRM and VRCR system involves inventorying scenic values and establishing management objectives for those values through the resource management planning process, and then evaluating proposed activities to determine whether those projects would conform to the management objectives.[1] This process helps to ensure that the actions taken on public lands today will benefit the landscape and adjacent communities in the future. Proposed changes to public lands are evaluated based on BLM's VRM manual[2] and VRCR manual.[3] The VRM system evaluates visual resources impacts to BLM lands by classifying scenic quality, viewer sensitivity, and distance into one of four categories (Class I, II, III, or IV), with Class I having the highest visual sensitivity and Class IV having the least sensitivity.[4]

VRM classifications are designated through BLM land use plans and resource management plans. The project area VRM classification is Class III.[5] A Visual Resources Inventory (VRI) summary was conducted to assess visual values of the proposed project / proposed action and alternatives and is available in Appendix B, *Visual Resources Technical Report*. VRI determination is based on an assessment of four factors: scenic quality, sensitivity, distance zones, and visual contrast ratings. KOPs were selected by BLM for use as locations from which to assess the proposed project / proposed action's impacts with regard to these four factors.

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[1] Bureau of Land Management. 1984. *Visual Resources Management*. Manual 8400. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8400.html

[2] Bureau of Land Management. 1984. *Visual Resources Management*. Manual 8400. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8400.html

[3] Bureau of Land Management. 1986. *Visual Resource Contrast Rating*. Manual 8431. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/8431.html

[4] Bureau of Land Management. n.d. *VRM System*. Washington, DC: U.S. Department of the Interior. Available at: http://www.blm.gov/nstc/VRM/vrmsys.html

[5] Bureau of Land Management, Bakersfield District. April 1993. Bishop Resource Management Plan Record of Decision. Bakersfield, CA.

The proposed project / proposed action area for visual resources is defined by the on-site landscapes directly affected by the various components of the proposed project / proposed action and the surrounding off-site area from which the proposed project / proposed action may be visible. A viewshed is defined as a surface area visible from a particular location or a linear location (a road or trail). The proposed project / proposed action site is located within the dust control measures study area. Viewshed maps were prepared for the Visual Resources Technical Report and can be found in Appendix B.

4.1.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

The affected environment for the resource areas identified as being potentially impacted by the proposed project / proposed action was described in Chapter 3 to provide the basis for the impact analysis in Sections 4.1. The CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e., with regard to CEQA Guidelines criteria). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction and for operations and maintenance. Direct natural resource impacts from the proposed project / proposed action or an alternative are related to adverse changes in the visual landscape. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time or further removed in distance (for example, located miles from the project site).

4.1.2.1 CEQA SIGNIFICANCE CRITERIA

The potential for the proposed project to result in impacts to aesthetics/visual resources was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. A significant impact on aesthetics/visual resources would normally be determined to occur if the project or project alternatives triggered one of the four thresholds established by Appendix G of the CEQA Guidelines:

(1) Results in a substantial adverse effect on a scenic vista[6]

(2) Substantially damages scenic resources, including, but not limited to, trees, rock outcrops, and historic buildings within a state scenic highway

(3) Substantially degrades the existing visual character or quality of the site and its surroundings

(4) Creates a new source of light or glare that would adversely affect day or nighttime views in the area

[6] Under CEQA, an impact to views is considered substantial if a view of a public scenic vista, scenic resource, or public object of aesthetic significance is substantially impeded or obstructed from a public vantage point. Typically, views enjoyed from a particular private vantage point are not protected. The Court of Appeal held in Topanga Beach Renters Assn. v. Department of General Services (1976) 58 Cal.App.3d 188, 195 states that "[t]he issue is not whether [the proposed project] will adversely affect particular persons, but whether [the proposed project] will adversely affect the environment of persons in general."

4.1.2.2 NEPA REQUIREMENTS

Significance under NEPA is defined in terms of both context and intensity. Context means that the significance of an action must be analyzed in several contexts, such as society, the affected region affected interests, and the local environment. Intensity refers to the severity of impact and includes a variety of factors to be considered (40 CFR 1508.27). Intensity factors potentially relevant to visual impacts as listed in 40 CFR 1508.27 (b) include "unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, . . . degree of controversy, degree of uncertainty about possible effects, degree to which an action may establish a precedent for future actions, and potential for cumulatively significant impacts."

4.1.3 ENVIRONMENTAL CONSEQUENCES

4.1.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

The proposed project / proposed action would entail the establishment and management of native vegetation and the use of straw bales as temporary windbreaks positioned within an area of approximately 194 acres to stabilize the surface. Other proposed project / proposed action elements include temporary access routes; temporary staging areas for equipment and materials storage; and an effectiveness monitoring program (existing air monitoring stations). Further details of the proposed project / proposed action are described in Section 2.2.1, *Proposed Project / Proposed Action*.

A. Direct and Indirect Impacts

Construction

Construction of the proposed project / proposed action would cause temporary visual impacts due to the presence of equipment, materials, and workers. These short-term impacts would occur on the project site at various times over the course of the 11-month construction period. ATVs, semi-trucks with trailers, hay squeezes, water trucks, and pickup trucks would be needed to deliver materials to the project site. ATVs and trailers would be used within the project area and to move materials around the project site. Equipment would be visible from portions of SR 136 and adjacent roadways in the community of Keeler.

Throughout the construction period, the proposed project / proposed action implementation activities would result in short-term adverse impacts to the project site. Access routes and staging areas would be prepared by brushing and grubbing, which leaves the vegetation roots intact within the ground and avoids the greater visual impact of grading. Access routes and staging areas would eventually be restored with native vegetation following confirmation of successful completion of the proposed project / proposed action. The geometric shape of the straw bales would soften over time as natural elements degrade the organic materials. As seen in other dunes stabilization projects, the straw bales are likely to become partially covered by sand, further softening the shape to more natural lines.[7] Thus, impacts to visual resources associated with construction would be temporary. The visual character of

[7] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

the site would be altered from the existing sand sheet and bare sand dunes; however, the resulting visual character is similar to other natural dune environments such as the Swansea Dunes located to the north of the proposed project / proposed action. Following restoration of the access routes and staging areas, no direct impacts would occur. Indirect (subsequent, long-term) impacts of construction are discussed under Operations and Maintenance.

Operations and Maintenance

An analysis of operation and maintenance (long-term) impacts was conducted for the view areas represented by the KOPs selected for in-depth visual analysis. During watering events, 8,000-gallon water delivery trucks would be temporarily parked at Staging Areas 1, 2 and 3 for the proposed project and Alternatives 1 and 2. An analysis was undertaken to assess the visibility of the water delivery trucks from the KOPs. The results of the impact analysis are provided for each of the KOPs and additional information is available in the Visual Resources Technical Report (Please see Appendix B for additional information).

Key Observation Point 1. This KOP provides a view from the community of Keeler. This KOP illustrates little to no diversity in the landscape. Vegetation is low, sparse, simple, and indistinct under BLM definitions (Figure 3.1.2.3-2, *Observation Point 1*). Under direction of the BLM Bishop Field Office, no visual simulation was created for this KOP due to the low visibility of the proposed project / proposed action components (straw bales) in the view.[8] Water delivery trucks would make deliveries to Staging Areas 1, 2, and 3 on up to 50 days per year, in each of the 3 years following installation of the vegetation. The 8,000-gallon water delivery trucks would be temporarily parked at the staging areas only during water events and be consistent with other infrastructure that is visible from KOP 1, including the Old State Highway and the 10- to 15-foot high structures and mobile homes located in the adjacent community of Keeler. Water delivery trucks temporarily parked at Staging Areas 2 and 3 would be barely visible from KOP 1, and would occupy less than one percent of the view. The low visibility of the landscape means that the visual character of the landscape from this KOP should be retained, thereby meeting VRM Class III standards.

Key Observation Point 2. This KOP provides a view from the paved SR 136. The proposed project / proposed action would be visible from this vantage point in the foreground as it is less than 1 mile from the vantage point (Figure 3.1.2.3-3, *Observation Point 2*). The existing vegetation is tan in color. With project implementation, the view from this point would have tan-colored straw bales covering a portion of the previously beige valley edge. From this view, as the straw bales and the vegetation are both tan in color and would appear at similar heights, the straw bales would have the same height and color as the existing, native vegetation. In fact, the straw bales would appear inter-mixed, blend in, and be compatible in the view with the existing vegetation. The other infrastructure project elements (a temporary access route, staging areas for equipment, and temporarily parked water delivery trucks at Staging Areas 1, 2, and 3) would be barely visible from this vantage point and would appear intermixed within the existing visual setting. The proposed project / proposed action components would be visible but mixed with the already existing vegetation in the foreground. The straw bales would blend in with the existing visual character of the landscape from this KOP, thereby meeting VRM Class III standards to retain the existing landscape character. Water delivery trucks would make deliveries to Staging Areas 1, 2, and 3 on up to 50 days per year, in each of the 3 years following installation of the vegetation. The 8,000-gallon water delivery trucks would be temporarily parked at

[8] Primosch, Lawrence R., Bureau of Land Management, Bishop Field Office, Bishop, CA. 24 April 2012. Proposed Project Site Visit with Grace Holder, Great Basin Unified Air Pollution District, Bishop, CA, and David Lee and Leanna Guillermo, Sapphos Environmental, Inc., Pasadena, CA.

the staging areas only during water events and be consistent with other infrastructure that is visible from KOP 2, including the paved SR 136, electrical transmission lines located approximately 620 feet northeast of KOP 2; the Keeler Community Services District (KCSD) well, located approximately 300 feet southeast of KOP 2; and the KCSD water storage tank, located approximately 0.7 mile southeast of KOP 2. Water delivery trucks temporarily parked at Staging Area 3 would be barely visible from KOP 2 and would occupy less than one percent of the view. The low visibility of the landscape means that the visual character of the landscape from this KOP should be retained, thereby meeting VRM Class III standards.

Key Observation Point 3. This KOP was taken at the LADWP scenic overlook on SR 136. The visual simulation depicts the addition of the proposed project / proposed action features, with straw bales visible in horizontal lines within 1 mile of the vantage point (Figure 3.1.2.3-4, *Observation Point 3*). Therefore, the proposed project / proposed action components would be visible in the foreground. The existing vegetation is tan and green in color, with the tan similar to the tan in the straw bales. The vegetation is coarsely scattered throughout the proposed project / proposed action site and surrounding area. The straw bales that would be visible from this viewpoint are tan and coarse, similar to the color and characteristics of the existing vegetation. From this view, the straw bales would have the same height and blend in and be compatible with the color of the existing, native vegetation. The other infrastructure proposed project / proposed action elements (a temporary access route, staging areas for equipment, and temporarily parked water delivery trucks at Staging Areas 1, 2, and 3) would be barely visible from this KOP and would appear intermixed within the existing visual setting. Water delivery trucks would make deliveries to Staging Areas 1, 2, and 3 on up to 50 days per year, in each of the 3 years following installation of the vegetation. The 8,000-gallon water delivery trucks would be temporarily parked at the staging areas only during water events and be consistent with other infrastructure that is visible from KOP 3, including the vertical electrical transmission line poles located less than 150 feet northwest and approximately 246 feet southeast of KOP 3; SR 136; and the KCSD water storage tank, located approximately 1.5 miles southeast of KOP 3. Water delivery trucks temporarily parked at Staging Areas 2 and 3 would be barely visible from KOP 3 and would occupy less than one percent of the view. The proposed project / proposed action components would be visible but mix with the existing vegetation in the foreground. A low level of change to the landscape would be made through implementation of the project from this KOP, thereby meeting VRM Class III standards.

Key Observation Point 4. This KOP illustrates the vast, relatively flat, valley bottom in the foreground, the Owens Lake bed in the middle ground, and the mountain ridgeline in the background (Figure 3.1.2.3-5-4, *Observation Point 4*). The proposed project / proposed action would be visible from this vantage point in the foreground as it is less than 1 mile from the vantage point. The straw bales from the proposed project / proposed action would be visible in the center-right side of the photograph. The straw bales are a tan color and would appear coarse in this vantage point. The existing vegetation is tan and green in color, with the tan similar to the tan in the straw bales. The vegetation is coarsely scattered throughout the proposed project / proposed action site and surrounding area. From this view, the straw bales would have the same height as, blend in with, and be compatible with the color of the existing native vegetation. The other infrastructure proposed project / proposed action elements (a temporary access route, staging areas for equipment, and temporarily parked water delivery trucks at Staging Areas 1, 2, and 3) would be barely visible from this view point and would appear intermixed within the existing visual setting. Water delivery trucks would make deliveries to Staging Areas 1, 2, and 3 on up to 50 days per year, in each of the 3 years following installation of the vegetation. The 8,000-gallon water delivery trucks would be temporarily parked at the staging areas only during water events and be consistent with other infrastructure that is visible from KOP 4, including vertical electrical transmission lines in the foreground, less than 700 feet southwest of KOP 4. Water delivery

trucks temporarily parked at Staging Area 1 would be barely visible from KOP 4 and would occupy less than one percent of the view. The view from KOP 4 would meet VRM Class III standards because the straw bales would be compatible with the existing visual character of the landscape.

B. CEQA Significance Determinations

Would the proposed project:

(1) Have a substantial adverse effect on a scenic vista?

Construction

The proposed project would not result in substantial impacts to aesthetics related to scenic vistas during construction. There are no scenic vistas near the proposed project; nor is the proposed project visible from any designated scenic vista. Therefore, the proposed project would not result in substantial impacts to aesthetics related to scenic vistas. The proposed project components (straw bales, vegetation, a temporary access route, staging areas for equipment, and temporarily parked water delivery trucks at Staging Areas 1, 2, and 3) would intermix compatibly with the existing landscape. The staging areas would remain for 3 years following the installation of vegetation. The proposed project would not obstruct any prominent scenic vista or views open to the public or result in the creation of an aesthetically offensive site from a designated scenic public view.

The proposed project site and the surrounding area, as observed by its existing conditions, do not meet the criteria of a scenic vista.

Operations and Maintenance

The discussion regarding the location of the project site in a scenic vista described under Construction also applies to Operation and Maintenance. The proposed project would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

(2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Construction

The proposed project would be expected to result in less than substantial impacts to aesthetics in relation to substantial damage to scenic resources within a state scenic highway during construction. As indicated above, the nearest highways to the proposed project site are California SR 136 and SR 190. SR 136 is not an officially designated state scenic highway. A portion of SR 190 is designated as an Officially Designated Route, but that portion is located approximately 16.7 miles away from the proposed project site, near the entrance to Death Valley National Park on the opposite side of the Inyo Mountain range. At this distance and topographical separation, the proposed project site would not be visible from the officially designated portion of SR 190. The proposed project would not be located within the viewshed of an Officially Designated Scenic Highway.[9] No designated scenic highways are present in

[9] California Department of Transportation. 13 September 2012. *Eligible (E) and Officially Designated (OD) Routes*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

the immediate vicinity of the proposed project site, and no scenic highway viewsheds would be affected by the proposed project. Therefore, the proposed project would not be expected to result in substantial impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway.

Operations and Maintenance

The discussion regarding the location of the project site near a scenic highway and resources described under Construction also applies to Operation and Maintenance. The proposed project would not have a substantial adverse effect on natural resources near a scenic highway during operations and maintenance. No operations and maintenance related impact to resources within a state scenic highway would occur under CEQA.

(3) Substantially degrade the existing visual character or quality of the site and its surroundings?

Construction

The proposed project would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction. The proposed project components include placement of straw bales to facilitate establishment of native vegetation, installation of native vegetation that is characteristic of stable dune structures in the Owens Lake area, a temporary access route, temporary staging areas for equipment, and temporary water delivery trucks parked at the staging areas along the Old State Highway. As depicted in visual simulations, the straw bales and vegetation would be tan in color and short in height (Appendix B). The existing vegetation is also tan and short. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The straw bales would be placed in a random pattern to mimic vegetation patterns on the project site. From areas adjacent to the project site, the straw bales' geometric shape would contrast with the natural landscape, but over time the shape would soften as this organic material is degraded and covered by blowing sand.

Temporary infrastructure elements (an access route, staging areas for equipment, and water delivery trucks) of the proposed project would also appear intermixed with the existing visual setting. The proposed project components would be visible but compatible with the existing landscape of the proposed project site, which contains nearby water storage wells and tanks, vertical electrical transmission lines passing through the site, vehicles including watering trucks and double rigs traveling along SR 136 and in the Owens Lake dust control area, and 10- to 15- foot high structures and mobile homes in the nearby community of Keeler; therefore, the visual character of the site and surrounding area would appear minimally changed to viewers of the proposed project during construction. There would be a maximum of one water delivery truck at a time at each onsite staging area during watering events. Short-term impacts to views from SR 136 and for recreational users would occur during construction when workers, equipment, and materials would be on the site. However, these temporary impacts to visual character would occur only during the 11-month implementation phase, and the proposed project would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction.

Operations and Maintenance

The visual character of the proposed project site would be altered from the existing sand sheet and bare sand dunes; however, the resulting visual character is similar to other natural dune environments such as the Swansea Dunes located to the north of the proposed project, and is compatible with the surrounding area's visual character (Figure 2.1.5.2-1, *Example of Vegetated Swansea Dunes*). The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The geometric shape of the straw bales would soften over time and as seen in previous studies for dune stabilization, the straw bales would become partially buried by moving sand and appear more as a natural element of the landscape.[10] Eventually, as the dunes become stabilized by native vegetation, the straw bales would be expected to degrade and provide organic matter to the soil. There would be a maximum of one water delivery truck at a time at each onsite staging area during watering events. The temporary use of small water tanks mounted to ATVs during watering events would occur approximately 680–690 feet (0.1 mile) away from SR 136 and would be visible from KOP 1 and barely visible from KOP 2, 3, and 4 during watering events. The temporary parking of water delivery trucks at three staging areas during watering events would be visible in less than one percent of the viewshed from surrounding public viewpoints within up to 4 miles of project area from the east and would be consistent with other public infrastructure visible from the KOPs, including vehicles traveling along SR 136, vertical electrical transmission lines, sand monitoring equipment, and infrastructure associated with dust control measures on the Owens Lake bed. Therefore, operations and maintenance of the proposed project would not substantially degrade the visual quality of the project site or surround area based on the analysis of the viewsheds from the KOPs (see *Direct and Indirect Impacts*, above, and also Appendix B).

(4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction

The proposed project would be expected to result in less than substantial impacts to aesthetics related to the creation of a new source of substantial light or glare during construction. There are currently no substantial sources of glare at the proposed project site (e.g., mirrored buildings, building materials, etc.). The proposed project components would entail planting and establishment of native vegetation, installation of straw bales as a temporary windbreak, and a temporary water delivery system. The proposed project does not include any building construction. There are no buildings existing on the proposed project site. All of the proposed project components would be non-reflective, would not emanate light, and would not be a source of glare during the daytime when sunlight is present. The proposed project would not be expected to create new sources of light and glare. None of the proposed project components, including vegetation and infrastructure elements, would be anticipated to emit light or glare. Project and equipment used during construction of the project would not create a substantial impact from light and glare. Construction activities would only occur during day light hours. Therefore, the proposed project would not be expected to result in substantial impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

[10] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

Operations and Maintenance

The proposed project site is an undeveloped open space and is currently not a source of light and glare. There are no facilities or lighting system proposed for the project site. Therefore, there would be no substantial impacts due to light and glare under CEQA.

4.1.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, the dust control measures would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the proposed project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose. Further details of Alternative 1 are described in Section 2.2.2.

A. Direct and Indirect Impacts

Under Alternative 1, dust control measures including planting native vegetation and placing of straw bales as temporary windbreaks would be applied to a total of 214 acres of the emissive deposits in the dunes. The construction scenario, access routes, staging areas and other design features would be the same as for the proposed project / proposed action, although the area of impact would be 20 acres larger. The potential direct and indirect impacts to aesthetics and visual resources from Alternative 1 are the same as the potential direct and indirect impacts of the proposed project / proposed action (see Section 4.1.3.1). The property would continue to meet VRM Class III objectives under Alternative 1.

B. CEQA Significance Determinations

Would Alternative 1:

(1) Cause a substantial adverse effect on a scenic vista, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 1 would not result in substantial impacts to aesthetics related to scenic vistas during construction. There are no scenic vistas near the Alternative 1 site; nor is the Alternative 1 site visible from any designated scenic vista. Therefore, Alternative 1 would not result in substantial impacts to aesthetics related to scenic vistas. As with the proposed project, Alternative 1 components (straw bales, vegetation, a temporary access route, staging areas for equipment, and water delivery trucks) would intermix compatibly with the existing landscape. The staging areas would remain for 3 years following the installation of vegetation. Alternative 1 would not obstruct any prominent scenic vista or views open to the public or result in the creation of an aesthetically offensive site from a designated scenic public view.

The Alternative 1 site and the surrounding area, as observed by its existing conditions, do not meet the criteria of a scenic vista.

Operations and Maintenance

The discussion regarding the location of the Alternative 1 site in a scenic vista described under Construction also applies to Operation and Maintenance. Alternative 1 would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

(2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 1 would be expected to result in less than substantial impacts to aesthetics in relation to substantial damage to scenic resources within a state scenic highway during construction. As indicated above, the nearest highways to the Alternative 1 site are California SR 136 and SR 190. SR 136 is not an officially designated state scenic highway. A portion of SR 190 is designated as an Officially Designated State Scenic Highway Route, but that portion is located approximately 16.7 miles from the Alternative 1 site, near the entrance to Death Valley National Park on the opposite side of the Inyo Mountain range. At this distance and topographical separation, the Alternative 1 site would not be visible from the officially designated portion of SR 190. Alternative 1 would not be located within the viewshed of an Officially Designated Scenic Highway.[11] No designated scenic highways are present in the immediate vicinity of the Alternative 1 site, and no scenic highway viewsheds would be affected by Alternative 1. Therefore, Alternative 1 would not be expected to result in substantial impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway.

Operations and Maintenance

The discussion regarding the location of the Alternative 1 site near a scenic highway and resources described under Construction also applies to Operation and Maintenance. Alternative 1 would not have a substantial adverse effect on natural resources near a scenic highway during operations and maintenance. No operations and maintenance related impact to resources within a state scenic highway would occur under CEQA.

(3) Substantially degrade the existing visual character or quality of the site and its surroundings?

Construction

Alternative 1 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction. The Alternative 1 project components include temporary placement of straw bales to facilitate establishment of native vegetation, installation of native vegetation that is characteristic of stable dune structures in the Owens Lake area, a temporary access route, temporary staging areas for equipment, and temporary water delivery trucks. As depicted in visual simulations, the straw bales and vegetation

[11] California Department of Transportation. 13 September 2012. *Eligible (E) and Officially Designated (OD) Routes*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

would be tan in color and short in height (Appendix B). The existing vegetation is also tan and short. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The straw bales would be placed in a random pattern to mimic vegetation patterns on the Alternative 1 site. From areas adjacent to the Alternative 1 site, the straw bales' geometric shape would contrast with the natural landscape, but over time the shape would soften as this organic material is degraded and covered by blowing sand.

Temporary infrastructure elements (an access route, staging areas for equipment, and water delivery trucks) of Alternative 1 would also appear intermixed with the existing visual setting. The Alternative 1 project components would be visible but compatible with the existing landscape of the Alternative 1 site; therefore, the visual character of the site and surrounding area would appear minimally changed to viewers of Alternative 1 during construction. Short-term impacts to views from SR 136 and for recreational users would occur during construction when workers, equipment, and materials would be on the site. However, these temporary impacts to visual character would occur only during the 11-month implementation phase, and Alternative 1 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction.

Operations and Maintenance

The visual character of the Alternative 1 site would be altered from the existing sand sheet and bare sand dunes to include native vegetation; however, the resulting visual character is similar to other natural dune environments such as the Swansea Dunes located to the north of the Alternative 1 site, and is compatible with the surrounding area's visual character (Figure 2.1.5.2-1). The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The geometric shape of the straw bales would soften over time and as seen in previous studies for dune stabilization, the straw bales would become partially buried by moving sand and appear more as a natural element of the landscape.[12] Eventually, as the dunes become stabilized by native vegetation, the straw bales would be expected to degrade and provide organic matter to the soil. There would be a maximum of one water delivery truck at a time at each onsite staging area during watering events. The temporary use of small water tanks mounted to ATVs during watering events would occur approximately 680–690 feet (0.1 mile) away from SR 136 and would be visible from KOP 1 and barely visible from KOP 2, 3, and 4 during watering events. The temporary parking of water delivery trucks at three staging areas during watering events would be visible in less than one percent of the viewshed from surrounding public viewpoints within up to 4 miles of project area from the east and would be consistent with other public infrastructure visible from the KOPs, including SR 136, vertical electrical transmission lines, sand monitoring equipment and infrastructure associated with dust control measures on the Owens Lake bed. Therefore, operations and maintenance of Alternative 1 would not substantially degrade the visual quality of the Alternative 1 site or surround area based on the analysis of the viewsheds from the KOPs (see *Direct and Indirect Impacts*, above, and also Appendix B).

(4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

[12] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

Construction

Alternative 1 would be expected to result in less than substantial impacts to aesthetics related to the creation of a new source of substantial light or glare during construction. There are currently no substantial sources of glare at the Alternative 1 site (e.g., mirrored buildings, building materials, etc.). The Alternative 1 project components would entail planting and establishment of native vegetation, installation of straw bales as a temporary windbreak, and a temporary water delivery system. Alternative 1 does not include any building construction. There are no buildings existing on the Alternative 1 site. All of the Alternative 1 project components would be non-reflective, would not emanate light, and would not be a source of glare during the daytime when sunlight is present. Alternative 1 would not be expected to create new sources of light and glare. None of the Alternative 1 project components, including vegetation and infrastructure elements, would be anticipated to emit light or glare. Project and equipment used during construction of Alternative 1 would not create a substantial impact from light and glare. Construction activities would only occur during day light hours. Therefore, Alternative 1 would not be expected to result in substantial impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Operations and Maintenance

The Alternative 1 site is an undeveloped open space and is currently not a source of light and glare. There are no facilities or lighting system proposed for the Alternative 1 site. Therefore, there would be no substantial impacts due to light and glare under CEQA.

4.1.3.3 Alternative 2, Dust Control Measures Applied To 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 2, dust control measures including planting native vegetation and placing of straw bales as temporary windbreaks would be applied to an additional 3 acres, a total of 197 acres, of the emissive deposits in the dunes. Implementation and installation of the dust control measures would remain the same as the proposed project / proposed action. Further details of Alternative 2 are described in Section 2.2.3.

A. Direct and Indirect Impacts

Under Alternative 2, dust control measures including planting native vegetation and placing of straw bales as temporary windbreaks would be applied to a total of 197 acres of the emissive deposits in the dunes. The construction scenario, access routes, water delivery trucks, staging areas and other design features would be the same as for the proposed project / proposed action. The potential direct and indirect impacts to aesthetics and visual resources from Alternative 2 are the same as the potential direct and indirect impacts of the proposed project / proposed action (see Section 4.1.3.1). The property would continue to meet VRM Class III objectives under Alternative 2.

B. CEQA Significance Determinations

Would Alternative 2:

(1) Cause a substantial adverse effect on a scenic vista, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 2 would not result in substantial impacts to aesthetics related to scenic vistas during construction. There are no scenic vistas near the Alternative 2 site; nor is Alternative 2 visible from any designated scenic vista. Alternative 2 would not result in substantial impacts to aesthetics related to scenic vistas. As with the proposed project, Alternative 2 components (straw bales, vegetation, a temporary access route, staging areas for equipment, and water delivery trucks) would intermix compatibly with the existing landscape. The staging areas would remain for 3 years following the installation of vegetation. Alternative 2 would not obstruct any prominent scenic vista or views open to the public or result in the creation of an aesthetically offensive site from a designated scenic public view.

The Alternative 2 site and the surrounding area, as observed by its existing conditions, do not meet the criteria of a scenic vista.

Operations and Maintenance

The discussion regarding the location of the Alternative 2 site in a scenic vista described under Construction also applies to Operation and Maintenance. Alternative 2 would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

(2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 2 would be expected to result in less than substantial impacts to aesthetics in relation to substantial damage to scenic resources within a state scenic highway during construction. As indicated above, the nearest highways to the Alternative 2 site are California SR 136 and SR 190. SR 136 is not an officially designated state scenic highway. A portion of SR 190 is designated as an Officially Designated State Scenic Highway Route, but that portion is located approximately 16.7 miles from the Alternative 1 site, near the entrance to Death Valley National Park on the opposite side of the Inyo Mountain range. At this distance and topographical separation, the Alternative 2 site would not be visible from the officially designated portion of SR 190. The Alternative 2 would not be located within the viewshed of an Officially Designated Scenic Highway.[13] No designated scenic highways are present in the immediate vicinity of the Alternative 2 site, and no scenic highway viewsheds would be affected by Alternative 2. Therefore, Alternative 2 would not be expected to result in substantial impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway.

[13] California Department of Transportation. 13 September 2012. *Eligible (E) and Officially Designated (OD) Routes*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

Operations and Maintenance

The discussion regarding the location of the Alternative 2 site near a scenic highway and resources described under Construction also applies to Operation and Maintenance. Alternative 2 would not have a substantial adverse effect on natural resources near a scenic highway during operations and maintenance. No operations and maintenance related impact to resources within a state scenic highway would occur under CEQA.

(3) Substantially degrade the existing visual character or quality of the site and its surroundings?

Construction

Alternative 2 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction. The Alternative 2 project components include temporary placement of straw bales to facilitate establishment of native vegetation, installation of native vegetation that is characteristic of stable dune structures in the Owens Lake area, a temporary access route, staging areas for equipment, and the use of water delivery trucks at the staging areas for 3 years following installation of the vegetation. As depicted in visual simulations, the straw bales and vegetation would be tan in color and short in height (Appendix B). The existing vegetation is also tan and short. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The straw bales would be placed in a random pattern to mimic vegetation patterns on the project site. From areas adjacent to the Alternative 2 site, the straw bales' geometric shape would contrast with the natural landscape, but over time the shape would soften as this organic material is degraded and covered by blowing sand.

As with the proposed project, Alternative 2 components would be visible but compatible with the existing landscape of the site; therefore, the visual character of the site and surrounding area would appear minimally changed to viewers of Alternative 2 during construction. Short-term impacts to views from SR 136 and for recreational users would occur during construction when workers, equipment, and materials would be on the site. However, these temporary impacts to visual character would occur only during the 11-month implementation phase, and Alternative 2 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction.

Operations and Maintenance

The visual character of the Alternative 2 site would be altered from the existing sand sheet and bare sand dunes; however, the resulting visual character is similar to other natural dune environments such as the Swansea Dunes located to the north of the Alternative 2 site, and is compatible with the surrounding area's visual character (Figure 2.1.5.2-1). The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The geometric shape of the straw bales would soften over time and as seen in previous studies for dune stabilization, the straw bales would become partially buried by moving sand and appear more as a natural element of the landscape.[14] Eventually, as the dunes become stabilized by native vegetation, the straw bales would be expected to degrade and provide organic matter to the soil. There would be a maximum of one water delivery truck at a

[14] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

time at each onsite staging area during watering events. The temporary use of small water tanks mounted to ATVs during watering events would occur approximately 680–690 feet (0.1 mile) away from SR 136 and would be visible from KOP 1 and barely visible from KOP 2, 3, and 4 during watering events. The temporary parking of water delivery trucks at three staging areas during watering events would be visible in less than one percent of the viewshed from surrounding public viewpoints within up to 4 miles of proposed project area from the east and would be consistent with other public infrastructure visible from the KOPs, including SR 136, vertical electrical transmission lines, sand monitoring equipment and infrastructure associated with dust control measures on the Owens Lake bed. Therefore, operations and maintenance of Alternative 2 would not substantially degrade the visual quality of the Alternative 2 site or surround area based on the analysis of the viewsheds from the KOPs (see *Direct and Indirect Impacts*, above, and also Appendix B).

(4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction

Alternative 2 would be expected to result in less than substantial impacts to aesthetics related to the creation of a new source of substantial light or glare during construction. There are currently no substantial sources of glare at the Alternative 2 site (e.g., mirrored buildings, building materials, etc.). The Alternative 2 project components would entail planting and establishment of native vegetation, installation of straw bales as a temporary windbreak, and a temporary water delivery system. Alternative 2 does not include any building construction. There are no buildings existing on the Alternative 2 site. All of the Alternative 2 project components would be non-reflective, would not emanate light, and would not be a source of glare during the daytime when sunlight is present. Alternative 2 would not be expected to create new sources of light and glare. None of the Alternative 2 project components, including vegetation and infrastructure elements, would be anticipated to emit light or glare. Alternative 2 and equipment used during construction of Alternative 2 would not create a substantial impact from light and glare. Construction activities would only occur during day light hours. Therefore, Alternative 2 would not be expected to result in substantial impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Operations and Maintenance

The Alternative 2 site is an undeveloped open space and is currently not a source of light and glare. There are no facilities or lighting system proposed for the Alternative 2 site. Therefore, there would be no substantial impacts due to light and glare under CEQA.

4.1.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the dust control measures would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the site via large water trucks to temporary 20-foot high, 14-foot diameter aboveground 20,000-gallon storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the Alternative 3 area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of small

water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of the Alternative 3, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the Alternative 3 area (Table 4.1.3.4-1, *Alternative 3 Irrigation Pipeline Area)*. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project / proposed action. In the environmentally sensitive areas, the small ATV mounted tanks would be filled with water from the delivery system within the Alternative 3 area instead of from trucks at the staging areas. None of the temporary irrigation infrastructure would be buried below ground and the irrigation system would be removed after the 3-year irrigation period. Further details of Alternative 3 are described in Section 2.2.4.

TABLE 4.1.3.4-1
ALTERNATIVE 3 IRRIGATION PIPELINE AREA

Unit	6-inch PVC Pipe - Trunk Line	4-6-inch PVC Pipe – Transmission Line	2-inch PVC Pipe – Distribution Line	Total Length of PVC Pipe
Feet of White PVC Pipeline	3,362 feet	9,577 feet	51,364 feet	64,303 feet
Miles of White PVC Pipeline	0.6 mile	1.8 miles	9.7 miles	12.2 miles

A. Direct and Indirect Impacts

Under Alternative 3, dust control measures including planting native vegetation and placing of straw bales as temporary windbreaks would be applied to a total of 194 acres of the emissive deposits in the dunes. The access routes, staging areas and other design features would be the same as for the proposed project / proposed action, except construction would involve the additional installation of large water storage tanks at Staging Areas 1, 2, and 3 and an aboveground irrigation system and operations and maintenance would involve the use of the temporary irrigation system across 177 acres of the 194 acres of dust control measures. The potential direct and indirect impacts to aesthetics and visual resources from Alternative 3 are similar to the potential direct and indirect impacts of the proposed project / proposed action, with potential visibility of the water storage tanks and white PVC irrigation pipes (see Section 4.1.3.1). The property would continue to meet VRM Class III objectives under Alternative 3 because this alternative would result in a low to moderate change in the characteristic landscape that would not dominate the view of the casual observer. The grid lines of the aboveground irrigation lines would be predominantly shielded from view by the straw bales and dune topography, with the small visible portions of white pipe blending into the distance. Booster pumps at the staging areas would be small enough to not be visible by the casual observer. The water storage tanks would be painted dark olive green to blend into the landscape, and the white PVC irrigation pipes would have low visibility from the casual observer due to the presence of the straw bales visually breaking up the line of the pipes. The distant view of the temporary water storage tanks would be consistent with the visibility of other water storage tanks and wells along the edge of other Owens Valley dust control measure projects.

B. CEQA Significance Determinations

Would Alternative 3:

(1) Cause a substantial adverse effect on a scenic vista, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 3 would not result in substantial impacts to aesthetics related to scenic vistas during construction. There are no scenic vistas near the Alternative 3 site; nor is Alternative 3 visible from any designated scenic vista. Therefore, Alternative 3 would not result in substantial impacts to aesthetics related to scenic vistas. As with the proposed project, Alternative 3 project components (straw bales, vegetation, a temporary access route, staging areas for equipment, water storage tanks, temporary aboveground irrigation system, and water delivery trucks at Staging Areas 1, 2, and 3) would intermix compatibly with the existing landscape and the temporary aboveground irrigation system would be predominantly shielded from view by the straw bales, existing vegetation, and shallow dune slopes. Temporary infrastructure to support supplemental irrigation would be in place for 3 years following installation of the vegetation. Alternative 3 would not obstruct any prominent scenic vista or views open to the public or result in the creation of an aesthetically offensive site from a designated scenic public view.

The Alternative 3 site and the surrounding area, as observed by its existing conditions, do not meet the criteria of a scenic vista.

Operations and Maintenance

The discussion regarding the location of the Alternative 3 site in a scenic vista described under Construction also applies to Operation and Maintenance. Alternative 3 would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

(2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 3 would be expected to result in less than substantial impacts to aesthetics in relation to substantial damage to scenic resources within a state scenic highway during construction. As indicated above, the nearest highways to the Alternative 3 site are California SR 136 and SR 190. SR 136 is not an officially designated state scenic highway. A portion of SR 190 is designated as an Officially Designated State Scenic Highway Route, but that portion is located approximately 16.7 miles from the Alternative 3 site, near the entrance to Death Valley National Park on the opposite side of the Inyo Mountain range. At this distance and topographical separation, the Alternative 3 site would not be visible from the officially designated portion of SR 190. Alternative 3 would not be located within the viewshed of an Officially Designated Scenic Highway.[15] No designated scenic highways are present in the immediate vicinity of the Alternative 3 site, and no scenic highway viewsheds would be affected by Alternative 3.

[15] California Department of Transportation. 13 September 2012. *Eligible (E) and Officially Designated (OD) Routes*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

Therefore, Alternative 3 would not be expected to result in substantial impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway.

Operations and Maintenance

The discussion regarding the location of the Alternative 3 site near a scenic highway and resources described under Construction also applies to Operation and Maintenance. Alternative 3 would not have a substantial adverse effect on natural resources near a scenic highway during operations and maintenance. No operations and maintenance related impact to resources within a state scenic highway would occur under CEQA.

(3) Substantially degrade the existing visual character or quality of the site and its surroundings?

Construction

Alternative 3 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction. The Alternative 3 project components include temporary placement of straw bales to facilitate establishment of native vegetation, installation of native vegetation that is characteristic of stable dune structures in the Owens Lake area, a temporary access route, staging areas for equipment, water storage tanks, a temporary above-ground irrigation system, and water delivery trucks parked at the three staging areas along Old State Highway during watering events. As depicted in visual simulations, the straw bales and vegetation would be tan in color and short in height (Appendix B). The existing vegetation is also tan and short. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The straw bales would be placed in a random pattern to mimic vegetation patterns on the Alternative 3 site. From areas adjacent to the Alternative 3 site, the straw bales' geometric shape would contrast with the natural landscape, but over time, the shape would soften as this organic material is degraded and covered by blowing sand. From adjacent areas (the community of Keeler and along SR 136) at eye level, the temporary system of white PVC irrigation pipes would be predominantly shielded from view by the straw bales, existing vegetation, and dunes in the foreground. The nearest irrigation pipe would be located approximately 690 feet away from SR 136 and appear as a white line in the distance where the dunes, existing vegetation, and straw bales do not shield it from view due to the overall flat terrain of the valley. At eye level, the white line would blend in with the visual effect of the glare reflecting off watered portions of Owens Lake. From higher elevations (on the hills and mountains east of the proposed project / proposed action site), the regular pattern of the temporary aboveground irrigation would be visible but not inconsistent among the view of other dust control measures within Owens Valley.

Temporary infrastructure elements (an access route, staging areas for equipment, water storage tanks, an aboveground irrigation system, and water delivery trucks parked at the three staging areas along Old State Highway) of Alternative 3 would also appear intermixed with the existing visual setting. The Alternative 3 project components would be visible but compatible with the existing landscape of the proposed project / proposed action site; therefore, the visual character of the site and surrounding area would appear minimally changed to viewers of Alternative 3 during construction. Short-term impacts to views from SR 136 and for recreational users would occur during construction when workers, equipment, and materials would be on the site. However, these temporary impacts to visual character would occur only during the 11-month implementation phase, and Alternative 3 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction.

Operations and Maintenance

The visual character of the Alternative 3 site would be altered from the existing sand sheet and bare sand dunes; however, the resulting visual character is similar to other natural dune environments such as the Swansea Dunes located to the north of Alternative 3, and is compatible with the surrounding area's visual character (Figure 2.1.5.2-1). The temporary aboveground irrigation system would be removed after 3 years of vegetation establishment. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The geometric shape of the straw bales would soften over time and as seen in previous studies for dune stabilization, the straw bales would become partially buried by moving sand and appear more as a natural element of the landscape.[16] Eventually, as the dunes become stabilized by native vegetation, the straw bales would be expected to degrade and provide organic matter to the soil.

As with the proposed project / proposed action, the water storage tanks and temporary parking of water delivery trucks at three staging areas during watering events would be visible in less than one percent of the viewshed from surrounding public viewpoints within up to 4 miles of proposed project / proposed action area from the east and would be consistent with other public infrastructure visible from the KOPs, including vehicles traveling along SR 136, vertical electrical transmission lines, sand monitoring equipment, and infrastructure associated with dust control measures on the Owens Lake bed. There would be a maximum of one water delivery truck at a time at each onsite staging area during watering events. The temporary use of small water tanks mounted to ATVs during watering events would occur approximately 1500 feet away from SR 136 and would be partially visible from KOP 1 and barely visible from KOP 2, 3, and 4 during watering events. However, the aboveground irrigation system would substantially decrease the distance of ATV trips and therefore the visibility of ATVs from the KOPs compared to the proposed project during watering events. The nearest irrigation pipe would be located approximately 690 feet away from SR 136 and appear as a white line in the distance where the dunes, existing vegetation, and straw bales do not shield it from view due to the overall flat terrain of the valley. At eye level, the white line would blend in with the visual effect of the glare reflecting off watered portions of Owens Lake. From higher elevations (on the hills and mountains east of the project site), the regular pattern of the temporary aboveground irrigation would be visible but not inconsistent among the view of other dust control measures within Owens Valley. The temporary aboveground irrigation system would be removed after 3 years of plant establishment. Therefore, operations and maintenance of Alternative 3 would not substantially degrade the visual quality of the Alternative 3 site or surrounding area based on the analysis of the viewsheds from the KOPs (see *Direct and Indirect Impacts*, above, and also Appendix B).

(4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction

Alternative 3 would be expected to result in less than substantial impacts to aesthetics related to the creation of a new source of substantial light or glare during construction. There are currently no substantial sources of glare at the Alternative 3 site (e.g., mirrored buildings, building materials, etc.). The Alternative 3 project components would entail planting and establishment of native vegetation,

[16] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

installation of straw bales as a temporary wind break, and a temporary water delivery system inclusive of an aboveground irrigation system consisting of regularly spaced white pipes. Alternative 3 does not include any building construction. There are no buildings existing on the Alternative 3 site. The installation of 2- to 6-inch diameter white PVC pipelines of the temporary irrigation system would produce a source of glare during the daytime when sunlight is present, with a potential to provide up to 12.2 miles of linear glare lines where the pipelines are not shaded by the vegetation and straw bales along the grid of pipeline. However, as the pipelines would be predominantly visually shielded from public roads including the key observation points and the shallow slope of the valley would reduce the visibility of the pipelines to a linear visual element, the visual glare from the PVC pipelines would be below the level of significance.

Alternative 3 and equipment used during construction of Alternative 3 would not create a substantial impact from nighttime light and glare. Construction activities would only occur during day light hours, and no lighting system would produce a source of nighttime light. Therefore, Alternative 3 would not be expected to result in substantial impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Operations and Maintenance

The Alternative 3 site is an undeveloped open space and is currently not a source of light and glare. The 2- and 4-inch diameter white PVC pipelines of the temporary irrigation system would be a source of glare during the daytime when sunlight is present, with a potential to provide up to 12.2 miles (0.3 acre) of linear glare lines where the pipelines are not shaded by the vegetation and straw bales along the grid of pipeline. However, as the pipelines would be predominantly visually shielded from public roads including the key observation points and the shallow slope of the valley would reduce the visibility of the pipelines to a linear visual element, the visual glare from the PVC pipelines would be below the level of significance. Additionally, over the course of the project, sand within the Keeler Dunes would slowly cover the surface of the pipelines, further obscuring them from view. Therefore, there would be no substantial impacts due to light and glare under CEQA.

4.1.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the dust control measures would be the same as the proposed project / proposed action (as described in Section 2.25). In Alternative 4, water obtained from the Fault Test Well would be transported to the project via water trucks and the water delivery system would be fed from three supply points along SR 136. As with Alternative 3, plants within the 95 percent control area would continue to be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would park at turnout points along SR 136 and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage (Table 4.1.3.5-1, *Alternative 4 Irrigation Pipeline Area*). As in Alternative 3, manual watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs, staged in a manner to avoid sensitive cultural resources. The ATV mounted tanks would be filled with water from the delivery system within the Alternative 4 area instead of from water storage tanks at Staging Areas 1, 2, and 3 or at the water trucks at the turnouts along SR 136. Further details of Alternative 4 are described in Section 2.2.5.

TABLE 4.1.3.5-1
ALTERNATIVE 4 IRRIGATION PIPELINE AREA

Unit	6-inch PVC Pipe - Trunk Line	4-6-inch PVC Pipe – Transmission Line	2-inch PVC Pipe – Distribution Line	Total Length of PVC Pipe
Feet of White PVC Pipeline	5,512 to 7,807 feet	10,076 feet	51,379 feet	66,967 to 69,262 feet
Miles of White PVC Pipeline	1.0 to 1.5 miles	1.9 miles	9.7 miles	12.7 to 13.1 miles

A. Direct and Indirect Impacts

Under Alternative 4, dust control measures including planting native vegetation and placing of straw bales as temporary windbreaks would be applied to a total of 194 acres of the emissive deposits in the dunes. The access routes, staging areas, and other design features would be the same as for the proposed project / proposed action, except construction would involve the additional installation of an aboveground irrigation system, and construction and operations would both involve the temporary parking of one large 8,000-gallon water delivery truck to connect to detachable hoses and the temporary irrigation system at each of three points along SR 136 for watering events. No water storage tanks would be located at the staging areas along the Old Highway as described for Alternative 3. The potential direct and indirect impacts to aesthetics and visual resources from Alternative 4 are similar to the potential direct and indirect impacts of the proposed project / proposed action, with additional visibility of the white PVC irrigation pipes and the temporarily parked water delivery trucks at three turnout points along SR 136 (see Section 4.1.3. 1). The property would continue to meet VRM Class III objectives under Alternative 4 because this alternative would result in a low to moderate change in the characteristic landscape that would not dominate the view of the casual observer. The grid lines of the aboveground irrigation lines would be predominantly shielded from view by the straw bales and dune topography, with the small visible portions of white pipe blending into the distance. The trunk lines leading to the turnout points along SR 136 would potentially be highly visible from the highway during the 3 years of temporary irrigation; as they have the potential to be highly visible, they would be painted as part of the project design before installation to match the tan and beige color of the landscape. The temporarily parked water delivery trucks would be located outside the project area within a Caltrans right-of-way along SR 136 and therefore outside the jurisdiction of BLM visual requirements.

B. CEQA Significance Determinations

Would Alternative 4:

(1) Cause a substantial adverse effect on a scenic vista, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 4 would not result in substantial impacts to aesthetics related to scenic vistas during construction. There are no scenic vistas near the Alternative 4 site; nor is Alternative 4 visible from any designated scenic vista. Therefore, Alternative 4 would not result in substantial impacts to aesthetics related to scenic vistas. The Alternative 4 project components (straw bales, vegetation, a temporary access route, staging areas for equipment, aboveground irrigation system, and water delivery trucks staged at three turnout points along SR 136) would intermix compatibly with the existing landscape, except during watering events, and the temporary aboveground irrigation system would be

predominantly shielded from view by the straw bales, existing vegetation, and shallow dune slopes. Alternative 4 would not obstruct any prominent scenic vista or views open to the public or result in the creation of an aesthetically offensive site from a designated scenic public view because the Alternative 4 site and the surrounding area, as observed by its existing conditions, do not meet the criteria of a scenic vista.

Operations and Maintenance

The discussion regarding the location of the Alternative 4 site in a scenic vista described under Construction also applies to Operation and Maintenance. Alternative 4 would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

(2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 4 would be expected to result in less than substantial impacts to aesthetics in relation to substantial damage to scenic resources within a state scenic highway during construction. As indicated above, the nearest highways to the Alternative 4 site are California SR 136 and SR 190. SR 136 is not an officially designated state scenic highway. A portion of SR 190 is designated as an Officially Designated State Scenic Highway Route, but that portion is located approximately 16.7 miles from the Alternative 4 site, near the entrance to Death Valley National Park on the opposite side of the Inyo Mountain range. At this distance and topographical separation, the Alternative 4 site would not be visible from the officially designated portion of SR 190. Alternative 4 would not be located within the viewshed of an Officially Designated Scenic Highway.[17] No designated scenic highways are present in the immediate vicinity of the Alternative 4 site and no scenic highway viewsheds would be affected by Alternative 4. Therefore, Alternative 4 would not be expected to result in substantial impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway.

Operations and Maintenance

The discussion regarding the location of the Alternative 4 site near a scenic highway and resources described under Construction also applies to Operation and Maintenance. Alternative 4 would not have a substantial adverse effect on natural resources near a scenic highway during operations and maintenance. No operations and maintenance related impact to resources within a state scenic highway would occur under CEQA.

(3) Substantially degrade the existing visual character or quality of the site and its surroundings?

Construction

Alternative 4 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction. The Alternative 4 project components include temporary placement of straw bales to facilitate

[17] California Department of Transportation. 13 September 2012. *Eligible (E) and Officially Designated (OD) Routes*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

establishment of native vegetation, installation of native vegetation that is characteristic of stable dune structures in the Owens Lake area, a temporary access route, temporary staging areas for equipment, a temporary aboveground irrigation system, and temporary water delivery trucks parked at the three turnout points along SR 136 during watering events. As depicted in visual simulations, the straw bales and vegetation would be tan in color and short in height (Appendix B). The existing vegetation is also tan and short. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The straw bales would be placed in a random pattern to mimic vegetation patterns on the Alternative 4 site. From areas adjacent to the Alternative 4 site, the straw bales' geometric shape would contrast with the natural landscape, but over time, the shape would soften as this organic material is degraded and covered by blowing sand. From adjacent areas (the community of Keeler and along SR136) at eye level, the temporary network of white PVC irrigation pipes would be predominantly shielded from view by the straw bales, existing vegetation, and dunes in the foreground. The nearest irrigation distribution line pipe would be located approximately 690 feet away from SR 136 and appear as a white line in the distance where the dunes, existing vegetation, and straw bales do not shield it from view due to the overall flat terrain of the valley. The trunk lines leading from the distribution lines to turnout points along SR 136 would potentially be visible from three stretches totaling approximately 1,870 feet (0.4 mile) along SR 136, including KOP 3. At eye level, the white line would blend in with the visual effect of the glare reflecting off watered portions of Owens Lake. From higher elevations (on the hills and mountains east of the project site), the regular pattern of the temporary aboveground irrigation would be visible but not inconsistent among the view of other dust control measures on Owens Lake.

Temporary infrastructure elements (an access route, staging areas for equipment, an aboveground irrigation system, and water delivery trucks parked at the three turnout points along SR 136) of Alternative 4 would also appear intermixed with the existing visual setting. The Alternative 4 project components would be visible but compatible with the existing landscape of the proposed project site; therefore, the visual character of the site and surrounding area would appear minimally changed to viewers of Alternative 4 during construction. Short-term impacts to views from SR 136 and for recreational users would occur during construction when workers, equipment, and materials would be on the site. However, these temporary impacts to visual character would occur only during the 11-month implementation phase, and Alternative 4 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction.

Operations and Maintenance

The visual character of the Alternative 4 site would be altered from the existing sand sheet and bare sand dunes; however, the resulting visual character is similar to other natural dune environments such as the Swansea Dunes located to the north of Alternative 4, and is compatible with the surrounding area's visual character (Figure 2.1.5.2-1). The temporary aboveground irrigation system would be removed after 3 years of vegetation establishment. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The geometric shape of the straw bales would soften over time and as seen in previous studies for dune stabilization, the straw bales would become partially buried by moving sand and appear more as a natural element of the landscape.[18] Eventually, as the dunes become stabilized by native vegetation, the straw bales would be expected to degrade and

[18] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

provide organic matter to the soil. There would be a maximum of one water delivery truck at a time at each turnout point along SR 136 during watering events. The temporary parking of water delivery trucks at three points along SR 136 during watering events would be a temporary impact to the viewshed from surrounding public viewpoints within up to 2.5 miles of proposed project area from the east and would be consistent with use of turnouts off SR 136. The temporary use of small water tanks mounted to ATVs during watering events would occur approximately 1500 feet away from SR 136 and would be visible from KOP 1 and barely visible from KOP 2, 3, and 4 during watering events. However, the aboveground irrigation system would substantially decrease the distance of ATV trips and therefore the visibility of ATVs from the KOPs compared to the proposed project during watering events. The nearest irrigation distribution line pipe would be located approximately 690 feet away from the SR 136 freeway and appear as a white line in the distance where the dunes, existing vegetation, and straw bales do not shield it from view due to the overall flat terrain of the valley. The trunk lines leading from the distribution lines to SR 136 would potentially be visible from three stretches totaling approximately 1,870 feet (0.4 mile) along SR 136, including KOP 3. At eye level, the white line would blend in with the visual effect of the glare reflecting off watered portions of Owens Lake. From higher elevations (on the hills and mountains east of the project site), the regular pattern of the temporary aboveground irrigation would be visible but not inconsistent among the view of other dust control measures within Owens Valley. The temporary aboveground irrigation system would be removed after 3 years of plant establishment. Therefore, operations and maintenance of Alternative 4 would not substantially degrade the visual quality of the Alternative 4 site or surrounding area based on the analysis of the viewsheds from the KOPs (see *Direct and Indirect Impacts*, above, and also Appendix B).

(4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction

Alternative 4 would be expected to result in less than substantial impacts to aesthetics related to the creation of a new source of substantial light or glare during construction. There are currently no substantial sources of glare at the Alternative 4 site (e.g., mirrored buildings, building materials, etc.). The Alternative 4 project components would entail planting and establishment of native vegetation, installation of straw bales as a temporary windbreak, and a temporary water delivery system inclusive of an aboveground irrigation system consisting of regularly spaced white pipes. Alternative 4 does not include any building construction. There are no buildings existing on the Alternative 4 site. The installation of 2- to 6-inch diameter white PVC pipelines of the temporary irrigation system would produce a source of glare during the daytime when sunlight is present, with a potential to provide up to 12.7 to 13.1 miles of linear glare lines where the pipelines are not shaded by the vegetation and straw bales along the grid of pipeline. However, as the pipelines would be predominantly visually shielded from public roads including the key observation points and the shallow slope of the valley would reduce the visibility of the pipelines to a linear visual element, the visual glare from the PVC pipelines would be below the level of significance.

Alternative 4 and equipment used during construction of Alternative 4 would not create a substantial impact from nighttime light and glare. Construction activities would only occur during day light hours, and no lighting system would produce a source of nighttime light. Therefore, Alternative 4 would not be expected to result in substantial impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Operations and Maintenance

The Alternative 4 site is an undeveloped open space and is currently not a source of light and glare. The 2- and 6-inch diameter white PVC pipelines of the temporary irrigation system would be a source of glare during the daytime when sunlight is present, with a potential to provide up to 12.7 to 13.1 miles of linear glare lines where the pipelines are not shaded by the vegetation and straw bales or covered by sand. However, as the pipelines would be predominantly visually shielded from public roads including the key observation points and the shallow slope of the valley would reduce the visibility of the pipelines to a linear visual element, the visual glare from the PVC pipelines would be below the level of significance. Therefore, there would be no substantial impacts due to light and glare under CEQA.

4.1.3.6 ALTERNATIVE 5, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA KCSD WATER WELL / PIPELINE TO IRRIGATION SYSTEM AND SELECTED MANUAL WATERING

Under Alternative 5, the dust control measures would be the same as the proposed project/proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area to provide water to the project area (Table 4.1.3.6-1, *Alternative 5 Irrigation Pipeline Area*). Plants within the sensitive 85 percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project. Further details of Alternative 5 are described in Section 2.2.6.

TABLE 4.1.3.6-1
ALTERNATIVE 5 IRRIGATION PIPELINE AREA

Unit	4-inch PVC Pipe - Trunk Line	4-inch PVC Pipe – Transmission Line	2-inch PVC Pipe – Distribution Line	Total Length of PVC Pipe
Feet of White PVC Pipeline	1,827 feet	11,497 feet	51,379 feet	64,703 feet
Miles of White PVC Pipeline	0.4 miles	2.2 miles	9.7 miles	12.3 miles

A. Direct and Indirect Impacts

Under Alternative 5, dust control measures including planting native vegetation and placing of straw bales as temporary windbreaks would be applied to a total of 194 acres of the emissive deposits in the dunes. The access routes, staging areas and other design features would be the same as for the proposed project / proposed action, except construction would involve the additional installation of an aboveground irrigation system and construction and operations would involve the connection of the trunk line to the KCSD well instead of using water delivery trucks and water storage tanks. The potential direct and indirect impacts to aesthetics and visual resources from Alternative 5 are similar to the potential direct and indirect impacts of the proposed project / proposed action, with potential visibility of the white PVC irrigation pipes and no potential for visual impacts from the temporary water delivery trunks that would be barely visible from the KOPs for the proposed project / proposed action

(see Section 4.1.3.1). The grid lines of the aboveground irrigation lines would be predominantly shielded from view by the straw bales and dune topography, with the small visible portions of white pipe blending into the distance. The trunk line leading to the KCSD well near SR 136 would potentially be highly visible from the highway during the 3 years of temporary irrigation; as it has the potential to be highly visible, it would be painted as part of the project design before installation to match the tan and beige color of the landscape. The property would continue to meet VRM Class III objectives under Alternative 5 because this alternative would result in a moderate change in the characteristic landscape that would not dominate the view of the casual observer.

B. CEQA Significance Determinations

Would Alternative 5:

(1) Cause a substantial adverse effect on a scenic vista, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 5 would not result in substantial impacts to aesthetics related to scenic vistas during construction. There are no scenic vistas near the Alternative 5 site; nor is Alternative 5 visible from any designated scenic vista. Therefore, Alternative 5 would not result in substantial impacts to aesthetics related to scenic vistas. The Alternative 5 project components (straw bales, vegetation, a temporary access route, staging areas for equipment, aboveground irrigation system, and a water delivery pipeline that would pass under SR 136 from the KCSD well) would intermix compatibly with the existing landscape, and the temporary aboveground irrigation system would be predominantly shielded from view by the straw bales, existing vegetation, and shallow dune slopes. Alternative 5 would not obstruct any prominent scenic vista or views open to the public or result in the creation of an aesthetically offensive site from a designated scenic public view.

The Alternative 5 site and the surrounding area, as observed by its existing conditions, do not meet the criteria of a scenic vista.

Operations and Maintenance

The discussion regarding the location of the Alternative 5 site in a scenic vista described under Construction also applies to Operation and Maintenance. Alternative 5 would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

(2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway, as defined in CEQA Guidelines § 21084.C?

Construction

Alternative 5 would be expected to result in less than substantial impacts to aesthetics in relation to substantial damage to scenic resources within a state scenic highway during construction. As indicated above, the nearest highways to the Alternative 5 site are California SR 136 and SR 190. SR 136 is not an officially designated state scenic highway. A portion of SR 190 is designated as an Officially Designated State Scenic Highway Route, but that portion is located approximately 16.7 miles from the Alternative 5 site, near the entrance to Death Valley National Park on the opposite side of the Inyo Mountain range. At

this distance and topographical separation, the Alternative 5 site would not be visible from the officially designated portion of SR 190. Alternative 5 would not be located within the viewshed of an Officially Designated Scenic Highway.[19] No designated scenic highways are present in the immediate vicinity of the Alternative 5 site, and no scenic highway viewsheds would be affected by Alternative 5. Therefore, Alternative 5 would not be expected to result in substantial impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway.

Operations and Maintenance

The discussion regarding the location of the Alternative 5 site near a scenic highway and resources described under Construction also applies to Operation and Maintenance. Alternative 5 would not have a substantial adverse effect on natural resources near a scenic highway during operations and maintenance. No operations and maintenance related impact to resources within a state scenic highway would occur under CEQA.

(3) Substantially degrade the existing visual character or quality of the site and its surroundings?

Construction

Alternative 5 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction. The Alternative 5 project components include temporary placement of straw bales to facilitate establishment of native vegetation, installation of native vegetation that is characteristic of stable dune structures in the Owens Lake area, a temporary access route, staging areas for equipment, a temporary aboveground irrigation system, and installation of a temporary pipeline to connect the irrigation system to the KCSD well. As depicted in visual simulations, the straw bales and vegetation would be tan in color and short in height (Appendix B). The existing vegetation is also tan and short. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The straw bales would be placed in a random pattern to mimic vegetation patterns on the Alternative 5 site. From areas adjacent to the Alternative 5 site, the straw bales' geometric shape would contrast with the natural landscape, but over time, the shape would soften as this organic material is degraded and covered by blowing sand. From adjacent areas (the community of Keeler and along the 136 freeway) at eye level, the temporary network of white PVC irrigation pipes would be predominantly shielded from view by the straw bales, existing vegetation, and dunes in the foreground. The nearest irrigation distribution line pipe would be located approximately 690 feet away from the SR 136 freeway and appear as a white line in the distance where the dunes, existing vegetation, and straw bales do not shield it from view due to the overall flat terrain of the valley. The trunk line leading from the distribution lines under SR 136 would potentially be visible from one stretch of approximately 818 feet (0.2 mile) along SR 136, including KOP 2. At eye level, the white line would blend in with the visual effect of the glare reflecting off watered portions of Owens Lake. From higher elevations (on the hills and mountains east of the project site), the regular pattern of the temporary aboveground irrigation would be visible but not inconsistent among the view of other dust control measures on Owens Lake.

Temporary infrastructure elements (an access route, staging areas for equipment, an aboveground irrigation system, and a pipeline to connect the irrigation system to the KCSD well) of Alternative 5 would also appear intermixed with the existing visual setting. The Alternative 5 project components

[19] California Department of Transportation. 13 September 2012. *Eligible (E) and Officially Designated (OD) Routes*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

would be visible but compatible with the existing landscape of the proposed project site; therefore, the visual character of the site and surrounding area would appear minimally changed to viewers of Alternative 5 during construction. Short-term impacts to views from SR 136 and for recreational users would occur during construction when workers, equipment, and materials would be on the site. However, these temporary impacts to visual character would occur only during the 11-month implementation phase, and Alternative 5 would not be expected to result in substantial impacts to aesthetics related to substantial degradation of the existing visual character of the site and its surroundings during construction.

Operations and Maintenance

The visual character of the Alternative 5 site would be altered from the existing sand sheet and bare sand dunes; however, the resulting visual character is similar to other natural dune environments such as the Swansea Dunes located to the north of Alternative 5, and is compatible with the surrounding area's visual character (Figure 2.1.5.2-1). The temporary aboveground irrigation system would be removed after 3 years of vegetation establishment. The straw bales and vegetation would be similar in color and height to the existing native vegetation, and they would appear intermixed and compatible with the existing vegetation from a distance. The geometric shape of the straw bales would soften over time and as seen in previous studies for dune stabilization, the straw bales would become partially buried by moving sand and appear more as a natural element of the landscape.[20] Eventually, as the dunes become stabilized by native vegetation, the straw bales would be expected to degrade and provide organic matter to the soil. The connection to the KCSD well reduces the visibility of the dust control measures beyond the visibility of the proposed project / proposed action. The white irrigation pipelines would be visible from surrounding public viewpoints within up to 1.6 miles of project area from the east and from nearby peaks overlooking the entire pattern of Owens Lake dust control measures, and would be consistent with other public infrastructure visible from the KOPs, including SR 136, vertical electrical transmission lines, sand monitoring equipment, and infrastructure associated with dust control measures on the Owens Lake bed. The temporary use of small water tanks mounted to ATVs during watering events would occur approximately 1500 feet away from SR 136 and would be visible from KOP 1 and barely visible from KOP 2, 3, and 4 during watering events. However, the aboveground irrigation system would substantially decrease the distance of ATV trips and therefore the visibility of ATVs from the KOPs compared to the proposed project during watering events.

The nearest irrigation distribution line pipe would be located approximately 690 feet away from the SR 136 freeway and appear as a white line in the distance where the dunes, existing vegetation, and straw bales do not shield it from view due to the overall flat terrain of the valley. The trunk line leading from the KCSD water system under SR 136 would potentially be visible from one stretch along SR 136, including KOP 2. At eye level, the beige/tan painted trunk line would blend in with the visual effect of the glare reflecting off watered portions of Owens Lake. From higher elevations (on the hills and mountains east of the project site), the regular pattern of the temporary aboveground irrigation would be visible but not inconsistent among the view of other dust control measures on Owens Lake. The temporary aboveground irrigation system would be removed after 3 years of plant establishment. Therefore, operations and maintenance of Alternative 5 would not substantially degrade the visual quality of the Alternative 5 site or surrounding area based on the analysis of the viewsheds from the KOPs (see *Direct and Indirect Impacts*, above, and also Appendix B).

[20] HydroBio Advanced Remote Sensing. October 2011. "Stabilizing Keeler Dunes Rapidly Using Native Vegetation and Minimal Inputs." Prepared for: Great Basin Unified Air Pollution Control District, Bishop, CA.

(4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction

Alternative 5 would be expected to result in less than substantial impacts to aesthetics related to the creation of a new source of substantial light or glare during construction. There are currently no substantial sources of glare at the Alternative 5 site (e.g., mirrored buildings, building materials, etc.). The Alternative 5 project components would entail planting and establishment of native vegetation, installation of straw bales as a temporary windbreak, and a temporary water delivery system inclusive of an aboveground irrigation system consisting of regularly spaced white pipes. Alternative 5 does not include any building construction. There are no buildings existing on the Alternative 5 site. The installation of 2- to 6-inch diameter white PVC pipelines of the temporary irrigation system has the potential to produce a source of glare during the daytime when sunlight is present, with a possibility to provide up to 12.3 miles of linear glare lines where the pipelines are not shaded by the vegetation and straw bales along the pipeline system. However, as the pipelines would be predominantly visually shielded from public roads including the key observation points and the shallow slope of the valley would reduce the visibility of the pipelines to a linear visual element, the visual glare from the PVC pipelines would be below the level of significance.

Alternative 5 and equipment used during construction of Alternative 5 would not create a substantial impact from nighttime light and glare. Construction activities would only occur during day light hours, and no lighting system would produce a source of nighttime light. Therefore, Alternative 5 would not be expected to result in substantial impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Operations and Maintenance

The Alternative 5 site is an undeveloped open space and is currently not a source of light and glare. The 2- and 6-inch diameter white PVC pipelines of the temporary irrigation system might be a source of glare during the daytime when sunlight is present, with a potential to provide up to 12.3 miles of linear glare lines where the pipelines are not shaded by the vegetation and straw bales along the grid of pipeline. However, as the pipelines would be predominantly visually shielded from public roads including the key observation points and the shallow slope of the valley would reduce the visibility of the pipelines to a linear visual element, the visual glare from the PVC pipelines would be below the level of significance. Therefore, there would be no substantial impacts due to light and glare under CEQA.

4.1.3.7 Alternative 6, No Project / No Action Alternative

The No Project / No Action Alternative assumes that the dust control measures would not be installed. The No Project / No Action Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of natural habitats would be expected based on the current General Plan and Land Use Ordinance designations.

The sand dunes on the project site would continue to migrate to the south-southeast toward the community of Keeler, thus continuing the existing condition of obscured visibility from wind-blown sands and fine particulates.

A. Direct and Indirect Impacts

Under Alternative 6, there would be no installation or maintenance activities; therefore, there would be no potential for direct or indirect impacts to aesthetics or visual resources.

B. CEQA Significance Determinations

Under Alternative 6, there would be no effect on aesthetics or visual resources.

4.1.4 MITIGATION MEASURES

Only temporary short-term impacts to visual character during construction would occur as a result of implementation of the proposed project / proposed action and Alternatives 1, 2, 3, 4, and 5. The visual glare that would result from the temporary aboveground irrigation system specified in Alternatives 3, 4, and 5 would produce an impact below the level of significance. Therefore, there are no mitigation measures proposed.

4.1.5 RESIDUAL IMPACTS AFTER MITIGATION

The Proposed Project / Proposed Action, Proposed Project / Proposed Action Alternatives 1-5, and Alternative 6 would not result in a substantial adverse impact related to visual resources, light, or glare under CEQA; therefore, no mitigation is required.

4.2 AIR QUALITY

Information contained in this section is summarized from the Air Quality and Greenhouse Gases Technical Report (Appendix C, *Air Quality and Greenhouse Gas Emissions Technical Report*).

4.2.1 STUDY METHODS

The potential for impacts to air quality has been analyzed in accordance with Appendix G of the State CEQA Guidelines[1] and the methodologies and significance thresholds provided by the Inyo County General Plan,[2] the National Ambient Air Quality Standards (NAAQS),[3] the California Ambient Air Quality Standards (CAAQS),[4] the Clean Air Act (CAA),[5] and the Air Quality and Greenhouse Gas Emissions Technical Report prepared for the proposed project / proposed action (Appendix C).[6]

4.2.1.1 CONSTRUCTION EMISSIONS CALCULATIONS

The California Emissions Estimator Model (CalEEMod 2013.2.2[7]) was used to estimate construction emissions from site preparation, delivery and placement of straw bales, delivery and placement of native plants, and the periodic watering of plants. CalEEMod is a statewide computer model that quantifies criteria pollutants and GHG emissions associated with the construction and operation of a variety of land use development projects. The model analyzes at the air district, county, air basin or statewide level (Appendix C). CalEEMod can be used to estimate criteria pollutant emissions associated with land development projects such as residential neighborhoods, shopping centers, and office buildings; area sources such as gas appliances, wood stoves, fireplaces, and landscape maintenance equipment; and construction projects.

4.2.1.2 CONSTRUCTION ASSUMPTIONS

The proposed project / proposed action consists of placement of straw bales as a temporary dust control measure on the site and planting of native vegetation for long-term dust control. The proposed project / proposed action would involve short-term construction impacts for brushing and grubbing temporary access routes and brushing and grubbing staging areas and ATVs traversing the site associated with the planting of native plants and placing of straw bales. The operational impacts would consist of periodic worker trips to the site to monitor the operation and maintenance of the dust control measures, conduct supplemental watering and to service monitoring equipment. The proposed project / proposed action would not generate long-term trips related to its operation. The primary

[1] *California Code of Regulations*. Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] Inyo County Planning Department. December 2001. *Inyo County General Plan, Public Safety Element*. Independence, CA.

[3] U.S. Environmental Protection Agency. Updated 20 October 2008. *National Ambient Air Quality Standards (NAAQS)*. Available at: http://www.epa.gov/air/criteria.html.

[4] Air Resources Board. Reviewed 5 March 2008. *California Ambient Air Quality Standards (CAAQS)*. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm.

[5] U.S. Environmental Protection Agency. 2005. Federal Clean Air Act, Title I, Air Pollution Prevention and Control. Available at: http://www.epa.gov/oar/caa/contents.html

[6] Sapphos Environmental, Inc. November 2012. *Keeler Dunes Dust Control Project Project Air Quality and Greenhouse Gas Emissions Technical Impact Report*. Pasadena, CA.

[7] South Coast Air Quality Management District. 11 February 2011. Web site. "CalEEMod 2013.2.2Program." Available at: http://caleemod.com/

purpose of the proposed project / proposed action is to reduce PM_{10} emissions. Once the plants are established, the project site would provide long-term sequestration of CO_2 emissions.

The plans and specifications for the proposed project / proposed action would include the requirement for construction equipment and average number of hours of operation of the type specified in Table 2.1.5.2-2, *Dust Control Activity, Duration, Equipment, and Workers*. Table 2.1.5.2-2, lists the duration of each activity, types of equipment, and a maximum number of workers on the site each day.

Site ingress and egress locations for construction, delivery vehicles, haul routes, and emergency response and evacuation would be located at three entrance/exit access ways along the Old State Highway (Figure 1.3.1-1, *Regional Vicinity Map*).

The impacts associated with the worse-case day of projected emissions were used to determine potential impacts for the proposed project / proposed action.

4.2.1.3 Operations and Maintenance Calculations

Operational equipment emissions, for maintenance and monitoring phase of the project, were calculated assuming a staff of 10 employees watering plants for a total of 100 days per year of equipment use, for a maximum 3-year time period. The CalEEMod emissions model was used to calculate emissions from operational equipment and employee commute trips.

4.2.1.4 Operations and Maintenance Assumptions

Once the proposed project / proposed action elements are in place, the site would be monitored for a period of 3 years to evaluate the vegetation growth progress, assess plant mortality and predation, provide supplemental water (up to twice per year), check the physical condition of straw bales, and supplement native vegetation during the optimal planting season (fall season). Monitoring for plant survivorship will occur more frequently in the first year of the proposed project / proposed action and less frequently as the plants establish themselves. Review of DCM effectiveness and monitoring data would be completed at least one time per year and would be evaluated to determine the success of the project and for determining the need for adding supplemental plants and/or straw bales as needed to achieve the NAAQS for PM_{10}. The data documenting the result of the effectiveness of the DCMs would be available to BLM upon request.

4.2.2 CEQA Significance Criteria / NEPA Requirements

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or an alternative. Direct natural resource impacts from the proposed project / proposed action or an alternative are related to air quality emissions (e.g. pollutant generated during operation of construction equipment and vehicle trips) generated during construction and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time (for example after construction and maintenance) or further removed in distance (for example, several miles from the project site).

4.2.2.1 CEQA SIGNIFICANCE CRITERIA

The potential for the proposed project to result in impacts to air quality was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. Under CEQA, the potential for the proposed project or project alternatives to result in impacts related to air quality was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. A significant impact on air quality would normally be determined to occur if the project or project alternatives triggered one of the five thresholds established by Appendix G of the CEQA Guidelines:

Would the proposed project have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

Great Basin Unified Air Pollution Control District Air Quality Impact Assessment Screening Thresholds

The OVPA is currently classified non-attainment for PM_{10} and classified attainment for O_3, CO, Pb, NO_x, $PM_{2.5}$, and SO_2. The District is required to comply with the emission thresholds for all federally regulated air pollutants. The proposed project would have a potentially significant impact if it does the following:

- Construction or operation of the proposed project results in 70 tons per year of more of PM_{10}
- The proposed project is not consistent with adopted federal or state Air Quality Attainment Plans

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

(4) Expose sensitive receptors to substantial pollutant concentrations?

(5) Create objectionable odors affecting a substantial number of people?

4.2.2.2 NEPA REQUIREMENTS

The proposed action is located primarily on BLM-administrated land, and the BLM is required to demonstrate that it would undertake, approve, permit, or support an action that would conform to the SIP. The proposed action would be located in an area that is designated as non-attainment for PM_{10} pursuant to the provisions of the federal CAA. The proposed action would trigger a conformity determination if it does the following:

- Total direct and indirect PM_{10} emissions in serious non-attainment area equal or exceed 70 tons per year

4.2.3 ENVIRONMENTAL CONSEQUENCES

4.2.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 94 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

A. Direct and Indirect Impacts

Applicable Plans

The purpose of the proposed project / proposed action, in combination with other on-going dust control projects that have been and are being implemented on the bed of Owens Lake, is to improve air quality through the reduction of PM_{10} emissions throughout the Owens Valley Planning Area (OVPA), consistent with the 2008 Owens Valley SIP. Because dust from the Keeler Dunes continues to cause PM_{10} exceedances, the implementation of the Keeler Dunes dust control project is required in the SIP as part of the overall strategy to attain the federal standard.

Air Quality Standards

The purpose of this project is to reduce the exposure of residents and workers of the communities of Keeler and Swansea and travelers through the area to unhealthful levels of PM_{10} emissions. Dust control measures are necessary at the Keeler Dunes to bring the communities of Keeler and Swansea into compliance with the Federal and California PM_{10} standards and to bring the OVPA into attainment with the NAAQS.

The potential of the proposed project / proposed action to be subject to the conformity determination with the federal CAA and the NAAQS was analyzed. The General Conformity Rule requires the evaluation of the proposed project / proposed action's emissions against the *de minimis* level for all nonattainment pollutants in order to determine if the proposed project / proposed action would be subject to a conformity determination. The OVPA is designated as nonattainment area for PM_{10} emissions; therefore the proposed project / proposed action's annual unmitigated estimated construction and operational emissions were compared to the *de minimis* level for PM_{10} emissions (Table 4.2.3.1-1, *Conformity Determination*). Due to the fact that emissions of PM_{10} would be expected to be below the *de minimis* threshold and that the overall purpose of the project is to reduce PM_{10} emissions, the project would not be subject to a conformity determination.

TABLE 4.2.3.1-1
CONFORMITY DETERMINATION

Proposed Project / Proposed Action	Annual Unmitigated Estimated Nonattainment Air Pollutants (Metric Tons/Year)
	PM_{10}
Construction	32.56
Operation	12.42
De Minimis Level	70
Subject to Conformity Determination?	No

Criteria Pollutants

Construction. The project generates *de minimis* levels of criteria pollutants from daily regional construction emissions (Table 4.2.3.1-2, *Unmitigated Estimated Daily Regional Construction Emissions)*.

TABLE 4.2.3.1-2
UNMITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS

Off-Road Emission Sources	Construction Emissions (Pounds/Day)					
	VOCs	**NOx**	**CO**	**SOx**	**$PM_{2.5}$**	**PM_{10}**
Site Preparation	8.98	102.12	45.57	0.09	4.23	5.64
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	14.69	22.21
Planting and watering	56.67	660.60	328.34	0.65	35.46	48.09
Clean up and restoration	18.10	205.61	114.21	0.18	15.22	21.91
Maximum Off-road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	**35.46**	**48.09**
Mobile Sources	**VOCs**	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Delivery trucks and employee commutes	0.25	0.31	3.62	0.00	41.97	420.41
Maximum Regional Total	**56.91**	**660.90**	**331.96**	**0.65**	**77.43**	**468.50**
Significant? *	NA	NA	NA	NA	NA	NA

Note: * The District does not have daily CEQA thresholds for criteria pollutants. US EPA annual *de minimis* thresholds were used to determine potential impacts.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

The annual regional construction emissions associated with construction would not be expected to exceed the U.S. EPA *de minimis* threshold for PM_{10} (Table 4.2.3.1-3, *Unmitigated Estimated Annual Regional Construction Emissions*).

TABLE 4.2.3.1-3
UNMITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS

Emission Source	Air Pollutant Emissions (Metric Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Maximum off-road construction emissions	0.00	0.01	0.14	0.00	1.52	15.25
Delivery trucks and employee commutes	2.27	26.42	13.13	0.03	1.42	1.92
Maximum Regional Total	**3.48**	**39.93**	**21.00**	**0.04**	**5.36**	**32.56**
US EPA *De Minimis* Thresholds (Tons/Year)*	50	100	NA	NA	NA	70
Significant?	No	No	NA	NA	NA	No

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

Operations and Maintenance. The estimated daily operational emissions of PM_{10} for the monitoring phase of the proposed project / proposed action including mobile-source emissions due to employee commute trips would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.1-4, *Unmitigated Estimated Daily Operational Emissions)*. Operational air emissions at the proposed project / proposed action property are likely to result from mobile sources due to monitoring activities and annual watering, as needed.

TABLE 4.2.3.1-4
UNMITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	15.27	176.09	107.19	0.15	16.84	25.81
ATVs	0.07	0.03	0.40	0.00	2.27	22.72
Water Trucks	5.15	60.69	27.30	0.07	2.16	2.58
Total	**20.49**	**236.81**	**134.89**	**0.22**	**21.27**	**51.11**
Mobile Sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**20.52**	**236.82**	**135.07**	**0.22**	**22.28**	**62.21**
Significance?*	NA	NA	NA	NA	NA	NA

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action

The annual operational emissions of PM_{10} for the monitoring phase of the proposed project / proposed action would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.1-5*, Unmitigated Estimated Annual Operational Emissions*). It is also important to note that the estimated emissions are likely to be higher than actual emissions from the proposed project / proposed action due to the conservative assumptions used for emission modeling. The long-term goal of the proposed project / proposed action is the establishment of a self-sustaining native vegetation cover to control dust with minimal long-term maintenance; therefore, operation and maintenance and associated emissions would be expected to be minimal after the initial 3 years following construction. The purpose of the proposed project / proposed action would be to reduce PM_{10} emissions through vegetation establishment. As evidenced by the results of the pilot study, the proposed project / proposed action would result in improved air

quality immediately following installation of the straw bales, specifically related to net reductions in PM_{10} emissions.

TABLE 4.2.3.1-5
UNMITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS

Emission Sources	Air Pollutants (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	1.99	22.98	13.99	0.02	4.79	8.14
ATVs	0.00	0.00	0.06	0.00	0.27	2.69
Water Trucks	0.67	7.92	3.56	0.00	0.29	0.40
Total	**2.66**	**30.90**	**17.61**	**0.02**	**5.35**	**11.23**
Mobile Sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**2.66**	**30.90**	**17.64**	**0.02**	**5.47**	**12.42**
US EPA *De Minimis* Threshold	50	100	NA	NA	NA	70
Exceedance of Significance?	No	No	NA	NA	NA	No

Notes: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
Annual operational equipment and mobile-source emissions are calculated assuming 100 working days per year.
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action; see Appendix C

Sensitive Receptors

Carbon Monoxide. CO is considered a localized problem and requires additional analysis when a proposed project / proposed action would be expected to expose sensitive receptors to localized levels of CO concentrations from vehicles, which are known as CO "hotspots." Due to the low number of vehicle trips anticipated for the proposed project / proposed action (8–10 per day), there would be no substantial increase in CO concentrations at sensitive receptor locations.

Toxic Air Contaminants (TACs). TACs impacts at the proposed project / proposed action property would result primarily from diesel particulate emissions associated with heavy-duty equipment operations. The operation of the proposed project / proposed action would not generate a substantial number of heavy-duty equipment operations or daily truck trips. Water truck trips during annual watering would be the primary contributor to the TAC level at the proposed project / proposed action property. However, the number of heavy-duty delivery trucks accessing the proposed project / proposed action property on a daily basis would be minimal, and the proposed project / proposed action area is remote and largely unpopulated; therefore, TAC emissions would not occur in large concentrations in populated areas and would be minor in nature and duration and would not adversely affect human health.

Visibility-reducing Particles. The threshold for visibility under the CAAQS is correlated with the standard extinction coefficient of 0.23 per kilometer. The construction and operations and maintenance phases of the proposed project / proposed action would not generate area-source emissions that would be expected to impair visibility. Rather the proposed project / proposed action would be expected to substantially reduce existing dust emissions from the Keeler Dunes that currently impair visibility in the nearby community of Keeler and on adjacent SR 136.

Odors

Construction of the proposed project / proposed action would be required to comply with District Rule 419. Potential sources of odors at the proposed project / proposed action property would be those

emitted from equipment exhaust. The construction of the proposed project / proposed action would use typical construction equipment and odors at the proposed project / proposed action property would be typical for most construction sites. The project construction has a relatively short-term schedule and odors would be expected to be localized and confined to within ¼ mile of the proposed project / proposed action property; therefore, there would be no anticipated nuisance odors.

B. CEQA Significance Determinations

Would the proposed project / proposed action have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

The proposed project / proposed action would not have any impact related to conflicts with the applicable air quality plan, the 2008 Owens Valley PM_{10} Demonstration of Attainment State Implementation Plan. The proposed project / proposed action has been designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

The proposed project / proposed action would not have any significant impact to air quality related to a violation of an air quality standard or contribution to an existing or projected air violation. The proposed project / proposed action has been designed to facilitate implementation of elements of the 2008 Owens Valley PM_{10} Demonstration of Attainment State Implementation Plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The proposed project / proposed action would not contribute to a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment. The OVPA is non-attainment for PM_{10} emissions. The proposed project / proposed action has been designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(4) Expose sensitive receptors to substantial pollutant concentrations?

The proposed project / proposed action would result in less than significant impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. Implementation of the proposed project / proposed action would have a net benefit in relation to reduction of exposure of sensitive receptors in the communities of Keeler and Swansea.

(5) Create objectionable odors affecting a substantial number of people?

The proposed project / proposed action would result in less than significant impacts to air quality related to the creation of objectionable odors. The proposed project / proposed action is located

approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions would be expected to be confined within ¼ mile of the construction site, and be limited in duration due to the less than one year construction period and relatively low levels of equipment required.

4.2.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

A. Direct and Indirect Impacts

Applicable Plans

As with the proposed action, Alternative 1 would implement dust control measures at Keeler Dunes intended to demonstrate compliance with the 2008 SIP. As with the proposed project / proposed action, Alternative 1 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Therefore, the air quality impacts of Alternative 1 would be the same as the proposed project / proposed action.

Air Quality Standards

As with the proposed project / proposed action, Alternative 1 would not violate an air quality standard or contribute to an existing or projected air violation. As with the proposed project / proposed action, Alternative 1 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Due to the fact that emissions of PM_{10} would be expected to be below the *de minimis* threshold and that the overall purpose of the project is to reduce PM_{10} emissions, Alternative 1 would not be subject to a conformity determination (Table 4.2.3.2-1, *Conformity Determination for Alternative 1*).

TABLE 4.2.3.2-1
CONFORMITY DETERMINATION FOR ALTERNATIVE 1

Proposed Project / Proposed Action	Annual Unmitigated Estimated Nonattainment Air Pollutants (Tons/Year)
	PM_{10}
Construction	32.58
Operation	12.28
De Minimis Level[1]	70
Subject to Conformity Determination?[2]	No

Criteria Pollutants

Construction. As with the proposed project / proposed action, Alternative 1 generates *de minimis* levels of criteria pollutants from daily regional construction emissions (Table 4.2.3.2-2, *Unmitigated Estimated Daily Regional Construction Emissions for Alternative 1)*.

TABLE 4.2.3.2-2
UNMITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 1

Off-Road Emission Sources	Construction Emissions (Pounds/Day)					
	VOCs	**NOx**	**CO**	**SOx**	**$PM_{2.5}$**	**PM_{10}**
Site Preparation	8.98	102.12	45.57	0.09	4.23	5.64
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	14.71	22.37
Planting and watering	56.67	660.60	328.34	0.65	35.49	48.35
Clean up and restoration	18.10	205.61	114.21	0.18	15.22	21.91
Maximum Off-road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	**35.49**	**48.35**
Mobile Sources	**VOCs**	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Delivery trucks and employee commutes	0.25	0.31	3.62	0.00	41.97	420.41
Maximum Regional Total	**56.91**	**660.90**	**331.96**	**0.65**	**77.46**	**468.76**
Significant? *	NA	NA	NA	NA	NA	NA

Note: * The District does not have daily CEQA thresholds for criteria pollutants. US EPA annual *de minimis* thresholds were used to determine potential impacts.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

As with the proposed project / proposed action, Alternative 1 generates *de minimis* levels of criteria pollutants from annual regional construction emissions (Table 4.2.3.2-3, *Unmitigated Estimated Annual Regional Construction Emissions for Alternative 1)*.

TABLE 4.2.3.2-3
UNMITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 1

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Maximum off-road construction emissions	0.00	0.01	0.14	0.00	1.52	15.25
Delivery trucks and employee commutes	2.27	26.42	13.13	0.03	1.42	1.93
Maximum Regional Total	**3.48**	**39.93**	**21.00**	**0.04**	**5.36**	**32.58**
US EPA *De Minimis* Thresholds (Tons/Year)*	50	100	NA	NA	NA	70
Significant?	No	No	NA	NA	NA	No

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

Operations and Maintenance. As with the proposed project / proposed action, the estimated daily operational emissions of PM_{10} for the monitoring phase of Alternative 1, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.2-4, *Unmitigated Estimated Daily Operational Emissions for Alternative 1*).

TABLE 4.2.3.2-4
UNMITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS FOR ALTERNATIVE 1

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	15.27	176.09	107.19	0.15	16.85	25.84
ATVs	0.07	0.03	0.39	0.00	2.22	22.21
Water Trucks	5.15	60.69	27.30	0.07	2.13	2.32
Total	**20.49**	**236.81**	**134.88**	**0.22**	**21.20**	**50.37**
Mobile Sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**20.52**	**236.82**	**135.06**	**0.22**	**22.21**	**60.47**
Significance?*	NA	NA	NA	NA	NA	NA

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action

As with the proposed project / proposed action, the estimated annual operational emissions of PM_{10} for the monitoring phase of the Alternative 1, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.2-5, *Unmitigated Estimated Annual Operational Emissions for Alternative 1*).

TABLE 4.2.3.2-5
UNMITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS
FOR ALTERNATIVE 1

Emission Sources	Air Pollutants (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	1.99	22.98	13.99	0.02	4.79	8.15
ATVs	0.00	0.00	0.06	0.00	0.26	2.63
Water Trucks	0.67	7.92	3.56	0.00	0.28	0.31
Total	**2.66**	**30.90**	**17.61**	**0.02**	**5.33**	**11.09**
Mobile Sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**2.66**	**30.90**	**17.64**	**0.02**	**5.45**	**12.28**
US EPA *De Minimis* Threshold	50	100	NA	NA	NA	70
Exceedance of Significance?	No	No	NA	NA	NA	No

Notes: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
Annual operational equipment and mobile-source emissions are calculated assuming 100 working days per year.
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action; see Appendix C

As with the proposed project / proposed action, the purpose of Alternative 1 would be to reduce PM_{10} emissions through vegetation establishment. As evidenced by the results of the pilot study, Alternative 1 would result in improved air quality immediately following installation of the straw bales, specifically related to net reductions in PM_{10} emissions.

Sensitive Receptors

As with the proposed project / proposed action, Alternative 1 would not result in impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. As with implementation of the proposed project / proposed action, Alternative 1 would have a net benefit in relation to reduction of exposure of sensitive receptors in the communities of Keeler and Swansea to toxic air contaminants and visibility-reducing particles.

Odors

As with the proposed project / proposed action, Alternative 1 would not result in the creation of objectionable odors for substantial numbers of people. As with the proposed project / proposed action, Alternative 1 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions would be expected to be confined within ¼ mile of the construction site, and would be limited in duration due to the less than one year construction period and relatively low levels of equipment required.

B. CEQA Significance Determinations

Would the Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs, have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Alternative 1 would not have any impact related to conflicts with the applicable air quality plan, the 2008 SIP. Alternative 1 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

Alternative 1 would not have any significant impact to air quality related to a violation of an air quality standard or contribution to an existing or projected air violation. Alternative 1 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Alternative 1 would not contribute to a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment. The OVPA is non-attainment for PM_{10} emissions. Alternative 1 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(4) Expose sensitive receptors to substantial pollutant concentrations?

Alternative 1 would result in less than significant impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. Implementation of Alternative 1 would have a net benefit in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swansea.

(5) Create objectionable odors affecting a substantial number of people?

Alternative 1 would result in less than significant impacts to air quality related to the creation of objectionable odors. Alternative 1 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions are expected to be confined within ¼ mile of the construction site, and be limited in duration due to the less than one year construction period and relatively low levels of equipment.

4.2.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3) This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 1.5 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would

be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

Under Alternative 2, dust control measures including planting native vegetation and placing of straw bales as temporary wind breaks would be applied to a total of 197 acres of the emissive deposits in the dunes. The construction scenario, access routes, staging areas and other design features would be the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

Applicable Plans

As with the proposed project / proposed action, Alternative 2 would implement dust control measures at Keeler Dunes intended to demonstrate compliance with the 2008 SIP. As with the proposed project / proposed action, Alternative 2 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Therefore, the air quality impacts of Alternative 1 would be the same as the proposed project / proposed action.

Air Quality Standards

As with the proposed project / proposed action, Alternative 2 would not violate an air quality standard or contribute to an existing or projected air violation. As with the proposed project / proposed action, Alternative 2 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Due to the fact that emissions of PM_{10} would be expected to be below the *de minimis* threshold and that the overall purpose of the project is to reduce PM_{10} emissions, the Alternative 2 would not be subject to a conformity determination (Table 4.2.3.3-1, *Conformity Determination for Alternative 2*).

TABLE 4.2.3.3-1
CONFORMITY DETERMINATION FOR ALTERNATIVE 2

	Annual Unmitigated Estimated Nonattainment Air Pollutants (Tons/Year)
Proposed Project / Proposed Action	**PM_{10}**
Construction	32.56
Operation	12.27
De Minimis Level	70
Subject to Conformity Determination?	No

Criteria Pollutants

Construction. As with the proposed project / proposed action, Alternative 2 generates *de minimis* levels of criteria pollutants from daily regional construction emissions (Table 4.2.3.3-2, *Unmitigated Estimated Daily Regional Construction Emissions for Alternative 2)*.

TABLE 4.2.3.3-2
UNMITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 2

Off-Road Emission Sources	Construction Emissions (Pounds/Day)					
	VOCs	**NOx**	**CO**	**SOx**	**$PM_{2.5}$**	**PM_{10}**
Site Preparation	8.98	102.12	45.57	0.09	4.23	5.64
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	14.70	22.24
Planting and watering	56.67	660.60	328.34	0.65	35.46	48.12
Clean up and restoration	18.10	205.61	114.21	0.18	15.22	21.91
Maximum Off-road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	35.46	48.12
Mobile Sources	**VOCs**	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Delivery trucks and employee commutes	0.25	0.31	3.62	0.00	41.97	420.41
Maximum Regional Total	**56.91**	**660.90**	**331.96**	**0.65**	**77.43**	**468.54**
Significant? *	NA	NA	NA	NA	NA	NA

Note: * The District does not have daily CEQA thresholds for criteria pollutants. US EPA annual *de minimis* thresholds were used to determine potential impacts.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

As with the proposed project / proposed action, Alternative 2 generates *de minimis* levels of criteria pollutants from annual regional construction emissions (Table 4.2.3.3-3, *Unmitigated Estimated Annual Regional Construction Emissions for Alternative 2)*.

TABLE 4.2.3.3-3
UNMITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 2

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Maximum off-road construction emissions	0.00	0.01	0.14	0.00	1.52	15.25
Delivery trucks and employee commutes	2.27	26.42	13.13	0.03	1.42	1.93
Maximum Regional Total	**3.48**	**39.93**	**21.00**	**0.04**	**5.36**	**32.57**
US EPA *De Minimis* Thresholds (Tons/Year)*	50	100	NA	NA	NA	70
Significant?	No	No	NA	NA	NA	No

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

Operations and Maintenance. As with the proposed project / proposed action, the estimated daily operational emissions of PM_{10} for the monitoring phase of Alternative 2, including mobile-source

emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.3-4, *Unmitigated Estimated Daily Operational Emissions for Alternative 2)*.

TABLE 4.2.3.3-4
UNMITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS
FOR ALTERNATIVE 2

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Operational equipment	15.27	176.09	107.19	0.15	16.84	25.82
ATVs	0.07	0.03	0.39	0.00	2.22	22.21
Water Trucks	5.15	60.69	27.30	0.07	2.13	2.33
Total	**20.49**	**236.81**	**134.88**	**0.22**	**21.19**	**50.36**
Mobile Sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**20.52**	**236.82**	**135.06**	**0.22**	**22.20**	**60.46**
Significance?*	NA	NA	NA	NA	NA	NA

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* Thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action

As with the proposed project / proposed action, the estimated annual operational emissions of PM_{10} for the monitoring phase of the Alternative 2, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.3-5, *Unmitigated Estimated Annual Operational Emissions for Alternative 2*).

TABLE 4.2.3.2-5
UNMITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS
FOR ALTERNATIVE 2

Emission Sources	Air Pollutants (Tons/Year)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Operational equipment	1.99	22.98	13.99	0.02	4.79	8.14
ATVs	0.00	0.00	0.06	0.00	0.26	2.63
Water Trucks	0.67	7.92	3.56	0.00	0.28	0.31
Total	**2.66**	**30.90**	**17.61**	**0.02**	**5.33**	**11.08**
Mobile Sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**2.66**	**30.90**	**17.64**	**0.02**	**5.45**	**12.27**
US EPA *De Minimis* Threshold	50	100	NA	NA	NA	70
Exceedance of Significance?	No	No	NA	NA	NA	No

Notes: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
Annual operational equipment and mobile-source emissions are calculated assuming 100 working days per year.
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action; see Appendix C

As with the proposed project / proposed action, the purpose of Alternative 2 would be to reduce PM_{10} emissions through vegetation establishment. As evidenced by the results of the pilot study, Alternative 2 would result in improved air quality immediately following installation of the straw bales, specifically related to net reductions in PM_{10} emissions.

Sensitive Receptors

As with the proposed project / proposed action, Alternative 2 would not result in impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. As with implementation of the proposed project / proposed action, Alternative 2 would have a net benefit in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swansea to toxic air contaminants and visibility-reducing particles.

Odors

As with the proposed project / proposed action, Alternative 2 would not result in the creation of objectionable odors for substantial numbers of people. As with the proposed project / proposed action, Alternative 2would be located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions would be expected to be confined within ¼ mile of the construction site, and would be limited in duration due to the less than one year construction period and relatively low levels of equipment required.

B. CEQA Significance Determinations

Would Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs, have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Alternative 2 would not have any impact related to conflicts with the applicable air quality plan, the 2008 SIP. Alternative 2 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

Alternative 2 would not have any significant impact to air quality related to a violation of an air quality standard or contribution to an existing or projected air violation. Alternative 2 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Alternative 2 would not contribute to a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment. The OVPA is non-attainment for PM_{10} emissions. Alternative 2 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(4) Expose sensitive receptors to substantial pollutant concentrations?

Alternative 2 would result in less than significant impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. Implementation of Alternative 2 would have a net benefit in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swansea.

(5) Create objectionable odors affecting a substantial number of people?

Alternative 2 would result in less than significant impacts to air quality related to the creation of objectionable odors. Alternative 2 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions are expected to be confined within ¼ mile of the construction site, and be limited in duration due to the less than one year construction period and relatively low levels of equipment.

4.2.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the project via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the project area, each staging area would need to have a manifold and small electric booster pump to pressurize the irrigation system. Due to the minimal criteria pollutant emissions associated with a small electric booster pump, criteria pollutant emissions from the electric booster pump are assumed to be negligible. The use of water tanks mounted on ATVs, to irrigate plants would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project / proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from trucks at the staging areas.

A. Direct and Indirect Impacts

Due to the addition of an irrigation system, the air quality analysis for Alternative 3 includes an additional construction phase for the construction of the irrigation system. With the exception of the irrigation system, the construction scenario, access routes, staging areas and other design features would be largely the same as the proposed project / proposed action. Therefore, the air quality impacts would be the similar to the proposed project / proposed action.

Applicable Plans

As with the proposed action, Alternative 3 would implement dust control measures at Keeler Dunes intended to demonstrate compliance with the 2008 SIP. As with the proposed project / proposed action, Alternative 3 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Therefore, the air quality impacts of Alternative 3 would be the same as the proposed project / proposed action.

Air Quality Standards

As with the proposed project / proposed action, Alternative 3 would not violate an air quality standard or contribute to an existing or projected air violation. As with the proposed project / proposed action, Alternative 3 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Due to the fact that emissions of PM_{10} would be expected to be below the *de minimis* threshold and that the overall purpose of the project is to reduce PM_{10} emissions, the Alternative 3 would not be subject to a conformity determination (Table 4.2.3.4-1, *Conformity Determination for Alternative 3*).

TABLE 4.2.3.4-1
CONFORMITY DETERMINATION FOR ALTERNATIVE 3

Proposed Project / Proposed Action	Annual Unmitigated Estimated Nonattainment Air Pollutants (Tons/Year)
	PM_{10}
Construction	32.66
Operation	10.09
De Minimis Level[1]	70
Subject to Conformity Determination?[2]	No

Criteria Pollutants

Construction. As with the proposed project / proposed action, Alternative 3 generates *de minimis* levels of criteria pollutants from daily regional construction emissions (Table 4.2.3.4-2, *Unmitigated Estimated Daily Regional Construction Emissions for Alternative 3).*

TABLE 4.2.3.4-2
UNMITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 3

Off-Road Emission Sources	Construction Emissions (Pounds/Day)					
	VOCs	NOx	CO	SOx	$PM_{2.5}$	PM_{10}
Site Preparation	8.98	102.12	45.57	0.09	4.23	5.64
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	14.69	22.21
Construction of irrigation system*	4.71	56.09	24.84	0.06	1.98	2.15
Planting and watering	56.67	660.60	328.34	0.65	35.46	48.09
Clean up and restoration	18.10	205.61	114.21	0.18	15.22	21.91
Maximum Off-road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	**35.46**	**48.09**
Mobile Sources	**VOCs**	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Delivery trucks and employee commutes	0.25	0.31	3.62	0.00	41.97	420.41
Maximum Regional Total	**61.62**	**716.99**	**356.80**	**0.71**	**79.41**	**470.65**
Significant? **	NA	NA	NA	NA	NA	NA

Note: * Alternative 3 includes and additional off-road emission source for the construction of the irrigation system.
** The District does not have daily CEQA thresholds for criteria pollutants. US EPA annual *de minimis* thresholds were used to determine potential impacts.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

As with the proposed project / proposed action, Alternative 3 generates *de minimis* levels of criteria pollutants from annual regional construction emissions (Table 4.2.3.4-3, *Unmitigated Estimated Annual Regional Construction Emissions for Alternative 3)*.

TABLE 4.2.3.4-3
UNMITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 3

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Maximum off-road construction emissions	0.00	0.01	0.14	0.00	1.52	15.25
Delivery trucks and employee commutes	2.27	26.42	13.13	0.03	1.42	1.92
Maximum Regional Total	**3.68**	**42.37**	**22.07**	**0.04**	**5.45**	**32.66**
US EPA *De Minimis* Thresholds (Tons/Year)*	50	100	NA	NA	NA	70
Significant?	No	No	NA	NA	NA	No

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

Operations and Maintenance. As with the proposed project / proposed action, the estimated daily operational emissions of PM_{10} for the monitoring phase of Alternative 3, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.4-4, *Unmitigated Estimated Daily Operational Emissions for Alternative 3*).

TABLE 4.2.3.4-4
UNMITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS FOR ALTERNATIVE 3

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	15.27	176.09	107.19	0.15	16.84	25.81
ATVs	0.00	0.00	0.05	0.00	0.30	3.03
Water Trucks	5.15	60.69	27.30	0.07	2.16	2.58
Total	**20.42**	**236.78**	**134.54**	**0.22**	**19.30**	**31.42**
Mobile Sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**20.45**	**236.79**	**134.72**	**0.22**	**20.31**	**41.52**
Significance?*	NA	NA	NA	NA	NA	NA

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis thresholds* have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action

As with the proposed project / proposed action, the estimated annual operational emissions of PM_{10} for the monitoring phase of the Alternative 3, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.4-5, *Unmitigated Estimated Annual Operational Emissions for Alternative 3*).

TABLE 4.2.3.2-5
UNMITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS
FOR ALTERNATIVE 3

Emission Sources	Air Pollutants (Tons/Year)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Operational equipment	1.99	22.98	13.99	0.02	4.79	8.14
ATVs	0.00	0.00	0.00	0.00	0.04	0.36
Water Trucks	0.67	7.92	3.56	0.00	0.29	0.40
Total	**2.66**	**30.90**	**17.55**	**0.02**	**5.12**	**8.90**
Mobile Sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**2.66**	**30.90**	**17.58**	**0.02**	**5.24**	**10.09**
US EPA *De Minimis* Threshold	50	100	NA	NA	NA	70
Exceedance of Significance?	No	No	NA	NA	NA	No

Notes: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
Annual operational equipment and mobile-source emissions are calculated assuming 100 working days per year.
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action; see Appendix C

As with the proposed project / proposed action, the purpose of Alternative 3 would be to reduce PM_{10} emissions through vegetation establishment. As evidenced by the results of the pilot study, Alternative 3 would result in improved air quality immediately following installation of the straw bales, specifically related to net reductions in PM_{10} emissions.

Sensitive Receptors

As with the proposed project / proposed action, Alternative 3 would not result in impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. As with implementation of the proposed project / proposed action, Alternative 3 would have a net benefit in relation to reduction of exposure of sensitive receptors in the communities of Keeler and Swansea to toxic air contaminants and visibility-reducing particles.

Odors

As with the proposed project / proposed action, Alternative 3 would not result in the creation of objectionable odors for substantial numbers of people. As with the proposed project / proposed action, Alternative 3 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions would be expected to be confined within ¼ mile of the construction site, and would be limited in duration due to the less than one year construction period and relatively low levels of equipment required.

B. CEQA Significance Determinations

Would the Alternative 3, Dust Control Measures Applied to 194 Acres Using an Irrigation System, have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Alternative 3 would not have any impact related to conflicts with the applicable air quality plan, the 2008 SIP. Alternative 3 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

Alternative 3 would not have any significant impact to air quality related to a violation of an air quality standard or contribution to an existing or projected air violation. Alternative 3 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Alternative 3 would not contribute to a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment. The OVPA is non-attainment for PM_{10} emissions. Alternative 3 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(4) Expose sensitive receptors to substantial pollutant concentrations?

Alternative 3 would result in less than significant impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. Implementation of Alternative 3 would have a net benefit in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swansea.

(5) Create objectionable odors affecting a substantial number of people?

Alternative 3 would result in less than significant impacts to air quality related to the creation of objectionable odors. Alternative 3 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions are expected to be confined within ¼ mile of the construction site, and be limited in duration due to the less than one year construction period and relatively low levels of equipment

4.2.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.25). In Alternative 4, water obtained from the Fault Test Well would be transported to the project via water trucks and the water delivery system would be fed from three supply points along State Route 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this

alternative, water trucks would stage next to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs, stage in a manner to avoid sensitive cultural resources. The ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas.

A. Direct and Indirect Impacts

Due to the addition of an irrigation system in Alternative 4, the air quality analysis for Alternative 4 includes an additional construction phase for the construction of the irrigation system. With the exception of the irrigation system, the construction scenario, access routes, staging areas and other design features would be largely the same as the proposed project / proposed action. Therefore, the air quality impacts would be the similar to the proposed project / proposed action.

Applicable Plans

As with the proposed action, Alternative 4 would implement dust control measures at Keeler Dunes intended to demonstrate compliance with the 2008 SIP. As with the proposed project / proposed action, Alternative 4 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Therefore, the air quality impacts of Alternative 4 would be the same as the proposed project / proposed action.

Air Quality Standards

As with the proposed project / proposed action, Alternative 4 would not violate an air quality standard or contribute to an existing or projected air violation. As with the proposed project / proposed action, Alternative 4 has been designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Due to the fact that emissions of PM_{10} would be expected to be below the *de minimis* threshold and that the overall purpose of the project is to reduce PM_{10} emissions, the Alternative 4 would not be subject to a conformity determination (Table 4.2.3.5-1, *Conformity Determination for Alternative 4*).

TABLE 4.2.3.5-1
CONFORMITY DETERMINATION FOR ALTERNATIVE 4

	Annual Unmitigated Estimated Nonattainment Air Pollutants (Tons/Year)
Proposed Project / Proposed Action	**PM_{10}**
Construction	32.66
Operation	10.09
De Minimis Level[1]	70
Subject to Conformity Determination?[2]	No

Criteria Pollutants

Construction. As with the proposed project / proposed action, Alternative 4 generates *de minimis* levels of criteria pollutants from daily regional construction emissions (Table 4.2.3.5-2, *Unmitigated Estimated Daily Regional Construction Emissions for Alternative 4).*

TABLE 4.2.3.5-2
UNMITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 4

Off-Road Emission Sources	Construction Emissions (Pounds/Day)					
	VOCs	**NOx**	**CO**	**SOx**	**$PM_{2.5}$**	**PM_{10}**
Site Preparation	8.98	102.12	45.57	0.09	4.23	5.64
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	14.69	22.21
Construction of irrigation system*	4.71	56.09	24.84	0.06	1.98	2.15
Planting and watering	56.67	660.60	328.34	0.65	35.46	48.09
Clean up and restoration	18.10	205.61	114.21	0.18	15.22	21.91
Maximum Off-road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	**35.46**	**48.09**
Mobile Sources	**VOCs**	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Delivery trucks and employee commutes	0.25	0.31	3.62	0.00	41.97	420.41
Maximum Regional Total	**61.62**	**716.99**	**356.80**	**0.71**	**79.41**	**470.65**
Significant? **	NA	NA	NA	NA	NA	NA

Note: * Alternative 4 includes and additional off-road emission source for the construction of the irrigation system.
** The District does not have daily CEQA thresholds for criteria pollutants. US EPA annual *de minimis* thresholds were used to determine potential impacts.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

As with the proposed project / proposed action, Alternative 4 generates *de minimis* levels of criteria pollutants from annual regional construction emissions (Table 4.2.3.5-3, *Unmitigated Estimated Annual Regional Construction Emissions for Alternative 4).*

TABLE 4.2.3.5-3
UNMITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 4

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Maximum off-road construction emissions	0.00	0.01	0.14	0.00	1.52	15.25
Delivery trucks and employee commutes	2.27	26.42	13.13	0.03	1.42	1.92
Maximum Regional Total	**3.68**	**42.37**	**22.07**	**0.04**	**5.45**	**32.66**
US EPA *De Minimis* Thresholds (Tons/Year)*	50	100	NA	NA	NA	70
Significant?	No	No	NA	NA	NA	No

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

Operations and Maintenance. As with the proposed project / proposed action, the estimated daily operational emissions of PM_{10} for the monitoring phase of Alternative 4, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.5-4, *Unmitigated Estimated Daily Operational Emissions for Alternative 4*).

TABLE 4.2.3.5-4
UNMITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS
FOR ALTERNATIVE 4

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	15.27	176.09	107.19	0.15	16.84	25.81
ATVs	0.00	0.00	0.05	0.00	0.30	3.03
Water Trucks	5.15	60.69	27.30	0.07	2.16	2.58
Total	**20.42**	**236.78**	**134.54**	**0.22**	**19.30**	**31.42**
Mobile Sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**20.45**	**236.79**	**134.72**	**0.22**	**20.31**	**41.52**
Significance?*	NA	NA	NA	NA	NA	NA

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action

As with the proposed project / proposed action, the estimated annual operational emissions of PM_{10} for the monitoring phase of the Alternative 4, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.5-5, *Unmitigated Estimated Annual Operational Emissions for Alternative 4*).

TABLE 4.2.3.5-5
UNMITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS
FOR ALTERNATIVE 4

Emission Sources	Air Pollutants (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	1.99	22.98	13.99	0.02	4.79	8.14
ATVs	0.00	0.00	0.00	0.00	0.04	0.36
Water Trucks	0.67	7.92	3.56	0.00	0.29	0.40
Total	**2.66**	**30.90**	**17.55**	**0.02**	**5.12**	**8.90**
Mobile Sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**2.66**	**30.90**	**17.58**	**0.02**	**5.24**	**10.09**
US EPA *De Minimis* Threshold	50	100	NA	NA	NA	70
Exceedance of Significance?	No	No	NA	NA	NA	No

Notes: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
Annual operational equipment and mobile-source emissions are calculated assuming 100 working days per year.
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action; see Appendix C

As with the proposed project / proposed action, the purpose of Alternative 4 would be to reduce PM_{10} emissions through vegetation establishment. As evidenced by the results of the pilot study, Alternative 4 would result in improved air quality immediately following installation of the straw bales, specifically related to net reductions in PM_{10} emissions.

Sensitive Receptors

As with the proposed project / proposed action, Alternative 4 would not result in impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. As with implementation of the proposed project / proposed action, Alternative 4 would have a net benefit in relation to reduction of exposure of sensitive receptors in the communities of Keeler and Swanseato toxic air contaminants and visibility-reducing particles.

Odors

As with the proposed project / proposed action, Alternative 4 would not result in the creation of objectionable odors for substantial numbers of people. As with the proposed project / proposed action, Alternative 4 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions are expected to be confined within ¼ mile of the construction site, and be limited in duration due to the less than one year construction period and relatively low levels of equipment required.

B. CEQA Significance Determinations

Would the Alternative 4, Dust Control Measures Applied to 194 Acres Using a Combination of Hand Watering and an Irrigation System, have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Alternative 4 would not have any impact related to conflicts with the applicable air quality plan, the 2008 SIP. Alternative 4 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

Alternative 4 would not have any significant impact to air quality related to a violation of an air quality standard or contribution to an existing or projected air violation. Alternative 4 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Alternative 4 would not contribute to a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment. The OVPA is non-attainment for PM_{10} emissions. Alternative 4 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(4) Expose sensitive receptors to substantial pollutant concentrations?

Alternative 4 would result in less than significant impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. Implementation of Alternative 4 would have a net benefit in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swansea.

(5) Create objectionable odors affecting a substantial number of people?

Alternative 4 would result in less than significant impacts to air quality related to the creation of objectionable odors. Alternative 4 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions are expected to be confined within ¼ mile of the construction site, and be limited in duration due to the less than one year construction period and relatively low levels of equipment.

4.2.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project.

A. Direct and Indirect Impacts

Due to the addition of an irrigation system, the air quality analysis for Alternative 5 includes an additional construction phase for the construction of the irrigation system. Furthermore, since Alternative 5 involves a direct water line from the KCSD system, no water trucks are required for operations. Therefore, GHG emissions associated with water trucks were not included for the analysis of Alternative 5. As a result of the direct water line from the KCSD system, the air quality impacts is anticipated to be significantly less than the proposed project / proposed action.

Applicable Plans

As with the proposed action, Alternative 5 would implement dust control measures at Keeler Dunes intended to demonstrate compliance with the 2008 SIP. As with the proposed project / proposed action, Alternative 5 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Therefore, the air quality impacts of Alternative 5 would be the same as the proposed project / proposed action.

Air Quality Standards

As with the proposed project / proposed action, Alternative 5 would not violate an air quality standard or contribute to an existing or projected air violation. As with the proposed project / proposed action, Alternative 5 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS. Due to the fact that emissions of PM_{10} are expected to be below the *de minimis* threshold and that the overall purpose of the project is to reduce PM_{10} emissions, the Alternative 5 is not subject to a conformity determination (Table 4.2.3.6-1, *Conformity Determination for Alternative 5*).

TABLE 4.2.3.6-1
CONFORMITY DETERMINATION FOR ALTERNATIVE 5

Proposed Project / Proposed Action	Annual Unmitigated Estimated Nonattainment Air Pollutants (Tons/Year)
	PM_{10}
Construction	32.66
Operation	9.69
De Minimis Level[1]	70
Subject to Conformity Determination?[2]	No

Criteria Pollutants

Construction. As with the proposed project / proposed action, Alternative 5 generates *de minimis* levels of criteria pollutants from daily regional construction emissions (Table 4.2.3.6-2, *Unmitigated Estimated Daily Regional Construction Emissions for Alternative 5).*

TABLE 4.2.3.6-2
UNMITIGATED ESTIMATED DAILY REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 5

Off-Road Emission Sources	Construction Emissions (Pounds/Day)					
	VOCs	NOx	CO	SOx	$PM_{2.5}$	PM_{10}
Site Preparation	8.98	102.12	45.57	0.09	4.23	5.64
Distribute straw bales on sand dunes	16.60	187.66	106.26	0.16	14.69	22.21
Construction of irrigation system*	4.71	56.09	24.84	0.06	1.98	2.15
Planting and watering	56.67	660.60	328.34	0.65	35.46	48.09
Clean up and restoration	18.10	205.61	114.21	0.18	15.22	21.91
Maximum Off-road Emissions	**56.67**	**660.60**	**328.34**	**0.65**	**35.46**	**48.09**
Mobile Sources	**VOCs**	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Delivery trucks and employee commutes	0.25	0.31	3.62	0.00	41.97	420.41
Maximum Regional Total	**61.62**	**716.99**	**356.80**	**0.71**	**79.41**	**470.65**
Significant? **	NA	NA	NA	NA	NA	NA

Note: * Alternative 5 includes and additional off-road emission source for the construction of the irrigation system.
** The District does not have daily CEQA thresholds for criteria pollutants. US EPA annual *de minimis* thresholds were used to determine potential impacts.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

As with the proposed project / proposed action, Alternative 5 generates *de minimis* levels of criteria pollutants from annual regional construction emissions (Table 4.2.3.6-3, *Unmitigated Estimated Annual Regional Construction Emissions for Alternative 5)*.

TABLE 4.2.3.6-3
UNMITIGATED ESTIMATED ANNUAL REGIONAL CONSTRUCTION EMISSIONS FOR ALTERNATIVE 5

Emission Source	Air Pollutant Emissions (Tons/Year)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Maximum off-road construction emissions	0.00	0.01	0.14	0.00	1.52	15.25
Delivery trucks and employee commutes	2.27	26.42	13.13	0.03	1.42	1.92
Maximum Regional Total	**3.68**	**42.37**	**22.07**	**0.04**	**5.45**	**32.66**
US EPA *De Minimis* Thresholds (Tons/Year)*	50	100	NA	NA	NA	70
Significant?	No	No	NA	NA	NA	No

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod Output for the proposed project / proposed action

Operations and Maintenance. As with the proposed project / proposed action, the estimated daily operational emissions of PM_{10} for the monitoring phase of Alternative 5, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.6-4, *Unmitigated Estimated Daily Operational Emissions for Alternative 5*).

TABLE 4.2.3.6-4
UNMITIGATED ESTIMATED DAILY OPERATIONAL EMISSIONS FOR ALTERNATIVE 5

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational equipment	15.27	176.09	107.19	0.15	16.84	25.81
ATVs	0.00	0.00	0.05	0.00	0.30	3.03
Total	**15.27**	**176.09**	**107.24**	**0.15**	**17.14**	**28.84**
Mobile Sources	0.03	0.01	0.18	0.00	1.01	10.10
Total Emissions	**15.30**	**176.10**	**107.42**	**0.15**	**18.15**	**38.94**
Significance?*	NA	NA	NA	NA	NA	NA

Note: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
NA: Not Applicable
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action

As with the proposed project / proposed action, the estimated annual operational emissions of PM_{10} for the monitoring phase of the Alternative 5, including mobile-source emissions due to employee commute trips, would be below the U.S. EPA *de minimis* thresholds (Table 4.2.3.6-5, *Unmitigated Estimated Annual Operational Emissions for Alternative 5*).

TABLE 4.2.3.6-5
UNMITIGATED ESTIMATED ANNUAL OPERATIONAL EMISSIONS
FOR ALTERNATIVE 5

Emission Sources	Air Pollutants (Tons/Year)					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
Operational equipment	1.99	22.98	13.99	0.02	4.79	8.14
ATVs	0.00	0.00	0.00	0.00	0.04	0.36
Total	**1.99**	**22.98**	**13.99**	**0.02**	**7.83**	**8.50**
Mobile Sources	0.00	0.00	0.03	0.00	0.12	1.19
Total Emissions	**1.99**	**22.98**	**14.02**	**0.02**	**7.95**	**9.69**
US EPA *De Minimis* Threshold	50	100	NA	NA	NA	70
Exceedance of Significance?	No	No	NA	NA	NA	No

Notes: * The District does not have CEQA thresholds for criteria pollutants. The US EPA *de minimis* thresholds have been used to determine potential impact.
Annual operational equipment and mobile-source emissions are calculated assuming 100 working days per year.
Source: Sapphos Environmental, Inc., CalEEMod output for the proposed project / proposed action; see Appendix C

As with the proposed project / proposed action, the purpose of Alternative 5 would be to reduce PM_{10} emissions through vegetation establishment. As evidenced by the results of the pilot study, Alternative 5 would result in improved air quality immediately following installation of the straw bales, specifically related to net reductions in PM_{10} emissions.

Sensitive Receptors

As with the proposed project / proposed action, Alternative 5 would not result in impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. As with implementation of the proposed project / proposed action, Alternative 5 would have a net benefit in relation to reduction of exposure of sensitive receptors in the communities of Keeler and Swanseato toxic air contaminants and visibility-reducing particles.

Odors

As with the proposed project / proposed action, Alternative 5 would not result in the creation of objectionable odors for substantial numbers of people. As with the proposed project / proposed action, Alternative 5 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions would be expected to be confined within ¼ mile of the construction site, and would be limited in duration due to the less than one year construction period and relatively low levels of equipment required.

B. CEQA Significance Determinations

Would the Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered Via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering, have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Alternative 5 would not have any impact related to conflicts with the applicable air quality plan, the 2008 SIP. Alternative 5 is designed to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

Alternative 5 would not have any significant impact to air quality related to a violation of an air quality standard or contribution to an existing or projected air violation. Alternative 5 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Alternative 5 would not contribute to a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment. The OVPA is non-attainment for PM_{10} emissions. Alternative 5 is designed to facilitate implementation of elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(4) Expose sensitive receptors to substantial pollutant concentrations?

Alternative 5 would result in less than significant impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. Implementation of Alternative 5 would have a net benefit in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swansea.

(5) Create objectionable odors affecting a substantial number of people?

Alternative 5 would result in less than significant impacts to air quality related to the creation of objectionable odors. Alternative 5 is located approximately 0.5 mile away from the nearest population, the community of Keeler. Construction emissions would be expected to be confined within ¼ mile of the construction site, and would be limited in duration due to the less than one year construction period and relatively low levels of equipment

4.2.3.7 Alternative 6, No Project / No Action Alternative

A. Direct and Indirect Impacts

Alternative 6, No Project / No Action, assumes that the dust control measures would not be implemented on the project site and windblown dust and associated PM_{10} emissions would continue to pose a health hazard to the residents of the communities of Keeler and Swansea. Under Alternative 6 it is likely that during certain wind events, the NAAQS and California state standards for PM_{10} would continue to be exceeded in violation of the 2008 SIP. The sand dunes on the project site would

continue to migrate to the south-southeast toward the community of Keeler and natural resources within the dunes would continue to be affected by the shifting sands resulting from high wind events.

Applicable Plans

Alternative 6 conflicts with the 2008 SIP, in its failure to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

Air Quality Standards

Alternative 6 conflicts with the 2008 SIP, in its failure to facilitate implementation of elements of the plan related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

Criteria Pollutants

Alternative 6 would contribute cumulatively considerable PM_{10} emissions in the OVPA, a criteria pollutant for which the project region is in non-attainment.

Unlike the proposed project / proposed action and project / action alternatives, the No Project / No Action Alternative would leave existing PM_{10} emissions in excess of the NAAQS unabated and the OVPA would be in violation of the Federal Clean Air Act.

Sensitive Receptors

In that Alternative 6 is the No Project / No Action scenario it would not create air quality impacts to sensitive receptors in the community of Keeler, the community of Swansea, the town of Lone Pine, and the Lone Pine Paiute-Shoshone Indian Reservation. However, it its failure to control dust emissions from the Keeler Dunes, it fail to achieve the net benefit in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swanseato toxic air contaminants and visibility-reducing particles that would result from the proposed project / proposed action and action alternatives.

Odors

Alternative 6 would not result in the creation of objectionable odors.

B. CEQA Significance Determinations

Would Alternative 6, No Project / No Action Alternative, have any of the following effects:

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Alternative 6 would conflict with the applicable air quality plan, the 2008 SIP. Alternative 6 would result in continuation of the existing PM_{10} emissions from the Keeler Dunes that exceed the 24-hours standard specified by the NAAQS.

(2) Violate any air quality standard or contribute substantially to existing or projected air violations?

Alternative 6 would result in continued violation of the NAAQS 24-hour air quality standard for PM_{10} emissions from the Keeler Dunes. Alternative 6 would be inconsistent with the elements of the 2008 SIP related to control of PM_{10} emissions from the Keeler Dunes to meet the requirements of the NAAQS.

(3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Alternative 6 would contribute cumulatively considerable to PM_{10} emissions in the Owens Valley Planning area, a criteria pollutant for which the project region is in non-attainment.

(4) Expose sensitive receptors to substantial pollutant concentrations?

Alternative 6, which does not include an construction or operations and maintenance activities, would not result in impacts to air quality as a result of exposure of sensitive receptors to substantial pollutant concentrations of carbon monoxide, toxic air contaminants, or visibility-reducing particles. However, Alternative 6 fails to achieve the net benefits associated with the proposed project / proposed action and the action alternatives, in relation to reduction of exposure of sensitive receptors in the community of Keeler and the community of Swansea to toxic air contaminants and visibility-reducing particles.

(5) Create objectionable odors affecting a substantial number of people?

Alternative 6 would create objectionable odors, as there would be no action undertaken.

4.2.4 MITIGATION MEASURES

All construction projects in the District must comply with District Rules 400 and 401 for fugitive dust. Fugitive dust emissions shall be controlled and minimized to comply with Rules 400 and 401 through the application of best available control measures during all construction activities and areas associated with the proposed project / proposed action. Section 2.1.5.2, *Project Elements,* of the proposed project / proposed action description includes this requirement as part of the project plans and specifications. As a part of this requirement, ATVs would be restricted to a travel speed not to exceed 15 mph to minimize dust emissions during project implementation activities. Compliance with Rules 400 and 401 would reduce PM_{10} emissions from the construction phase of the proposed project / proposed action and reduce the NO_x emissions from construction equipment. As such, the implementation of the proposed project / proposed action would not be expected to result in significant impacts to air quality; therefore, mitigation measures would not be required. As such, the implementation of the proposed project / proposed action would not be expected to result in significant impacts to air quality; therefore, mitigation measures would not be required.

4.2.5 RESIDUAL IMPACTS AFTER MITIGATION

There would be no anticipated residual impacts to air quality.

4.3 BIOLOGICAL RESOURCES

4.3.1 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or an alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction and maintenance. Direct natural resource impacts from the proposed project / proposed action or an alternative are related to disturbance or damage to sensitive habitats, wetlands and species during construction and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the proposed project / proposed action site).

4.3.1.1 CEQA SIGNIFICANCE CRITERIA

The significance criteria listed below were used to determine if the proposed project would cause any impacts associated to biological resources. These criteria are the same as the significance criteria for Biological Resources listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the proposed project, dust control measures applied to 194 using irrigation water delivered via water trucks / ATVs; Alternative 1, dust control measures applied to 214 using irrigation water delivered via water trucks / ATVs; Alternative 2, dust control measures applied to 197 acres using irrigation water delivered via water trucks / ATVs; Alternative 3, dust control measures applied to 194 acres using irrigation water delivered via water trucks / tanks / PVC irrigation system and selected manual watering; Alternative 4, dust control measures applied to 194 acres using irrigation water delivered via water trucks / PVC irrigation system and selected manual watering; Alternative 5, dust control measures applied to 194 acres using irrigation water delivered via KCSD water well / pipeline to irrigation system and selected manual watering; and Alternative 6, No Project / No Action would experience a significant impact if the proposed project would:

(1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service

(2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

(3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means

(4) Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

(5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

(6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

4.3.1.2 NEPA REQUIREMENTS

Specific requirements regarding biological resources such as adverse effects to federally threatened and endangered species and federally protected wetlands are encompassed in the CEQA criteria listed above. Therefore, for the purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion 1, 2 and 3).

4.3.2 ENVIRONMENTAL CONSEQUENCES

The following provides an analysis of the potential biological impacts associated with construction and maintenance of the proposed project / proposed action, Alternatives 1 through 5, and Alternative 6, No Project / No Action. Table 4.3.2-1, *Vegetation Community Impacts by Alternative*, summarizes the expected impacts to vegetation communities from the various project components. Permanent impacts are defined as those impacts that are long-term as opposed to temporary impacts which are defined as short-term. The following impact sections describe the anticipated impacts on lands associated with the proposed project / proposed action.

TABLE 4.3.2-1
VEGETATION COMMUNITY IMPACTS BY ALTERNATIVE (ALL UNITS ARE IN ACRES)

Project Component	Vegetation Community	Proposed Project / Proposed Action (194 acres) Water Truck / ATVs		Alternative 1 (214 acres) Water Trucks / ATVs		Alternative 2 (197 acres) Water Trucks / ATVs		Alternative 3 (194 acres) Water Trucks / Tanks PVC Irrigation System Selected Manual		Alternative 4 (194 acres) Water Trucks / Roadside PVC Irrigation System Selected Manual		Alternative 5 (194 acres) KCD Pipeline PVC Irrigation System Selected Manual		Alternative 6 No Project / No Action	
		Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)	Permanent Impacts (acres)	Temporary Impacts (acres)
Dust Control Measures (DCMs)	Parry's Saltbush	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Greasewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parry's Saltbush and Greasewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Barren	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DCMs Total		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Staging Areas	Parry's Saltbush	0	2.4	0	2.4	0	2.4	0	2.4	0	2.4	0	2.4	0	0
	Greasewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Parry's Saltbush and Greasewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Barren	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0
Staging Areas Total		0	2.5	0	2.5	0	2.5	0	2.5	0	2.5	0	2.5	0	0
Access routes	Parry's Saltbush	0	0.2	0	0.2	0	0.2	0	0.2	0	0.2	0	0.2	0	0
	Greasewood	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0
	Parry's Saltbush and Greasewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Barren	0	2.3	0	2.3	0	2.3	0	2.3	0	2.3	0	2.3	0	0
Access Routes Total		0	2.6	0	2.6	0	2.6	0	2.6	0	2.6	0	2.6	0	0
Overall Totals	**Parry's Saltbush**	0	2.6	0	2.6	0	2.6	0	2.6	0	2.6	0	2.6	0	0
	Greasewood	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0.1	0	0
	Parry's Saltbush and Greasewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Barren	0	2.4	0	2.4	0	2.4	0	2.4	0	2.4	0	2.4	0	0
Impact Totals		**0**	**5.1**	**0**	**5.1**	**0**	**5.1**	**0**	**5.1**	**0**	**5.1**	**0**	**5.1**	**0**	**0**

4.3.2.1 Proposed Project / Proposed Action, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

The proposed project / proposed action consists of the implementation of dust control through establishment of native vegetation, on 194 acres of the Keeler Dunes. There are no permanent impacts and 3.2 acres of temporary impacts anticipated to result from construction activities associated with the proposed project / proposed action, which is characterized by barren sand dune and interdune spaces. Based on the results of the pilot study, planting of native vegetation is expected to achieve a minimum performance standard of 65 percent plant survival if irrigated during the three years following plant installation. Further details of the proposed project / proposed action are described in Section 2.

A. Direct and Indirect Impacts

Plant Communities

The proposed project / proposed action would result in no permanent impacts and approximately 5.1 acres of temporary impacts. Table 4.3.2-1 summarizes the expected temporary impacts to plant communities for the proposed project / proposed action. Temporary impacts include overland access.

Special Status Plant Species

Based on 2011–2013 botanical surveys conducted in accordance with CDFW protocol, the proposed project / proposed action would not be expected to result in impacts to biological resources in relation to plant species listed as candidate, proposed, threatened, or endangered pursuant to the federal ESA and California ESA (CESA), BLM sensitive plant species or priority plant species. Biological resource surveys conducted at the proposed project / proposed action study area did not identify any special status plant species on site or in adjacent areas, but did identify suitable habitat for four BLM sensitive plant species. The proposed project / proposed action would not adversely effect the habitat of special status plant species since the current habitat composition will remain intact. Therefore, there would be no expected impacts to special status plant species pursuant to the federal ESA, CESA, as designated as sensitive species by the BLM or CNPS.

Federally Listed Wildlife Species

The proposed project / proposed action would not be expected to result in impacts to biological resources in relation to species listed as rare, threatened, or endangered pursuant to the federal ESA. Biological resource surveys conducted at the proposed project / proposed action study area did not identify any rare, threatened, or endangered species and or potential habitat on site or in adjacent areas. Therefore, there would be no expected impacts to rare, threatened, or endangered species pursuant to the federal ESA

State-Listed Wildlife Species

The proposed project / proposed action would not be expected to result in impacts to biological resources in relation to species listed as rare, threatened, or endangered pursuant to CESA. Biological resource surveys conducted at the proposed project / proposed action study area did not identify any species designated as rare, threatened, or endangered pursuant to CESA, or potentially suitable habitat

for all but one of these species. A small patch of marginally suitable habitat for the Mohave ground squirrel is located within the northern portion of the proposed project / proposed action study area north of Highway 136. However, proposed project / proposed action study area activities are limited to areas south of Highway 136. Therefore, there would be no expected impacts to rare, threatened, or endangered species pursuant to CESA.

BLM Sensitive Species

The proposed project / proposed action would not be expected to result in impacts to species designated as sensitive by the BLM. Biological resource surveys conducted at the proposed project / proposed action study area did not identify any sensitive speciesonsite. Suitable foraging habitat for golden eagle was observed within the proposed project / proposed action study area. However, there would be no expected impacts to golden eagle or other BLM sensitive species.

California Species of Special Concern

The proposed project / proposed action would not be expected to result in impacts to biological resources in relation to sensitive species designated as a species of special concern by the CDFW. Biological resource surveys conducted at the proposed project / proposed action study area did not identify any sensitive species or potential habitat on site or in adjacent areas. Therefore, there would be no expected impacts to sensitive species designated as a species of special concern by the CDFW.

Migratory Bird Species

The proposed project / proposed action would not be expected to result in impacts to biological resources in relation to migratory bird species as identified under the Migratory Bird Treaty Act. Biological resource surveys conducted at the proposed project / proposed action study area did identify migratory bird species as described under the Migratory Bird Treaty Act. Due to the low number of migratory birds observed and the nature of the proposed project / proposed action, there would be no expected impacts to migratory bird species.

Impacts to Locally Important Species

The proposed project / proposed action would not be expected to result in impacts to biological resources in relation to locally important species. As a result of biological resource surveys, one locally important species, the Owens dune weevil, was found to be present at the proposed project / proposed action study area.

Although not observed during biological surveys, the analysis assumed that the following locally important species are potentially present at the proposed project / proposed action study area due to previous observations or presence of suitable habitat: *Tescalsia gulianiata*, alkali flats tiger beetle (*Cicindela willistoni pseudosenilis*), alkali skipper (*Pseudocopaeodes eunus*), Owens Valley tiger beetle (*Cicindela tranquebarica inyo*), slender girdled tiger beetle (*Cicindla tenuicincta*), and Bell's sparrow (*Amphispiza belli canensis*). During travel within action staging areas and access routes, it is possible that individuals of these species may perish. However, the proposed project / proposed action would provide a long-term net benefit by providing a stable dune habitat environment and mixture of vegetative cover for a variety of wildlife species including those listed above and improving adverse ambient air quality conditions.

The following four locally important species were not observed during biological surveys nor is suitable habitat present, and are assumed to be absent from the proposed project / proposed action study area: Franklin's gull (*Larus pipixcan*), monarch butterfly (*Danaus plexippus*), Nuttall's woodpecker (*Picoides nuttallii*), and willet (*Tringa semipalmata*). Impacts to these species are not expected to occur due to project activities.

The goal of the proposed project / proposed action is to stabilize the dunes and establish native vegetation that would increase vegetation coverage for 194 acres that have been affected by migrating sand. In 1993, when the RMP was written, the Owens dune weevil had approximately 4,285 acres of suitable dune habitat. Based on the amount of habitat listed in the RMP, the proposed project / proposed action will occur on approximately 4.5 percent (194 acres) of the overall Owens dune weevil habitat (Figure 4.3.2.1-1, *Owens Dune Weevil Suitable Habitat within the Proposed Project / Proposed Action Area*). The BLM's RMP notes that *Atriplex polycarpa* and *Sarcobatus vermiculatus* are important species for dune stabilization. *Atriplex polycarpa* is the primary native species chosen for the proposed project / proposed action plan, in addition to other species on the RMP list (see Table 2.1.5.2-1, *Native Vegetation List)***,** and hence, is consistent with the RMP guidance.

The BLM has recommendations in place to ensure sufficient habitat and microclimate conditions for the Owens dune weevil. These recommendations can be found in the RMP and contains two goals for the Owens dune weevil:

1. Maintain and enhance habitat for Owens dune weevil.

2. Meet desired plant community (DPC) goals on 3,214 acres (75 percent) of dune habitat to maintain habitat for the Owens dune weevil.

With regards to conserving Owens dune weevil habitat, the DPC goals found in the RMP specifies the "retention of present vegetative cover which varies from scant cover of widely scattered shrubs and herbs to nearly closed shrub canopies."[1] This helps maintain diversity of the overall dune habitat. The DPC goals also seek to "Maintain the current overall vegetative cover of approximately 7 percent in the dune habitat."

The percentage of vegetative cover required for 85 percent and 95 percent dust control is between 7 percent and 12 percent, respectively. The existing cover is estimated at 3 percent to 6 percent (see Appendix D, Biological Resources Technical Report). Although the 194 acres of dust control is anticipated to exceed 7 percent vegetative cover for the proposed project / proposed action area, the percent cover for the overall study area will not significantly change. The overall coverage for the proposed project / proposed action study area located west of SR 136 would range from 3 to 12 percent with fully implemented dust controls. Existing barren and sparsely vegetated areas will remain for the Owens dune weevil in the surrounding areas to the north, east, and southeast, providing a mixture of cover as expressed in the RMP. Based on best prevailing science, it is unclear whether or not the Owens dune weevil will survive in areas with greater than 7 percent vegetative cover. The project may have an unknown effect on Owens dune weevil habitat within the project area. However, the project area constitutes a small proportion (approximately 4.5 percent) of the Owens dune weevil's overall available habitat. The project goal of establishing a maximum 12 percent vegetative cover in 4.5 percent of available habitat does not conflict with the BLM Bishop RMP goals for the Owens Dune Weevil. Although up to 194 acres is anticipated to exceed 7 percent vegetative cover for the proposed

[1] U.S. Department of the Interior, Bureau of Land Management, Bakersfield District. April 1993. *Bishop Resource Management Plan Record of Decision:* Appendix 1, *Desired Plant Community Definitions*. Bakersfield, CA.

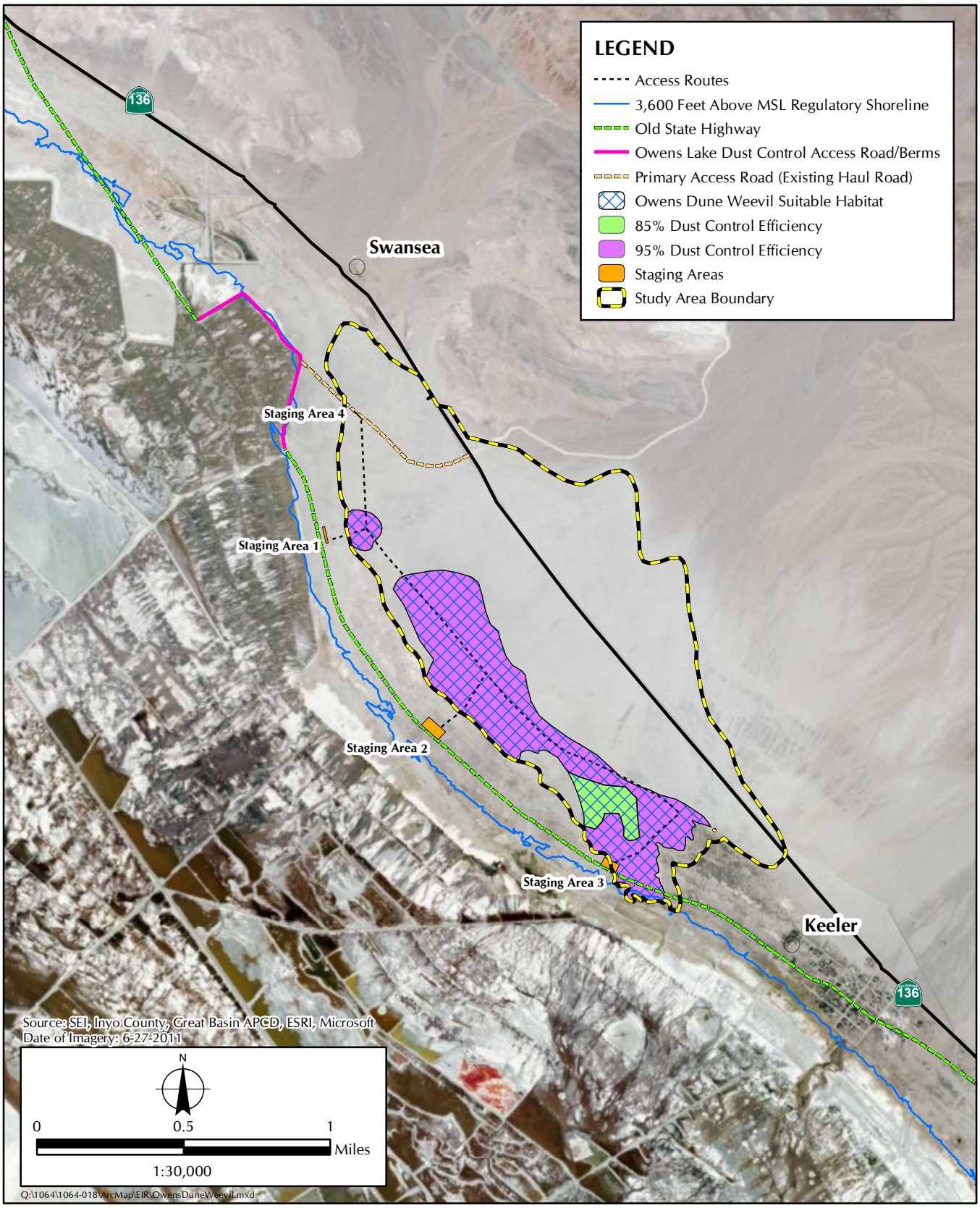

FIGURE 4.3.2.1-1

Owens Dune Weevil Suitable Habitat
within the Proposed Project / Proposed Action Area

project / proposed action area, the RMP goal of maintaining 7 percent cover on 75 percent (3,214 acres) of available habitat will be met. In line with the RMP, the proposed project / proposed action area will contain a range of cover including some areas with greater canopy closure.

During site preparation activities for project staging areas and access routes, it is possible that individuals of this species may perish. This is not expected to measurably affect the species at a population level.

State-Designated Sensitive Habitats

The proposed project / proposed action would not be expected to result in impacts to State-designated sensitive habitats. Biological resource surveys conducted at the proposed project / proposed action study area did not identify any state-designated sensitive habitats on site or in immediately adjacent areas. Therefore, there would be no expected impacts to state-designated sensitive habitats.

Affected Waters and Riparian Habitat

The proposed project / proposed action would not be expected to result in impacts to federally protected wetlands pursuant to Section 404 of the Clean Water Act. Biological resources surveys conducted at the proposed project / proposed action study area identified one federally listed wetland on site according to the NWI. Based on the vantage point of the surveyors, no apparent wetland features were identified where the NWI record exists. Also, the District has indicated that this area was a former wetland and that it has been covered by sand migration. Therefore, there would be no expected impacts to federally protected wetlands pursuant to Section 404 of the Clean Water Act.

There are two ephemeral drainages within the proposed study area that are subject to the jurisdiction of the CDFW, pursuant to Section 1600 State Fish and Game Code. The proposed project / proposed action has been designed in the terrestrial upland areas outside the drainages. Therefore, there would be no impacts to Waters of the State.

Wildlife Movement and Nursery Sites

The proposed project / proposed action would not be expected to result in impacts to known migratory routes or nursery sites. Biological resources surveys conducted at the proposed project / proposed action study area did not identify any migratory corridors or nursery sites on site or in adjacent areas. Therefore, there would be no expected impacts to migratory routes or nursery sites.

Wildlife movement corridors are considered sensitive by resource and conservation agencies. No fencing or other obstruction will not be erected during project activities, allowing small, medium and large mammals and reptiles to move freely through the site. Thus, there is no anticipated impact to wildlife movement or nursery sites, and no additional mitigation would be required.

B. CEQA Significance Determinations

Would the proposed project:

(1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans,

policies, or regulations, or by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service?

The proposed project would not adversely affect special federal and/or state listed species, as well as BLM sensitive wildlife species. With implementation of the proposed project, the impact to special status species is less than significant impact pursuant to CEQA.

(2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The proposed project does not potentially affect riparian habitat or sensitive natural communities. With the implementation of the proposed project, the impact to sensitive native plant communities is less than significant impact pursuant to CEQA.

(3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The preliminary estimated impacts to USACOE jurisdictional waters are not expected to exceed 0.06 acre of fill to manmade systems and 0.01 acre of impacts to jurisdictional habitat on BLM managed lands. The proposed project would not be expected to result in impacts to federally protected wetlands pursuant to Section 404 of the Clean Water Act. Biological resources surveys conducted at the proposed project study area identified one federally listed wetland on-site according to the NWI. However, no apparent wetland features were identified where the NWI record exists. Also, the District has indicated that this area was a former wetland and that it has been covered by sand migration. Therefore, there would be no expected impacts to federally protected wetlands pursuant to Section 404 of the Clean Water Act. With the implementation of the proposed project, there would be no impact to wetlands pursuant to CEQA.

(4) Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The proposed project would not inhibit the movement of wildlife in and around the area. No fencing or other terrestrial obstruction would be installed in this area. Small, medium and large-sized wildlife would not be inhibited from moving through the proposed project site. With implementation of the proposed project, there would be no impact to wildlife movement pursuant to CEQA.

(5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed project would not conflict with local policies and ordinances. A review of the Bishop Resource Management Plan, Inyo County General Plan, and Lower Owens River Project Plan did not identify any conflicts resulting from the proposed project. Implementation of the proposed project would not conflict with local policies and ordinances; therefore, there would be no impact pursuant to CEQA.

(6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The proposed project would not conflict with an adopted HCP or NCCP, or other approved state, local, or regional plan. The proposed project study area is not located within the boundaries of an HCP area, NCCP area, or any other planning area designated by any local, regional, or state agency. Therefore, there would be no expected impacts regarding conflict with the provisions of an adopted HCP and/or NCP pursuant to CEQA.

4.3.2.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 1 are the same as those that would be potentially impacted by the proposed project / proposed action. There are no permanent impacts; 5.1 acres of temporary impacts would be anticipated to result from construction activities associated with Alternative 1, which is characterized by barren sand dune and interdune spaces. Based on the results of the pilot study, restoration of native vegetation is expected to achieve a minimum performance standard of 65 percent plant survival if irrigated during the 3 years following plant installation. Impacts to special status plant species would not be expected to occur during implementation of Alternative 1.

Alternative 1 would not be expected to result in potential impacts to federal and state listed wildlife species, BLM sensitive species, or California species of special concern.

Potential impacts to locally important species include: minor potential direct and indirect impacts to Owens dune weevil, as described for the proposed project / proposed action: direct mortality to some individuals during site preparation activities for areas along access routes and minor alteration of a small proportion of the species' overall habitat.

Potential impacts to state-designated sensitive habitats are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to waters and riparian habitat are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to wildlife movement and nursery sites are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

B. CEQA Significance Determinations

Would Alternative 1:

(1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service?

Like the proposed project, this alternative could not adversely affect special federal and/or state listed species, as well as BLM sensitive wildlife species. With implementation of Alternative 1, the impact to special status species is considered a less than significant impact pursuant to CEQA.

(2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Like the proposed project, this alternative would not affect riparian habitat or sensitive natural communities. With the implementation of Alternative 1, there would be no impact to sensitive native plant communities pursuant to CEQA.

(3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Like the proposed project, there would be no impact federal and state protected wetlands/waters for this alternative. With the implementation of Alternative 1, there would be no impact to wetlands pursuant to CEQA.

(4) Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Like the proposed project, this alternative would not inhibit the movement of wildlife in and around the area. No fencing or other terrestrial obstruction would be installed in this area. Small, medium, and large-sized wildlife would not be inhibited from moving through the proposed project site. With the implementation of Alternative 1, there would be no impact to wildlife movement pursuant to CEQA.

(5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Like the proposed project, this alternative would not conflict with local policies and ordinances. A review of the Bishop Resource Management Plan, Inyo County General Plan, and Lower Owens River Project Plan did not identify any conflicts resulting from the proposed project. Therefore, there would be no impact pursuant to CEQA.

(6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Like the proposed project, Alternative 1 would not conflict with an adopted HCP or NCCP, or other approved state, local, or regional plan. The proposed project study area is not located within the boundaries of an HCP area, NCCP area, or any other planning area designated by any local, regional, or state agency. Therefore, there would be no expected impacts regarding conflict with the provisions of an adopted HCP and/or NCP pursuant to CEQA.

4.3.2.3 ALTERNATIVE 2, DUST CONTROL MEASURES APPLIED TO 197 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3) This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 2 are the same as those that would be potentially impacted by the proposed project / proposed action. There are no permanent impacts; 5.1 acres of temporary impacts would be anticipated to result from construction activities associated with Alternative 2, which is characterized by barren sand dune and interdune spaces. Based on the results of the pilot study, restoration of native vegetation is expected to achieve a minimum performance standard of 65 percent plant survival if irrigated during the 3 years following plant installation. Impacts to special status plant species would not be expected to occur during implementation of Alternative 2.

Alternative 2 would not be expected to result in potential impacts to federal and state listed wildlife species, BLM sensitive species, or California species of special concern.

Potential impacts to locally important species include minor potential direct and indirect impacts to Owens dune weevil, as described for the proposed project / proposed action: direct mortality to some individuals during grading activities for staging areas and access routes, and minor alteration of a small proportion of the species' overall habitat.

Potential impacts to state-designated sensitive habitats are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to waters and riparian habitat are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to wildlife movement and nursery sites are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

B. CEQA Significance Determinations

Would Alternative 2:

(1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service?

Like the proposed project, this alternative could not adversely affect special federal and/or state listed species, as well as BLM sensitive wildlife species. With implementation of Alternative 2, the impact to special status species is considered a less than significant impact pursuant to CEQA.

(2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Like the proposed project, this alternative would not affect riparian habitat or sensitive natural communities. With the implementation of Alternative 2, there would be no impact to sensitive native plant communities pursuant to CEQA.

(3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Like the proposed project, this alternative would not impact federal and state protected wetlands/waters. With the implementation of Alternative 2, there would be no impact to wetlands pursuant to CEQA.

(4) Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Like the proposed project, this alternative would not inhibit the movement of wildlife in and around the area. No fencing or other terrestrial obstruction would be installed in this area. Small, medium, and large-sized wildlife would not be inhibited from moving through the proposed project site. With the implementation of Alternative 2, there would be no impact to wildlife movement pursuant to CEQA.

(5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Like the proposed project, Alternative 2 would not conflict with local policies and ordinances. A review of the Bishop Resource Management Plan, Inyo County General Plan, and Lower Owens River

Project Plan did not identify any conflicts resulting from the proposed project. Therefore, there would be no impact pursuant to CEQA.

(6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Like the proposed project, this alternative would not conflict with an adopted HCP or NCCP, or other approved state, local, or regional plan. The proposed project study area is not located within the boundaries of an HCP area, NCCP area, or any other planning area designated by any local, regional, or state agency. Therefore, there would be no impacts pursuant to CEQA.

4.3.2.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the project via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the project area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of the project, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project/proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from trucks at the staging areas. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line). Following the completion of each irrigation event the irrigation system would be drained of water. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the proposed project / proposed action area.

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 3 are the same as those that would be potentially impacted by the proposed project / proposed action. There are no permanent impacts; 5.1 acres of temporary impacts would be anticipated to result from construction activities associated with Alternative 2, which is characterized by barren sand dune and interdune spaces. Based on the results of the pilot study, restoration of native vegetation is expected to achieve a minimum performance standard of 65 percent plant survival if irrigated during the 3 years following plant installation. There is the potential that noise from the diesel pumps used for irrigation could cause wildlife to avoid the immediate area around the pumps. However, they are not anticipated to have impacts on wildlife utilization of the proposed project / proposed action study area due to their infrequent use and dispersed locations. Impacts to special status plant species would not be expected to occur during implementation of Alternative 3.

Alternative 3 would not be expected to result in potential impacts to federal and state listed wildlife species, BLM sensitive species, or California species of special concern.

Potential impacts to locally important species include minor potential direct and indirect impacts to Owens dune weevil, as described for the proposed project / proposed action: direct mortality to some individuals during grading activities for staging areas and access routes, and minor alteration of a small proportion of the species' overall habitat.

Potential impacts to state-designated sensitive habitats are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to waters and riparian habitat are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to wildlife movement and nursery sites are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

B. CEQA Significance Determinations

Would Alternative 3:

(1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service?

Like the proposed project, this alternative could not adversely affect special federal and/or state listed species, as well as BLM sensitive wildlife species. With implementation of Alternative 3, the impact to special status species is considered a less than significant impact pursuant to CEQA.

(2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Like the proposed project, this alternative would not affect riparian habitat or sensitive natural communities. With the implementation of Alternative 3, there would be no impact to sensitive native plant communities pursuant to CEQA.

(3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Like the proposed project, this alternative would not impact federal and state protected wetlands/waters. With the implementation of Alternative 3, there would be no impact to wetlands pursuant to CEQA.

(4) Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Like the proposed project, this alternative would not inhibit the movement of wildlife in and around the area. No fencing or other terrestrial obstruction would be installed in this area. Small, medium, and large-sized wildlife would not be inhibited from moving through the proposed project site. With the implementation of Alternative 3, there would be no impact to wildlife movement pursuant to CEQA.

(5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Like the proposed project, Alternative 3 would not conflict with local policies and ordinances. A review of the Bishop Resource Management Plan, Inyo County General Plan, and Lower Owens River Project Plan did not identify any conflicts resulting from the proposed project. Therefore, there would be no impact pursuant to CEQA.

(6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Like the proposed project, this alternative would not conflict with an adopted HCP or NCCP, or other approved state, local, or regional plan. The proposed project study area is not located within the boundaries of an HCP area, NCCP area, or any other planning area designated by any local, regional, or state agency. Therefore, there would be no impacts pursuant to CEQA.

4.3.2.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.25). In Alternative 4, water obtained from the Fault Test Well would be transported to the project via water trucks and the water delivery system would be fed from three supply points along State Route 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs, stage in a manner to avoid sensitive resources. As with the temporary irrigation system, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line). Following the completion of each irrigation event the irrigation system would be drained of water. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 4 are the same as those that would be potentially impacted by the proposed project / proposed action. Construction activities associated with There are no permanent impacts; 5.1 acres of temporary impacts would be anticipated to result from construction activities associated with Alternative 4, which is characterized by barren sand dune, interdune spaces, and highway shoulder areas. Based on the results of the pilot study, restoration of native vegetation is expected to achieve a minimum performance standard of 65 percent plant survival if irrigated during the 3 years following plant installation. There is the potential that noise from the diesel pumps used for irrigation could cause wildlife to avoid the immediate area around the pumps. However, they are not anticipated to have impacts on wildlife utilization of the proposed project / proposed action study area due to their infrequent use and dispersed locations. Impacts to special status plant species would not be expected to occur during implementation of Alternative 4.

Alternative 4 would not be expected to result in potential impacts to federal and state listed wildlife species, BLM sensitive species, or California species of special concern.

Potential impacts to locally important species include minor potential direct and indirect impacts to Owens dune weevil, as described for the proposed project / proposed action: direct mortality to some individuals during grading activities for staging areas and access routes, and minor alteration of a small proportion of the species' overall habitat.

Potential impacts to state-designated sensitive habitats are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to waters and riparian habitat are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to wildlife movement and nursery sites are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

B. CEQA Significance Determinations

Would Alternative 4:

(1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service?

Like the proposed project, this alternative could not adversely affect special federal and/or state listed species, as well as BLM sensitive wildlife species. With implementation of Alternative 4, the impact to special status species is considered a less than significant impact pursuant to CEQA.

(2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Like the proposed project, this alternative would not affect riparian habitat or sensitive natural communities. With the implementation of Alternative 4, there would be no impact to sensitive native plant communities pursuant to CEQA.

(3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Like the proposed project, this alternative would not impact federal and state protected wetlands/waters. With the implementation of Alternative 4, there would be no impact to wetlands pursuant to CEQA.

(4) Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Like the proposed project, this alternative would not inhibit the movement of wildlife in and around the area. No fencing or other terrestrial obstruction would be installed in this area. Small, medium, and large-sized wildlife would not be inhibited from moving through the proposed project site. With the implementation of Alternative 4, there would be no impact to wildlife movement pursuant to CEQA.

(5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Like the proposed project, Alternative 4 would not conflict with local policies and ordinances. A review of the Bishop Resource Management Plan, Inyo County General Plan, and Lower Owens River Project Plan did not identify any conflicts resulting from the proposed project. Therefore, there would be no impact pursuant to CEQA.

(6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Like the proposed project, this alternative would not conflict with an adopted HCP or NCCP, or other approved state, local, or regional plan. The proposed project study area is not located within the boundaries of an HCP area, NCCP area, or any other planning area designated by any local, regional, or state agency. Therefore, there would be no impacts pursuant to CEQA.

4.3.2.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be watered by hand using the same method as described

above. The ATV mounted tanks would be filled with water from the delivery system within the project. At locations where the access route crosses irrigation lines, temporary protective covers would be placed over the piping to allow travel over the system and prevent damage to the irrigation system. There would be approximately 124 total crossings of the irrigation lines (with 62 crossings of the 2-inch distribution laterals and 62 crossings of the 4-inch transmission line). Following the completion of each irrigation event the irrigation system would be drained of water. Approximately 200 gallons of water will be drained from each lateral in a manner to prevent flows off of the project area.

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 5 are the same as those that would be potentially impacted by the proposed project / proposed action. There are no permanent impacts; 5.1 acres of temporary impacts would be anticipated to result from construction activities associated with Alternative 5, which is characterized by barren sand dune and interdune spaces. Based on the results of the pilot study, restoration of native vegetation is expected to achieve a minimum performance standard of 65 percent plant survival if irrigated during the 3 years following plant installation. The small electric booster pump is anticipated to cause minimal or no ground disturbance to a small area near or inside the facilities of the existing KCSD well site. Impacts to special status plant species would not be expected to occur during implementation of Alternative 5.

Alternative 5 would not be expected to result in potential impacts to federal and state listed wildlife species, BLM sensitive species, or California species of special concern.

Potential impacts to locally important species include minor potential direct and indirect impacts to Owens dune weevil, as described for the proposed project / proposed action: direct mortality to some individuals during grading activities for staging areas and access routes, and minor alteration of a small proportion of the species' overall habitat.

Potential impacts to state-designated sensitive habitats are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to waters and riparian habitat are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to wildlife movement and nursery sites are not expected to occur as none were identified on-site or in immediately adjacent areas.

Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

B. CEQA Significance Determinations

Would Alternative 5:

(1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service?

Like the proposed project, this alternative could not adversely affect special federal and/or state listed species, as well as BLM sensitive wildlife species. With implementation of Alternative 5, the impact to special status species is considered a less than significant impact pursuant to CEQA.

(2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Like the proposed project, this alternative would not affect riparian habitat or sensitive natural communities. With the implementation of Alternative 5, there would be no impact to sensitive native plant communities pursuant to CEQA.

(3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Like the proposed project, this alternative would not impact federal and state protected wetlands/waters. With the implementation of Alternative 5, there would be no impact to wetlands pursuant to CEQA.

(4) Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Like the proposed project, this alternative would not inhibit the movement of wildlife in and around the area. No fencing or other terrestrial obstruction would be installed in this area. Small, medium, and large-sized wildlife would not be inhibited from moving through the proposed project site. With the implementation of Alternative 5, there would be no impact to wildlife movement pursuant to CEQA.

(5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Like the proposed project, Alternative 5 would not conflict with local policies and ordinances. A review of the Bishop Resource Management Plan, Inyo County General Plan, and Lower Owens River Project Plan did not identify any conflicts resulting from the proposed project. Therefore, there would be no impact pursuant to CEQA.

(6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Like the proposed project, this alternative would not conflict with an adopted HCP or NCCP, or other approved state, local, or regional plan. The proposed project study area is not located within the boundaries of an HCP area, NCCP area, or any other planning area designated by any local, regional, or state agency. Therefore, there would be no impacts pursuant to CEQA.

4.3.2.7 Alternative 6, No Project / No Action Alternative

Alternative 6 assumes that the DCMs would not be installed. This alternative would not require federal approval as no BLM land would be crossed. Under CEQA, continuation of natural habitats would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Under Alternative 6, there would be no installation or maintenance activities; therefore, there would be no potential for direct or indirect impacts to biological resources.

B. CEQA Significance Determinations

Under Alternative 6, there would be no effect on biological resources.

4.3.3 MITIGATION MEASURES

The proposed project / proposed action would not be expected to result in adverse impacts to biological resources related to consistency with adopted federal, state, or regional conservation plans; therefore, mitigation measures are not required.

4.3.4 RESIDUAL IMPACTS AFTER MITIGATION

There would be no anticipated adverse impacts to biological resources.

4.4 CULTURAL RESOURCES

This section examines the possible effects that could result from the proposed project / proposed action, five proposed project / proposed alternatives, and the No Project / No Action alternative. The analysis is based on the Cultural Resources Technical Report, which is included as Appendix E of this document. The Paleontological Survey Report for the Keeler Dunes Project, Owens Lake, Inyo County, California[1] (hereafter Survey Report) summarizes existing cultural resource data in the proposed project / proposed action study area and vicinity as identified through literature review and archival records and supplemented by observations recorded during a field survey of the proposed project / proposed action study area. Due to the confidential nature of the location of cultural resources, this section does not include maps or location descriptions.

4.4.1 STUDY METHODS

4.4.1.1 LITERATURE REVIEW

The study methods used for the literature review follow standards outlined in BLM Manual Section 8110.21A for Class I inventories and through consultation with BLM were designed to provide the substantial evidence required to evaluate the potential impacts of the proposed project / proposed action on historic properties.[2] A cultural resources records search was conducted at the Eastern Information Center (EIC), housed at the University of California, Riverside. The search included reviews of all known relevant cultural resource survey and excavation reports to ascertain the presence of known prehistoric and historic archaeological resources within the cultural resources study area, which consisted of the proposed project / proposed action property plus a 1-mile buffer, and is located on the USGS 7.5-minute series, Dolomite, Owens Lake, Keeler, and Cerro Gordo Peak topographic quadrangle maps.[3,4,5,6] The California State Historic Resources Inventory, the NRHP, the listing of CHLs, and the California Points of Historical Interest were also searched during the EIC visit to ascertain the presence of potential historic resources within the proposed project / proposed action area. Finally, a search of the site files housed at the BLM Bishop Field Office was completed by BLM archaeologist (by Mr. Greg Haverstock), who provided Sapphos Environmental, Inc. with information on the cultural resources in the proposed project / proposed action area that are located on BLM land.

4.4.1.2 SURVEY AND SITE RECORDATION

Consultation with BLM (Mr. Greg Haverstock) resulted in a determination that a new Class III (intensive pedestrian) cultural resources survey of the entirety of the Area of Potential Effects (APE) was not warranted as a number of surveys had been completed within the dune complex and the cultural

[1] SWCA Environmental Consultants. August 2013. *Paleontological Survey Report for the Keeler Dunes Project, Owens Lake, Inyo County, California*. Prepared for Sapphos Environmental, Inc. Pasadena, CA.

[2] BLM Manual, 8110 — Identifying and Evaluating Cultural Resources 8110.21A.1 (Rel. 8-73, 12/03/04) *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/coop_agencies/cr_publications.Par.44865.File.dat/Binder2-2.pdf (last visited May 6, 2013).

[3] U.S. Geological Survey. 1987. *7.5-Minute Series, Dolomite, California, Topographic Quadrangle*. Denver, CO.

[4] U.S. Geological Survey. 1987. *7.5-Minute Series, Owens Lake, California, Topographic Quadrangle*. Denver, CO.

[5] U.S. Geological Survey. 1987. *7.5-Minute Series, Keeler, California, Topographic Quadrangle*. Denver, CO.

[6] U.S. Geological Survey. 1987. *7.5-Minute Series, Cerro Gordo Peak, California, Topographic Quadrangle*. Denver, CO.

resources were well documented in the proposed project / proposed action area.[7] An intensive pedestrian survey was conducted by a Sapphos Environmental, Inc. archaeologists on July 23, 2013 of the proposed project / proposed action APE. A supplemental survey of areas associated with Alternatives 4 and 5 APEs was conducted on February 20, 2014 by BLM; Lone Pine Paiute-Shoshone Tribal representatives; and Sapphos Environmental Inc. archaeologists.

At the request of the BLM, Sapphos Environmental, Inc. recorded three previously undocumented, archaeological sites in support of the proposed project / proposed action during the July 2013 work. During supplemental surveys (February 2014), the BLM recorded one archaeological site and 17 archaeological isolates, which are included in this analysis. In addition to formally recording the archaeological resources, the sites were evaluated for inclusion on the NRHP and CRHR.

Fieldwork authorization was obtained by the BLM prior to the initiation of fieldwork (CA Cultural Use Permit Number CA-10-37). During supplemental surveys for the proposed project / proposed action, BLM and Sapphos Environmental, Inc. archaeologists conducted surveys, under the direction of BLM. Site recordation (July 2013) of the three sites requested by the BLM (Mr. Haverstock) was completed by Sapphos Environmental, Inc. (Dr. Tiffany Clark and Mr. Adam White) on September 25 and 26, 2012, and July 23 and 24, 2013. The ground surface in the area of three sites was thoroughly examined by the archaeologists, who used pin flags to mark the locations of identified features and artifacts. Once the extent and nature of the cultural deposits were defined, the sites were recorded on State of California Department of Parks and Recreation (DPR) 523 series site record forms. Field mapping of sites was primarily conducted with global positioning system (GPS) units; field sketch maps and photographs provided necessary supplemental documentation. The locations of the sites were subsequently mapped on the appropriate USGS topographic quadrangle using post-processed GPS data with elevations determined from USGS maps. No artifacts were collected during the site recordation.

4.4.1.3 REPORT

The documentation of cultural and paleontological resources for this proposed project / proposed action complies with the reporting specifications outlined in the BLM 8100 Manual guidance as stipulated in the BLM Cultural Resources Use Permit and Field Authorizations for this Undertaking, and with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-44740), as well as the California Office of Historic Preservation Planning Bulletin Number 4(a), December 1989, *Archaeological Resource Management Reports* (ARMR). Sapphos Environmental, Inc. prepared a report for the proposed project / proposed action.[8] This study is the basis for the analysis provided herein.

4.4.1.4 NATIVE AMERICAN PARTICIPATION

As the lead federal agency, the BLM invited tribes into consultation pursuant to Section 106 of the NHPA and other relevant regulations including Executive Order 13007. To date, four Native American tribes have been identified and invited to consult on the proposed project / proposed action. The BLM initiated government-to-government consultation by letter on October 17, 2011; October 24, 2011;

[7] Clark, Tiffany, Sapphos Environmental, Inc., Pasadena, CA. 16 March 2011. Contact Report to Greg Haverstock, BLM Bishop Field Office, Bishop, CA.

[8] Sapphos Environmental, Inc. 2012. *Keeler Dunes Dust Control Project, Screen Check Cultural Resource Technical Report*. Pasadena, CA

and December 2013. The BLM (Ms. Bernadette Lovato and Mr. Haverstock) conducted meetings with the tribes on November 5, 2011; January 20, 2012; and February 21, 2012, including a field visit to the proposed project / proposed action area. Upon reinitiating Section 106 consultation the BLM (Mr. Steve Nelson and Mr. Haverstock) conducted additional meetings with the tribes and the District on February 2, 2014, and February 11, 2014. The consultation process is still ongoing. Finally, a Native American monitor from the Lone Pine Paiute-Shoshone tribe accompanied archaeologists during the July 2013 and February 2014 surveys.

4.4.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or one of the Alternatives. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction and maintenance. Direct cultural resource impacts from the proposed project / proposed action or an alternative are related to disturbance or damage to cultural resources during construction and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are not a direct result of the activity being undertaken, or occur later in time (for example after the construction and maintenance phase) or further removed in distance (for example, several miles from the proposed project / proposed action site).

Requirements for CEQA, NEPA, and the National Historic Preservation Act (NHPA) differ to varying degrees. Among the key differences is that NEPA and NHPA require a consultation process and require that significance determinations and mitigation measures be developed through the consultation process (36 CFR 800). In contrast, CEQA requires that the lead agency make an independent evaluation of the significance of impacts and does not require tribal consultation. Pub Res. Code § 21082.1(c) requires the lead agency to (1) independently review and analyze any report or declaration required by CEQA; (2) circulate draft documents that reflect its independent judgment; and (3) as part of the certification of an environmental impact report, find that the report or declaration reflects the independent judgment of the lead agency.

Archaeological resources may also qualify as "historical resources" and PRC § 5024 requires consultation with the State Office of Historic Preservation (SHPO) when a proposed project / proposed action may impact historical resources on state-owned land. The proposed project / proposed action and Alternatives do not impact a historical resource on state-owned land. As such, compliance with CEQA does not require a consultation.

The proposed project / proposed action has been designed to avoid all impacts to historic properties.

4.4.2.1 CEQA SIGNIFICANCE CRITERIA

Appendix G of the CEQA Appendix G of the CEQA Guidelines 15064.5(a) and Sections 5024, 21083.2 and 21084.1 of the Public Resources Code, and CEQA Guidelines 15064.5(c) contain significance criteria regarding cultural resources. A substantial cultural resources impact would occur if implementation of the proposed project alternatives would:

(1) Cause a “substantial adverse change” in the “significance of a historical resource” as defined in CEQA Guidelines § 15064.5

Pursuant to CEQA Guidelines § 15064.5(a)(1) and (2), this includes a resource listed in or determined to be eligible for listing in the California Register of Historic Resource (PRC § 5024.1 (d)(1)), or a local register of historic places.

Generally, a resource is considered "historically significant" if it meets one of the following criteria for listing on the CRHR (PRC Section 5024.1) (CEQA Guidelines 15064.3 (a) (3):

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
- Associated with the lives of persons important to local, California or national history;
- Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Historic resources eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. A resource less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historic importance. While the enabling legislation for the California Register is less rigorous with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance (PRC § 4852).

In addition to meeting one of the above criteria, a resource must have integrity; that is, it must evoke the resource's period of significance or, in the case of criterion 4, it may be disturbed, but it must retain enough intact and undisturbed deposits to make a meaningful data contribution to regional research issues (CCR Title 14, Chapter 11.5 Section 4852 [c]).

State CEQA Guidelines Section 15064.5(b) defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significant of an historical resource is materially impaired, which occurs when a proposed project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources, National Register of Historic Resources, a local register or historic resources.
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its identification in an historical resources survey meeting the requirements of PRC § 5024.1 (g), unless the public agency establishes by a preponderance of the evidence that the resource is not historically or culturally significant.

(2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5

CEQA Guidelines 15064.5(c) (3) and PRC 21083.2(j), provide that if an archaeological site does not meet the historically significant criteria outlined above, but does meet the definition of a "unique archaeological resource" in PRC 21083.2, the site shall be treated in accordance with the provisions of PRC 21083.3.2, unless the applicant and public agency elect to comply with all other applicable provisions of CEQA with regards to archaeological resources. For the proposed project and

Alternative(s), the applicant and public agencies agree to treat any discovered unique archaeological resources as a historically significant resource.

"Unique archaeological resource" means an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important historic event or person.

CEQA Guidelines 15064.5(c) (4) confirms that if an archaeological resources is neither a unique archaeological nor an historic resource, the effects of the proposed project on those resources shall not be considered a significant impact on the environment.

(3) Disturb any human remains, including those interred outside of formal cemeteries

Impacts relevant to all four criteria are included in the discussion of environmental consequences.

4.4.2.2 NEPA REQUIREMENTS

The CEQA Criteria identified above also serve to fulfill the NEPA Requirement of a basis for analysis to evaluate potential impacts to cultural resources associated with the proposed action; action Alternatives 1, 2, 3, 4, and 5; and the No Action Alternative.

A. National Register of Historic Places

The National Register of Historic Places (NHPA) establishes laws for historic resources to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice."

A property that qualifies for the NRHP is considered significant in terms of the planning process under the NHPA, NEPA, and other federal mandates. The National Register Criteria for Evaluation (36 CFR 60.4) provides guidance in determining a property's eligibility for listing on the NRHP.

B. Section 106 of the National Historic Preservation Act

Under Section 106 of the NHPA subsection 800.5 (Assessment of Adverse Effects) criteria for determining adverse effects are as follows:

> An *Adverse Effect* is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's

eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, by farther removed in distance or be cumulative.[9]

Examples of Adverse Effects on historic properties under 36 CFR 800.5 (a) (2) include, but are not limited to,

(i) Physical destruction of or damage to all or part of the property;
(ii) Alteration of a property that is not consistent with the Secretary of Interior's Standards for treatment of historic properties (36 CFR 68) and applicable guidelines;
(iii) Removal of the property from its historic location;
(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historical significance;
(v) Introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
(vi) Neglect of a property resulting in its deterioration or destruction; and
(vii) Transfer, lease, or sale of the property.

4.4.3 ENVIRONMENTAL CONSEQUENCES

4.4.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

The proposed project / proposed action will entail the establishment and management of native vegetation and the use of straw bales as temporary windbreaks positioned within an area of approximately 194 acres in order to control PM_{10} dust emissions. Other project elements consist of infrastructure elements including a temporary access routes, temporary staging area for equipment and materials storage, and an effectiveness monitoring program (existing air monitoring stations). Water delivery to the site would be accomplished by water trucks transporting water from the District's Fault Test Well to the staging areas along the Old State Highway. Water would be loaded in to small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hoses. Further details of the proposed project / proposed action are described in Section 2.1, *Proposed Project / Proposed Action*.

A. Direct and Indirect Impacts

Direct and indirect impacts to cultural resources resulting from the proposed project / proposed action will be avoided. Straw bales placement and the planting and establishment of native vegetation will be conducted with minimal ground disturbance from vehicle and foot traffic in the immediate area and would be implemented on modern active sand deposits that have a minimum potential for containing cultural resources. These disturbances are expected to disturb the ground surface and uppermost layers of soil only. Direct impacts from the preparation of four staging areas may result from minimal disturbance of the ground surface for each staging area. Indirect impacts from staging area preparation may result from increased vehicle and foot traffic.

[9] 36 CFR Part 800.5 [a] [1]

A total of 22 cultural resources (5 sites and 17 isolates) are located within the APE associated with the proposed project / proposed action and alternatives. A short description of each resource, along with NRHP and CRHR eligibility recommendations, is provided below (Table 4.4.3.1-1, *Eligibility Status of Cultural Resources Located in the APE*).

TABLE 4.4.3.1-1
ELIGIBILITY STATUS OF ARCHAEOLOGICAL SITES LOCATED IN THE APE

Site	Site Type	NRHP and CRHR Eligibility
CA-INY-6502	Rock cairns with associated prehistoric and historic artifact scatters	Recommended eligible under Criterion D (NRHP) and Criterion 4 (CRHR)
CA-INY-6513H	Section of the Carson & Colorado Railroad	Recommended not eligible
KD Site 1	Multicomponent site consisting of historic period artifact concentrations and a road alignment, and two possible prehistoric rock cairns	Recommended eligible under Criterion D (NRHP) and Criterion 4 (CRHR)
KD Site 2	Section of the Old State Highway	Recommended not eligible
BLM Site 1	Prehistoric lithic scatter and core	Recommended not eligible

CA-INY-6502 was originally recorded as two separate archaeological sites (CA-INY-6502 and CA-INY-6503), whose boundaries were later merged into one cultural resource.[10] The prehistoric remains at the site consist of concentrations of rock cairns with associated human remains, flaked and ground stone tools, pottery, shell, and animal bone. A small number of historic period artifacts, which range in date from the late 1800s to modern times, were also recorded at CA-INY-6502. The cultural resource has been recommended eligible for the NRHP and CRHR under Criterion D and Criterion 4, respectively, for its potential cultural and archaeological value.

CA-INY-6513H consists of a section of the Carson & Colorado Railroad line that originally ran from Mound House, Nevada to Keeler. The railway operated between 1883 and 1960. An evaluation of CA-INY-6513H conducted in 2006 by JRP Historical Consulting recommended that the site did not meet the criteria for listing either on the NRHP or the CRHR due to a lack of integrity.[11]

KD Site 1 is a multicomponent site consisting of six historic period artifact concentrations, a historic road alignment, and two possible prehistoric cairns. Temporally diagnostic materials recovered from the concentrations indicate that the area was used as a trash dump beginning in the late 1800s with continued use into the 1960s. KD Site 1 has been recommended eligible for the NRHP and CRHR under Criterion D and Criterion 4, respectively, for its potential cultural and archaeological value.

KD Site 2 consists of a section of the Old State Highway that runs from a point south of Keeler to a point north of Swansea along the northeastern edge of Owens Lake. Although once a significant transportation corridor within the Owens Valley, the site's integrity has been significantly compromised by erosional processes and the realignment of portions of the roadway. As such, the portion of KDS Site 2 within the proposed project / proposed action property is not recommended eligible for listing on the NRHP or CRHR.

[10] Primary Site Record for CA-INY-6502 and CA-INY-6503 (Update). n.d. Record on file at the Bureau of Land Management, Bishop Field Office, Bishop, CA.

[11] California Department of Parks and Recreation. 2006. Update to Primary Record for CA-INY-6513H. Site form on file at the Eastern Information Center, University of California, Riverside, CA.

BLM Site 1 consists of a small prehistoric lithic reduction site. The site was recorded by a BLM archeologist (Mr. Greg Haverstock) and is on file at the BLM Bishop Field Office. The site has been determined to not meet the criteria for listing either on the NRHP or the CRHR due to its limit for data potential.

TABLE 4.4.3.1-1
ELIGIBILITY STATUS OF ARCHAEOLOGICAL ISOLATES LOCATED IN THE APE

Resource ID	Period	Description	Eligibility Status
BLM ISO-1	Historic	Brown colored, thick walled, mold blown bottle	Recommended Not Eligible
BLM ISO-2	Historic	2 fragments of broken ceramic electrical insulator	Recommended Not Eligible
BLM ISO-3	Historic	Metal fragments, log bolt, large bolt	Recommended Not Eligible
BLM ISO-4	Historic	Sheet metal	Recommended Not Eligible
BLM ISO- 5	Historic	Steel pipe, 6 fragments,	Recommended Not Eligible
BLM ISO-6	Historic	2 fragments of broken ceramic electrical insulator	Recommended Not Eligible
BLM ISO-7	Historic	Steel sheet with bolt holes and opening, riveted	Recommended Not Eligible
BLM ISO- 8	Historic	Steel wire, 2 gauges, fragments, 9 segments	Recommended Not Eligible
BLM ISO-9	Historic	Ceramic electrical insulator fragments	Recommended Not Eligible
BLM ISO-10	Historic	Telephone pole cross member with insulated post	Recommended Not Eligible
BLM ISO-11	Historic	Karo syrup bottle fragment, clear glass (1968-present)	Recommended Not Eligible
BLM ISO-12	Historic	Gallon and 1/2 gallon wine jugs clear glass	Recommended Not Eligible
BLM ISO-13	Historic	Solarized brown Clorox bottle neck and rim (1958-present), and glass ketchup bottle, octagonal with solarized clear glass	Recommended Not Eligible
BLM ISO-14	Historic	Brown Duraglas been bottle(1947)	Recommended Not Eligible
BLM ISO-15	Historic	Brown Duraglas been bottle(1941)	Recommended Not Eligible
BLM ISO-16	Historic	Wire sand fence (8 strands)	Recommended Not Eligible
BLM ISO-17	Prehistoric	Elongated rock cairn	Recommended Not Eligible

Construction and Maintenance

Construction and maintenance of the proposed project / proposed action has been designed to avoid adverse effects to significant cultural resources that may be present within the proposed project / proposed action area. The portions of CA-INY-6502 and KD Site 1 located within the APE primarily fall within the area designated for 85 percent dust control efficiency. The DCM in these areas will be the

planting of native vegetation and the placement of straw bales that will act as wind breaks within active dune areas. These materials will be transported to the vicinity of the area using all-terrain vehicles along a temporary access route that will be located north of CA-INY-6502. No vehicular traffic shall occur within the site boundaries. The vegetation and straw bales will be hand-carried along designated footpaths to their respective planting areas in active dune areas. The planting of vegetation will involve the hand excavation of small holes (less than 1 foot in depth) for the placement of individual plants. The plants will be clustered in groups of three along the base of each straw bale.

The 85 percent dust control efficiency that would be implemented during the proposed project / proposed action allows some flexibility in the locations of the straw bales and associated plants. As such, areas within CA-INY-6502 and KD Site1 that contain culturally sensitive deposits can be avoided under the proposed project / proposed action. These areas tend to be located in deflated areas between the active dunes where cultural deposits have been exposed by moving sands.

Several additional efforts have been incorporated into the proposed project / proposed action to avoid adverse effects to significant cultural deposits within the proposed project / proposed action area. To ensure that no cultural deposits are adversely affected by the transport and placement of the vegetation and straw bales, a qualified archaeologist and Native American monitors will undertake an intensive surface survey of the APE, using special consideration for the portions of CA-INY-6502 and KD Site1 falling within the APE, prior to the initiation of construction activities with a Native American monitor present. This work will involve the identification and recording of identified artifacts and features, including those previously identified within the site boundary of CA-INY-6502 and KD Site1 and any newly identified cultural deposits within the APE, using handheld GPS units. A spatial analysis in GIS will then be undertaken to determine the specific placement of vegetation, straw bales, and foot paths within the site boundary of CA-INY-6502 and KD Site1, as well as any other identified cultural deposits within the APE, in order to avoid impacts to significant cultural deposits. Prior to the initiation of ground-disturbing activities, the District shall submit a final proposed construction scenario to the BLM for approval that depicts the location of these proposed project / proposed action elements and their relation to surface artifacts and features.

B. CEQA Significance Determinations

Would the proposed project:

(1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5?

The proposed project APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR, and thereby are considered significant "historical resources" under CEQA. The three remaining cultural resources (CA-INY-6513H, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "historical resource" under CEQA. The proposed project has been designed to avoid impacts to significant cultural deposits associated with the two historic resources (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of the proposed project would not be expected to cause "a substantial adverse change" in the "significance" of the two (CA-INY-6502 and KD site 1) historical resources.

(2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5?

The proposed project APE includes a total of twenty-two cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR, and thereby are considered "significant archaeological resource" under CEQA. The remaining cultural resources (CA-INY-6513H and, KD Site 2, BLM Site 1, and seventeen archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR, and therefore do not fit the definition of a "significant archaeological resources" under CEQA. The proposed project has been designed to avoid impacts to significant cultural deposits associated with these eligible resources (see Cultural Resources Protection in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of the proposed project would not be expected to cause "a substantial adverse change" in the "significance" of these eligible archaeological sites (CA-INY-6502 and KD Site 1).

(3) Disturb any human remains, including those interred outside of formal cemeteries?

The site of CA-INY-6502 is part of a larger mortuary complex containing multiple prehistoric and possibly historic period burial features that include human remains. The proposed project has been designed to avoid impacts to these significant cultural deposits, including human remains, at this archaeological site (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of the proposed project would not be expected to adversely impact human remains or any other significant cultural deposits at CA-INY-6502.

4.4.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

A. Direct and Indirect Impacts

Construction and operation of Alternative 1 would be much the same as the proposed project / proposed action but would require the placement of a greater number of plants and straw bales distributed over a larger area. The cultural resources potentially affected by Alternative 1 are the same as those that would be potentially affected by the proposed project / proposed action (see Section 4.4.3.1).

B. CEQA Significance Determinations

Would the proposed project:

(1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5?

The Alternative 1 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered significant "historical resources" under CEQA. The three remaining cultural resources (CA-INY-6513H, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "historical resource" under CEQA. Alternative 1 has been designed to avoid impacts to significant cultural deposits associated with the two historic resources (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of Alternative 1 would not be expected to cause "a substantial adverse change" in the "significance" of the two identified (CA-INY-6502 and KD site 1) historical resources.

(2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5?

The Alternative 1 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered "significant archaeological resource" under CEQA. The remaining cultural resources (CA-INY-6513H and, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "significant archaeological resources" under CEQA. Alternative 1 has been designed to avoid impacts to significant cultural deposits associated with these eligible resources (see Cultural Resources Protection in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of Alternative 1 would not be expected to cause "a substantial adverse change" in the "significance" of these eligible archaeological sites (CA-INY-6502 and KD Site 1).

(3) Disturb any human remains, including those interred outside of formal cemeteries?

As with the proposed project, Alternative 1 has been designed to avoid impacts to culturally sensitive areas (CA-INY-6502) that may contain human remains. As a result of the implementation of these avoidance measures, the construction and operation of Alternative 1 is not expected to cause "a substantial adverse change" in the "significance" of these resources.

4.4.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3) This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and

the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

Construction and operation of Alternative 2 would be much the same as the proposed project / proposed action, but would require the placement of a greater number of plants and straw bales distributed over a larger area. The cultural resources potentially affected by Alternative 2 are the same as those that would be potentially affected by the proposed project / proposed action (see Section 4.3.3.1).

B. CEQA Significance Determinations

Would Alternative 2:

(1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5?

The Alternative 2 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered significant "historical resources" under CEQA. The three remaining cultural resources (CA-INY-6513H, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "historical resource" under CEQA. Alternative 2 has been designed to avoid impacts to significant cultural deposits associated with the two historic resources (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of Alternative 2 would not be expected to cause "a substantial adverse change" in the "significance" of the two identified (CA-INY-6502 and KD site 1) historical resources.

(2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5?

The Alternative 2 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered "significant archaeological resource" under CEQA. The remaining cultural resources (CA-INY-6513H and, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "significant archaeological resources" under CEQA. Alternative 2 has been designed to avoid impacts to significant cultural deposits associated with these eligible resources (see Cultural Resources Protection in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of Alternative 2 would not be expected to cause "a substantial adverse change" in the "significance" of these eligible archaeological sites (CA-INY-6502 and KD Site 1).

(3) Disturb any human remains, including those interred outside of formal cemeteries?

As with the proposed project, Alternative 2 has been designed to avoid impacts to culturally sensitive areas (CA-INY-6502) that may contain human remains. As a result of the implementation of these

avoidance measures, the construction and operation of Alternative 2 would not be expected to cause "a substantial adverse change" in the "significance" of these resources.

4.4.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Alternative 3 integrates refinements to the proposed project / proposed action that resulted from lessons learned from the pilot study that was undertaken by the District to assess the feasibility of the proposed project / proposed action and to address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act. Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the project via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the project area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of the project, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project/proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from trucks at the staging areas.

A. Direct and Indirect Impacts

Construction and operation of Alternative 3 would be much the same as the proposed project / proposed action, but would require the installation of an irrigation system (with the exception of environmentally sensitive areas) to limit travel in the dunes for watering plants within the first 3 years. The use of the temporary irrigation system to deliver supplemental irrigation water would reduce ATV trips by approximately 80 percent during the operation and maintenance phase of Alternative 3.The cultural resources potentially affected by Alternative 3 are the same as those that would be potentially affected by the proposed project / proposed action.

B. CEQA Significance Determinations

Would Alternative 3:

(1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5?

The Alternative 3 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered significant "historical resources" under CEQA. The three remaining cultural resources (CA-INY-6513H, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "historical resource" under CEQA. Alternative 3 has been designed to avoid impacts to significant cultural deposits associated with the two historic resources (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the

construction and operation of Alternative 3 would not be expected to cause "a substantial adverse change" in the "significance" of the two identified (CA-INY-6502 and KD site 1) historical resources.

(2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5?

The Alternative 3 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered "significant archaeological resource" under CEQA. The remaining cultural resources (CA-INY-6513H and, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "significant archaeological resources" under CEQA. Alternative 3 has been designed to avoid impacts to significant cultural deposits associated with these eligible resources (see Cultural Resources Protection in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of the Alternative 3 would not be expected to cause "a substantial adverse change" in the "significance" of these eligible archaeological sites (CA-INY-6502 and KD Site 1).

(3) Disturb any human remains, including those interred outside of formal cemeteries?

As with the proposed project, Alternative 3 has been designed to avoid impacts to culturally sensitive areas (CA-INY-6502) that may contain human remains. As a result of the implementation of these avoidance measures, the construction and operation of Alternative 3 would not be expected to cause "a substantial adverse change" in the "significance" of these resources.

4.4.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Alternative 4 integrates refinements to the proposed project / proposed action that resulted from lessons learned from the pilot study that was undertaken by the District to assess the feasibility of the proposed project / proposed action and to address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act. Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.25). In Alternative 4, water obtained from the Fault Test Well would be transported to the project via water trucks and the water delivery system would be fed from three supply points along State Route 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs, stage in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas.

This alternative is intended to address concerns articulated by the Lone Pine Paiute-Shoshone Tribe regarding the placement of a temporary irrigation system in close proximity to environmentally sensitive areas. In addition, the use of a direct connection from water haul trucks to the temporary irrigation system negates the need for temporary placement of water storage tanks at three of the four

staging areas, further addressing issues articulated by representative of the Lone Pine and Big Pine Tribes. Additionally, the District shall work with representatives of the local Native American tribes, to include their participation, to the maximum extent practicable, in the installation of the plants, particularly in sensitive areas.

A. Direct and Indirect Impacts

Construction and operation of Alternative 4 would be much the same as the proposed project / proposed action but would include a combination of hand watering and installation of a temporary irrigation system to limit travel in the dunes for watering plants within the first 3 years following revegetation. The use of the temporary irrigation system to deliver supplemental irrigation water would reduce ATV trips by approximately 80 percent during the operation and maintenance phase of Alternative 3. The cultural resources potentially affected by Alternative 4 are the same as those that would be potentially affected by the proposed project / proposed action.

B. CEQA Significance Determinations

Would Alternative 4:

(1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5?

The Alternative 4 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered significant "historical resources" under CEQA. The three remaining cultural resources (CA-INY-6513H, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "historical resource" under CEQA. Alternative 4 has been designed to avoid impacts to significant cultural deposits associated with the two historic resources (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of Alternative 4 would not be expected to cause "a substantial adverse change" in the "significance" of the two identified (CA-INY-6502 and KD site 1) historical resources.

(2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5?

The Alternative 4 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered "significant archaeological resource" under CEQA. The remaining cultural resources (CA-INY-6513H and, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "significant archaeological resources" under CEQA. Alternative 4 has been designed to avoid impacts to significant cultural deposits associated with these eligible resources (see Cultural Resources Protection in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of Alternative 4 would not be expected to cause "a substantial adverse change" in the "significance" of these eligible archaeological sites (CA-INY-6502 and KD Site 1).

(3) Disturb any human remains, including those interred outside of formal cemeteries?

As with the proposed project, Alternative 4 has been designed to avoid impacts to culturally sensitive areas (CA-INY-6502) that may contain human remains. As a result of the implementation of these avoidance measures, the construction and operation of Alternative 4 would not be expected to cause "a substantial adverse change" in the "significance" of these resources.

4.4.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Alternative 5 integrates refinements to the proposed project / proposed action that resulted from lessons learned from the pilot study that was undertaken by the District to assess the feasibility of the proposed project / proposed action and to address concerns that were raised by representatives of the Native American tribes during the consultation that was undertaken pursuant to Section 106 of the National Historic Preservation Act. Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project.

This alternative is intended to address concerns articulated by the Lone Pine Paiute-Shoshone Tribe regarding the placement of a temporary irrigation system in close proximity to environmentally sensitive areas. In addition, the use of a direct connection from water haul trucks to the temporary irrigation system negates the need for temporary placement of water storage tanks at three of the four staging areas, further addressing issues articulated by representative of the Lone Pine Paiute-Shoshone and Big Pine Paiute Tribes.

A. Direct and Indirect Impacts

Construction and operation of Alternative 5 would be much the same as the proposed project / proposed action but would include a combination of hand watering and installation of a temporary irrigation system via a pipeline connection from the KCSD well for the first three years. The cultural resources potentially affected by Alternative 5 are the same as those that would be potentially affected by the proposed project / proposed action.

B. CEQA Significance Determinations

Would Alternative 5:

(1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5?

The Alternative 5 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP

and CRHR and thereby are considered significant "historical resources" under CEQA. The three remaining cultural resources (CA-INY-6513H, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR and, therefore, do not fit the definition of a "historical resource" under CEQA. Alternative 5 has been designed to avoid impacts to significant cultural deposits associated with the two historic resources (see *Cultural Resources Protection* in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation of Alternative 5 would not be expected to cause "a substantial adverse change" in the "significance" of the two identified (CA-INY-6502 and KD site 1) historical resources.

(2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5?

The Alternative 5 APE includes a total of 22 cultural resources, two of which are archaeological resources (CA-INY-6502 and KD Site 1) that have been identified as eligible for listing on the NRHP and CRHR and thereby are considered "significant archaeological resource" under CEQA. The remaining cultural resources (CA-INY-6513H and, KD Site 2, BLM Site 1, and 17 archaeological isolates [BLM]) are not considered eligible for listing on the NRHP or CRHR, and therefore do not fit the definition of a "significant archaeological resources" under CEQA. Alternative 5 has been designed to avoid impacts to significant cultural deposits associated with these eligible resources (see Cultural Resources Protection in Section 2.0). As a result of the implementation of these avoidance measures, the construction and operation Alternative 5 would not be expected to cause "a substantial adverse change" in the "significance" of these eligible archaeological sites (CA-INY-6502 and KD Site 1).

(3) Disturb any human remains, including those interred outside of formal cemeteries?

As with the proposed project, Alternative 5 has been designed to avoid impacts to culturally sensitive areas (CA-INY-6502) that may contain human remains. As a result of the implementation of these avoidance measures, the construction and operation of Alternative 5 would not be expected to cause "a substantial adverse change" in the "significance" of these resources.

4.4.3.7 Alternative 6, No Project / No Action Alternative

Alternative 6 assumes that the DCMs would not be installed. Alternative 6 would not require federal approval, as no BLM land would be crossed. Under CEQA, continuation of natural habitats would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Under Alternative 6 there would be no installation or maintenance activities under this alternative; therefore, there would be no potential for direct or indirect impacts to cultural resources as a result of the proposed project / proposed action. However, sensitive resources that are known to be present in the vicinity of the proposed project / proposed action would continue to be at risk from natural processes and anthropogenic activities.

B. CEQA Significance Determinations

Under Alternative 6 there would be no effect to cultural resources.

4.4.4 MITIGATION MEASURES

Implementation of the proposed project / proposed action is not expected to result in significant impacts to cultural resources as a result of the predetermined project design elements incorporated to avoid any adverse effects, which includes, but is not limited to, a pre-placement pedestrian survey conducted by a qualified archaeologist with a Native American monitor; therefore, mitigation measures are not required. Refer to Section 4.4.3.1A for more detail related to the additional project design elements.

4.4.5 RESIDUAL IMPACTS AFTER MITIGATION

There would be no anticipated significant impacts to cultural resources under the proposed project / proposed action.

4.5 GEOLOGY AND SOILS

4.5.1 STUDY METHODS

This section assesses the possible effects of geological hazards that could result from the proposed project / proposed action and alternatives. The section addresses potential environmental impacts associated with implementation of the proposed project / proposed action such as exposure to seismic activity, unstable soils, and so forth. The District has incorporated measures into the proposed project / proposed action description to reduce or avoid adverse impacts anticipated from activities resulting from the proposed project / proposed action and its alternatives. A discussion of cumulative impacts related to geology and soil resources is included in Section 5.5. The geology and soils environmental setting is presented in Section 3.5. The existing conditions were evaluated based on their potential to be affected by activities of the proposed project / proposed action and alternatives.

4.5.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or an alternative. Direct effects (or impacts) are those occurring as a result of the installation, maintenance, or monitoring of the straw bales and vegetation establishment. Direct natural resource impacts are those that occur due to potential geologic, soils, and/or seismic hazards during construction, or operation and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, after the installation and monitoring has been completed.

4.5.2.1 CEQA SIGNIFICANCE CRITERIA

The potential for the proposed project to result in impacts to geology and soils was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. Under CEQA, the potential for the proposed project or project alternatives to result in impacts related to geology and soils was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. A significant impact on geology and soils would normally be determined to occur if the proposed project or project alternatives triggered one of the five thresholds established by Appendix G of the CEQA Guidelines:

The potential for the proposed project to result in impacts related to geology and soils was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. The proposed project would normally be considered to have a significant impact from geologic hazards when the potential for any one of the following thresholds occurs:

(1) Expose people or structures to potential substantial adverse effects, including the risk for loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

(2) Result in substantial soil erosion (greater than 10 percent) or the loss of topsoil

(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

(4) Be located on expansive soil, as defined in Table 18-1-B of the 1994 Uniform Building Code, creating substantial risks to life or property

(5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

4.5.2.2 NEPA REQUIREMENTS

The CEQA Criteria identified above also serve to fulfill the NEPA Requirement of a basis for analysis to evaluate geology and soils effects associated with the proposed action and alternatives.

4.5.3 ENVIRONMENTAL CONSEQUENCES

4.5.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

The proposed project / proposed action is a program to control dust emissions in the Keeler Dunes through the use of native plants and temporary wind breaks (straw bales) applied to a total of 194 acres of the emissive deposits in the dunes. The key components of the proposed project / proposed action include placement of straw bales on the site, planting of native vegetation, preparation of staging areas, access routes, water supply, conveyance and distribution, and an effectiveness monitoring program as part of the operations phase of the proposed project / proposed action. Further details of the proposed project / proposed action are described in Section 2.

A. Direct and Indirect Impacts

Direct and indirect impacts to geological resources resulting from the proposed project / proposed action are minimal. Direct impacts to soil include ground disturbance resulting from the planting and establishment of native vegetation, placement of straw bales, and establishment of temporary access routes, Indirect impacts to geology and soils include increased vehicle and foot traffic along designated routes on soils.

B. CEQA Significance Determinations

(1) Expose people or structures to potential substantial adverse effects, including the risk for loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault

- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

Surface Fault Rupture

The proposed project / proposed action would not be expected to result in significant impacts related to surface fault rupture. Faults are the planes along which earthquakes occur. Where earthquakes are large enough, or shallow enough, surface rupture can occur along the fault plane where it intersects the earth's surface. Geophysical surveys have revealed numerous fault strands on the bed of Owens Lake, with most roughly following a northwest-southeast trend.[1] The proposed project / proposed action study area is not delineated by the California Geological Survey as an APEFZ.[2] There are no documented fault scarps in the proposed project / proposed action study area.[3] The proposed project / proposed action would not involve construction of any type of building; therefore, there would be no exposure of buildings to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, the proposed project / proposed action would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture.

Seismic Ground Shaking

The proposed project / proposed action would not be expected to result in significant impacts from strong seismic ground shaking. All of California is at risk from seismic ground shaking and, as described previously in Section 3.5, the Sierra Nevada and Owens Valley Fault Zones are both capable of generating earthquakes with a magnitude of 8.0 or greater. The proposed project / proposed action study area is not delineated by the California Geological Survey as an APEFZ.[4] The proposed project / proposed action study area is not delineated by the California Geological Survey under the SHZP.[5] The proposed project does not include structures or the addition of a permanent or regular population on site. Therefore, the proposed project / proposed action would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking.

Seismic-Related Ground Failure/Liquefaction

The proposed project / proposed action would not be expected to result in significant impacts from seismic related ground failure, including liquefaction. Liquefaction occurs when saturated, cohesionless (low relative density) materials (usually sand or silty sand) are transformed from a solid to a near liquid state due to the increase in pore water pressure that can be caused by moderate to severe seismic ground shaking. The depth to groundwater in the proposed project / proposed action study area ranges from approximately 196 feet on the eastern border, east of SR 136, to within a few feet of the surface along the southwestern study area border. The soils in the proposed project / proposed

[1] Neponset Geophysical and Aquilla Geosciences, 1997, Final Report, Phase 3 and 4Seismic Program, Owens Lake, Inyo County, California, prepared for the Great Basin Unified Air Pollution Control District. Bishop, CA,.

[2] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[3] Slemmons, D.B., Vittori, E., Jayko, A.S., Carver, G.A., Bacon, S.N. 2008. *Quaternary Fault and Lineament Map of Owens Valley, Inyo County, Eastern California*. Geological Society of America. Boulder, Colorado.

[4] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[5] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

action study area vary from loose gravels and sands to compact clays.[6] The conditions for liquefaction may be present along the historic shoreline, in the extreme southern portion of the proposed project / proposed action study area where the soils are finer texture and the groundwater is close to the surface. Due to the presence of coarse alluvial material over most of the rest of the proposed project / proposed action study area and the overall depth of the groundwater, the conditions for liquefaction over the rest of the proposed project / proposed action study area is considered to be low. In addition, the proposed project / proposed action does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Since habitable structures will not be built as part of the proposed project / proposed action, people or structures will not be exposed to adverse effects involving seismic-related ground failure, including liquefaction.

Landslides

The proposed project / proposed action would not result in significant impacts from seismically induced landslides. The proposed project / proposed action will not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project / proposed action, potentially resulting in on- or off-site landslides or lateral spreading. The proposed project / proposed action site is located well away from the Sierra Nevada and Inyo Mountain fronts which have slopes steep enough to initiate a landslide during seismic events. Additionally, since habitable structures will not be built as part of the proposed project / proposed action, people will not be exposed to adverse effects involving landslides. Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP.[7] Therefore, the proposed project / proposed action would not result in an impact from landslides.

(2) Result in substantial soil erosion (greater than 10 percent) or the loss of topsoil?

Soil Erosion

Soil erosion occurs when surface materials are worn away from the earth's surface due to land disturbance and/or natural factors such as wind and water. The potential for soil erosion is determined by characteristics including texture and content, surface roughness, vegetation cover, and slope grade and length. Wind erosion typically occurs when fine to medium-grained non-cohesive soils are exposed to high velocity winds. Water erosion tends to occur when loose soils on moderate to steep slopes are exposed to storm events or other running water events.

Within the proposed project / proposed action study area, wind and water erosion are ongoing processes. The proposed project / proposed action would not be expected to result in significant impacts related to a substantial increase in soil erosion or loss of topsoil beyond that that occurs in the existing condition. As evidenced by stable dune systems at other locations around the edge of Owens Lake, the proposed project / proposed action is designed to produce a net increase in vegetative cover and resulting stabilization of the dunes, resulting in a net decrease in the susceptibility to wind erosion. The objective of the proposed project / proposed action is to stabilize the dunes and reduce the levels of windblown dust and prevent erosion, that are causing and contributing to exceedances of federal

[6] Bacon and Lancaster, 2012. Geomorphic Mapping of the Keeler Dunefield and Surrounding Areas Final Report. Available at: http://www.gbuapcd.org/keelerdunes/originanddevelopment/finalstaffreport/Attachment%20D%20-%20Geomorphology/Bacon%20and%20Lancaster%202012_FINAL_REPORT_Geomorphic_Mapping_of_the_Keeler_Dunefield_and_Surrounding_Areas20121114.pdf

[7] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

and state standards for PM_{10} air pollution. Construction activity associated with the proposed project / proposed action includes site preparation and preparation of the staging areas and temporary access routes (temporary disturbance of approximately 33.5 acres), placing the straw bales, planting the native vegetation, and watering activities. This impact is considered short-term in nature since the potential for significant impact will end after construction is finished due to the placement of straw bales and vegetation. As specified in the proposed project / proposed action description, the proposed project / proposed action will comply with all provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the California State Water Resources Control Board Order No. 99-08—DWQ, NPDES General Permit No. CAS000002 (General Construction Permit) prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*.[8] Therefore, the proposed project / proposed action would not result in significant impacts from soil erosion.

(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

(4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

(5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

Stability of Geology and Soils / Expansive Soils

Soils that expand and contract in volume ("shrink-swell" pattern) are considered to be expansive and may cause damage to above ground structures as a result of density changes that shift overlying materials. Fine-grain clay sediments are most likely to exhibit shrink-swell patterns in response to changing moisture levels. As described above, the majority of soils in the proposed project / proposed action study area are loamy sands and alluvial gravels. These types of soils do not exhibit shrink-swell patterns and are not considered expansive soils.

The proposed project / proposed action would not result in significant impacts related to the location of the proposed project / proposed action on a geologic unit that is unstable or that would become unstable as a result of the proposed project / proposed action. The proposed project / proposed action does not include the addition of habitable structures which would be impacted by unstable geology. The proposed project / proposed action would not result in significant impacts from an unstable geology unit. The proposed project / proposed action, as described in Section 2.1.5.2, does not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

[8] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

4.5.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small-diameter hose.

The potential impacts to geology and soils would be essentially the same as for the proposed project / proposed action and would be avoided and/or lessened through the incorporation of BMPs into proposed project / proposed action design.

A. Direct and Indirect Impacts

Direct and Indirect Impacts

Direct and indirect impacts to geological resources resulting from Alternative 1 are minimal. Direct impacts to soil are nearly identical to the proposed project / proposed action and include ground disturbance resulting from the planting and establishment of native vegetation, installation of temporary windbreaks (straw bales), construction of temporary access routes, and a temporary water delivery system. Indirect impacts to geology and soils include increased vehicle and foot traffic on soils.

B. CEQA Significance Determinations

Surface Fault Rupture

(1) Expose people or structures to potential substantial adverse effects, including the risk for loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

Alternative 1 would not be expected to result in significant impacts related to surface fault rupture. The Alternative 1 study area is not delineated by the California Geological Survey as an APEFZ[9]. There are

[9] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

no documented fault scarps in the proposed project / proposed action study area.[10] Alternative 1 would not involve construction of any type of building; therefore, there would be no exposure of buildings or to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, Alternative 1 would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture.

Seismic Ground Shaking

Alternative 1 would not be expected to result in significant impacts from strong seismic ground shaking. The Alternative 1 study area is not delineated by the California Geological Survey as an APEFZ.[11] The Alternative 1 study area is not delineated by the California Geological Survey under the SHZP.[12] Alternative 1 does not include structures or the addition of a permanent or regular population on site. Therefore, Alternative 1 would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking.

Seismic-Related Ground Failure/Liquefaction

Alternative 1 would not be expected to result in significant impacts from seismic related ground failure, including liquefaction. Although the depth of groundwater in the Alternative 1 study area is estimated to range from more than 70 feet to less than 10 feet, the Alternative 1 study area is not delineated by the California Geological Survey under the SHZP.[13] Alternative 1 does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Since habitable structures will not be built as part of Alternative 1, people or structures will not be exposed to adverse effects involving seismic-related ground failure, including liquefaction.

Landslides

Alternative 1 would not result in significant impacts from seismically induced landslides. Alternative 1 will not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project / proposed action, potentially resulting in on- or off-site landslides or lateral spreading. The Alternative 1 site is located well away from the Sierra Nevada and Inyo Mountain fronts which have slopes steep enough to initiate a landslide during seismic events. Additionally, since habitable structures would not be built as part of Alternative 1, people will not be exposed to adverse effects involving landslides. Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP.[14] Therefore, Alternative 1 would not result in an impact from landslides.

[10] Slemmons, D.B., Vittori, E., Jayko, A.S., Carver, G.A., Bacon, S.N. 2008. *Quaternary Fault and Lineament Map of Owens Valley, Inyo County, Eastern California*. Geological Society of America. Boulder, Colorado.

[11] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[12] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[13] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[14] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

(2) Result in substantial soil erosion (greater than 10 percent) or the loss of topsoil

Soil Erosion

Within the Alternative 1 study area, erosion is an ongoing process. Alternative 1 would not be expected to result in significant impacts related to a substantial increase in soil erosion or loss of topsoil beyond that which occurs in the existing condition. As evidenced by stable dune systems at other locations around the edge of Owens Lake, Alternative 1 would be expected to result in a net increase in vegetative cover and stabilization of the dunes, as well as a net decrease in the susceptibility to erosion as a result of the enhanced vegetative cover. The objectives of Alternative 1 are to stabilize the dunes and reduce the levels of windblown dust and prevent erosion, which are causing and contributing to exceedances of federal and state standards for PM_{10} air pollution. Construction activity associated with Alternative 1 would result from site preparation activities including preparation of the staging areas and temporary access routes (disturbance of approximately 33.5 acres), placing the straw bales, planting the native vegetation, and watering activities. This impact is considered short-term in nature since the potential for significant impact will end after construction is finished due to the placement of straw bales and vegetation. Alternative 1 would comply with all provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the California State Water Resources Control Board Order No. 99-08—DWQ, NPDES General Permit No. CAS000002 (General Construction Permit) prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*.[15] Therefore, Alternative 1 would not result in significant impacts from soil erosion.

(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

(4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

(5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

Stability of Geology and Soils / Expansive Soils

As previously described in this section for the proposed project / proposed action, the majority of soils in the study area, inclusive of Alternative 1, are primarily gravelly alluvium and fine to medium-grained loamy sands. These types of soils do not exhibit shrink-swell patterns and are not considered expansive soils.

Alternative 1 would not result in significant impacts related to the location of the proposed project / proposed action on a geologic unit that is unstable or that would become unstable. Alternative 1 does not include the addition of habitable structures which would be impacted by unstable geology. Alternative 1 would not result in significant impacts from an unstable geology unit. Alternative 1 does

[15] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.2.3.3 ALTERNATIVE 2, DUST CONTROL MEASURES APPLIED TO 197 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3). This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

Direct and indirect impacts to geological resources resulting from Alternative 2 are minimal. Direct impacts to soil are nearly identical to the proposed project / proposed action and include ground disturbance resulting from the planting and establishment of native vegetation, installation of temporary windbreaks, construction of temporary access routes, and a temporary water delivery system. Indirect impacts to geology and soils include increased vehicle and foot traffic on soils.

B. CEQA Significance Determinations

(1) Expose people or structures to potential substantial adverse effects, including the risk for loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

Surface Fault Rupture

Alternative 2 would not be expected to result in significant impacts related to surface fault rupture. The Alternative 2 study area is not delineated by the California Geological Survey as an APEFZ.[16] There are no recorded fault scarps in the proposed project / proposed action study area.[17] Alternative 2 would

[16] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[17] Slemmons, D.B., Vittori, E., Jayko, A.S., Carver, G.A., Bacon, S.N. 2008. *Quaternary Fault and Lineament Map of Owens Valley, Inyo County, Eastern California*. Geological Society of America. Boulder, Colorado.

not involve construction of any type of building; therefore, there would be no exposure of buildings or to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, Alternative 2 would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture.

Seismic Ground Shaking

Alternative 2 would not be expected to result in significant impacts from strong seismic ground shaking. The Alternative 2 study area is not delineated by the California Geological Survey as an APEFZ.[18] The Alternative 2 study area is not delineated by the California Geological Survey under the SHZP.[19] Alternative 2 does not include structures or the addition of a permanent or regular population on site. Therefore, Alternative 2 would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking.

Seismic-Related Ground Failure/Liquefaction

Alternative 2 would not be expected to result in significant impacts from seismic related ground failure, including liquefaction. Although the depth of groundwater in the Alternative 2 study area is estimated to range from more than 70 feet to less than 10 feet, the Alternative 2 study area is not delineated by the California Geological Survey under the SHZP.[20] Alternative 2 does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Since habitable structures would not be built as part of Alternative 2, people or structures will not be exposed to adverse effects involving seismic-related ground failure, including liquefaction.

Landslides

Alternative 2 would not result in significant impacts from seismically induced landslides. Alternative 2 will not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project / proposed action, potentially resulting in on- or off-site landslides or lateral spreading. The Alternative 2 site is located well away from the Sierra Nevada and Inyo Mountain fronts, which have slopes steep enough to initiate a landslide during seismic events. Additionally, since habitable structures would not be built as part of Alternative 2, people would not be exposed to adverse effects involving landslides. Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP.[21] Therefore, Alternative 2 would not result in an impact from landslides.

[18] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[19] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[20] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[21] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

(2) Result in substantial soil erosion (greater than 10 percent) or the loss of topsoil

Soil Erosion

Within the Alternative 2 study area, erosion is an ongoing process. Alternative 2 would not be expected to result in significant impacts related to a substantial increase in soil erosion or loss of topsoil beyond that which occurs in the existing condition. As evidenced by stable dune systems at other locations around the edge of Owens Lake, Alternative 2 would be expected to result in a net increase in vegetative cover and stabilization of the dunes, as well as a net decrease in the susceptibility to erosion as a result of the enhanced vegetative cover. The objective of Alternative 2 is to stabilize the dunes in order to reduce the levels of windblown dust and prevent erosion, which are causing and contributing to exceedances of federal and state standards for PM_{10} air pollution. Construction activity associated with Alternative 2 would result from site preparation activities including preparation of the staging areas and temporary access routes (disturbance of approximately 33.5 acres), placing the straw bales, planting the native vegetation, and watering activities. This impact is considered short-term in nature since the potential for significant impact will end after construction is finished due to the placement of straw bales and vegetation. Alternative 2 will comply with all provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the California State Water Resources Control Board Order No. 99-08—DWQ, NPDES General Permit No. CAS000002 (General Construction Permit) prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*.[22] Therefore, Alternative 2 would not result in significant impacts from soil erosion.

(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

(4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

(5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

Stability of Geology and Soils / Expansive Soils

As previously described in this section, the majority of soils in the Alternative 2 study area are primarily gravelly alluvium and fine to medium-grained loamy sands. These types of soils do not exhibit shrink-swell patterns and are not considered expansive soils.

Alternative 2 would not result in significant impacts related to the location of the proposed project / proposed action on a geologic unit that is unstable or that would become unstable. Alternative 2 does not include the addition of habitable structures which would be impacted by unstable geology. Alternative 2 would not result in significant impacts from an unstable geology unit. Alternative 2 does not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no

[22] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.5.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the proposed project / proposed action via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the proposed project / proposed action area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as the proposed project / proposed action. In the environmentally sensitive areas, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from trucks at the staging areas.

The potential impacts to geology and soils would be essentially the same as for the proposed project / proposed action and would be avoided and/or lessened through the incorporation of BMPs into proposed project / proposed action design.

A. Direct and Indirect Impacts

Direct and indirect impacts to geological resources resulting from Alternative 3 are minimal. Direct impacts to soil are nearly identical to the proposed project / proposed action and include ground disturbance resulting from the planting and establishment of native vegetation, installation of temporary windbreaks, construction of temporary access routes, and a temporary irrigation system. Indirect impacts to geology and soils include increased vehicle and foot traffic on soils. However, the incorporation of an irrigation system would result in less ATV and foot traffic.

B. CEQA Significance Determinations

(1) Expose people or structures to potential substantial adverse effects, including the risk for loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

Surface Fault Rupture

Alternative 3 would not be expected to result in significant impacts related to surface fault rupture. The Alternative 3 study area is not delineated by the California Geological Survey as an APEFZ.[23] There are no recorded fault scarps in the proposed project / proposed action study area.[24] Alternative 3 would not involve construction of any type of building; therefore, there would be no exposure of buildings or to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, Alternative3 would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture.

Seismic Ground Shaking

Alternative 3 would not be expected to result in significant impacts from strong seismic ground shaking. The Alternative 3 study area is not delineated by the California Geological Survey as an APEFZ.[25] The Alternative 3 study area is not delineated by the California Geological Survey under the SHZP.[26] Alternative 3 does not include structures or the addition of a permanent or regular population on site. Therefore, Alternative 3 would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking.

Seismic-Related Ground Failure/Liquefaction

Alternative 3 would not be expected to result in significant impacts from seismic related ground failure, including liquefaction. Although the depth of groundwater in the Alternative 3 study area is estimated to range from more than 70 feet to less than 10 feet, the Alternative 3 study area is not delineated by the California Geological Survey under the SHZP.[27] Alternative 3 does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Since habitable structures would not be built as part of Alternative 3, people or structures would not be exposed to adverse effects involving seismic-related ground failure, including liquefaction.

Landslides

Alternative 3 would not result in significant impacts from seismically induced landslides. Alternative 3 would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project / proposed action, potentially resulting in on- or off-site landslides or lateral spreading. The Alternative 3 site is located well away from the Sierra Nevada and Inyo Mountain fronts which have slopes steep enough to initiate a landslide during seismic events. Additionally, since habitable structures would not be built as part of Alternative 3, people would not be exposed to adverse effects involving landslides. Inyo County is not delineated as a seismic hazard

[23] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[24] Slemmons, D.B., Vittori, E., Jayko, A.S., Carver, G.A., Bacon, S.N. 2008. *Quaternary Fault and Lineament Map of Owens Valley, Inyo County, Eastern California*. Geological Society of America. Boulder, Colorado.

[25] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[26] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[27] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

zone, which includes areas prone to landslides by the CGS under the SHZP.[28] Therefore, Alternative 3 would not result in an impact from landslides.

(2) Result in substantial soil erosion (greater than 10 percent) or the loss of topsoil

Soil Erosion

Within the Alternative 3 study area, erosion is an ongoing process. Alternative 3 would not be expected to result in significant impacts related to a substantial increase in soil erosion or loss of topsoil beyond that which occurs in the existing condition. As evidenced by stable dune systems at other locations around the edge of Owens Lake, Alternative 3 would be expected to result in a net increase in vegetative cover and stabilization of the dunes, as well as a net decrease in the susceptibility to erosion as a result of the enhanced vegetative cover. The objective of Alternative 3 is to stabilize the dunes in order to reduce the levels of windblown dust and prevent erosion, that are causing and contributing to exceedances of federal and state standards for PM_{10} air pollution. Construction activity associated with Alternative 3 would result from site preparation activities including preparation of the staging areas and temporary access routes (disturbance of approximately 33.5 acres), placing the straw bales, planting the native vegetation, and watering activities. This impact is considered short-term in nature since the potential for significant impact would end after construction is finished due to the placement of straw bales and vegetation. Alternative 3 would comply with all provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the California State Water Resources Control Board Order No. 99-08—DWQ, NPDES General Permit No. CAS000002 (General Construction Permit) prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*.[29] Therefore, Alternative 3 would not result in significant impacts from soil erosion.

(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

(4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

(5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

Stability of Geology and Soils / Expansive Soils

As previously described in this section fir the proposed project / proposed action study area, the majority of soils in the Alternative 3 study area are primarily gravelly alluvium and fine to medium-grained loamy sands. These types of soils do not exhibit shrink-swell patterns and are not considered expansive soils.

[28] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[29] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

Alternative 3 would not result in significant impacts related to the location of the proposed project / proposed action on a geologic unit that is unstable or that would become unstable. Alternative 3 does not include the addition of habitable structures which would be impacted by unstable geology. Alternative 3 would not result in significant impacts from an unstable geology unit. Alternative 3 does not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.5.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.5). In Alternative 4, water obtained from the Fault Test Well would be transported to the proposed project / proposed action via water trucks, and the water delivery system would be fed from three supply points along SR 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly into the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in the sensitive 85 percent control area using hoses to deliver water from tanks mounted on ATVs, staged in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from tanks at the staging areas.

The potential impacts to geology and soils would be essentially the same as for the proposed project / proposed action and would be avoided and/or lessened through the incorporation of BMPs into proposed project / proposed action design. Further details of Alternative 4 are described in Section 2.2.5.

A. Direct and Indirect Impacts

Direct and indirect impacts to geological resources resulting from Alternative 4 are minimal. Direct impacts to soil are nearly identical to the proposed project / proposed action and include ground disturbance resulting from the planting and establishment of native vegetation, installation of temporary windbreaks, construction of temporary access routes, and a temporary irrigation system. Indirect impacts to geology and soils include increased vehicle and foot traffic on soils. However, the incorporation of an irrigation system would require 80 percent less ATV traffic, and thus would result in less temporary disturbance of the dunes during the operations and maintenance phase of Alternative 4 than that anticipated for the proposed project / proposed action.

B. CEQA Significance Determinations

(1) Expose people or structures to potential substantial adverse effects, including the risk for loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

Surface Fault Rupture

Alternative 4 would not be expected to result in significant impacts related to surface fault rupture. The Alternative 4 study area is not delineated by the California Geological Survey as an APEFZ.[30] There are no recorded fault scarps in the proposed project / proposed action study area.[31] Alternative 4 would not involve construction of any type of building; therefore, there would be no exposure of buildings or to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, Alternative4 would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture.

Seismic Ground Shaking

Alternative 4 would not be expected to result in significant impacts from strong seismic ground shaking. The Alternative 4 study area is not delineated by the California Geological Survey as an APEFZ.[32] The Alternative 4 study area is not delineated by the California Geological Survey under the SHZP.[33] Alternative 4 does not include structures or the addition of a permanent or regular population on site. Therefore, Alternative 4 would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking.

Seismic-Related Ground Failure/Liquefaction

Alternative 4 would not be expected to result in significant impacts from seismic related ground failure, including liquefaction. Although the depth of groundwater in the Alternative 4 study area is estimated to range from more than 70 feet to less than 10 feet, the Alternative 4 study area is not delineated by the California Geological Survey under the SHZP.[34] Alternative 4 does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Since habitable structures would not be built as part of Alternative 4, people or structures would not be exposed to adverse effects involving seismic-related ground failure, including liquefaction.

[30] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[31] Slemmons, D.B., Vittori, E., Jayko, A.S., Carver, G.A., Bacon, S.N. 2008. *Quaternary Fault and Lineament Map of Owens Valley, Inyo County, Eastern California*. Geological Society of America. Boulder, Colorado.

[32] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[33] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[34] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

Landslides

Alternative 4 would not result in significant impacts from seismically induced landslides. Alternative 4 would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project / proposed action, potentially resulting in on- or off-site landslides or lateral spreading. The Alternative 4 site is located well away from the Sierra Nevada and Inyo Mountain fronts which have slopes steep enough to initiate a landslide during seismic events. Additionally, since habitable structures would not be built as part of Alternative 4, people would not be exposed to adverse effects involving landslides. Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP.[35] Therefore, Alternative 4 would not result in an impact from landslides.

(2) Result in substantial soil erosion (greater than 10 percent) or the loss of topsoil

Soil Erosion

Within the Alternative 4 study area, erosion is an ongoing process. Alternative 4 would not be expected to result in significant impacts related to a substantial increase in soil erosion or loss of topsoil beyond that which occurs in the existing condition. As evidenced by stable dune systems at other locations around the edge of Owens Lake, Alternative 4 would be expected to result in a net increase in vegetative cover and stabilization of the dunes, as well as a net decrease in the susceptibility to erosion as a result of the enhanced vegetative cover. The objective of Alternative 4 is to stabilize the dunes in order to reduce the levels of windblown dust and prevent erosion, which are causing and contributing to exceedances of federal and state standards for PM_{10} air pollution. Construction activity associated with Alternative 4 would result from site preparation activities including preparation of the staging areas and temporary access routes (disturbance of approximately 33.5 acres), placing the straw bales, planting the native vegetation, and watering activities. This impact is considered short-term in nature since the potential for significant impact would end after construction is finished due to the placement of straw bales and vegetation. Alternative 4 would comply with all provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the California State Water Resources Control Board Order No. 99-08—DWQ, NPDES General Permit No. CAS000002 (General Construction Permit) prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*.[36] Therefore, Alternative 2 would not result in significant impacts from soil erosion.

(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

(4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

[35] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[36] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

(5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

Stability of Geology and Soils / Expansive Soils

As previously described in this section for the proposed project / proposed action, the majority of soils in the Alternative 4 study area are primarily gravelly alluvium and fine to medium-grained loamy sands. These types of soils do not exhibit shrink-swell patterns and are not considered expansive soils.

Alternative 4 would not result in significant impacts related to the location of the proposed project / proposed action on a geologic unit that is unstable or that would become unstable. Alternative 4 does not include the addition of habitable structures which would be impacted by unstable geology. Alternative 4 would not result in significant impacts from an unstable geology unit. Alternative 4 does not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.5.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the proposed project / proposed action via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test Well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area. Plants within the 85 percent control area would be watered by hand using the same method as described above. The ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action.

A. Direct and Indirect Impacts

Direct and indirect impacts to geological resources resulting from Alternative 5 are minimal. Direct impacts to soil are nearly identical to the proposed project / proposed action and include ground disturbance resulting from the planting and establishment of native vegetation, installation of temporary wind breaks, construction of temporary access routes, and a temporary irrigation system. Indirect impacts to geology and soils include increased vehicle and foot traffic on soils. However, the incorporation of an irrigation system would require 80 percent less ATV traffic, and thus would result in less temporary disturbance of the dunes during the operations and maintenance phase of Alternative 5 than that anticipated for the proposed project / proposed action.

B. CEQA Significance Determinations

(1) Expose people or structures to potential substantial adverse effects, including the risk for loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

Surface Fault Rupture

Alternative 5 would not be expected to result in significant impacts related to surface fault rupture. The Alternative 5 study area is not delineated by the California Geological Survey as an APEFZ.[37] There are no recorded fault scarps in the proposed project / proposed action study area.[38] Alternative 5 would not involve construction of any type of building; therefore, there would be no exposure of buildings or to surface fault ruptures that would expose people or structures to potential substantial adverse effects. Therefore, Alternative3 would not be expected to result in significant impacts to geology and soils related to the risk of exposure to surface fault rupture.

Seismic Ground Shaking

Alternative 5 would not be expected to result in significant impacts from strong seismic ground shaking. The Alternative 5 study area is not delineated by the California Geological Survey as an APEFZ.[39] The Alternative 5 study area is not delineated by the California Geological Survey under the SHZP.[40] Alternative 5 does not include structures or the addition of a permanent or regular population on site. Therefore, Alternative 5 would not expose people or structures to potential substantial adverse effects related to strong seismic ground shaking.

Seismic-Related Ground Failure/Liquefaction

Alternative 5 would not be expected to result in significant impacts from seismic related ground failure, including liquefaction. Although the depth of groundwater in the Alternative 5 study area is estimated to range from more than 70 feet to less than 10 feet, the Alternative 5 study area is not delineated by the California Geological Survey under the SHZP.[41] Alternative 5 does not expose people or structures to potential substantial adverse effects involving strong seismic-related ground failure, including liquefaction. Since habitable structures would not be built as part of Alternative 5, people or structures would not be exposed to adverse effects involving seismic-related ground failure, including liquefaction.

[37] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[38] Slemmons, D.B., Vittori, E., Jayko, A.S., Carver, G.A., Bacon, S.N. 2008. *Quaternary Fault and Lineament Map of Owens Valley, Inyo County, Eastern California*. Geological Society of America. Boulder, Colorado.

[39] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Alquist-Priolo Earthquake Fault Zone Maps. Available at: http://www.quake.ca.gov/gmaps/ap/ap_maps.htm

[40] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[41] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

Landslides

Alternative 5 would not result in significant impacts from seismically induced landslides. Alternative 5 would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project / proposed action, potentially resulting in on- or off-site landslides or lateral spreading. The Alternative 5 site is located well away from the Sierra Nevada and Inyo Mountain fronts which have slopes steep enough to initiate a landslide during seismic events. Additionally, since habitable structures would not be built as part of Alternative 5, people would not be exposed to adverse effects involving landslides. Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP.[42] Therefore, Alternative 5 would not result in an impact from landslides.

(2) Result in substantial soil erosion (greater than 10 percent) or the loss of topsoil

Soil Erosion

Within the Alternative 5 study area, erosion is an ongoing process. Alternative 5 would not be expected to result in significant impacts related to a substantial increase in soil erosion or loss of topsoil beyond that which occurs in the existing condition. As evidenced by stable dune systems at other locations around the edge of Owens Lake, Alternative 5 would be expected to result in a net increase in vegetative cover and stabilization of the dunes, as well as a net decrease in the susceptibility to erosion as a result of the enhanced vegetative cover. The objective of Alternative 5 is to stabilize the dunes in order to reduce the levels of windblown dust and prevent erosion, which are causing and contributing to exceedances of federal and state standards for PM_{10} air pollution. Construction activity associated with Alternative 5 would result from site preparation activities including preparation of the staging areas and temporary access routes (disturbance of approximately 33.5 acres), placing the straw bales, planting the native vegetation, and watering activities. This impact is considered short-term in nature since the potential for significant impact would end after construction is finished due to the placement of straw bales and vegetation. Alternative 5 would be required to comply with the provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the California State Water Resources Control Board Order No. 99-08—DWQ, NPDES General Permit No. CAS000002 (General Construction Permit) prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*.[43] Therefore, Alternative 5 would not result in significant impacts from soil erosion.

(3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse

(4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

[42] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[43] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

(5) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water

Stability of Geology and Soils / Expansive Soils

As previously described in this section, the majority of soils in the Alternative 5 study area are primarily gravelly alluvium and fine to medium-grained loamy sands. These types of soils do not exhibit shrink-swell patterns and are not considered expansive soils.

Alternative 5 would not result in significant impacts related to the location of the proposed project / proposed action on a geologic unit that is unstable or that would become unstable. Alternative 5 does not include the addition of habitable structures which would be impacted by unstable geology. Alternative 5 would not result in significant impacts from an unstable geology unit. Alternative 5 does not include plans for septic tanks or alternative waste water disposal systems; therefore, there is no impact on the ability of soils to adequately support the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.5.3.7 Alternative 6, No Project / No Action Alternative

Alternative 6, No Project / No Action, assumes that the DMCs would not be implemented on the proposed project / proposed action site, and windblown dust and associated PM_{10} emissions would continue to pose a health hazard to the residents of the communities of Keeler and Swansea. Under Alternative 6, the NAAQS and California state standards for PM_{10} would continue to be exceeded in violation of the 2008 SIP. The sand dunes on the proposed project / proposed action site would continue to migrate to the south-southeast toward the community of Keeler, and natural resources within the dunes would continue to be affected by the shifting sands resulting from high wind events.

4.5.4 Mitigation Measures

The proposed project / proposed action would incorporate BMPs consistent with the guidelines in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual* that would reduce or eliminate impacts from water erosion. In addition, an NOI and SWPPP shall be prepared in accordance with the General Construction Permit prior to the start of soil-disturbing activities. The proposed project / proposed action does not include new construction or renovation. All activities and development on the proposed project / proposed action site would be subject to uniform site development and construction standards that are designed to protect public safety. Therefore, impacts related to geology and seismic hazards would be less than significant and no mitigation measures are required.

4.4.5 Residual Impacts after Mitigation

The proposed project / proposed action and alternatives do not involve the installation of buildings or structures; therefore there would be no exposure of people or structures to potential adverse risks from seismic ground shaking. The proposed project / proposed action is not located in an APEFZ and, therefore, would not be expected to be exposed to severe ground shaking. Although the depth of groundwater in the proposed project / proposed action study area is estimated to range from more than 70 feet to less than 10 feet, the proposed project / proposed action study area is not delineated by the

California Geological Survey under the SHZP.[44] Inyo County is not delineated as a seismic hazard zone, which includes areas prone to landslides by the CGS under the SHZP.[45] As specified in the proposed project / proposed action description, the proposed project / proposed action will comply with all provisions of the NPDES Program administered by the California RWQCB, Lahontan Region, as they relate to avoiding impacts from storm water runoff during construction, including preparation of a SWPPP, which shall be prepared in accordance with the General Construction Permit prior to the start of soil-disturbing activities. In addition, the construction contractor would be required to incorporate BMPs consistent with the guidelines provided in the *California Storm Water Quality Handbook: Construction Site Best Management Practices Manual*.[46] Therefore, the proposed project / proposed action would not result in significant impacts from soil erosion.

[44] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[45] California Department of Conservation, California Geological Survey. Accessed 24 September 2012. Seismic Hazard Zonation Program. Available at: http://www.conservation.ca.gov/cgs/shzp/Pages/index.aspx

[46] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

4.6 PALEONTOLOGICAL RESOURCES

This section examines the possible effects that could result from the proposed project / proposed action and alternatives. The analysis is based on the Paleontological Survey Report for the Keeler Dunes Project, Owens Lake, Inyo County, California[1] (hereafter Survey Report) and supplemental paleontological surveys provided in the Cultural Resources Technical Report, which is included as Appendix F of this document. The Survey Report summarizes existing paleontological resource data in the proposed project / proposed action study area and vicinity as identified through literature review and archival records and supplemented by observations recorded during a field survey of the proposed project / proposed action study area. Due to the confidential nature of the location of paleontological resources, this section does not include maps or location descriptions.

4.6.1 STUDY METHODS

4.6.1.1 LITERATURE REVIEW

As described in Section 3.6.2.4, the potential for paleontological resources within the proposed project / proposed action study area was assessed using data obtained from record searches at the NHMLAC[2] and the SBCM.[3] The NHMLAC and the SBCM conducted thorough searches of their respective paleontology collection records for the locality and specimen data for the proposed project / proposed action study area. A detailed geomorphic map of Keeler Dunes was also reviewed to identify the geologic units that underlay the proposed project / proposed action study area.[4]

4.6.1.2 SURVEY

A pedestrian paleontological survey was conducted by qualified paleontologists on July 23, 2013, and February 20, 2014.[5,6] The field survey focused on examining those portions of the APE that encompassed the staging areas and temporary access routes, as these locales were expected to be subject to some ground disturbance. The primary goal of the field work was to inspect the study area for surface fossils and exposures of potentially fossil-bearing geologic units and to determine areas in which fossil-bearing geologic units could be exposed during project-related ground disturbances.

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[1] SWCA Environmental Consultants. August 2013. *Paleontological Survey Report for the Keeler Dunes Project, Owens Lake, Inyo County, California*. Prepared for Sapphos Environmental, Inc. Pasadena, CA.

[2] McLeod, Samuel, Natural History Museum of Los Angeles County, Los Angeles, CA. 11 October 2011. Letter response to Clarus Backes, Sapphos Environmental, Inc., Pasadena, CA.

[3] Scott, Eric, San Bernardino County Museum, Redlands, CA. 28 February 2012. Letter response to Tiffany Clark, Sapphos Environmental, Inc., Pasadena, CA.

[4] Bacon and Lancaster, 2012. Geomorphic Mapping of the Keeler Dunefield and Surrounding Areas Final Report. Available at: http://www.gbuapcd.org/keelerdunes/originanddevelopment/finalstaffreport/Attachment%20D%20-%20Geomorphology/Bacon%20and%20Lancaster%202012_FINAL_REPORT_Geomorphic_Mapping_of_the_Keeler_Dunefield_and_Surrounding_Areas20121114.pdf

[5] SWCA Environmental Consultants. August 2013. *Paleontological Survey Report for the Keeler Dunes Project, Owens Lake, Inyo County, California*. Prepared for Sapphos Environmental, Inc. Pasadena, CA.

[6] Sapphos Environmental, Inc. February 2014. *Keeler Dunes Dust Control Project Cultural Resources Technical Report*. Prepared for the Bureau of Land Management, Bishop Field Office.

4.6.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or an alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction and maintenance. Direct paleontological resource impacts from the proposed project / proposed action or an alternative are related to disturbance or damage to paleontological resources during construction and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time (for example after the construction and maintenance phase) or further removed in distance (for example, several miles from the proposed project / proposed action site).

4.6.2.1 CEQA SIGNIFICANCE CRITERIA

For the purposes of this EIR/EA, a significant paleontological resources impact under CEQA would occur if implementation of the proposed project / proposed action would:

(1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Paleontologically sensitive sedimentary units are those units with a high potential for containing significant paleontological resources (i.e., rock units within which vertebrate fossils or significant invertebrate fossils have been determined by previous studies to be present or likely to be present). These units include, but are not limited to, sedimentary formations that contain significant paleontological resources anywhere within their geographical extent as well as sedimentary rock units temporally or lithologically suitable for the preservation of fossils.

Determinations of paleontological sensitivity must consider not only the potential for yielding abundant vertebrate fossils but also the potential for production of a few significant fossils, large or small, vertebrate or invertebrate, which may provide new and significant data on fossils types, species changes over time, or geologic strata. Areas that may contain datable organic remains older than the recent era and areas that may contain unique new vertebrate deposits, traces, and/or trackways must also be considered paleontologically sensitive.

Fossils can be considered to be of significant scientific interest if any of the following criteria apply:

- The fossils provide data on evolutionary relationships and developmental trends among organisms, both living and extinct.
- The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
- The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.
- The fossils demonstrate unusual or spectacular circumstances in the history of life.
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation and are not found in other geographic locations.

4.6.2.2 NEPA REQUIREMENTS

The CEQA Criteria identified above also serve to fulfill the NEPA Requirement of a basis for analysis to evaluate potential impacts to paleontological resources associated with the proposed project / proposed action and alternatives.

4.6.3 ENVIRONMENTAL CONSEQUENCES

4.6.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

The proposed project / proposed action will entail the establishment and management of native vegetation and the use of straw bales as temporary windbreaks positioned within an area of approximately 194 acres in order to control PM_{10} dust emissions. Other project elements consist of infrastructure elements including a temporary access routes, temporary staging area for equipment and materials storage, and an effectiveness monitoring program (existing air monitoring sites). Water delivery to the site would be accomplished by water trucks transporting water from the District's Fault Test Well to the staging areas. Water would be loaded into small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small-diameter hoses. Further details of the proposed project / proposed action are described in Section 2.1, *Proposed Project / Proposed Action*.

A. Direct and Indirect Impacts

Direct and indirect impacts to paleontological resources resulting from the proposed project / proposed action would be expected to be minimal. Straw bales placement and the planting and establishment of native vegetation will be conducted with minimal ground disturbance from vehicle and foot traffic in the immediate area and would be implemented on modern active sand deposits that have a minimum potential for containing paleontological resources. These disturbances are expected to disturb the ground surface and uppermost layers of soil only. Direct impacts from the preparation of four staging areas may result from minimal disturbance of the ground surface for each staging area. Indirect impacts from staging area preparation may result from increased vehicle and foot traffic.

B. CEQA Significance Determinations

Would the proposed project:

(1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The proposed project / proposed action would not be expected to result in significant impacts related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. The proposed project / proposed action area is located within an area of surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of Quaternary alluvium. Given that the geologic units within the proposed

project / proposed action area exhibit a Class 2 – Low sensitivity, the placement of straw bales and the use of temporary access routes as well as shallow excavations associated with the planting of vegetation would have little potential of encountering fossil remains.

A small portion of the proposed project / proposed action area, which includes Staging Areas 1 and 2 and the central and southern access routes, is situated within Class 2 – Low sensitivity surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of quaternary alluvium that overlay Class 4 – High sensitivity lacustrine sediments. However, due to shifting nature of the dune sands, some portions of the proposed project / proposed action may have Class 4 – High sensitivity lacustrine sediments at shallow depths, less than one foot. The proposed project / proposed action is not anticipated to result in significant impacts to these geological deposits.

4.6.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small-diameter hose.

A. Direct and Indirect Impacts

Construction and operation of Alternative 1 would be much the same as the proposed project / proposed action but would require the placement of a greater number of plants and straw bales distributed over a larger area. The paleontological resources potentially affected by Alternative 1 are the same as those that would be potentially affected by the proposed project / proposed action (see Section 4.6.3.1).

B. CEQA Significance Determinations

Would Alternative 1:

(1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Alternative 1 would not be expected to result in significant impacts related directly or indirectly to the destruction of a unique paleontological resource. Like the proposed project / proposed action, the majority of Alternative 1 is located within Class 2 – Low sensitivity surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of quaternary alluvium that overlay Class 4 – High sensitivity lacustrine sediments. However, construction activities within this area and associated with Alternative 1 would be expected to be minimal, with ground disturbance limited to brushing and grubbing of vegetation. Therefore, the

implementation of Alternative 1 would not be anticipated to result in significant impacts to these geological deposits and associated paleontological resources.

4.6.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3). This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

Construction and operation of Alternative 2 would be much the same as the proposed project / proposed action but would require the placement of a greater number of plants and straw bales distributed over a larger area. The paleontological resources potentially affected by Alternative 2 are the same as those that would be potentially affected by the proposed project / proposed action (see Section 4.6.3.1).

B. CEQA Significance Determinations

Would Alternative 2:

(1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Alternative 2 would not be expected to result in significant impacts related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. Like the proposed project / proposed action, the majority of Alternative 2 is located within Class 2 – Low sensitivity surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of quaternary alluvium that overlay Class 4 – High sensitivity lacustrine sediments. However construction activities within this area and associated with Alternative 2 are expected to be minimal, with ground disturbance limited to clearing and grubbing of vegetation. Therefore, the implementation of Alternative 2 would not be anticipated to result in significant impacts to these geological deposits and associated paleontological resources.

4.6.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the proposed project / proposed action via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the proposed project / proposed action area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as the proposed project / proposed action. In the environmentally sensitive areas, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from trucks at the staging areas.

A. Direct and Indirect Impacts

Construction and operation of Alternative 3 would be much the same as the proposed project / proposed action but would require the installation of an irrigation system (with the exception of environmentally sensitive areas) to limit travel in the dunes for watering plants within the first 3 years. The use of the temporary irrigation system to deliver supplemental irrigation water would reduce ATV trips by approximately 80 percent during the operation and maintenance phase of Alternative 3. The paleontological resources potentially affected by Alternative 3 are the same as those that would be potentially affected by the proposed project / proposed action.

B. CEQA Significance Determinations

Would Alternative 3:

(1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Alternative 3 would not be expected to result in significant impacts related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. Like the proposed project / proposed action, the majority of Alternative 3 is located within Class 2 – Low sensitivity surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of quaternary alluvium that overlay Class 4 – High sensitivity lacustrine sediments. However, construction activities within this area and associated with Alternative 3 would be expected to be minimal, with ground disturbance limited to clearing and brushing of vegetation. Therefore, the implementation of Alternative 3 would not be expected to result in significant impacts to these geological deposits and associated paleontological resources.

4.6.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.5). In Alternative 4, water obtained from the Fault Test Well would be transported to the proposed project / proposed action via water trucks, and the water delivery system would be fed from three supply points along SR 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly into the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in the sensitive 85 percent control area using hoses to deliver water from tanks mounted on ATVs, staged in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from tanks at the staging areas.

A. Direct and Indirect Impacts

Construction and operation of Alternative 4 would be much the same as the proposed project / proposed action but would include a combination of hand watering and installation of a temporary irrigation system to limit travel in the dunes for watering plants within the first 3 years following revegetation. The use of the temporary irrigation system to deliver supplemental irrigation water would reduce ATV trips by approximately 80 percent during the operation and maintenance phase of Alternative 4. The paleontological resources potentially affected by Alternative 4 are the same as those that would be potentially affected by the proposed project / proposed action.

B. CEQA Significance Determinations

Would Alternative 4:

(1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Alternative 4 would not be expected to result in significant impacts related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. Like the proposed project / proposed action, the majority of Alternative 4 is located within Class 2 – Low sensitivity surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of quaternary alluvium that overlay Class 4 – High sensitivity lacustrine sediments. However, construction activities within this area and associated with Alternative 4 are expected to be minimal, with ground disturbance limited to clearing and grubbing of vegetation. Therefore, the implementation of Alternative 4 would not be anticipated to result in significant impacts to these geological deposits and associated paleontological resources.

4.6.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the proposed project / proposed action via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test Well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area. Plants within the 85 percent control area would be watered by hand using the same method as described above. The ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action.

A. Direct and Indirect Impacts

Construction and operation of Alternative 5 would be much the same as the proposed project / proposed action but would include a combination of hand watering and installation of a temporary irrigation system via a pipeline connection from the KCSD well for the first 3 years. The paleontological resources potentially affected by Alternative 5 are the same as those that would be potentially affected by the proposed project / proposed action.

B. CEQA Significance Determinations

Would Alternative 5:

(1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Alternative 5 would not be expected to result in significant impacts related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. Like the proposed project / proposed action, the majority of Alternative 5 is located within Class 2 – Low sensitivity surficial aeolian sediments consisting of active sand sheets and sand dunes interspersed with smaller surficial deposits of quaternary alluvium that overlay Class 4 – High sensitivity lacustrine sediments. However, construction activities within this area and associated with Alternative 5 are expected to be minimal, with ground disturbance limited to clearing and grubbing of vegetation. Therefore, the implementation of Alternative 5 would not be anticipated to result in significant impacts to these geological deposits associated paleontological resources.

4.6.2.7 Alternative 6, No Project / No Action Alternative

Alternative 6, No Project / No Action, assumes that the DMCs would not be implemented on the proposed project / proposed action site, and windblown dust and associated PM_{10} emissions would continue to pose a health hazard to the residents of the communities of Keeler and Swansea. Under Alternative 6, the NAAQS and California state standards for PM_{10} would continue to be exceeded in violation of the 2008 SIP. The sand dunes on the proposed project / proposed action site would continue to migrate to the south-southeast toward the community of Keeler, and natural resources

within the dunes would continue to be affected by the shifting sands resulting from high wind events.

A. Direct and Indirect Impacts

Under Alternative 6, there would be no installation or maintenance activities; therefore, there would be no potential for direct or indirect impacts to paleontological resources.

B. CEQA Significance Determinations

Under Alternative 6, there would be no effect to paleontological resources.

4.6.4 MITIGATION MEASURES

Implementation of the proposed project / proposed action or alternatives would not be expected to result in significant impacts to paleontological resources; therefore, mitigation measures would not be required.

4.6.5 RESIDUAL IMPACTS AFTER MITIGATION

There would be no anticipated significant impacts to paleontological resources under the proposed project / proposed action or alternatives.

4.7 GREENHOUSE GAS EMISSIONS AND GLOBAL CLIMATE CHANGE

Potential greenhouse gas (GHG) emission impacts of the proposed Keeler Dunes Dust Control Project (proposed project / proposed action) have been carried forward for detailed analysis in this Environmental Impact Report (EIR). This analysis was undertaken to identify opportunities to avoid, reduce, or otherwise mitigate potential significant impacts to GHG emissions and identify potential alternatives. Information contained in this section is summarized from the Air Quality and Greenhouse Gases Technical Report (Appendix C, *Air Quality and Greenhouse Gas Emissions Technical Report*).

4.7.1 STUDY METHODS

To quantify the amount of GHG emissions contributed by construction and operation of the proposed project / proposed action, the CalEEMod emissions model and the California Climate Action Registry's General Reporting Protocol were used. The proposed project / proposed action would be expected to have the potential to result in significant impacts related to global climate change if the proposed project / proposed action conflicts with the goal of reducing California's GHG emissions to the 1990 levels (427 million metric tons CO_{2e}, which is equivalent to approximately 10 tons CO_{2e} per capita) by 2020 as required by AB 32. Based on the suggested thresholds proposed by the CAPCOA[1], the proposed project / proposed action would be expected to have the potential to result in significant impacts related to global climate change if the proposed project / proposed action emits more than 25,000 metric tons of CO_{2e} per year.

In order to establish a reference point for future GHG emissions, CO_{2e} emissions have been projected based on an unregulated, business as usual, GHG emissions scenario that does not consider the reductions in GHG emissions required by Executive Order S-3-05 or AB 32. CARB has stated that California contributed 427 million metric tons of GHG emissions in CO_{2e} in 1990 and under a business as usual development scenario, will contribute approximately 596 million metric tons of CO_{2e} emissions in 2020, which presents a linear upward trend in California's total GHG emissions. To characterize the business as usual GHG emissions specifically for Inyo County, information on population has been collected from the California Department of Finance. It has been projected that the population of Inyo County will increase by approximately 24 percent from 2010 to 2050.[2] Using the current CO_{2e} emissions factor of 14 metric tons *per capita*,[3] Inyo County would be responsible for the emission of approximately 0.26 million metric ton of CO_{2e} in 2010 and 0.32 million metric tons of CO_{2e} in 2050 under a business as usual emissions scenario (Table 4.7.1-1, *Characterization of Business As Usual GHG Emissions for Inyo County*).

[1] California Air Pollution Control Officers Association. January 2008. CEQA and Climate Change *and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Sacramento, CA. Voluntary Reporting of Greenhouse Gases, U.S. Department of Energy, Energy Information Administration (16 pp, 111K, About PDF)

[2] California Department of Finance. January 2013. *State and County Population Projections by County, by Race/Ethnicity, and by Major Age Groups, 2010-2060 (by decade)*. Available at: http://www.dof.ca.gov/research/demographic/reports/projections/view.php

[3] California Air Resources Board. 15 October 2008. *Climate Change Proposed Scoping Plan: A Framework for Change*. Available at: http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm

TABLE 4.7.1-1
CHARACTERIZATION OF BUSINESS AS USUAL GHG EMISSIONS FOR INYO COUNTY

	Year						
	1990	**2000**	**2010**	**2020**	**2030**	**2040**	**2050**
Population	18,281	17,945	18,528	19,350	20,428	22,009	23,053
CARB emission factor (metric tons of CO_{2e} *per capita*)	14	14	14	14	14	14	14
Annual GHG emissions for Inyo County (million metric tons of CO_{2e})	0.26	0.25	0.26	0.27	0.29	0.31	0.32

Sources:
California Department of Finance. January 2013. *State and County Population Projections by County, by Race/Ethnicity, and by Major Age Groups, 2010-2060 (by decade)*. Available at: http://www.dof.ca.gov/research/demographic/reports/projections/view.php

California Department of Finance. August 2011. *Historic Census Populations of Counties and Incorporated Cities in California 1850-2010*. Available at: http://www.dof.ca.gov/research/demographic/state_census_data_center/historical_census_1850-2010/view.php

A. CalEEMod Model

The California Emissions Estimator Model (CalEEMod 2013.2.2) was used to estimate construction emissions from preparation of the staging areas and temporary access routes, delivery and placement of straw bales, delivery and placement of native plants, and the periodic watering of plants. CalEEMod is a computer program that can be used to estimate emissions associated with land development projects in California such as residential neighborhoods, shopping centers, and office buildings; area sources such as gas appliances, wood stoves, fireplaces, and landscape maintenance equipment; and construction projects. The CalEEMod, version 2013.2.2, emissions model directly calculates criteria pollutant emissions, as well as GHG (CH_4 and N_2O and CO_2) emissions. The proposed project / proposed action property lacks an industrial component that would be considered a Pb emission source, so the concentrations and emissions of Pb were not analyzed for the proposed project / proposed action. The analysis of construction impacts to GHG emissions is based on the construction scenario for the proposed project / proposed action.

B. Short-term Greenhouse Gas Emissions Inputs

The proposed project / proposed action would include the placement of approximately 124,000 straw bales and 370,000 native plants on the approximately 194-acre proposed project / proposed action property. Seven factors were taken in to consideration, in emission modeling undertaken with the CalEEMod, version 2013.2.2l:

1. Total construction would take a maximum of 11 months.

2. The construction activities undertaken would be as follows:

Month 1:	Site preparation
Months 1–7:	Distribute straw bales on sand dunes
Months 2–11:	Planting and watering
Month 11:	Clean up and restoration

3. All disturbance during the site preparation phase would be temporary.

4. Following construction, supplemental monitoring and watering would occur from 2015–2018. This would include watering, as needed, in late winter / early spring and late summer / early fall.

5. The climate zone was set to 12 and the wind speed was set to 3.8 meters per second.

6. 95 percent of worker trips were assumed to occur on unpaved roads.

7. Default parameters, such as the horsepower and the load factor, were used for all construction equipment anticipated to be used for the proposed project / proposed action.

C. Long-Term Greenhouse Gas Emissions and Potential Savings

Annual GHG emissions and the potential reduction in PM_{10} associated with operation of the proposed project / proposed action were quantified using CalEEMod, version 2013.2.2. Consistent with the results of the pilot study, plant establishment was assumed to be 66 percent successful, the proposed project / proposed action would generate a net CO_2 benefit and reduce PM_{10} emissions by as much as 95 percent. The potential GHG emissions from construction and maintenance of the proposed project / proposed action were calculated by using the CalEEMod model (Appendix B of the Air Quality and Greenhouse Gas Emissions Technical Report).

4.7.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or an Alternative. Direct natural resource impacts from the proposed project / proposed action or an alternative are related to GHG emissions (e.g. pollutant generated during operation of construction equipment and vehicle trips) generated during construction and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time (for example after construction and maintenance) or further removed in distance (for example, several miles from the project site).

4.7.2.1 CEQA SIGNIFICANCE CRITERIA

State CEQA Guidelines recommend the consideration of two questions when addressing the potential for significant impacts to GHG emissions.

Would the proposed project have any of the following effects:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; and/or

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs

Great Basin Unified Air Pollution Control District Quality Impact Assessment Screening Thresholds

The OVPA is currently classified non-attainment for PM_{10} and classified attainment for O_3, CO, Pb, NO_x, $PM_{2.5}$, and SO_2. The District is required to comply with the emission thresholds for all federally regulated air pollutants. The proposed project / proposed action would have a potentially significant impact if it does the following:

- The proposed project / proposed action is not consistent with adopted federal or state Air Quality Attainment Plans
- The proposed project / proposed action emits annual rates that equal or exceed 25,000 metric tons of CO_2 equivalence as a result of operations (U.S. EPA Mandatory Reporting of GHG Rule).

The California Air Pollution Controls Officers Association (CAPCOA) has discussed several approaches to consider the potential cumulative significance of projects with respect to GHGs.[4] A zero-threshold approach can be considered based on the concept that climate change is a global phenomenon and all GHG emissions generated throughout the Earth contribute to climate change. However, State CEQA Guidelines also recognize that there may be a point at which a project's contribution, although above zero, to the cumulative impact would not be considerable (State CEQA Guidelines, Section 15130 [a]). Therefore, a threshold of greater than zero is considered more appropriate for the analysis of GHG emissions under CEQA. The CAPCOA's summary of suggested thresholds for GHG emissions includes efficiency-based thresholds, quantitative emission limits, and limits on the size of projects (Table 4.7.2.1-1, *CAPCOA-Suggested Thresholds for Greenhouse Gases*).

For the purposes of the analysis presented in this document, the suggested reporting threshold of 25,000 metric tons CO_{2e} per year will be used as a quantitative threshold to assist with determining significance. The reporting threshold was selected because it corresponds to the threshold set by the U.S. EPA for the Mandatory Reporting of GHG Rule.

[4] California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.* Sacramento, CA.

TABLE 4.7.2.1-1
CAPCOA-SUGGESTED THRESHOLDS FOR GREENHOUSE GASES

Description	Suggested Threshold
Quantitative (900 tons)	Approximately 900 metric tons CO_{2e}/year for residential, office, and non-office commercial projects
Quantitative CARB reporting threshold / cap and trade	Report: 25,000 metric tons CO_{2e}/year Cap and trade: 10,000 metric tons CO_{2e}/year
Quantitative regulated inventory capture	Approximately 40,000 to 50,000 metric tons CO_{2e}/year
Unit-based threshold based on market capture	Commercial space > 50,000 square feet
Projects of statewide, regional, or area wide significance	Residential development > 500 units Shopping center/business establishment > 500,000 square feet Commercial office space > 250,000 square feet Industrial park > 600,000 square feet

Source:
California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Sacramento, CA.

4.7.2.2 NEPA REQUIREMENTS

The Council on Environmental Quality (CEQ) *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*[5] proposed that if a proposed project / proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO_{2e} GHG emission on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. While the guidance is in draft form, this indicator of 25,000 metric tons or more of CO_{2e} GHG emissions on an annual basis can still serve as a useful benchmark against which to compare a proposed action's expected GHG emissions. Each alternative is evaluated against this number in the NEPA analysis.

4.7.2.3 ISSUES SCOPED OUT AS PART OF INITIAL STUDY

Potential GHG emission impacts that could occur from the implementation of the proposed project / proposed action generally fall into four major categories:

1. Construction impacts: construction impacts associated with the proposed project / proposed action will be limited to temporary impacts from airborne dust emitted by ATVs during the placement of straw bales on the site, planting native vegetation, and preparation of staging areas.

2. Operational Impacts: operational impacts associated with the proposed project / proposed action will be limited to airborne dust emitted by ATVs during maintenance activities.

3. Operational Local Impacts: increases in pollutant concentrations, primarily CO, would be limited due to the fact that the proposed project / proposed action would not result

[5] Council on Environmental Quality, *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*. Memorandum for Heads of Federal Departments and Agencies. 18 February 2010. Available at: http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf

in significant traffic increases in the immediate vicinity of a project, as well as any toxic and odor emissions generated on-site.

4. Cumulative Impacts: GHG changes that result from the incremental impact of the proposed project / proposed action when added to other projects in the vicinity.

4.7.3 ENVIRONMENTAL CONSEQUENCES

4.7.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

A. Direct and Indirect Impacts

The proposed project / proposed action is a program to control dust emissions in the Keeler Dunes through the use of native plants and temporary windbreaks (straw bales). The key components of the proposed project / proposed action include placement of straw bales on the site, planting of native vegetation, preparation of staging areas, access routes, water supply, conveyance and distribution and an effectiveness monitoring program as part of the operations phase of the project. Further details of the proposed project / proposed action are described in Section 2.2.1, *Proposed Action and Alternatives*.

Qualitative Analysis

The proposed project / proposed action's incremental impact to GHG emissions would be potentially significant if the size, nature, or duration of the construction phase would emit a substantial amount of GHGs. The construction phase of the proposed project / proposed action would take approximately 11 months to complete and would potentially include the 194-acre proposed project / proposed action property. However, there are inter-dune areas within the project project/ proposed act area that will not need to be controlled. During delivery of straw bales and planting, heavy-duty equipment would be operated, which, together with the size of the area under construction, would be expected to produce significant, but temporary, GHG emissions. Therefore, the GHG emissions due to the proposed project / proposed action's straw bale delivery and planting phases warrant a quantitative analysis.

During the operational phase, the proposed project / proposed action's GHG emissions would be expected to be below the level of significance. As described in the project description (see Section 2.0), the proposed project / proposed action is primarily the placement of straw bales and the planting of vegetation. Therefore, although the use of maintenance equipment for the proposed project / proposed action would be expected to emit GHGs, the operational phase would be expected to result in a net decrease in regional GHG emissions due to the establishment of native vegetation as well as a reduction of PM_{10} emissions. Operation of the proposed project / proposed action would not be expected to have a significant detrimental impact upon GHG emissions and would reduce GHG emissions in compliance with the goals of AB 32 by providing an additional sink for CO_{2e}, which would reduce GHG emissions compared to a business as usual scenario.

Quantitative Analysis

Based on emissions modeling, construction activities would result in the emission of a maximum of approximately 3,668.47 metric tons of CO_{2e} per year (Table 4.7.3.1-1, *CO_2 and CO_{2e} Emissions*). Operation of the proposed project / proposed action would result in the emission of approximately 2,696.38 metric tons of CO_{2e} per year. The operational GHG emissions can be attributed to mobile sources, particularly the use of water trucks during the maintenance phase of the proposed project / proposed action. However, it is anticipated that impacts to GHG emissions associated with operation of the proposed project / proposed action would be greatly reduced due to sequestration of approximately 836.14 metric tons of CO_{2e} per year by the native plants (Appendix C). Therefore, the overall operation of the proposed project / proposed action would be expected to have a less than significant impact on GHG emissions; would not trigger the reference point of 25,000 metric tons of direct CO_{2e} that would warrant detailed consideration in the NEPA review set forth in the draft Guidance by CEQ; would not exceed the CAPCOA reporting threshold of 25,000 metric tons per year and would reduce GHG emissions in compliance with AB 32. Therefore, it is expected that the overall GHG emissions resulting from construction and operation of the proposed project / proposed action would be consistent with CEQ's guidance and would be below the level of significance.

TABLE 4.7.3.1-1
CO_2 AND CO_{2E} EMISSIONS

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	**Metric Tons/Year**
Maximum Construction Emissions	**3,645.93**	**3,668.47**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	3.18	3.19
Water Trucks	818.58	823.71
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**2,679.59**	**2,696.38**

Note: * Construction-related emissions are anticipated to last for up to 11 months.
** Operation-related emissions are anticipated to last for up to 3 years.

B. CEQA Significance Determinations

Would the proposed project:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project would not result in a significant impact on the environment through the generation of GHG emissions. With the exception of minor emissions associated with construction activities, the proposed project would reduce GHG emissions through sequestration of GHG by the native plants.

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As mentioned above, the proposed project would reduce GHG emissions in compliance with the goals of AB 32.

4.7.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

A. Direct and Indirect Impacts

The GHG emission impact would be the similar to the proposed project / proposed action (Table 4.7.3.2-1, *CO_2 and CO_{2e} Emissions for Alternative 1*), as a result of the comparable construction scenario, access routes, staging areas, and other design features. The ten percent increase in area treated with dust control measures does not substantially increase emissions of CO_2 or CO_{2e}.

TABLE 4.7.3.2-1
CO_2 AND CO_{2E} EMISSIONS FOR ALTERNATIVE 1

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	**Metric Tons/Year**
Maximum Construction Emissions	**3,645.93**	**3,668.47**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	3.18	3.19
Water Trucks	818.58	823.71
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**2,679.59**	**2,696.38**

NOTE: * Construction-related emissions are anticipated to last for up to 11 months.
** Operation-related emissions are anticipated to last for up to 3 years.

B. CEQA Significance Determinations

Would Alternative 1:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Alternative 1 would not result in a significant impact on the environment through the generation of GHG emissions. With the exception of minor emissions associated with construction activities, Alternative 1 would provide a reduction of GHG emissions through the sequestration of GHG by the native plants.

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Alternative 1 would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As mentioned above, Alternative 1 would reduce GHG emissions in compliance with the goals of AB 32.

4.7.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3) This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

Therefore, the GHG emission impacts would be similar to the proposed project / proposed action (Table 4.7.3.3-1, *CO_2 and CO_{2e} Emissions for Alternative 2*).

TABLE 4.7.3.3-1
CO_2 AND CO_{2E} EMISSIONS FOR ALTERNATIVE 2

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	Metric Tons/Year
Maximum Construction Emissions	**3,645.93**	**3,668.47**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	3.18	3.19
Water Trucks	818.58	823.71
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**2,679.59**	**2,696.38**

NOTE: * Construction-related emissions are anticipated to last for up to 11 months.
** Operation-related emissions are anticipated to last for up to 3 years.

B. CEQA Significance Determinations

Would Alternative 2:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Alternative 2 would not result in a significant impact on the environment through the generation of GHG emissions. With the exception of minor emissions associated with construction activities, Alternative 2 would provide reduction in GHG emissions through sequestration of GHG by the native plants.

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Alternative 2 would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As mentioned above, Alternative 2 would reduce GHG emissions in compliance with the goals of AB 32.

4.7.3.4 ALTERNATIVE 3, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / TANKS / PVC IRRIGATION SYSTEM AND SELECTED MANUAL WATERING

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the project via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the project area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of the project, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to

provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project / proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from trucks at the staging areas.

A. Direct and Indirect Impacts

Due to the addition of an irrigation system, the GHG emissions analysis for Alternative 3 includes an additional construction phase for the construction of the irrigation system. With the exception of the irrigation system, the construction scenario, access routes, staging areas and other design features would be largely the same as the proposed project / proposed action. Therefore, the GHG emission impact would be the similar to the proposed project / proposed action (Table 4.7.3.4-1, *CO_2 and CO_{2e} Emissions for Alternative 3*).

TABLE 4.7.3.4-1
CO_2 AND CO_{2E} EMISSIONS FOR ALTERNATIVE 3

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	**Metric Tons/Year**
Maximum Construction Emissions	**3,892.05**	**3,916.12**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	0.42	0.42
Water Trucks	818.58	823.71
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**2,676.83**	**2,693.61**

NOTE: * Construction-related emissions are anticipated to last for up to 11 months.
** Operation-related emissions are anticipated to last for up to 3 years.

B. CEQA Significance Determinations

Would Alternative 3:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Alternative 3 would not result in a significant impact on the environment through the generation of GHG emissions. With the exception of minor emissions associated with construction activities, Alternative 3 would provide a reduction of GHG emissions through the sequestration of GHG by the native plants.

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Alternative 3 would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As mentioned above, Alternative 3 would reduce GHG emissions in compliance with the goals of AB 32.

4.7.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.25). In Alternative 4, water obtained from the Fault Test Well would be transported to the project via water trucks and the water delivery system would be fed from three supply points along State Route 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs, stage in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas.

A. Direct and Indirect Impacts

Due to the addition of an irrigation system in Alternative 4, the GHG emissions analysis for Alternative 4 includes an additional construction phase for the construction of the irrigation system. With the exception of the irrigation system, the construction scenario, access routes, staging areas and other design features would be largely the same as the proposed project / proposed action. Therefore, the GHG emission impact would be the similar to the proposed project / proposed action (Table 4.7.3.5-1, *CO_2 and CO_{2e} Emissions for Alternative 4)*.

Table 4.7.3.5-1
CO_2 and CO_{2E} Emissions for Alternative 4

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	**Metric Tons/Year**
Maximum Construction Emissions	**3,892.05**	**3,916.12**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	0.42	0.42
Water Trucks	818.58	823.71
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**2,676.83**	**2,693.61**

NOTE: * Construction-related emissions are anticipated to last for up to 11 months.
** Operation-related emissions are anticipated to last for up to 3 years.

B. CEQA Significance Determinations

Would Alternative 4:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Alternative 4 would not result in a significant impact on the environment through the generation of GHG emissions. With the exception of minor emissions associated with construction activities, Alternative 4 would provide a reduction of GHG emissions through the sequestration of GHG by the native plants.

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Alternative 4 would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As mentioned above, Alternative 4 would reduce GHG emissions in compliance with the goals of AB 32.

4.7.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project.

A. Direct and Indirect Impacts

Due to the addition of an irrigation system, the GHG emissions analysis for Alternative 5 includes an additional construction phase for the construction of the irrigation system. Furthermore, since Alternative 5 involves a direct water line from the KCSD system, no water trucks are required for operations. Therefore, GHG emissions associated with water trucks were not included for the analysis of Alternative 5. As a result of the direct water line from the KCSD system, the GHG emission impact is anticipated to be significantly less than the proposed project / proposed action (Table 4.7.3.6-1, *CO_2 and CO_{2e} Emissions for Alternative 5)*.

TABLE 4.7.3.6-1
CO_2 AND CO_{2E} EMISSIONS FOR ALTERNATIVE 5

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	Metric Tons/Year
Maximum Construction Emissions	**3,892.05**	**3,916.12**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	3.18	3.19
Water Trucks	0	0
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**1,861.01**	**1,872.67**

NOTE: * Construction-related emissions are anticipated to last for up to 11 months.
** Operation-related emissions are anticipated to last for up to 3 years.

B. CEQA Significance Determinations

Would Alternative 5:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Alternative 5 would not result in a significant impact on the environment through the generation of GHG emissions. With the exception of minor emissions associated with construction activities, the Alternative 5 would provide a reduction of GHG emissions through the sequestration of GHG by the native plants.

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Alternative 5 would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. As mentioned above, Alternative 5 would reduce GHG emissions in compliance with the goals of AB 32.

4.7.3.7 ALTERNATIVE 6, NO PROJECT / NO ACTION ALTERNATIVE

No Project / No Action Alternative, assumes that the dust control measures would not be implemented on the proposed project / proposed action site and windblown dust and associated PM_{10} emissions would continue to pose a health hazard to the communities of Keeler and Swansea. Under Alternative 6 it is likely that during high wind events, the NAAQS and California state standards for PM_{10} would continue to be exceeded in violation of the 2008 SIP. The sand dunes on the proposed project / proposed action site would continue to migrate to the south-southeast toward the community of Keeler and natural resources within the dunes would continue to be affected by the shifting sands resulting from high wind events.

A. CEQA Significance Determinations

Would Alternative 6:

(1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Alternative 6 would not result in a significant impact on the environment through the generation of GHG emissions. Because the proposed project is designed to control the active dust source within the Keeler Dunes, Alternative 5 would result in the continuation of PM_{10} emissions from the Keeler Dunes. Unlike the previous alternatives, no native plants would be established in Alternative 6 and, therefore, no sequestration of GHG would occur.

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Alternative 6 would result in the continuation of PM_{10} emissions from the Keeler Dunes, and thus be inconsistent with the goals set forth by AB 32 for reducing GHG emissions.

4.7.4 MITIGATION MEASURES

Operation of the proposed project / proposed action would not be expected to have any adverse impacts upon GHG emissions, and would reduce GHG emissions in compliance with the goals of AB 32. Therefore, no mitigation measures are required.

4.7.5 RESIDUAL IMPACTS AFTER MITIGATION

There would be no anticipated significant impacts GHG emissions.

4.8 HYDROLOGY AND WATER QUALITY

This section assesses the possible effects to hydrology and water quality that could result from the proposed project / proposed action and alternatives. The hydrology and water quality environmental setting is presented in Section 3.8 of this EIR/EA. The existing conditions were evaluated based on their potential to be affected by activities of the proposed project / proposed action and/or alternatives to the proposed project / proposed action. The section addresses potential environmental impacts associated with implementation of the proposed project / proposed action such as effects on surface water or groundwater hydrology and quality and exposure to flood risks. The District has incorporated measures in to the proposed project / proposed action description to reduce or avoid adverse impacts anticipated from activities resulting from the proposed project / proposed action and the proposed project / proposed action alternatives. Information contained in this section is summarized from U.S. Geological Survey (USGS) 7.5-minute series topographic quadrangles Owens Lake[1] and Dolomite[2] and Flood Insurance Rate Map (FIRM) Numbers 06027C2225D[3] and 06027C2575D and was used to design the proposed project / proposed action to avoid areas within active blue-line drainages and thus avoid impacts to hydrology and water quality.[4] A discussion of cumulative impacts related to hydrology water quality is included in Section 5.8.

4.8.1 STUDY METHODS

This section describes effects on hydrology and water quality that would be caused by implementation of the proposed project / proposed action and alternatives. The focus of the analysis is on the placement of the straw bales and planting of the native vegetation. There are no proposed buildings or structures; therefore, there would be no change in the soil permeability of the proposed project / proposed action area.

Existing conditions relevant to the discussion of hydrology, drainage, and water quality were presented in Section 3.8 of this EIR/EA. These baseline conditions were evaluated here based on their potential to be affected by construction, operation, and monitoring activities. Construction, operation, and monitoring activities are described in Section 2 of this EIR/EA and were used in formulating the analysis. Impacts to hydrology and water quality were identified based on any adverse changes to these resources resulting from proposed project / proposed action construction, operation, or monitoring. The proposed project / proposed action, as described in Section 2 of this EIR/EA, requires that soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated Best Management Practices (BMPs). The specified BMPs have been required to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved Hazardous Materials Business Plan (HMBP) and a Spill Prevention Control, and Countermeasure plan (SPCC). The proposed project / proposed action areas are not within a 100-year flood zone area.

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[1] U.S. Geological Survey. 1987. *7.5-Minute Series, Owens Lake, California, Topographic Quadrangle*. Denver, CO

[2] U.S. Geological Survey. 1987. *7.5-Minute Series, Dolomite, California, Topographic Quadrangle*. Denver, CO.

[3] Federal Emergency Management Agency. "Inyo County, California Map ID: 06027C2225D." Flood Insurance Rate Map. Available at:
http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1

[4] Federal Emergency Management Agency. "Inyo County, California Map ID: 06027C2575D." Flood Insurance Rate Map. Available at:
http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1

4.8.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or an alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction and monitoring. Direct natural resource impacts would occur if the proposed project / proposed action or an alternative is exposed to flood hazards or if the proposed project / proposed action or an alternative would alter the amount and quality of runoff from the proposed project / proposed action site during construction and monitoring. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time (for example after construction and monitoring or further removed in distance (for example, several miles from the proposed project / proposed action site).

4.8.2.1 CEQA SIGNIFICANCE CRITERIA

The potential for the proposed project to result in impacts to hydrology and water quality was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. Under CEQA, the potential for the proposed project or proposed project alternatives to result in impacts related to hydrology and water quality was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. A significant impact on hydrology and water quality would normally be determined to occur if the proposed project or proposed project alternatives triggered one of the 10 thresholds established by Appendix G of the CEQA Guidelines:

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

4.8.2.2 NEPA REQUIREMENTS

NEPA does not have any requirements specific to hydrology and water quality which would apply to the proposed action. The context and intensity of the environmental effects (40 CFR Part 1508.27) of the proposed action and alternatives with regard to alteration of drainage patterns or degradation of water quality, as well as with regard to exposure to any existing or potential flood hazards, are assessed with regard to the methods provided to the applicable Significance Criteria identified by CEQA.

4.8.3 ENVIRONMENTAL CONSEQUENCES

4.8.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

The proposed project / proposed action will entail the establishment and management of native vegetation and the use of straw bales as temporary windbreaks positioned within an area of approximately 194 acres to stabilize the surface. Other proposed project / proposed action elements include temporary access routes, temporary staging areas for equipment and materials storage, and an effectiveness monitoring program (existing air monitoring stations). Further details of the proposed project / proposed action are described in Section 2.2.1, *Proposed Action and Alternatives*.

A. Direct and Indirect Impacts

Construction

Surface Water Quality. There are no perennial surface water bodies in the proposed project / proposed action site. The nearest surface water resources are Black Sand Spring and Horse Pasture Spring, located approximately 0.25 mile downgradient (west) of the proposed project / proposed action site (Figure 3.8.2.2-2*, Springs in Study Area Vicinity*). The bed of Owens Lake, approximately 1/4 mile downgradient of the proposed project / proposed action area, has been developed with the Shallow Flooding dust control measure, in conjunction with 2008 SIP. The extant Owens Lake brine pool is located downgradient and 7 miles to the west of the Keeler Dunes.

The proposed project / proposed action would not involve demolition activities or building of any permanent structures or impervious surfaces that could affect surface water quality. Minimal disturbance of staging areas and access routes may result in short-term impacts on surface water quality and drainage from potential soil erosion occurring during infrequent rain events. Indirect impacts may result from the influence of sediment laden storm water runoff flowing off-site from the construction site, including preparation of staging areas and the temporary access routes, to Owens Lake and springs located downgradient of the proposed project / proposed action. Construction and monitoring of the proposed project / proposed action, including the placement of straw bales and planting of native vegetation are not expected to result in impacts with regards to water quality, as the straw bales would effectively capture any storm water that reaches the proposed project / proposed action area as

sheetflow. Temporary staging areas and access routes would be constructed outside the ephemeral drainages. The District has required the preparation a Storm Water Pollution Prevention Plan (SWPPP) and implementation of BMPs[5] during construction to protect surface water quality from potential impacts related to surface water. In addition, the District has required, as an element of the proposed project / proposed action, that installation of the straw bales and native plants shall be required to comply with all provisions of the National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board, Lahontan Region as they related to avoiding impacts from storm water runoff during construction. In addition, provisions for a monitoring and maintenance program to address proposed project / proposed action areas needing maintenance would be included in the SWPPP to avoid conditions that have the potential to pose a threat to water quality, as specified in Sections 1 and 2 of this EIR/EA.

Pollutants associated with use and maintenance of construction vehicles needed for the proposed project / proposed action include hazardous materials such as oil, fuel and lubricants. These pollutants would adversely affect water quality if they reached a surface or groundwater resource. The potential for degradation of surface water by pollutants shall be avoided through preparation of a SWPPP for construction activities and implementation of BMPs for construction, refueling, and any waste handling activities.[6] In addition, a HMBP and SPCCC shall be prepared and submitted for approval to Inyo County, prior to the deployment of vehicles or equipment to the proposed project / proposed action area.

The proposed project / proposed action would not be expected to result in significant impacts to hydrology and water quality with the incorporation of the SWPPP, HMBP, and SPCCC in into the proposed project / proposed action design.

Drainage. There are two blue-line drainages shown within the study area. One of the drainages has been abandoned due to construction of water diversion berms by Caltrans in 1950. The second drainage cuts through the proposed project / proposed action area and provides a path for storm flows to cross from the Inyo Mountains to Owens Lake. The proposed project / proposed action has been designed to avoid the one still active blue-line drainage within the proposed project / proposed action area. There would be no installation of straw bales or native plants within the ephemeral drainage. The proposed project / proposed action does not entail the construction of any impervious areas or structures that would affect drainage patterns. Upon completion of the proposed project / proposed action, the natural area would continue to drain to the west-southwest. Only minimal brushing and grubbing of the ground surface for the development of temporary staging areas and access routes may be required to construct the proposed project / proposed action. Temporary staging areas would not be constructed in active drainages. Transport of straw bales and irrigation water would be accomplished with the use of rubber-tired vehicles that would cross active and abandoned blue-line drainages; however, there would be no grading within drainages. The access route through the middle of the project crosses the ephemeral drainages. There would not be any change in the existing topography due to the development or use of the access routes. No installation of the straw bales will take place within the abandoned historic blue-line drainages. The straw bales and native vegetation would maintain the existing permeable surface within the proposed project / proposed action area.

[5] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

[6] California Stormwater Quality Association. 2003. *California Stormwater Best Management Practice Handbooks: Construction*. Menlo Park, CA. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf

Groundwater. Impacts to groundwater would include any significant degradation of water quality or major changes in groundwater elevations that could potentially impact local groundwater production wells or wetlands. The proposed project / proposed action would not create impervious surfaces or otherwise affect the recharge of the proposed project / proposed action property. There would be no temporary or permanent structures proposed that would alter groundwater flow or recharge and no dewatering activities would be required as part of the proposed project / proposed action.

Approximately 5 gallons of water will be applied under each straw bale prior to planting.[7] The plants would also be watered with approximately 3 gallons of water per bale immediately after the plants are placed in the ground. Total water needs during planting are expected to amount to approximately 3.02 acre-feet (985,480 gallons). It is expected that supplemental watering may be provided to the plants during the first 3 years of the proposed project / proposed action when rainfall is less than 50 percent of the average annual rainfall or is needed based on poor plant health. A total of about 5.29 acre-feet of water may be applied during the first year of the proposed project / proposed action. During each of the second, third, years of the proposed project / proposed action the estimated total annual water duty would be about 2.27 acre-feet. The total water demand for the proposed project / proposed action and proposed project / proposed action alternatives is estimated at up to 9.83 acre-feet (3.2 million gallons) over the 3-year period. The Fault Test production well can supply 120,000 gallons over an 8 hour period, almost 8 times more than would be needed per day of watering. Consequently, the proposed project / proposed action's daily water demand during proposed project / proposed action implementation would not result in drawdown of the water table.[8]

100-Year Flood Zone. The proposed project / proposed action is not within a 100-year flood hazard area would not involve construction of any housing or other permanent structures. Therefore, the proposed project / proposed action would not be expected to result in impacts to hydrology and water quality related to the exposure of people or property to hazards associated with the 100-year flood zone.

Seiche, Tsunamis, and Mudflows. Implementation of the proposed project / proposed action would not result in inundation by a seiche, tsunami, or mudflow. Seiches and tsunamis are the result of tectonic activity, such as an earthquake. A seiche is an oscillation of the surface of a landlocked body of water that can create a hazard to persons and structures on and in the vicinity of the water. A tsunami is a long-period, high velocity tidal surge that can result in a series of very low (trough) and high (peak) sea levels, with the potential to inundate areas up to several miles from the coast, creating hazards to people or structures from loss, injury, or death. Most of the hazards created by a tsunami come when a trough follows the peak, resulting in a rush of sea water back into the ocean. A mudflow is a moving mass of soil-made fluid by a loss of shear strength, generally as a result of saturation from rain or melting snow. Due to the low surface gradient of the proposed project / proposed action study area and the distance from the ocean and other bodies of water, there would be no direct or indirect impacts related to seiches or tsunamis. The low relief of the proposed project / proposed action study area does not contribute to the risk of earthquake-related ground failures that would result in mudflows; therefore, there would be no direct or indirect impacts.

[7] Groeneveld, D.P., HydroBio Advanced Remote Sensing. 12 September 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

[8] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 20 September, 2013. Email to Eric Charlton, Sapphos Environmental, Inc., Pasadena, CA.

Operations and Maintenance

Surface Water Quality. The proposed project / proposed action has been designed to require minimal maintenance. Operation of the proposed project / proposed action would have no impacts on hydrology and water quality. Operation activities would include maintenance of the ongoing air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with replacement of broken straw bales and the addition of plants as needed. Upon establishment of a native vegetation community on the dunes, primary operational activities would include continued air monitoring. Annual reviews would determine whether additional dust control measures would need to be applied. The erosion control measures in the Storm Water Pollution Prevention Plan, as specified in Sections 1 and 2 of this EIR/EA, would avoid conditions that have the potential to pose a threat to water quality during implementation and monitoring of the proposed project / proposed action.

Drainage. Upon completion of the proposed project / proposed action, the natural area would continue to drain to the west-southwest. The abandoned blue-line drainage would remain in situ.

Groundwater. Groundwater is the proposed source of water for initial and supplemental watering of the native vegetation the first three years of the proposed project / proposed action (Figure 2.1.5.2-3, *Water Supply*). The water demand for the proposed project / proposed action during planting is estimated to be 3.02 acre-feet (985,480 gallons). There may be up to two supplemental watering events per year. Each watering event would require 1.13 acre-feet of water per event (up to 2.26 acre-feet of water annually). The total water demand for the proposed project / proposed action and action alternatives is estimated to be up to 9.83 acre-feet (3.2 million gallons) over a 3-year period. Water would be distributed across the 194 acre proposed project / proposed action study area at each straw bale site (up to 5 gallons per bale). The proposed groundwater source is the District's Fault Test 12-inch production well located approximately 0.7 mile northwest of the proposed project / proposed action. The Fault Test well is an artesian (flowing) well capable of producing 250 gallons of water per minute (gpm) on a sustained basis[9] and utilization of this water source is not expected have an indirect negative impact on groundwater levels at this off-site location. As an alternative, the backup water supplies can be obtained from the District's River Wells or purchased from Keeler Community Service District (KCSD).[10]

Water withdrawal for the proposed project / proposed action is short term, occurring over short periods of time (2 to 4 months for each irrigation event) for up to 3 years. Groundwater used for watering would not leave the Owens Lake Hydrologic Basin; it would be applied to ground within the basin near the withdrawal site. The withdrawals from the artesian Fault Test Well are not anticipated to impact the KCSD well located approximately 2.75 miles southwest.[11] The establishment of native vegetation in the project has been designed to re-establish vegetation communities in the pre-historic dune environment that are extant at other locations in terrestrial upland areas above the historic elevation of Owens Lake. The result of the pilot study and presence of extant vegetated dunes in the vicinity of Owens Lake demonstrate the feasibility of maintaining vegetated dunes with the existing hydrologic conditions.

[9] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 9 October 2012. Telephone conversation with D. Grotzinger, Sapphos Environmental, Inc., Pasadena, CA.

[10] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 20 September, 2013. Email to Eric Charlton, Sapphos Environmental, Inc., Pasadena, CA.

[11] Holder, G., Great Basin Unified Air Pollution Control District, Bishop, CA. 20 September, 2013. Email to Eric Charlton, Sapphos Environmental, Inc., Pasadena, CA.

B. CEQA Significance Determinations

Construction

(1) Violate any water quality standards or waste discharge requirements

The District has required the preparation of SWPPP, HMBP, and SPCC plan to protect surface water quality and prevent discharges to downgradient springs, water-based dust control measures, and the brine pool. The proposed project site is relatively flat and requires minimal localized grading to accommodate temporary access routes and staging areas. The proposed project has been designed to maintain the existing site grading and drainage, thus there would be no alteration in surface drainage patterns. Similarly, there would be no expected increase in surface water runoff, as the proposed project is comprised of straw bales and native vegetation that would not be expected to contribute runoff water in excess of the capacity of the abandoned ephemeral drainages. Soil erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs. The District has also identified BMPs to reduce potential for fuel spills and transport of polluted runoff. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during construction of the proposed project.

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).

The Fault Test production well can supply 120,000 gallons over an 8 hour period and the full amount of water needed for the 3 year project can be produced in less than 9 days. Results from the flow tests conducted at the fault Test site show that the well and surrounding area will not be affected by this amount of water production. The proposed project does not create any impervious surfaces; therefore there would no impacts to groundwater recharge.

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site.

The proposed project has been designed to avoid impacts to extant and abandoned blue-line drainages; therefore, there are no impacts to the existing drainage pattern of the site that would contribute to erosion or siltation either on-site or off-site.

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site.

The proposed project has been designed to avoid impacts to extant and abandoned blue-line drainages; therefore, there would be no impacts to the existing drainage pattern of the site that would contribute flooding either on-site or off-site.

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

The proposed project would not create any impervious surfaces; therefore there would be no anticipated increase of runoff water; therefore, there would be no anticipated significant impacts to existing or planned storm water drainage systems. The District has required, as an element of the proposed project, the control of erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs.

(6) Otherwise substantially degrade water quality

The District has required, as an element of the proposed project, the control of erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs; therefore, the proposed project would not expected to otherwise substantially degrade water quality.

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

Not Applicable

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

Not Applicable

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

Not Applicable

(10) Result in inundation by seiche, tsunami, or mudflow

The proposed project would not include any perennial water bodies within the proposed project limits nor does it would not involve demolition activities or building of any permanent structures or impervious surfaces. The proposed project would include minimal grading and the use of construction vehicles. The existing site surface grade and drainage would be retained as part of the proposed project. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The District has also identified BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area and is not subject to flooding. Due to the low surface gradient and the distance from the ocean and other water bodies, the proposed project is not subject to inundation by seiche, tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow.

Operations and Maintenance

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

The proposed project has been designed to require minimal maintenance. Operational activities would include operation and maintenance of the air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with the replacement of broken bales and dead plants. The proposed project elements have been designed to avoid active and inactive blue line drainages, with the exception of limited crossing by rubber-tired vehicles. The staging areas and access routes that have been designed as elements of the proposed project/proposed project have been designed to minimize disturbance. Sufficient groundwater exists for use by the proposed project for the watering of the native vegetation from the District's Fault Test well. Groundwater used for watering would not leave the Owen Lake Hydrological Basin. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, and groundwater.

4.8.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native

vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

A. Direct and Indirect Impacts

Construction

Under Alternative 1, construction activities would be essentially the same as for the proposed project / proposed action. The primary construction scenario difference between the Alternative 1 and the proposed project / proposed action would be the total number of plants and straw bales that would be transported to the proposed project / proposed action site and distributed on-site. Alternative 1 would result in a greater number of plants and straw bales, hence a slightly longer construction period would be required and/or additional workers and equipment would be necessary to complete the proposed project / proposed action in the same timeframe as the proposed alternative. The direct and indirect impacts would be similar to those outlined in the proposed project / proposed action above. Alternative 1 would not be expected to result in significant impacts to hydrology and water quality with the incorporation of the SWPPP, HMBP, and SPCCC in into the proposed project / proposed action design.

Operations and Maintenance

Under Alternative 1, operation and maintenance activities would be essentially the same as for the proposed project / proposed action. The direct and indirect impacts would be similar to those outlined in the proposed project / proposed action above. Alternative 1 would not be expected to result in significant impacts to hydrology and water quality.

B. CEQA Significance Determinations

Construction

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

Alternative 1 would not include any perennial water bodies within the proposed project limits nor would it involve demolition activities or building of any permanent structures or impervious surfaces. Alternative 1 does, , include minimal brushing and grubbing however, the existing site surface grade and drainage would be retained as part of the proposed project. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The District has also identified BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area and is not subject to flooding. Due to the low surface gradient and the distance from the ocean and other water bodies, Alternative 1 is not subject to inundation by seiche, tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow.

Operations and Maintenance

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

Alternative 1 has been designed to require minimal maintenance. Operational activities would include operation and maintenance of the air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with the replacement of broken bales. Alternative 1 elements have been designed to avoid active and inactive blue-line drainages, with the exception of limited crossing by rubber-tired vehicles. The staging areas and access routes that have been designed as elements of Alternative 1 have been designed to minimize disturbance and only minimal grading of the ground surface for staging areas and access routes would be required. Sufficient groundwater exists for use by the proposed project for the watering of the native vegetation from the District's Fault Test well. Groundwater used for watering would not leave the Owen Lake Hydrological Basin. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, and groundwater.

4.8.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3) This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

Construction

Under Alternative 2, construction activities to install the dust control measures would be essentially the same as for the proposed project / proposed action. The primary construction scenario difference between the Alternative 2 and the proposed project / proposed action would be the total number of plants and straw bales that would be transported to the proposed project / proposed action site and distributed on-site. Alternative 2 would result in a greater number of plants and straw bales, hence a slightly longer construction period would be required and/or additional workers and equipment would be necessary to complete Alternative 2 in the same timeframe as the proposed project. The direct and indirect impacts would be similar to those outlined in the proposed project / proposed action above. Alternative 2 would not be expected to result in significant impacts to hydrology and water quality with the incorporation of the SWPPP, HMBP, and SPCCC in into the proposed project / proposed action design.

Operations and Maintenance

Under Alternative 2, operation and maintenance activities would be essentially the same as for the proposed project / proposed action. The direct and indirect impacts would be similar to those outlined in the proposed project / proposed action above. Alternative 2 would not be expected to result in significant impacts to hydrology and water quality.

B. CEQA Significance Determinations

Construction

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

As stated above, Alternative 2 does not include any perennial water bodies within the proposed project limits nor does it would not involve demolition activities or building of any permanent structures or impervious surfaces. No installation of the straw bales will take place within the abandoned historic blue-line drainages. The existing site surface grade and drainage would be retained as part of Alternative 2. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The District has also identified

BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area and is not subject to flooding. Due to the low surface gradient and the distance from the ocean and other water bodies, Alternative 2 is not subject to inundation by seiche, tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow.

Operations and Maintenance

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

As stated above, Alternative 2 has been designed to require minimal maintenance. Activities would include maintenance of the air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with the replacement of broken bales and dead plants. The Alternative 2 elements have been designed to avoid active and inactive blue-line drainages, with the exception of limited crossing by rubber-tired vehicles. The staging areas and access routes of Alternative 2 have been designed to minimize disturbance. No grading of the ground surface for staging areas and access routes would be required. Sufficient groundwater exists for use by the proposed project for the watering of the native vegetation from the District's Fault Test well. Groundwater used for watering would not leave the Owen Lake Hydrological Basin. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, and groundwater.

4.8.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the project via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the project area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of the project, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project/proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from trucks at the staging areas.

A. Direct and Indirect Impacts

Construction

Under Alternative 3, construction activities would be essentially the same as for the proposed project / proposed action. Alternative 3 would not be expected to result in significant impacts to hydrology and water quality with the incorporation of the SWPPP, HMBP, and SPCCC in into the proposed project / proposed action design. The incorporation of an irrigation system would result in roughly 80 percent less ATV traffic. As a result, there would be fewer pollutants such as oil, fuel, and lubricants associated with vehicle maintenance to adversely affect water quality. The temporary irrigation system would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

Operations and Maintenance

Under Alternative 3, the dust control measures would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the site via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the Alternative 3 area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of Alternative 3, would be replaced with a temporary aboveground irrigation system that would be installed within the 95-percent control level area to provide water to the Alternative 3 area. Plants within the sensitive 85-percent control area would be manually watered using the same method as described proposed project / proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within Alternative 3 instead of from trucks at the staging areas. Alternative 3 would utilize a temporary irrigation system that would have irrigation laterals that utilize detachable hoses to deliver

water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Alternative 3 would not be expected to result in significant impacts to hydrology and water quality.

At the completion of each irrigation event, the irrigation system would be drained. Drainage valves will be installed along each lateral line such that approximately 200 gallons of water will be drained from each lateral onto the surface in a manner so that it does not leave the project area. Drainage water will be directed to planted bales locations where possible.

B. CEQA Significance Determinations

Construction

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

As stated above, Alternative 3 would not include any perennial water bodies within the proposed project limits nor would it involve demolition activities or building of any permanent structures or impervious surfaces. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The incorporation of an

irrigation system would in roughly 80 percent less ATV traffic, than the proposed project / proposed action. As a result, there will be fewer pollutants such as oil, fuel, and lubricants associated with vehicle maintenance to adversely affect water quality. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The District has also identified BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area and is not subject to flooding. Due to the low surface gradient and the distance from the ocean and other water bodies, Alternative 3 is not subject to inundation by seiche, tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow.

Operations and Maintenance

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

Alternative 3 has been designed to require minimal maintenance. Activities would include maintenance of the air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with the replacement of broken bales and dead plants. The Alternative 3 elements have been designed to avoid active and inactive blue-line drainages, with the exception of limited crossing by rubber-tired vehicles. The incorporation of an

irrigation system would result in roughly 80 percent less ATV traffic than the proposed project / proposed action. As a result, there would be fewer pollutants such as oil, fuel, and lubricants associated with vehicle maintenance to adversely affect water quality. The staging areas and access routes of Alternative 3 have been designed to minimize disturbance and only minimal grading of the ground surface for staging areas and access routes will be required. Sufficient groundwater exists for use by the proposed project for the watering of the native vegetation from the District's Fault Test well. Groundwater used for watering would not leave the Owen Lake Hydrological Basin. The temporary irrigation system would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, and groundwater.

4.8.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.25). In Alternative 4, water obtained from the Fault Test Well would be transported to the project via water trucks and the water delivery system would be fed from three supply points along State Route 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs, stage in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas.

A. Direct and Indirect Impacts

Construction

Under Alternative 4, construction activities would be essentially the same as for the proposed project / proposed action. The direct and indirect impacts would be similar to those outlined in the proposed project / proposed action above. Alternative 4 would not be expected to result in significant impacts to hydrology and water quality with the incorporation of the SWPPP, HMBP, and SPCCC in into the proposed project / proposed action design. The incorporation of an irrigation system would result in roughly 80 percent less ATV traffic than that anticipated for the proposed project / proposed action. As a result, there would be fewer pollutants such as oil, fuel, and lubricants associated with vehicle maintenance to adversely affect water quality. The temporary irrigation system would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The water trucks connecting to the supply points at SR 136 pose an increased risk to potential runoff from leaks in the connections to the trunk lines that would be

conveyed to any existing storm water collection system. However, from review of the topographical maps for the area, it is anticipated that the potential runoff would run southwest towards Owens Lake and dissipate into the soil before reaching any existing storm water drainage systems.

Operations and Maintenance

Under Alternative 4, the dust control measures would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the site via large water trucks, which would connect to the water delivery system from turnouts off of SR 136. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of Alternative 4, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the Alternative 4 area. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project / proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the site instead of from trucks at the staging areas. Alternative 4 would utilize a temporary irrigation system that would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. The water trucks connecting to the supply points at SR 136 pose an increased risk to potential runoff from leaks in the connections to the trunk lines that would be conveyed to any existing storm water collection system. However, from review of the topographical maps for the area, it is anticipated that the potential runoff would run southwest towards Owens Lake and dissipate into the soil before reaching any existing storm water drainage systems. Alternative 4 would not be expected to result in significant impacts to hydrology and water quality.

At the completion of each irrigation event, the irrigation system would be drained. Drainage valves would be installed along each lateral line such that approximately 200 gallons of water would be drained from each lateral onto the surface, in such a way that it does not leave the Alternative 4 area. Drainage water would be directed to planted bales locations where possible.

B. CEQA Significance Determinations

Construction

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

Alternative 4 would not include any perennial water bodies within the proposed project limits nor would it involve demolition activities or building of any permanent structures or impervious surfaces. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) would be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The incorporation of an irrigation system would result in roughly 80 percent less ATV traffic, than that anticipated for the proposed project / proposed action. As a result there would be fewer pollutants such as oil, fuel, and lubricants associated with vehicle maintenance to adversely affect water quality. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. Additionally the water trucks connecting to the supply points at SR 136 pose an increased risk to potential runoff from leaks in the connections to the trunk lines that would be conveyed to any existing storm water collection system. However, from review of the topographical maps for the area, it is anticipated that the potential runoff would run southwest towards Owens Lake and dissipate into the soil before reaching any existing storm water drainage systems. The District has also identified BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area and is not subject to flooding. Due to the low surface gradient and the distance from the ocean and other water bodies, Alternative 4 is not subject to inundation by seiche, tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow.

Operations and Maintenance

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

Alternative 4 has been designed to require minimal maintenance. Activities would include maintenance of the air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with the replacement of broken bales and dead plants. The Alternative 4 elements have been designed to avoid active and inactive blue-line drainages, with the exception of limited crossing by rubber-tired vehicles. The incorporation of an irrigation system would result in roughly 80 percent less ATV traffic, than that anticipated for the proposed project / proposed action. As a result there would be fewer pollutants such as oil, fuel, and lubricants associated with vehicle maintenance to adversely affect water quality. The staging areas and access routes of Alternative 4 have been designed to minimize disturbance and only minimal grading of the ground surface for staging areas and access routes would be required. Sufficient groundwater exists for use by the proposed project for the watering of the native vegetation from the District's Fault Test well. Groundwater used for watering would not leave the Owen Lake Hydrological Basin. The temporary irrigation system would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. Additionally the water trucks connecting to the supply points at SR 136 pose an increased risk to potential runoff from leaks in the connections to the trunk lines that would be conveyed to any existing storm water collection system. However, from review of the topographical maps for the area, it is anticipated that the potential runoff would run southwest towards Owens Lake and dissipate into the soil before reaching any existing storm water drainage systems. It is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, and groundwater.

4.8.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project.

A. Direct and Indirect Impacts

Construction

Under Alternative 5, construction activities would be essentially the same as for the proposed project / proposed action, with the exception of drilling to install a pipeline underneath SR 136 that would connect to the temporary irrigation system. The direct and indirect impacts would be similar to those outlined in the proposed project / proposed action above. Alternative 5 would not be expected to result in significant impacts to hydrology and water quality with the incorporation of the SWPPP, HMBP, and SPCCC in into the proposed project / proposed action design. The incorporation of an irrigation system would result in roughly 80 percent less ATV traffic, than that anticipated for the proposed project / proposed action. As a result there would be fewer pollutants such as oil, fuel and lubricants associated with vehicle maintenance to adversely affect water quality. The temporary irrigation system would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing storm water drainage systems or provide substantial additional sources of polluted runoff. The directional drilling used to install the pipeline underneath SR 136, has the potential to produce drill slurry discharges that could be conveyed into storm drains and in directly to receiving water bodies, however there are no receiving water bodies or storm drains in the immediate area.

Operations and Maintenance

Under Alternative 5, the dust control measures would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the KCSD would be transported to the project via water pipeline from the KCSD water system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of the project, would be replaced with a temporary aboveground irrigation system that would be installed within the 95-percent control level area to provide water to the project area. Plants within the sensitive 85-percent control area would be manually watered using the same method as described proposed project/proposed action. In the environmentally sensitive areas, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from trucks at the staging areas. Alternative 5 would utilize a temporary irrigation system that would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the

plant locations. However, it is not anticipated that the potential runoff would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Alternative 5 would not be expected to result in significant impacts to hydrology and water quality.

At the completion of each irrigation event, the irrigation system would be drained. Drainage valves would be installed along each lateral line such that approximately 200 gallons of water would be drained from each lateral onto the surface, in such a way that it does not leave the Alternative 5 area. Drainage water would be directed to planted bales locations where possible.

B. CEQA Significance Determinations

Construction

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

Alternative 5 would not include any perennial water bodies within the proposed project limits nor would it involve demolition activities or building of any permanent structures or impervious surfaces. Soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP and associated BMPs. The incorporation of an irrigation system would result in roughly 80 percent less ATV traffic, than that anticipated for the proposed project / proposed action. As

a result there would be fewer pollutants such as oil, fuel and lubricants associated with vehicle maintenance to adversely affect water quality. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. The District has also identified BMPs to reduce the potential for fuel spills and transport of pollutant runoff with the development of approved HMBP and SPCC. The site is not within a 100-year flood zone area. Due to the low surface gradient and the distance from the ocean and other water bodies, Alternative 5 is not subject to inundation by seiche, tsunami, or mudflow. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, groundwater, 100-year flood zone, or seiche, tsunami, or mudflow.

Operations and Maintenance

(1) Violate any water quality standards or waste discharge requirements

(2) Substantially deplete groundwater supplies or interfere with groundwater recharge leading to a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)

(3) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation either on-site or off-site

(4) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river or substantial increase in the rate or amount of surface runoff in a manner that would result in flooding either on-site or off-site

(5) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

(6) Otherwise substantially degrade water quality

(7) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map

(8) Place structures within a 100-year flood hazard area that would impede or redirect flood flows

(9) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

(10) Result in inundation by seiche, tsunami, or mudflow

Alternative 5 has been designed to require minimal maintenance. Activities would include maintenance of the air quality monitoring stations, supplemental watering and monitoring of plant growth and straw bale condition, and activities associated with the replacement of broken bales and dead plants. Alternative 5 elements have been designed to avoid active and inactive blue line drainages, with the exception of limited crossing by rubber-tired vehicles. The incorporation of an irrigation system would result in roughly 80 percent less ATV traffic, than that anticipated for the proposed project / proposed action. As a result there would be fewer pollutants such as oil, fuel and lubricants associated with vehicle maintenance to adversely affect water quality. The staging areas and

access routes of Alternative 5 have been designed to minimize disturbance of the ground surface. Sufficient groundwater exists for use by the proposed project for the watering of the native vegetation from the KCSD well. Groundwater used for watering would not leave the Owen Lake Hydrological Basin. The temporary irrigation system would have irrigation laterals that utilize detachable hoses to deliver water to the plant locations. The irrigation system would potentially increase the risk of the amount of surface runoff from any malfunction in the delivery of water to the plant locations. However, potential flows will be of a low volume and would be confined to the project area. Therefore, less than significant impacts under CEQA would occur relative to surface water quality, drainage, and groundwater.

4.9.3.7 ALTERNATIVE 6, NO PROJECT / NO ACTION ALTERNATIVE

Under Alternative 6, No Project / No Action Alternative, no dust control measures would be implemented at the Keeler Dunes. During high wind events, the Keeler Dunes would continue to emit levels of windblown dust that cause and contribute to exceedances of the National Ambient Air Quality Standards (NAAQS) and California State standard for particulate matter (PM_{10}) air pollution including in the communities of Keeler and Swansea. In addition, under the No Project / No Action Alternative, one of the continuing dust sources in the greater Owens Lake area, would not be controlled, contributing to non-compliance in this area and non-attainment of the NAAQS for PM_{10} by 2017, as required under the 2008 State Implementation Plan.

A. Direct and Indirect Impacts

Construction

Under Alternative 6, no dust control measures would be constructed. It would not be necessary for the BLM to grant a ROW. Existing drainage pattern would remain unchanged and no potential for erosion would result from construction activities. Therefore, no direct or indirect impact associated with hydrology and water quality would occur.

Operations and Maintenance

Under the No Project / No Action Alternative, no dust control measures would be constructed. No permanent changes to drainage patterns or potential for operational erosion or storm water runoff would occur. As a result, no direct or indirect impact associated with hydrology and water quality would occur.

B. CEQA Significance Determinations

Construction

Under the No Project / No Action Alternative, no dust control measures would be constructed thereby avoiding the potential impacts such as violating a water quality standard, altering an existing drainage pattern, causing potential for soil erosion or flooding. Thus there would be no impacts, as defined by CEQA related to hydrology and water quality, that would occur from the No Project / No Action Alternative.

Operations and Maintenance

Under the No Project / No Action Alternative, the dust control measures would not be operated or maintained. No changes in existing drainage patterns or potential to increase runoff or erosion would occur. Thus, no hydrology and water quality impacts would occur with regards to operations and maintenance under CEQA resulting from No Project / No Action Alternative.

4.8.4 MITIGATION MEASURES

The proposed project / proposed action and five project/action alternatives have been designed to avoid waters of the United States and Waters of the State, where effects are limited to crossing with rubber tired vehicles and foot traffic. The project description requires that soil erosion, sedimentation, and runoff (e.g. runoff containing grease, oil, sediment, and heavy metals) shall be controlled during construction in accordance with an NPDES Construction General Permit, approved SWPPP, and associated BMPs. Therefore, implementation of the Proposed Project / Proposed Action; Alternatives 1 through 5; and Alternative 6, No Project / No Action, would not be expected to result in substantial impacts to hydrology. Therefore, no mitigation measures would be required.

4.8.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the proposed project / proposed action, Alternative 1, Alternative 2, Alternative 3, Alternative 4, Alternative 5, and the No Project / No Action Alternative would not result in any direct or residual impacts to hydrology and no mitigation would be required.

4.9 LAND USE AND PLANNING

4.9.1 METHODOLOGY FOR ANALYSIS

This section assesses the possible effects on land use and planning that could result from the proposed project / proposed action and alternatives. This section addresses the need for mitigation measures to reduce or avoid adverse impacts anticipated from activities resulting from the proposed project / proposed action and alternatives. A discussion of cumulative impacts related to land use and planning is included in Section 5.9. The environmental setting for land use and planning is presented in Section 3.9. The existing conditions were evaluated based on their potential to be affected by activities of the proposed project / proposed action and alternatives.

4.9.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

The CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e., with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction, and operations and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time or further removed in distance (for example, located several miles from the proposed project / proposed action site).

4.9.2.1 CEQA SIGNIFICANCE CRITERIA

The potential for the proposed project to result in impacts related to land use and planning was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines.

The proposed project would normally be considered to have a substantial impact to land use and planning when any one of the following three thresholds is met:

(1) Physical division of an established community

(2) Conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the proposed project (including but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect

(3) Conflict with any applicable habitat conservation plan or natural community conservation plan

4.9.2.2 NEPA REQUIREMENTS

Significance under NEPA is defined in terms of both context and intensity. Context means that the significance of an action must be analyzed in several contexts, such as society, the affected region, affected interests, and the local environment. Intensity refers to the severity of impact and includes a variety of factors to be considered (40 CFR 1508.27). Intensity factors potentially relevant to land use and planning impacts as listed in 40 CFR 1508.27 (b) include "unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands ... degree of controversy, degree of uncertainty about possible effects, degree to which an action may establish a precedent for future actions, and potential for cumulatively substantial impacts."

The following potential effect to land use and planning will serve as the basis for the NEPA analysis of the proposed action:

(1) Conflict with the management goals of any special designation area

Implementation of the proposed action would not be expected to conflict with the management goals of any special designation area. The proposed action is consistent with the goals set forth in Federal Land Policy and Management Act (FLPMA), the Bishop Resource Management Plan, and the Inyo County General Plan discussed in Section 3.9. In addition, the proposed action would have no impact on an Area of Critical Environmental Concern (ACEC) established by the BLM because the proposed action is not located within or adjacent to an ACEC.[1]

4.9.3 ENVIRONMENTAL CONSEQUENCES

4.9.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

A. Direct and Indirect Impacts

The proposed project / proposed action is a program to control dust emissions in the Keeler Dunes through the use of native plants and temporary wind breaks (straw bales) applied to a total of 194 acres of the emissive deposits in the dunes. The key components of the proposed project / proposed action include placement of straw bales on the site, planting of native vegetation, preparation of staging areas, access routes, water supply, conveyance and distribution, and an effectiveness monitoring program as part of the operations phase of the proposed project / proposed action. Further details of the proposed project / proposed action are described in Section 2. The proposed project / proposed action would not have substantial direct or indirect impacts to land use and planning pursuant to CEQA significance determinations or conflict with any land use and planning goals or objectives for the proposed project / proposed action area. Additionally, the proposed project / proposed action would not restrict access or maintenance activities to the existing ROWs held by Verizon, LADWP, or Caltrans.

B. CEQA Significance Determinations

(1) Physical division of an established community

Implementation of the proposed project would not be expected to physically divide an established community because all of the DCMs would be implemented outside of the communities within the vicinity of the proposed project study area. Two communities are located in the vicinity of the proposed project study area in the unincorporated area of Inyo County (Figure 1.3.1-1, *Regional Vicinity Map*). All communities are located outside of the proposed project boundary. The community of Keeler is located 1.7 miles southeast of the center of the proposed project and adjacent to the proposed project study area, and the community of Swansea is located 1.3 miles to the north. Additionally, one designated Native American reservation (Lone Pine Paiute-Shoshone Indian Reservation) and the town of Lone Pine are approximately 10 miles to the northwest of the proposed

[1] Lisius, S., Bureau of Land Management, Bishop Field Office. 18 October 2012. Email to Donna Grotzinger, Sapphos Environmental, Inc., Pasadena, CA. Subject: "Contact Report Form Attached."

project study area. Due to the distance of the communities from the proposed project study area, there would be no expected substantial impact with regard to the physical division of an established community.

(2) Conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the proposed project (including but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect

The proposed project would not be expected to result in substantial impacts in regard to conflicts with environmentally related plans and policies in the proposed project study area. The proposed DCMs would be consistent with the Inyo County General Plan, Lower Owens River Project, Owens Valley Management Plan, Owens Lake Master Project, and other applicable local plans. The proposed project would maintain the current open space and support the preservation of natural resources while maintaining low-impact recreational opportunities.

The proposed project would be consistent with the Land Use Element of the Inyo County General Plan, particularly Goal LU-5 and Policy LU-5.4; the proposed project would support the conservation of natural resources in the Keeler Dunes and vicinity.[2] In addition, the proposed project would be consistent with Inyo County Zoning Ordinance, OS-40 Open Space Zone, because the proposed project would support the protection of areas and other mandated lands from erosion, pollution, and soil destruction.[3]

The proposed project would place straw bales and plant native vegetation to stabilize emissive dust areas in a portion of the Keeler Dunes and associated sand deposits. The implementation of the DCMs would be consistent with all other existing uses in the proposed project study area. All activities related to DCMs would primarily occur on BLM lands and LADWP lands to be leased by the District.

A large portion of the proposed dust control areas is located on BLM land for which an ROW permit is required. Securing approval from the BLM is considered to be administrative and not a substantial land use impact.

(3) Conflict with any applicable habitat conservation plan or natural community conservation plan

The proposed project would not be expected to result in impacts related to any applicable Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). No portion of the proposed project study area is included in any applicable HCP or NCCP. The Lower Owens River Project EIR discusses the potential to create an HCP for federally listed species with the potential to occur within the area of the Lower Owens River Project covered in the Draft EIR; however, the goals and objectives of the Draft EIR and any potential HCP that may result would not conflict with the proposed project analyzed in this EIR.[4] Therefore, there would be no expected impacts.

[2] Inyo County Planning Department. December 2001. *Inyo County General Plan, Land Use Element.* Independence, CA.

[3] Inyo County. 30 June 2003. "Zoning Ordinance," Title 18, *Inyo County Code.* Independence, CA.

[4] Los Angeles Department of Water and Power. 23 June 2004. *Final Environmental Impact Report, Lower Owens River Project.* Bishop, CA.

4.9.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small-diameter hose.

4.9.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3). This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

4.9.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the proposed project / proposed action via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the proposed project / proposed action area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as the proposed project / proposed action. In the environmentally sensitive areas, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from trucks at the staging areas.

4.9.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.5). In Alternative 4, water obtained from the Fault Test Well would be transported to the proposed project / proposed action via water trucks, and the water delivery system would be fed from three supply points along SR 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly into the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in the sensitive 85 percent control area using hoses to deliver water from tanks mounted on ATVs, staged in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from tanks at the staging areas.

4.9.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the proposed project / proposed action via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test Well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area. Plants within the 85 percent control area would be watered by hand using the same method as described above. The ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action.

4.9.3.7 Alternative 6, No Project / No Action Alternative

Alternative 6, No Project / No Action, assumes that the DMCs would not be implemented on the proposed project / proposed action site, and windblown dust and associated PM_{10} emissions would continue to pose a health hazard to the residents of the communities of Keeler and Swansea. Under Alternative 6, the NAAQS and California state standards for PM_{10} would continue to be exceeded in violation of the 2008 SIP. The sand dunes on the proposed project / proposed action site would continue to migrate to the south-southeast toward the community of Keeler, and natural resources within the dunes would continue to be affected by the shifting sands resulting from high wind events.

4.9.4 MITIGATION MEASURES

Implementation of the proposed project / proposed action would not result in substantial impacts to land use and planning; therefore, no mitigation measures would be required.

4.9.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the proposed project / proposed action would not result in substantial impacts to land use and planning.

4.10 RECREATION

This section examines the potential for the proposed project / proposed action to affect access to recreational facilities on BLM lands and other regional and local recreational facilities in Inyo County.

4.10.1 STUDY METHODS

This discussion identifies and analyzes the impacts of the proposed project / proposed action and alternatives on access to recreational resources on BLM lands and other federal, state, and local recreational facilities. The Bishop Resource Management Plan and Inyo County General Plan were consulted to determine the location of recreational routes and areas in the vicinity of the proposed project / proposed action site. Recreation at the proposed project / proposed action study area was evaluated with regard to state, regional, and local data, and forecasts for recreation; the Inyo County General Plan; and the Bishop Resource Management Plan.

4.10.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

For purposes of the analysis, the CEQA significance determinations and NEPA requirements are discussed concurrently where applicable (i.e., with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or an alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction and maintenance. Direct recreation impacts from the proposed project / proposed action or an alternative are related to interruption or excessive use of federal, state, or local recreational that could result from the proposed project / proposed action or an alternative, indirect impacts are those that are separated in time or space, later in time (for example after construction, or maintenance and monitoring), or further removed in distance (for example, several miles from the proposed project / proposed action site).

4.10.2.1 CEQA SIGNIFICANCE CRITERIA

The potential for the proposed project to result in impacts to recreation was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. Under CEQA, the potential for the proposed project or project alternatives to result in impacts related to recreation was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. A significant impact on recreation would normally be determined to occur if the project or project alternatives triggered one of the two thresholds established by Appendix G of the CEQA Guidelines:

(1) Increase the use of existing neighborhoods and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

4.10.2.2 NEPA Requirements

Three considerations will serve as a basis for the NEPA analysis of the proposed action:

(1) Directly or indirectly disrupts recreation activities in established Federal, State, or local recreation areas and/or wilderness areas

(2) Substantially reduces the scenic, biological, cultural, geologic, or other important factors that contribute to the value of Federal, State, local, or private recreational facilities or wilderness areas

(3) Diminishes the enjoyment of existing recreational opportunities

These three potential effects are discussed for the proposed action and alternatives with regard to direct, indirect, and cumulative impacts.

4.10.3 ENVIRONMENTAL CONSEQUENCES

4.10.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

A. Direct and Indirect Impacts

Construction

Established Federal, State, or Local Recreation Areas and/or Wilderness Areas. The proposed project / proposed action would not require closure or restrict access on any roads or walkways that provide access to the Keeler Dunes by Keeler residents. The proposed project / proposed action specifies the need for signage to direct individuals away from the 194 acres of active construction and the dust control areas to a corridor to the east that parallels State Route (SR) 136. Temporary restrictions with regard to passive recreation may occur during the construction phase of the proposed project / proposed action. Temporary user increases to recreational facilities within a 15-mile radius may occur due to these restrictions. There are seven recreational facilities within a 15-mile radius of the proposed project / proposed action study area (refer to Figure 3.10.2.2-1, *Nearest Recreational Facilities to the Study Area*, and Table 3.10.2.2-1, *List of Public Recreation Areas within a 1-Hour Travel Time of the Proposed Project / Proposed Action*). The nearest recreational areas are:

1. Diaz Recreational Lake Area, located approximately 9 miles northwest of the proposed project / proposed action study area (a 12–20 minute drive)
2. Spainhower Park, located approximately 11 miles northwest of the proposed project / proposed action study area (a 14–17 minute drive)
3. Portagee Joe Campground, located approximately 11 miles northwest of the proposed project / proposed action study area (a 16–19 minute drive)
4. Alabama Hills Recreation Area, located approximately 11 miles northwest of the proposed project / proposed action study area (a 25–31 minute drive)
5. Dirty Socks Hot Springs, located approximately 11.5 miles southwest of the proposed project / proposed action study area (a 17–19 minute drive)
6. Tuttle Creek Campground, located approximately 13 miles northwest of the proposed project / proposed action study area (a 29–34 minute drive)
7. Horseshoe Meadows Road Trailhead, located approximately 13 miles west of the proposed project / proposed action study area (a 52–60 minute drive).

While these facilities may experience an increase in use from the inhabitants of Keeler, the surrounding recreational areas (the Horseshoe Meadows Road Trailhead, Tuttle Creek Campground, Dirty Socks Hot Springs the Alabama Hills Recreation Area, Portagee Joe Campground, Spainhower Park, and Diaz Recreational Lake) have the capacity to absorb an increase in use. Moreover, due to their far distances, it is unexpected that these locations would serve as long-term alternate sites. Therefore, there would be no direct or adverse effect on the scenic, biological, cultural, geologic, or other important factors that contribute to the value of federal, state, local, or private recreational facilities or wilderness areas implementation of the proposed project / proposed action would not increase the use of existing neighborhoods and regional parks or other recreation facilities such that physical deterioration of the facility would occur or be accelerated.

Construction or Expansion of New Facilities. The proposed project / proposed action would not require the construction or expansion of recreation facilities, which would result in any adverse physical impacts on the environment, as the proposed project / proposed action would entail dust control measures (DCMs) that would install straw bales and utilize native vegetation as a DCM. The proposed project / proposed action does not involve construction of housing facilities, schools, or commercial buildings that would cause a rise in population, thereby alleviating the need to construct or expand any recreational facilities.

Land Use Plan Goals and Policies. The proposed project / proposed action would not conflict with any goals, policies, and regulations set forth by the Bishop Resource Management Plan, Inyo County General Plan, and the Lower Owens River Project Plan. While the proposed project / proposed action site is located 3 miles southeast of the Lower Owens River Project Boundary, the proposed project / proposed action would enhance the environmental quality of the Lower Owens River Project through the reduction of fugitive dust related pollutants in the air. Moreover, as noted in Section 4.1, *Aesthetics / Visual Resources*, the use of straw bales would result in negligible impacts with regards to aesthetics, thus preserving the scenic quality of the restored river and its surrounding environment. As a result of the proposed project / proposed action, no impacts to recreation would be expected.

Maintenance and Monitoring

As with construction, the maintenance and monitoring activities that are required during the first 3 years after the installation of the native vegetation would not exclude access to or cause excessive use of a federal, state, or local parks.

B. CEQA Significance Determinations

Construction

(1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

There are no neighborhood parks in the vicinity (within one-half mile) of the proposed project / proposed action. The limited size of the construction team and the short duration of the time required to install the native plants would not expected to result in an increase in use at the nearest regional park, Diaz Lake. Therefore, there would be no anticipated impact to recreation from increased use of Federal, State, or regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated.

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

Construction of the proposed project / proposed action would not require the construction or expansion of recreation facilities; therefore, there would be no significant impact.

Maintenance and Monitoring

(1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

There are no neighborhood parks in the vicinity (within one-half mile) of the proposed project / proposed action. The limited size of the maintenance and monitoring team and the short 3-year duration of the time required to maintain and monitor the native vegetation would not expected to result in an increase in use at the nearest regional park, Diaz Lake. Therefore, there would be no anticipated impact to recreation from increased use of Federal, State, or regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated.

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

Maintenance and monitoring of the proposed project / proposed action would not require the construction or expansion of recreation facilities; therefore, there would be no significant impact.

4.10.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference between the alternatives would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small-diameter hose.

A. Direct and Indirect Impacts

As with the proposed project / proposed action, there are no recreation facilities within Alternative 1 and access for passive recreation would be maintained to the surrounding areas; therefore, construction and operation of Alternative 1 would not result in impacts to recreation or require the construction of new recreation facilities.

B. CEQA Significance Determinations

Construction, Maintenance, and Monitoring

(1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

As with the proposed project / proposed action, there are no neighborhood parks in the vicinity of the Alternative 1 site. As with the proposed project / proposed action, Alternative 1 involves construction and maintenance and monitoring activities that would require a crew of limited size, and the time required for installation and maintenance and monitoring of the plants is of short duration and would not be expected to result in an increase in use at the nearest regional park, Diaz Lake. Therefore, there would be no anticipated impact to recreation from Alternative 1 related to increased use of federal, state, or regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated.

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

Construction, maintenance, and monitoring of Alternative 1 would not require the construction or expansion of recreation facilities; therefore, there would be no significant impact.

4.10.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3). This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune and sensitive cultural areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 3 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

As with the proposed project / proposed action, there are no recreation facilities within the Alternative 2 site and access for passive recreation would be maintained to the surrounding areas; therefore, construction and operation of Alternative 2 would not result in impacts to recreation or require the construction of new recreation facilities.

B. CEQA Significance Determinations

Construction, Maintenance, and Monitoring

(1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

As with the proposed project / proposed action, there are no neighborhood parks in the vicinity of the Alternative 2 site. As with the proposed project / proposed action, Alternative 2 would involve construction, maintenance, and monitoring activities that require a crew of limited size, and the time required for installation and maintenance and monitoring of the plants is of short duration and would not expected to result in an increase in use at the nearest regional park, Diaz Lake. Therefore, there would be no anticipated impact to recreation from Alternative 2 related to increased use of Federal, State, or regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated.

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

Construction, maintenance, and monitoring of Alternative 2 would not require the construction or expansion of recreation facilities; therefore, there would be no significant impact.

4.10.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the proposed project / proposed action via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the proposed project / proposed action area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as the proposed project / proposed action. In the environmentally sensitive areas, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from trucks at the staging areas.

A. Direct and Indirect Impacts

As with the proposed project / proposed action, there are no recreation facilities within the Alternative 3 site and access for passive recreation would be maintained to the surrounding areas; therefore, construction and operation of Alternative 3 would not result in impacts to recreation or require the construction of new recreation facilities.

B. CEQA Significance Determinations

Construction, Maintenance, and Monitoring

(1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

As with the proposed project / proposed action, there are no neighborhood parks in the vicinity of the Alternative 3 site. As with the proposed project / proposed action, Alternative 3 would involve construction, monitoring, and maintenance activities that require a crew of limited size, and the time required for installation, maintenance, and monitoring of the plants is of short duration and would not expected to result in an increase in use at the nearest regional park, Diaz Lake. Therefore, there would be no anticipated impact to recreation from Alternative 3 related to increased use of Federal, State, or regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated.

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

Construction, maintenance, and monitoring of Alternative 3 would not require the construction or expansion of recreation facilities; therefore, there would be no significant impact.

4.10.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.5). In Alternative 4, water obtained from the Fault Test Well would be transported to the proposed project / proposed action via water trucks, and the water delivery system would be fed from three supply points along SR 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly into the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in the sensitive 85 percent control area using hoses to deliver water from tanks mounted on ATVs, staged in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action instead of from tanks at the staging areas.

A. Direct and Indirect Impacts

As with the proposed project / proposed action, there are no recreation facilities within the Alternative 4 site and access for passive recreation would be maintained to the surrounding areas; therefore, construction and operation of Alternative 4 would not result in impacts to recreation or require the construction of new recreation facilities.

B. CEQA Significance Determinations

Construction, Maintenance, and Monitoring

(1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

As with the proposed project / proposed action, there are no neighborhood parks in the vicinity of the Alternative 4 site. As with the proposed project / proposed action, Alternative 4 involves construction, monitoring, and maintenance activities that require a crew of limited size, and the time required for installation and maintenance and monitoring of the plants is of short duration and would not expected to result in an increase in use at the nearest regional park, Diaz Lake. Therefore, there would be no anticipated impact to recreation from Alternative 4 related to increased use of Federal, State, or regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated.

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

Construction, maintenance, and monitoring of Alternative 4 would not require the construction or expansion of recreation facilities; therefore, there would be no significant impact.

4.10.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the proposed project / proposed action via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test Well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area. Plants within the 85 percent control area would be watered by hand using the same method as described above. The ATV-mounted tanks would be filled with water from the delivery system within the proposed project / proposed action.

A. Direct and Indirect Impacts

As with the proposed project / proposed action, there are no recreation facilities within the Alternative 5 site and access for passive recreation would be maintained to the surrounding areas; therefore, construction and operation of Alternative 5 would not result in impacts to recreation or require the construction of new recreation facilities.

B. CEQA Significance Determinations

Construction, Maintenance, and Monitoring

(1) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated

As with the proposed project / proposed action, there are no neighborhood parks in the vicinity of the Alternative 5 site. As with the proposed project / proposed action, Alternative 5 involves construction, monitoring, and maintenance activities that require a crew of limited size, and the time required for installation and maintenance and monitoring of the plants is of short duration and would not expected to result in an increase in use at the nearest regional park, Diaz Lake. Therefore, there would be no anticipated impact to recreation from Alternative 5 related to increased use of Federal, State, or regional parks or other recreational facilities such that substantial physical deterioration of a facility would occur or be accelerated.

(2) The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

Construction, maintenance, and monitoring of Alternative 5 would not require the construction or expansion of recreation facilities; therefore, there would be no significant impact.

4.10.3.7 Alternative 6, No Project / No Action Alternative

Alternative 6, No Project / No Action Alternative, assumes that the DCMs would not be installed. Alternative 6 would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of existing passive recreation uses would be expected consistent with allowable uses prescribed by the Bishop Resource Management Plan and the Inyo County General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Under Alternative 6, there would be no installation or maintenance activities; therefore, there would be no potential for direct or indirect impacts to federal, state, regional, or neighborhood recreation resources.

B. CEQA Significance Determinations

Under Alternative 6, there would be no impacts to federal, state, regional, or neighborhood recreation resources.

4.10.4 Mitigation Measures

The proposed project / proposed action description requires the installation of a sign program during construction and the maintenance and monitoring phases of the proposed project / proposed action to direct passive recreation users to open space areas in the Keeler Dunes outside the proposed project / proposed action area. Implementation of the proposed project / proposed action, Alternatives 1

through 5, or Alternative 6 would not be expected to result in substantial impacts to recreation. Therefore, no mitigation measures would be required.

4.10.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the proposed project / proposed action or alternatives would not result in any direct or residual impacts to access to recreational areas, and no mitigation would be required.

4.11 TRANSPORTATION AND TRAFFIC

This section discusses the transportation and access impacts that would occur with implementation of the proposed project / proposed action and alternatives. Impacts may occur from introduction of construction-related traffic on local roads. Information contained in this section is summarized from the Traffic Impact Study (Appendix H of this EIR/EA).

4.11.1 STUDY METHODS

This section assesses the possible effects of transportation and traffic that could result from the proposed project / proposed action and its alternatives. This analysis takes into consideration the avoidance measures that have been incorporated in to the proposed project / proposed action description for the proposed project / proposed action and its alternatives. Furthermore, this analysis only considers traffic and impacts to existing highways. No travel within the proposed project / proposed action area was included.

In order to estimate the traffic impact characteristics of the proposed project / proposed action, a multi-step process has been utilized:

- Step 1: Trip generation
- Step 2: Trip distribution
- Step 3: Traffic assignment
- Step 4: Expected future traffic volumes with and without forecast proposed project / proposed action traffic

4.11.1.1 TRIP GENERATION

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Traffic volumes to be generated by the proposed project / proposed action were forecast for the weekday AM and PM peak hours and over a 24-hour period. The weekday AM and PM peak hours reflect the peak one hour during the traditional commuting peak periods of 7:00 to 9:00 AM and 4:00 to 6:00 PM.

Based on review of the planned proposed project / proposed action components, the peak period of activities was analyzed as occurring during the Planting and Watering period phase of the construction activities.

Workers

- Up to 72 workers including planting crews, watering crews, cultural monitors, etc., would be on-site on a daily basis.
- Workers would be present at the proposed project / proposed action site between 7:00 a.m. and 5:00 p.m., Monday through Saturday. Thus, workers are assumed to arrive prior to the AM peak period. During periods of high temperature, work may begin as early as 5:00 a.m.
- A total of 2.5 construction personnel trips per day would be made to/from the proposed project / proposed action site.

- Conservatively, each worker was assumed to arrive at the site via single occupancy vehicle.

Heavy Equipment

- Heavy equipment (e.g., ATVs, forklifts, etc.) associated with this construction period would be on the site at any given time.
- The majority of all equipment would be left on-site for the duration of construction.
- The transport of the equipment to the proposed project / proposed action site, including the hauling of pipelines, may result in a one-time, temporary, short-term impact, and are not included in the trip generation forecasts.

Delivery of Plants

- A total of 3,000 plants would be delivered on a daily basis 6 days a week.
- It is assumed 1,000 plants would be delivered in semi-trailer trucks for a total of three (3) trucks per day. This would result in plant deliveries, and therefore physical planting, occurring over at least a four month period.
- In order to provide a conservative forecast, it is also assumed that the delivery of plants during this construction period would occur during the AM peak hour. However, during project implementation plant deliveries may occur at different times of the day depending on transportation needs from the nurseries.
- A 2.5 passenger car equivalency (PCE) factor was used.

Water Trucks

- Up to three watering events would occur in the first year and two in each of the following two years.
- Each supplemental watering event for the proposed project / proposed action is anticipated to occur over a 10-15 week period.
- Water would be delivered via 8,000-gallon capacity water trucks to the staging areas for the proposed project / proposed action and three of the action alternatives. In one action alternative water would be delivered from water trucks directly to the supplemental irrigation system. In one alternative, water be delivered directly to the supplemental irrigation system via a water pipeline form the KCSD well, thus eliminating the need for water trucks.
- A maximum of 6 trips would be undertaken on a single day, over a period of up to 8 days.

4.11.1.2 Trip Distribution and Assignment

Proposed project / proposed action-related (construction and subsequent operation) traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent roadway system based on the following five considerations:

- The site's proximity to major traffic corridors (i.e., U.S. Highway 395, SR 136, SR 190)
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals

- Existing intersection traffic volumes
- Ingress/egress availability at the proposed project / proposed action site assuming use of the existing gravel haul road at SR 136 and the Old State Highway for all proposed project / proposed action-related truck and employee access
- The location of the proposed project / proposed action study area

4.11.1.3 DIRECT AND INDIRECT IMPACTS

The analysis of the potential impacts was based on a five-step process, beginning with the characterization of the existing conditions and modeling the effects of construction traffic and the effectiveness of avoidance measures, included in the proposed project / proposed action description, to ensure consistency with the goals and policies of the Inyo County RTP and the Inyo County General Plan:

a) Existing conditions (data provided in Section 3.11.2.1, Existing Circulation Elements)
b) Existing plus proposed project / proposed action conditions (i.e., traffic generation during peak activities during proposed project / proposed action construction)
c) Condition (b) with implementation of proposed project / proposed action mitigation measures, where necessary
d) Condition (a) plus 2.0 percent (2.0%) ambient traffic growth through year 2014 (i.e., 1 percent per year)
e) Condition (d) plus proposed project / proposed action conditions (i.e., traffic generation during peak activities during proposed project / proposed action construction)
f) Condition (e) with implementation of proposed project / proposed action avoidance measures, as specified in the proposed project / proposed action description

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in utilization and corresponding LOS at the study locations.

4.11.2 CEQA SIGNIFICANCE CRITERIA / NEPA REQUIREMENTS

The CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the proposed project / proposed action or alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed project / proposed action with regard to construction, and operations and maintenance. Indirect effects (or impacts) are those that could result from the proposed project / proposed action or an alternative, but are later in time or further removed in distance (for example, located miles from the proposed project / proposed action site).

4.11.2.1 CEQA SIGNIFICANCE CRITERIA

The potential for the proposed project to result in impacts to transportation and traffic was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. Under CEQA, ,the potential for the proposed project or project alternatives to result in impacts related to transportation and traffic was analyzed in relation to the questions contained in Appendix G of the State CEQA Guidelines. A significant impact on transportation and traffic would normally be determined to occur if the project or project alternatives triggered one of the six thresholds established by Appendix G of the CEQA Guidelines:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways

(3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)

(5) Result in inadequate emergency access

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

4.11.2.2 NEPA REQUIREMENTS

NEPA does not provide any standards specific to transportation. Nor has the federal government established any standards for congestion as this is a matter of local preference.

4.11.3 ENVIRONMENTAL CONSEQUENCES

This section analyzes the potential for significant direct and indirect on transportation and circulation that would occur from implementation of the proposed project / proposed action.

4.11.3.1 PROPOSED PROJECT / PROPOSED ACTION, DUST CONTROL MEASURES APPLIED TO 194 ACRES USING IRRIGATION WATER DELIVERED VIA WATER TRUCKS / ATVS

A. Direct and Indirect Impacts

Level of Service

A proposed project / proposed action's transportation and circulation impacts can be separated into short-term impacts due to construction and long-term permanent impacts from proposed project / proposed action operations. It was determined that it would be appropriate to forecast the trips generated by the proposed project / proposed action based on the planned components of the proposed project / proposed action (Table 4.11.3.1-1, *Proposed Project / Proposed Action Trip Generation*).

TABLE 4.11.3.1-1
PROPOSED PROJECT / PROPOSED ACTION TRIP GENERATION

Land Use	Size	Daily Trip End (2) Volumes	AM Peak Hour Volumes (2)			PM Peak Hour Volumes (2)		
			In	Out	Total	In	Out	Total
Workers								
Approximate number of workers (3)	72 employees	158	—	—	—	0	72	72
Delivery of Plants								
Number of semi-trailer trucks (4)	3 trucks	16	8	8	16	—	—	—
Total		174	8	8	16	0	72	72

Notes:

1. The proposed project / proposed action trip generation forecast is based on the peak period of activities in terms of truck arrival/departures and number of workers at the site. Based on review of the planned proposed project / proposed action components, the peak period of activities would occur during the Planting and Watering period for construction of the proposed project / proposed action.
2. Trips are one-way traffic movements, entering or leaving.
3. The proposed project / proposed action trip generation forecasts for the Workers component during the Planting and Watering period for construction of the proposed project / proposed action is based on the following data and assumptions:
   - A total of up to 72 workers including planting crews, watering crews, cultural monitors, etc., would be on-site on a daily basis.
   - Workers would be present at the proposed project / proposed action site between 7:00 AM and 5:00 PM, Monday through Saturday. Thus, workers are assumed to arrive prior to the AM peak period. During periods of high temperature, work may begin as early as 5:00 a.m.
   - It is assumed that 2.5 construction personnel trips per day would be to/from the proposed project / proposed action site for the daily traffic volume forecast.
   - It is also conservatively assumed that each worker arrives via single occupancy vehicle.
4. The proposed project / proposed action trip generation forecasts for the Delivery of Plants during the Planting and Watering period for construction of the proposed project / proposed action is based on the following data and assumptions:
   - A total of 3,000 plants would be delivered on a daily basis 6 days a week.
   - It is assumed 1,000 plants would be delivered in semi-trailer trucks for a total of three (3) trucks per day.
   - In order to provide a conservative forecast, it is also assumed that the delivery of plants during this construction period would occur during the AM peak hour.
   - A 2.5 passenger car equivalency (PCE) factor has been assumed for semi-trailer trucks used for delivery of plants to the proposed project / proposed action site.

Level of Service (LOS) is a qualitative measure of traffic operating conditions whereby a letter grade A through F, corresponding to progressively worsening operating conditions, is assigned to an intersection or roadway segment. LOS A, B, and C are generally considered satisfactory to most motorists, while LOS D is marginally acceptable. LOS E and F are associated with severe congestion and delay, and are unacceptable to most motorists. LOS was calculated for the existing condition, existing with proposed project / proposed action, future without proposed project / proposed action, and future with proposed project / proposed action conditions (Table 4.11.3.1-2, *LOS Calculations*) for the proposed project / proposed action and the five alternatives.

TABLE 4.11.3.1-2
LOS CALCULATIONS

	Proposed Project / Proposed Action (194 acres) Water Truck / ATVs	Alternative 1 (214 acres) Water Trucks / ATVs	Alternative 2 (197 acres) Water Trucks / ATVs	Alternative 3 (194 acres) Water Trucks/Tanks PVC Irrigation System Selected Manual	Alternative 4 (194 acres) Water Trucks/Roadside PVC Irrigation System Selected Manual	Alternative 5 (194 acres) KCD Pipeline PVC Irrigation System Selected Manual	Alternative 6 No Project / No Action
Existing Condition US 395 SR 136 SR 190	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A
Existing with Proposed Project / Proposed Action US 395 SR 136 SR 190	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A
Future Without Proposed Project / Proposed Action US 395 SR 136 SR 190	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A
Future with Proposed Project / Proposed Action US 395 SR 136 SR 190	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A	LOS A/D LOS A LOS A

For purposes of this EIR, LOS C is considered the minimum acceptable standard for roadway segments as identified in the Inyo County General Plan. Degradation of roadway segment LOS below an adopted County standard or concept is a potentially significant impact.

The results of the four-step traffic impacts analysis are summarized in this EIR/EA. The existing conditions (Step 1) is located in Section 3.11.

Existing with Proposed Project / Proposed Action Conditions (Steps 2 and 3)

As the Planting and Watering period for construction of the proposed project / proposed action results in the highest level of overall vehicle trip generation, the existing with proposed project / proposed action conditions analysis only considers this period of the proposed project / proposed action. In order to provide a conservative worst-case analysis, all 174 daily vehicle trips anticipated to be generated by the proposed project / proposed action during this construction phase were assigned to each highway in the proposed action vicinity.

U.S. Highway 395. This AADT volume is well below the capacity of the four-lane section of the highway, extending between SR 136 and SR 190. U.S Highway 395 would continue to operate at LOS A under existing with proposed project / proposed action conditions for the four-lane section of the highway. However, as noted in the Olancha/Cartago Four-Lane Project MND/EA, the two-lane section of the highway near the communities of Cartago and Olancha would continue to operate at LOS D with the addition of temporary construction proposed project / proposed action-related traffic, but would operate at LOS A upon completion of the four-lane high improvement project.

State Route 136. The AADT volumes along SR 136 with the addition of temporary construction proposed project / proposed action-related traffic would range from approximately 719 vehicles east of U.S. Highway 395 to approximately 609 vehicles near SR 190 at the Olancha cutoff. SR 136 would continue to operate at LOS A in the existing with proposed project / proposed action conditions.

State Route 190. The AADT volume along SR 190 with the addition of temporary construction proposed project / proposed action-related traffic would range from approximately 404 vehicles both east of U.S. Highway 395 and west of SR 136. SR 190 would continue to operate at LOS A in the existing with proposed project / proposed action conditions.

Future without Proposed Project / Proposed Action Conditions (Step 3)

The following subsections present a summary of the future without proposed project / proposed action conditions at each of the roadway segments included as part of this traffic analysis. In order to forecast the future without proposed project / proposed action traffic volumes, the year 2012 existing traffic volumes were increased by 2.0 percent (2.0%) to reflect year 2014 future without proposed project / proposed action traffic volumes. This ambient traffic growth factor was based on traffic trend data provided in the *2011 Traffic Volumes on California State Highway System*[1] (i.e., year 2006 to 2011 annual traffic volume data) and traffic data provided in recent environmental documents. It is noted that based on review of the most recent three year reporting periods in the Caltrans document decreasing traffic volumes for state highway travel (e.g., year 2011 over 2011 was –1.1 percent) are indicated. Thus, application of the above annual growth factor is intended to account for both known and unknown related projects in the vicinity of the proposed project / proposed action, as well as any

[1] California Department of Transportation. August 2012. *2011 Traffic Volumes on California State Highway System*. Sacramento, CA.

potential regional ambient traffic growth during the period when the proposed project / proposed action is under construction.

U.S. Highway 395. The future without proposed project / proposed action AADT volume on U.S. Highway 395 between SR 136 and SR 190 would vary between approximately 5,615 and 6,035 vehicles per day, respectively. This AADT volume is well below the capacity of the four-lane section of the highway, extending between SR 136 and SR 190. U.S Highway 395 would continue to operate at LOS A in the future without proposed project / proposed action conditions for the four-lane section of the highway. However, as noted in the Olancha/Cartago Four-Lane Project MND/EA, the two-lane section of the highway near the communities of Cartago and Olancha would continue to operate at LOS D in the future without proposed project / proposed action conditions, but would operate at LOS A upon completion of the four-lane highway improvement project.

State Route 136. The future without proposed project / proposed action AADT volume along SR 136 would range from approximately 560 vehicles east of U.S. Highway 395 to approximately 445 vehicles near SR 190 at the Olancha cutoff. SR 136 would continue to operate at LOS A in the future without proposed project / proposed action conditions.

State Route 190. The future without proposed project / proposed action AADT volume along SR 190 would range from approximately 240 vehicles both east of U.S. Highway 395 and west of SR 136. SR 190 would continue to operate at LOS A in the future without proposed project / proposed action conditions.

Future with Proposed Project / Proposed Action Conditions (Step 4)

As the Planting and Watering period for construction of the proposed project / proposed action results in the highest level of overall vehicle trip generation, the future with proposed project / proposed action conditions analysis only considers this period of the proposed project / proposed action. In order to provide a conservative worst-case analysis, all 174 daily vehicle trips anticipated to be generated by the proposed project / proposed action during this construction phase were assigned to each highway in the proposed project / proposed action vicinity.

U.S. Highway 395. The future with proposed project / proposed action AADT volume on U.S. Highway 395 between SR 136 and SR 190 would vary between approximately 5,789 and 6,209 vehicles per day, respectively. This AADT volume is well below the capacity of the four-lane section of the highway, extending between SR 136 and SR 190. U.S Highway 395 would continue to operate at LOS A in the future with proposed project / proposed action conditions for the four-lane section of the highway. However, as noted in the Olancha/Cartago Four-Lane Project MND/EA, the two-lane section of the highway near the communities of Cartago and Olancha would continue to operate at LOS D in the future with proposed project / proposed action conditions, but would operate at LOS A upon completion of the four-lane highway improvement project.

State Route 136. The future with proposed project / proposed action AADT volume along SR 136 would range from approximately 734 vehicles east of U.S. Highway 395 to approximately 619 vehicles near SR 190 at the Olancha cutoff. SR 136 would continue to operate at LOS A in the future with proposed project / proposed action conditions.

State Route 190. The future with proposed project / proposed action AADT volume along SR 190 would range from approximately 414 vehicles both east of U.S. Highway 395 and west of SR 136. SR

190 would continue to operate at LOS A in the future with proposed project / proposed action conditions.

Hazardous Roadway Design

The proposed project / proposed action would not require any changes to the existing design of the roadway network or increase incompatible uses. However, the periodic events during which equipment is hauled to the site may result in safety hazards associated with other oncoming or turning vehicles on U.S. Highway 395, SR 136, and SR 190. In addition, heavy trucks transporting material and equipment may damage the roadway surface of SR 136. The approximate number of proposed project / proposed action-related equipment used on site by the crew would total up to 45 pieces (including dozers, loaders, crew pickups, ATVs for planting and watering a water truck, and trucks for plant delivery) of which the majority would be left on site during construction. The proposed project / proposed action includes the requirement to obtain an encroachment permit from Caltrans and preparation of a Traffic Control Plan to ensure the safe transport of equipment and materials in a manner that safeguards vehicular traffic on US 395, SR 136, and SR 190.

A temporary access route for ATV travel would be constructed for use during placement of straw bales and planting and watering activities. The temporary access route from all of the staging areas will be approximately 13,478.7 feet long (2.5 miles) by 20 feet wide following the existing grade (total temporary access route disturbance area is 6 acres). The temporary access route would be constructed without the use of supplemental materials such as asphalt or gravel. Once the plants are fully established, the temporary access route would be restored utilizing straw bales and native plants for the dust control areas of the proposed project / proposed action. However, these new access routes would not cause an impact in terms of hazardous roadway conditions.

Emergency Vehicle Access/Egress

The proposed project / proposed action would not result in impacts to transportation and traffic in relation to inadequate emergency access. SR 190 and SR 136 operate at LOS A, immediately adjacent to the proposed project / proposed action area in the Future with proposed project / proposed action condition. Thus, the construction and operations phases of the proposed project / proposed action would not adversely affect the capacity of the local highways to accommodate vehicular traffic during an emergency response or evacuation. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access on the surrounding highway system.

Parking Capacity

The proposed project / proposed action would not result in impacts to transportation and traffic in relation to inadequate parking capacity. Limited parking would be provided on the proposed project / proposed action site to accommodate routine maintenance and monitoring vehicles. During construction, employees will park in the main staging area (Staging Area 2), east of the Old State Highway. Therefore, the proposed project / proposed action would not impact transportation and traffic related to inadequate parking capacity.

Alternative Transportation

The proposed project / proposed action would not result in impacts to transportation and traffic in relation to adopted policies, plans, or programs supporting alternative transportation. There are no existing or planned facilities for public transit, bicycles, or pedestrians in the vicinity of the proposed

project / proposed action. Therefore, the proposed project / proposed action would not result in a significant adverse impact related to adopted policies, plans, or programs supporting alternative transportation.

Air Traffic Patterns

Due to the distance between the proposed project / proposed action site and the nearest public or private airport, as described earlier, and the types of uses associated with the proposed project / proposed action, no impacts to traffic and transportation related to a change in air traffic patterns that result in substantial safety risks are expected to occur.

B. CEQA Significance Determinations

Would the proposed project:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Construction

As shown in Table 4.11.3.1-2, the proposed project would not substantially increase traffic volumes under Year 2012 Plus Proposed Project / Proposed Action Conditions. Intersection LOS calculations are included in Appendix H. All study area highway segments would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Action Conditions are considered less than significant under CEQA.

Operations and Maintenance

Operations and maintenance traffic would consist of hauling water in water trucks and transporting water within the project area using ATVs during the 3 years following completion of the installation of plants and straw bales. Additional trips would be limited to workers trips from Keeler to the site to conduct monitoring of wind data and the vegetation establishment. It is anticipated that up to two supplemental irrigation events would be undertaken in each of the 3 years following plant installation. Each watering event would require about 46 water truck round-trips over a period of 10 weeks. Water would be delivered using 8,000-gallon capacity water trucks to the temporary staging areas 1, 2, and 3. Each watering event would include up to 46 trips, for a total of 92 trips per year.[2] This is substantially lower than the truck trips analyzed for the construction phase of the proposed project / proposed action. As with the construction phase of the proposed project / proposed action, the water truck trips required for operations and maintenance would not adversely impact traffic conditions. Similarly, the supplemental watering activities would be expected to be limited to a maximum of 10 personnel on a

[2] This assumes up to two watering events each year.

given day; substantially lower than the 72 personnel analyzed for the construction phase of the proposed project / proposed action. As with the proposed project / proposed action, vehicle trips required to support monitoring during the operations and maintenance phase would not adversely impact traffic. All study area highway segments would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, traffic impacts related to operations and maintenance under Year 2012 Plus Proposed action Conditions are considered less than significant under CEQA.

(3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Construction / Operations and Maintenance

The proposed project would not affect air traffic patterns or air traffic levels; therefore there are no impacts to transportation and traffic related to air traffic.

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction / Operations and Maintenance

Construction does not involve any roadway design elements with the exception of use of the existing access route (haul road) turnouts to the proposed project site. During construction, access to the proposed project would be provided from SR 136. Trips are substantially reduced during the operations and maintenance phase of the proposed project. As with the construction phase, access would be provided from SR 136 using an existing access route (haul road) and the Old State Highway. The Old State Highway is an unpaved road that would require minimal maintenance due to dust build up from the lakebed.

Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) right-of-ways would be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 136 would be conducted in accordance with a traffic control plan approved by Caltrans. Therefore, compliance with Caltrans requirements would reduce the potential for direct impacts associated with design features to below the level of significance.

(5) Result in inadequate emergency access?

Construction / Operations and Maintenance

Emergency access to the proposed project site during the construction and operations and maintenance phases of the proposed project would be provided from SR 136. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction / Operations and Maintenance

There are no existing or proposed facilities for public transit, bicycles or pedestrians in the vicinity of the proposed project; therefore there are no impacts to such facilities.

4.11.3.2 Alternative 1, Dust Control Measures Applied to 214 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Under Alternative 1, construction would be essentially the same as for the proposed project / proposed action (as described in Section 2.2.2). The primary difference would be the total number of plants and straw bales that would be transported to the project site and distributed onto a larger area (20 additional acres) of dust control. Alternative 1 would result in a greater number of plants and straw bales; hence, additional workers and equipment may be necessary to complete the alternative in the same time frame as the proposed project / proposed action. As with the proposed project / proposed action, supplemental irrigation in the first 3 years following installation of native vegetation would be completed via hauling of water in small water tanks (about 150–200 gallons) mounted on a trailer and pulled with an ATV and then irrigation would be conducted by hand through a small diameter hose.

A. Direct and Indirect Impacts

Level of Service

The construction scenario, access routes, staging areas and other design features for Alternative 1 would be the same as for the proposed project / proposed action although the area of impact would be 20 acres larger and require an additional 3,469 straw bales. As with the proposed project / proposed action, construction traffic is estimated to generate 172 daily vehicle trips during the first year to complete installation of plants and straw bales. Due to the increase in the amount of straw bales, each of the two supplemental watering events for Alternative 1 would require up to 48 water truck round-trips per supplemental watering event, totaling a maximum of 94 water truck round-trips per year. Therefore, the transportation and traffic for Alternative 1 would be comparable to the proposed project / proposed action described in Section 4.11.3.1.

Hazardous Roadway Design

As with the proposed project / proposed action, Alternative 1 would not require any changes to the existing design of the roadway network or increase incompatible uses and construction and operation of this alternative includes the requirement to obtain an encroachment permit from Caltrans and preparation of a Traffic Control Plan to ensure the safe transport of equipment and materials in a manner that safeguards vehicular traffic on US 395, SR 136, and SR 190.

Emergency Vehicle Access/Egress

As with the proposed project / proposed action, Alternative 1 would not result in impacts to transportation and traffic in relation to inadequate emergency access. SR 190 and SR 136 operate at LOS A, immediately adjacent to the proposed project / proposed action area in the Future with proposed project / proposed action condition. Thus, the construction and operations phases of Alternative 1 would not adversely affect the capacity of the local highways to accommodate vehicular traffic during an emergency response or evacuation. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access on the surrounding highway system.

Parking Capacity

As with the proposed project / proposed action, Alternative 1 would not result in impacts to transportation and traffic in relation to inadequate parking capacity. Limited parking would be provided on the site to accommodate routine maintenance and monitoring vehicles. During construction, employees would park in the main staging area (Staging Area 2), east of the Old State Highway. Therefore, Alternative 1 would not impact transportation and traffic related to inadequate parking capacity.

Alternative Transportation

As with Alternative 1, the proposed project / proposed action would not result in impacts to transportation and traffic in relation to adopted policies, plans, or programs supporting alternative transportation. There are no existing or planned facilities for public transit, bicycles, or pedestrians in the vicinity of the proposed project / proposed action. Therefore, Alternative 1 would not result in a significant adverse impact related to adopted policies, plans, or programs supporting alternative transportation.

Air Traffic Patterns

Due to the distance between the Alternative 1 site and the nearest public or private airport, as described earlier, and the types of uses associated with Alternative 1, no impacts to traffic and transportation related to a change in air traffic patterns that result in substantial safety risks are expected to occur.

B. CEQA Significance Determinations

Would Alternative 1:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Construction

As shown in Table 4.11.3.1-2, Alternative 1 would not substantially increase traffic volumes under Year 2012 Plus Proposed Project / Proposed Action Conditions. Intersection LOS calculations are included in Appendix H. All study area highway segment would continue to operate at LOS A. Likewise construction traffic on roadway and highway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Action Conditions are considered less than significant under CEQA.

Operations and Maintenance

The volume of traffic related to operations and maintenance activities would be lower than the traffic during project construction. The SR 136 segment that crosses through the project study area would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

(3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Construction / Operations and Maintenance

Alternative 1 would not affect air traffic patterns or air traffic levels; therefore there are no impacts to transportation and traffic related to air traffic.

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction / Operations and Maintenance

Construction does not involve any roadway design elements with the exception of use of the existing access route (haul road) turnouts and the Old State Highway to the proposed project site. During construction, access to the proposed project would be provided from SR 136. Trips are substantially reduced during the operations and maintenance phase of the proposed project. As with the construction phase, access would be provided from SR 136 using an existing access route (haul road) and the Old State Highway.

Potential impacts associated with encroaching on California Department of Transportation (Caltrans) right-of-ways would be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 136 would be conducted in accordance with a traffic control plan approved by Caltrans. Therefore, compliance with Caltrans requirements would reduce the potential for direct impacts associated with design features to below the level of significance.

(5) Result in inadequate emergency access?

Construction / Operations and Maintenance

Emergency access to the proposed project site during the construction and operations and maintenance phases of the proposed project would be provided from SR 136. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction / Operations and Maintenance

There are no existing or proposed facilities for public transit, bicycles or pedestrians in the vicinity of the proposed project; therefore, there are no impacts to such facilities.

4.11.3.3 Alternative 2, Dust Control Measures Applied to 197 Acres Using Irrigation Water Delivered via Water Trucks / ATVs

Alternative 2 has DCMs applied at different intensities in different areas of the Keeler Dunes, and the total acreage treated is 3 acres larger than the proposed project / proposed action (as described in Section 2.2.3) This alternative focuses on applying the highest intensity of dust control (95 percent control efficiency) across the Keeler Dunes and inter-dune sand sheet areas (170 acres), while applying less intensive controls on other inter-dune areas (27 acres at 90 percent dust control efficiency). The staging areas, access routes, construction scenario, and watering would remain the same as for the proposed project / proposed action; only the numbers of straw bales and plants and the area they are applied to would be increased by less than 1.5 percent due to the additional 3 acres to be treated. The construction scenario, access routes, staging areas and other design features would be largely the same as for the proposed project / proposed action although the area of impact would be 3 acres larger.

A. Direct and Indirect Impacts

Level of Service

The construction scenario, access routes, staging areas and other design features for Alternative 2 would be the same as for the proposed project / proposed action although the area of impact would be 3 acres larger and require an additional 6,720 straw bales. As with the proposed project / proposed action, construction traffic is estimated to generate 172 daily vehicle trips during the first year to complete installation of plants and straw bales. Furthermore, as with the proposed project / proposed action, Alternative 2 would require up to two watering events per year for the first 3 years following completion of the installation of plants and straw bales. Due to the increase in the amount of straw bales, each of the three supplemental watering events for Alternative 2 would require up to 48 water truck round-trips per supplemental irrigation event, totaling a maximum of 96 water truck round-trips per year. Therefore, the transportation and traffic for Alternative 2 would be comparable to the proposed project / proposed action described in Section 4.11.3.1.

Hazardous Roadway Design

As with the proposed project / proposed action, Alternative 2 would not require any changes to the existing design of the roadway network or increase incompatible uses and construction and operation of this alternative includes the requirement to obtain an encroachment permit from Caltrans and preparation of a Traffic Control Plan to ensure the safe transport of equipment and materials in a manner that safeguards vehicular traffic on US 395, SR 136, and SR 190.

Emergency Vehicle Access/Egress

As with the proposed project / proposed action, Alternative 2 would not result in impacts to transportation and traffic in relation to inadequate emergency access. SR 190 and SR 136 operate at LOS A, immediately adjacent to the Alternative 2 project area. Thus, the construction and operations phases of Alternative 2 would not adversely affect the capacity of the local highways to accommodate vehicular traffic during an emergency response or evacuation. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access on the surrounding highway system.

Parking Capacity

As with the proposed project / proposed action, Alternative 2 would not result in impacts to transportation and traffic in relation to inadequate parking capacity. Limited parking would be provided on the site to accommodate routine maintenance and monitoring vehicles. During construction, employees would park in the main staging area (Staging Area 2), east of the Old State Highway. Therefore, Alternative 2 would not impact transportation and traffic related to inadequate parking capacity.

Alternative Transportation

As with proposed project / proposed action, Alternative 2 would not result in impacts to transportation and traffic in relation to adopted policies, plans, or programs supporting alternative transportation. There are no existing or planned facilities for public transit, bicycles, or pedestrians in the vicinity of the proposed project / proposed action. Therefore, Alternative 2 would not result in a significant adverse impact related to adopted policies, plans, or programs supporting alternative transportation.

Air Traffic Patterns

Due to the distance between the Alternative 2 site and the nearest public or private airport, as described earlier, and the types of uses associated with Alternative 2, no impacts to traffic and transportation related to a change in air traffic patterns that result in substantial safety risks are expected to occur.

B. CEQA Significance Determinations

Would Alternative 2:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Construction

As shown in Table 4.11.3.1-2, Alternative 2 would not substantially increase traffic volumes under Year 2012 Plus Proposed Project / Proposed Action Conditions. Intersection LOS calculations are included in Appendix H. All study area highway segment would continue to operate at LOS A. Likewise construction traffic on highway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

Operations and Maintenance

Consistent with the analysis performed for the proposed action / proposed project, the volume of traffic related to operations and maintenance activities would be lower than the traffic during project construction. All study area highway segments would continue to operate at LOS A. Likewise construction traffic on highway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

(3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Construction / Operations and Maintenance

Alternative 2 would not affect air traffic patterns or air traffic levels; therefore there are no impacts to transportation and traffic related to air traffic.

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction / Operations and Maintenance

Construction does not involve any roadway design elements with the exception of use of the existing access route (haul road) turnouts to the proposed project site. During construction, access to the proposed project would be provided from SR 136. Trips are substantially reduced during the operations and maintenance phase of the proposed project. As with the construction phase, access would be provided from SR 136 using an existing access route (haul road) and the Old State Highway. Minimal maintenance activities would occur along Old State Highway to clear dust build up.

Potential impacts associated encroaching on California Department of Transportation (Caltrans) right-of-ways would be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 136 would be conducted in accordance with a traffic control plan approved by Caltrans. Therefore, compliance with Caltrans requirements would reduce the potential for direct impacts associated with design features to below the level of significance.

(5) Result in inadequate emergency access?

Construction / Operations and Maintenance

Emergency access to the proposed project site during the construction and operations and maintenance phases of the proposed project would be provided from SR 136. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction / Operations and Maintenance

There are no existing or proposed facilities for public transit, bicycles or pedestrians in the vicinity of the proposed project; therefore there are no impacts to such facilities.

4.11.3.4 Alternative 3, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / Tanks / PVC Irrigation System and Selected Manual Watering

Under Alternative 3, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.2.4). Water obtained from the District's production well at the Fault Test site would be transported to the project via large water trucks to temporary storage tanks located at the three of the four designated staging areas. Since the staging areas are lower in elevation than the project area, each staging area would need to have a manifold and booster pump to pressurize the irrigation system. The use of water tanks mounted on ATVs, to distribute supplemental irrigation during the operations and maintenance phase of the project, would be replaced with a temporary aboveground irrigation system that would be installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be manually watered using the same method as described proposed project / proposed action. The ATV mounted tanks would be filled with water from the delivery system within the project instead of from trucks at the staging areas.

A. Direct and Indirect Impacts

Level of Service

Alternative 3 would be essentially the same as the proposed project / proposed action, with 194 acres of area permanently treated with native plants and straw bales. This alternative proposes the addition of a temporary above ground irrigation system and involves the least amount of travel in the dunes (Please refer to Figure 2.2.4-1, *Alternative 3, Manual Watering and Irrigation Schematic Along Old State Highway*). Water obtained from the District's production well at the Fault Test site would be transported to the project via large water trucks to large water tanks at the staging areas along Old State Highway where it would connect to a temporary above ground irrigation system would be designed such that irrigation laterals are placed every 150 feet across the project. All travel associated with irrigation would be along the designated access routes and lateral lines. In Alternative 3, the water trucks would only be parked at the staging areas during times of active watering. The water trucks would be parked off-site at night and on weekends. As with the proposed project / proposed action, Alternative 3 applies dust control measures to 194 acres and requires the same amount of water truck round-trip deliveries for up to two supplemental watering events each year. Therefore, the transportation and traffic for Alternative 3 would be comparable to the proposed project / proposed action described in Section 4.11.3.1.

Hazardous Roadway Design

As with the proposed project / proposed action, Alternative 3 would not require any changes to the existing design of the roadway network or increase incompatible uses and construction and operation of this alternative includes the requirement to obtain an encroachment permit from Caltrans and preparation of a Traffic Control Plan to ensure the safe transport of equipment and materials in a manner that safeguards vehicular traffic on US 395, SR 136, and SR 190.

Emergency Vehicle Access/Egress

As with the proposed project / proposed action, Alternative 3 would not result in impacts to transportation and traffic in relation to inadequate emergency access. SR 190 and SR 136 operate at LOS A, immediately adjacent to the proposed project / proposed action area in the Future with Proposed Project / Proposed Action condition. Thus, the construction and operations phases of Alternative 3 would not adversely affect the capacity of the local highways to accommodate vehicular traffic during an emergency response or evacuation. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access on the surrounding highway system.

Parking Capacity

As with the proposed project / proposed action, Alternative 3 would not result in impacts to transportation and traffic in relation to inadequate parking capacity. Limited parking would be provided on the site to accommodate routine maintenance and monitoring vehicles. During construction, employees would park in the main staging area (Staging Area 2), east of the Old State Highway. Therefore, Alternative 3 would not impact transportation and traffic related to inadequate parking capacity.

Alternative Transportation

As with the proposed project / proposed action, Alternative 3 would not result in impacts to transportation and traffic in relation to adopted policies, plans, or programs supporting alternative transportation. There are no existing or planned facilities for public transit, bicycles, or pedestrians in the vicinity of the proposed project / proposed action. Therefore, Alternative 3 would not result in a significant adverse impact related to adopted policies, plans, or programs supporting alternative transportation.

Air Traffic Patterns

Due to the distance between the Alternative 3 site and the nearest public or private airport, as described earlier, and the types of uses associated with Alternative 3, no impacts to traffic and transportation related to a change in air traffic patterns that result in substantial safety risks are expected to occur.

B. CEQA Significance Determinations

Would Alternative 3:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Construction

As shown in Table 4.11.3.1-2, Alternative 3 would not substantially increase traffic volumes under Year 2012 Plus Proposed Project / Proposed Action Conditions. Intersection LOS calculations are included in Appendix H. All study area highway segment would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

Operations and Maintenance

Consistent with the analysis performed for the proposed action / proposed project, the volume of traffic related to operations and maintenance activities would be lower than the traffic during project construction. All study area highway segment would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

(3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Construction / Operations and Maintenance

Alternative 3 would not affect air traffic patterns or air traffic levels; therefore there are no impacts to transportation and traffic related to air traffic.

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction / Operations and Maintenance

Construction does not involve any roadway design elements with the exception of use of the existing access route (haul road) turnouts to the proposed project site via the gravel haul road and the Old State Highway. During construction, access to the proposed project would be provided from SR 136. Trips are substantially reduced during the operations and maintenance phase of the proposed project. As with the construction phase, access would be provided from SR 136 using an existing access route (haul road) and the Old State Highway.

Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) right-of-ways would be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 136 would be conducted in accordance with a traffic control plan approved by Caltrans. Therefore, compliance with Caltrans requirements would reduce the potential for direct impacts associated with design features to below the level of significance.

(5) Result in inadequate emergency access?

Construction / Operations and Maintenance

Emergency access to the proposed project / proposed action site during the construction and operations and maintenance phases of the proposed project would be provided from SR 136 and the Old State Highway. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction / Operations and Maintenance

There are no existing or proposed facilities for public transit, bicycles or pedestrians in the vicinity of the proposed project / proposed action; therefore there are no impacts to such facilities.

4.11.3.5 Alternative 4, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via Water Trucks / PVC Irrigation System and Selected Manual Watering

Under Alternative 4, the DCMs would be the same as the proposed project / proposed action (as described in Section 2.25). In Alternative 4, water obtained from the Fault Test Well would be transported to the project via water trucks and the water delivery system would be fed from three supply points along State Route 136. As with Alternative 3, plants within the 95 percent control area would be watered with hoses attached to the laterals of the temporary PVC irrigation system. In this alternative, water trucks would stage next to the highway and deliver water directly in to the temporary PVC irrigation system, rather than utilizing water tanks at the staging areas for temporary storage. As in Alternative 3, hand watering would be done in approximately 8 percent of the dust control area using hoses to deliver water from tanks mounted on ATVs, stage in a manner to avoid sensitive cultural resources. As with the temporary irrigation system, the ATV mounted tanks would be filled with water from the delivery system within the project instead of from tanks at the staging areas.

A. Direct and Indirect Impacts

Level of Service

Alternative 4 would be essentially the same as the proposed project / proposed action, with 194 acres of area permanently treated with native plants and straw bales. This alternative proposes the addition of a temporary aboveground irrigation system and involves the least amount of travel in the dunes (Please refer to Figure 2.2.5-1, *Alternative 4, Manual Watering and Irrigation Schematic Along State Route 136*). Water obtained from the District's production well at the Fault Test site would be transported to the site via large water trucks that would connect to the water delivery system from turnouts off of SR 136. The temporary above ground irrigation system would be designed such that irrigation laterals are placed every 150 feet across the project. All travel associated with irrigation would be along the designated access routes and lateral lines. In Alternative 4, the water trucks would only be parked at the designated turnouts during times of active watering. Three turnouts would be established along the west side of SR 136 for water truck parking. The water trucks would be parked off-site at night and on weekends. As with the proposed project / proposed action, Alternative 4 applies

dust control measures to 194 acres and requires the same amount of water truck round-trip deliveries for up to two supplemental watering events each year. Therefore, the transportation and traffic for Alternative 4 would be comparable to the proposed project / proposed action described in Section 4.11.3.1.

Hazardous Roadway Design

As with the proposed project / proposed action, Alternative 4 would not require any changes to the existing design of the roadway network or increase incompatible uses and construction and operation of this alternative includes the requirement to obtain an encroachment permit from Caltrans and preparation of a Traffic Control Plan to ensure the safe transport of equipment and materials in a manner that safeguards vehicular traffic on US 395, SR 136, and SR 190.

Emergency Vehicle Access/Egress

As with the proposed project / proposed action, Alternative 4 would not result in impacts to transportation and traffic in relation to inadequate emergency access. SR 190 and SR 136 operate at LOS A, immediately adjacent to the proposed project / proposed action area in the Future with Proposed Project / Proposed Action condition. Thus, the construction and operations phases of Alternative 4 would not adversely affect the capacity of the local highways to accommodate vehicular traffic during an emergency response or evacuation. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access on the surrounding highway system.

Parking Capacity

As with the proposed project / proposed action, Alternative 4 would not result in impacts to transportation and traffic in relation to inadequate parking capacity. Limited parking would be provided on the site to accommodate routine maintenance and monitoring vehicles. During construction, employees would park in the main staging area (Staging Area 2), east of the Old State Highway. Therefore, Alternative 4 would not impact transportation and traffic related to inadequate parking capacity.

Alternative Transportation

As with the proposed project / proposed action, Alternative 4 would not result in impacts to transportation and traffic in relation to adopted policies, plans, or programs supporting alternative transportation. There are no existing or planned facilities for public transit, bicycles, or pedestrians in the vicinity of the proposed project / proposed action. Therefore, Alternative 4 would not result in a significant adverse impact related to adopted policies, plans, or programs supporting alternative transportation.

Air Traffic Patterns

Due to the distance between the Alternative 4 site and the nearest public or private airport, as described earlier, and the types of uses associated with Alternative 4, no impacts to traffic and transportation related to a change in air traffic patterns that result in substantial safety risks are expected to occur.

B. CEQA Significance Determinations

Would Alternative 4:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Construction

As shown in Table 4.11.3.1-2, Alternative 4 would not substantially increase traffic volumes under Year 2012 Plus Proposed Project / Proposed Action Conditions. Intersection LOS calculations are included in Appendix H. All study area highway segment would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

Operations and Maintenance

Consistent with the analysis performed for the proposed project, the volume of traffic related to operations and maintenance activities would be lower than the traffic during project construction. All study area highway segment would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

(3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Construction / Operations and Maintenance

Alternative 4 would not affect air traffic patterns or air traffic levels; therefore there are no impacts to transportation and traffic related to air traffic.

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction / Operations and Maintenance

Construction does not involve any roadway design elements with the exception of use of the existing access route (haul road) and the Old State Highway to the proposed project site. During construction, access to the proposed project / proposed action would be provided from SR 136 the gravel haul road and the Old State highway. Trips are substantially reduced during the operations and maintenance

phase of the proposed project. As with the construction phase, access would be provided from SR 136 using an existing access route (haul road) and the Old State Highway. Minimal maintenance activities would occur along Old State Highway to clear dust build up.

Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) right-of-ways would be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 136 would be conducted in accordance with a traffic control plan approved by Caltrans. Therefore, compliance with Caltrans requirements would reduce the potential for direct impacts associated with design features to below the level of significance.

(5) Result in inadequate emergency access?

Construction / Operations and Maintenance

Emergency access to the proposed project / proposed action site during the construction and operations and maintenance phases of the proposed project / proposed action would be provided from SR 136. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction / Operations and Maintenance

There are no existing or proposed facilities for public transit, bicycles or pedestrians in the vicinity of the proposed project / proposed action; therefore there are no impacts to such facilities.

4.11.3.6 Alternative 5, Dust Control Measures Applied to 194 Acres Using Irrigation Water Delivered via KCSD Water Well / Pipeline to Irrigation System and Selected Manual Watering

Under Alternative 5, the DCMs would be the same as the proposed project / proposed action. In Alternative 5, water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Water would be supplied directly to the temporary irrigation system from the KCSD, in lieu of the District's Fault Test well. As with Alternatives 3 and 4, Alternative 5 would include a temporary aboveground irrigation system installed within the 95 percent control level area to provide water to the project area. Plants within the sensitive 85 percent control area would be watered by hand using the same method as described above. The ATV mounted tanks would be filled with water from the delivery system within the project.

A. Direct and Indirect Impacts

Level of Service

Alternative 5 would be essentially the same as the proposed project / proposed action, with 194 acres of area permanently treated with native plants and straw bales. This alternative proposes the addition of a temporary aboveground irrigation system and involves the least amount of travel in the dunes (Please refer to Figure 2.2.6-1, *Alternative 5, Manual Watering and Irrigation Schematic with KCSD*

Well). Water obtained from the KCSD well would be transported to the project via a temporary pipeline that connects into the KCSD water system near the KCSD well site. Since Alternative 5 involves a direct water line from the KCSD system, no water trucks are required. Therefore, the transportation and traffic for Alternative 5 would be less than the proposed project / proposed action described in Section 4.11.3.1.

Hazardous Roadway Design

As with the proposed project / proposed action, Alternative 5 would not require any changes to the existing design of the roadway network or increase incompatible uses and construction and operation of this alternative includes the requirement to obtain an encroachment permit from Caltrans and preparation of a Traffic Control Plan to ensure the safe transport of equipment and materials in a manner that safeguards vehicular traffic on US 395, SR 136, and SR 190.

Emergency Vehicle Access/Egress

As with the proposed project / proposed action, Alternative 5 would not result in impacts to transportation and traffic in relation to inadequate emergency access. SR 190 and SR 136 operate at LOS A, immediately adjacent to the proposed project / proposed action area in the Future with Proposed Project / Proposed Action condition. Thus, the construction and operations phases of Alternative 5 would not adversely affect the capacity of the local highways to accommodate vehicular traffic during an emergency response or evacuation. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access on the surrounding highway system.

Parking Capacity

As with the proposed project / proposed action, Alternative 5 would not result in impacts to transportation and traffic in relation to inadequate parking capacity. Limited parking would be provided on the site to accommodate routine maintenance and monitoring vehicles. During construction, employees would park in the main staging area (Staging Area 2), east of the Old State Highway. Therefore, Alternative 5 would not impact transportation and traffic related to inadequate parking capacity.

Alternative Transportation

As with the proposed project / proposed action, Alternative 5 would not result in impacts to transportation and traffic in relation to adopted policies, plans, or programs supporting alternative transportation. There are no existing or planned facilities for public transit, bicycles, or pedestrians in the vicinity of the proposed project / proposed action. Therefore, Alternative 5 would not result in a significant adverse impact related to adopted policies, plans, or programs supporting alternative transportation.

Air Traffic Patterns

Due to the distance between the Alternative 5 site and the nearest public or private airport, as described earlier, and the types of uses associated with Alternative 5, no impacts to traffic and transportation related to a change in air traffic patterns that result in substantial safety risks are expected to occur.

B. CEQA Significance Determinations

Would Alternative 5:

(1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

(2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Construction

As shown in Table 4.11.3.1-2, Alternative 5 would not substantially increase traffic volumes under Year 2012 Plus Proposed Project / Proposed Action Conditions. Intersection LOS calculations are included in Appendix H. All study area highway segment would continue to operate at LOS A. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed Project / Proposed Action Conditions are considered less than significant under CEQA.

Operations and Maintenance

Delivery of water for supplemental irrigation via pipeline from the KCSD well would eliminate the need for up to 92 truck trips per year for each of the 3 years following construction. Consistent with the analysis performed for the proposed project, the volume of traffic related to operations and maintenance activities would be lower than the traffic during project construction. All study area highway segments would continue to operate at LOS A. Likewise construction traffic on highway segments would not exceed V/C ratios. Therefore, construction traffic impacts under Year 2012 Plus Proposed project / proposed action Conditions are considered less than significant under CEQA.

(3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Construction / Operations and Maintenance

Alternative 5 would not affect air traffic patterns or air traffic levels; therefore there are no impacts to transportation and traffic related to air traffic.

(4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Construction / Operations and Maintenance

Construction does not involve any roadway design elements with the exception of use of the existing access route (haul road) turnouts to the proposed project site. During construction, access to the proposed project would be provided from SR 136. Trips are substantially reduced during the

operations and maintenance phase of the proposed project. As with the construction phase, access would be provided from SR 136 using an existing access route (haul road).

Potential impacts associated with encroaching on California Department of Transportation (Caltrans) right-of-ways would be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 136 would be conducted in accordance with a traffic control plan approved by Caltrans. Therefore, compliance with Caltrans requirements would reduce the potential for direct impacts associated with design features to below the level of significance.

(5) Result in inadequate emergency access?

Construction / Operations and Maintenance

Emergency access to the proposed project site during the construction and operations and maintenance phases of the proposed project / proposed action would be provided from SR 136. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

(6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Construction / Operations and Maintenance

There are no existing or proposed facilities for public transit, bicycles or pedestrians in the vicinity of the proposed project / proposed action; therefore there are no impacts to such facilities.

4.11.3.7 Alternative 6, NO PROJECT / NO ACTION ALTERNATIVE

A. Direct and Indirect Impacts

Alternative 6, No Project / No Action, assumes that the dust control measures would not be implemented on the proposed project / proposed action site and windblown dust and associated PM_{10} emissions would continue to pose a health hazard to the communities of Keeler and Swansea. Under Alternative 6 it is likely that during high wind events, the NAAQS and California state standards for PM_{10} would continue to be exceeded in violation of the 2008 SIP. The sand dunes on the proposed project / proposed action site would continue to migrate to the south-southeast toward the community of Keeler and natural resources within the dunes would continue to be affected by the shifting sands resulting from high wind events

Construction / Operations and Maintenance

The proposed project / proposed action would not be constructed or operated if Alternative 6, No Project / No Action Alternative, was selected. No change in existing circulation patterns would occur. No traffic would be generated in association with construction, nor would any hazards from a design feature be created. Existing hazards related to reduced visibility for motorists on SR 136, during dust events originating from the Keeler Dunes, would remain unabated. Emergency access and parking capacity would also be non-issues. Thus, no direct or indirect impacts to transportation/circulation would occur under Alternative 6, No Project / No Action Alternative.

B. CEQA Significance Determinations

Construction / Operations and Maintenance

The proposed project would not be constructed or operated if Alternative 6, No Project / No Action Alternative, was selected. No change in existing circulation patterns would occur, no traffic would be generated in association with construction, nor would any hazards from a design feature be created. Emergency access and parking capacity would also be non-issues. Thus, no impacts to transportation/circulation would occur under CEQA for Alternative 6, No Project / No Action Alternative.

4.11.4 MITIGATION MEASURES

As shown in Table 4.11.3.1-2, the increases in traffic during peak construction of the proposed project / proposed action would not exceed LOS standards in Year 2012. Additionally, the proposed project / proposed action would require an encroachment permit from Caltrans to ensure compliance with traffic regulations. Therefore, construction traffic impacts to study area intersections would be considered less than significant under CEQA for Year 2012 Plus Proposed Project / Proposed Action Conditions for the proposed project / proposed action.

No significant direct impacts to intersections, roadway segments, freeway segments, hazards from a design feature, emergency access, or parking capacity were identified for the proposed project / proposed action; Alternatives 1 through 5; and Alternative 6, No Project / No Action Alternative. As a result, no mitigation measures are required.

4.11.5 RESIDUAL IMPACTS AFTER MITIGATION

No mitigation measures were required for the proposed project / proposed action or Alternatives 1, 2, 3, 4, 5, and 6. Therefore, there are no residual impacts after mitigation.

CHAPTER 5.0
CUMULATIVE IMPACTS

5.0 CUMULATIVE IMPACTS

Every effort has been made in this cumulative analysis to present a thorough discussion and/or analysis of direct and indirect cumulative impacts based on available and accurate information. The cumulative impacts/effects of the majority of the eleven resource areas examined in the EIR/EA are discussed at a qualitative level. Whenever possible, cumulative impacts are quantified using existing environmental documents or technical studies.

During the environmental review processes for both CEQA and NEPA, certain resource areas were determined to have no impact (or no adverse effect) and therefore no incremental effect that would be cumulatively considerable. Nevertheless the EIR/EA must still briefly describe the basis for concluding that the incremental effect is not cumulatively considerable or why the proposed project / proposed action would not result in an adverse cumulative impact when combined with other cumulative projects. For the purposes of CEQA, "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of reasonably foreseeable projects. Likewise, under NEPA the "cumulative impact" refers to the impact on the environment resulting from the incremental impact of the proposed project / proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

5.01 CEQA PROCESS

Under CEQA, a project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (California Code of Regulations, Title 14, Section 15130). Cumulative impacts could result from the construction, operation and maintenance, and decommissioning phases of the proposed project.

5.02 NEPA PROCESS

The purpose of the cumulative impact analysis under NEPA is to ensure that Federal decision-makers consider the full range of consequences of actions (the proposed action and alternatives, including the No Action Alternative). Assessing cumulative impacts begins early in the NEPA process, during internal and external scoping. In cases where, the proposed action and alternatives would have no direct or indirect effects on a resource, the cumulative impacts for the resource are not required to be analyzed.

When necessary to analyze, cumulative impacts are assessed based on geographic scope/context (spatial) and timeframe (temporal) boundaries.

5.02.1 GEOGRAPHIC SCOPE

The geographic scope is generally based on the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope often differs for each resource area. For example, if a proposal affects water quality and air quality, the appropriate cumulative effects analysis areas may be the watershed and the airshed. In some cases, defining the geographic scope may be subjective but should be rational and reasonable. The rationale for selecting the geographic scope is be provided for each resource area.

5.02.2 TIMEFRAME

The timeframe refers the duration over which an impact would occur: short-term or long-term. Timeframes, like geographic scope, can vary by resource and be somewhat subjective. For example, the timeframe for construction air quality impacts would be much shorter than the timeframe for reestablishing vegetation impacted during construction. The rationale for selecting the timeframe is provided for each resource area.

5.03 EXISTING CUMULATIVE CONDITIONS

The cumulative impacts analysis considers past, present, and reasonably foreseeable future actions that would affect each resource area impacted within the geographic scope and the timeframe of the analysis. The cumulative impacts analysis considers other BLM actions, other Federal actions, and non-Federal (including private) actions (40 CFR 1508.7).

PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS

The analysis of cumulative impacts takes into account the effects in common with other past, present, and reasonably foreseeable future actions. The analysis identifies past actions that are closely related either in time (temporal) or space (geographical proximity) to the proposed project / proposed action; present actions ongoing concurrently at the time this EIR/EA was being prepared; and reasonably foreseeable future actions, such as projects for which there are existing decisions, funding, formal proposals, or reasonably foreseeable future actions which are highly likely to occur based on known opportunities or trends.

In addition to coordinating with their internal planning personnel, the District and BLM contacted the State Lands Commission, Inyo County, and the LADWP to seek out information regarding past, present, and reasonably foreseeable probable future projects within the Owens Valley Planning Area. The District and the BLM identified 10 past, present, and reasonably foreseeable probable future projects that were considered in the evaluation of the potential for the proposed project to result in cumulative significant impacts (Table 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*; Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*).

Varying degrees of information are available for projects in the cumulative list. For resource areas where quantitative information was available, a quantitative analysis is provided; however, if sufficient information was not available, a qualitative analysis is provided.

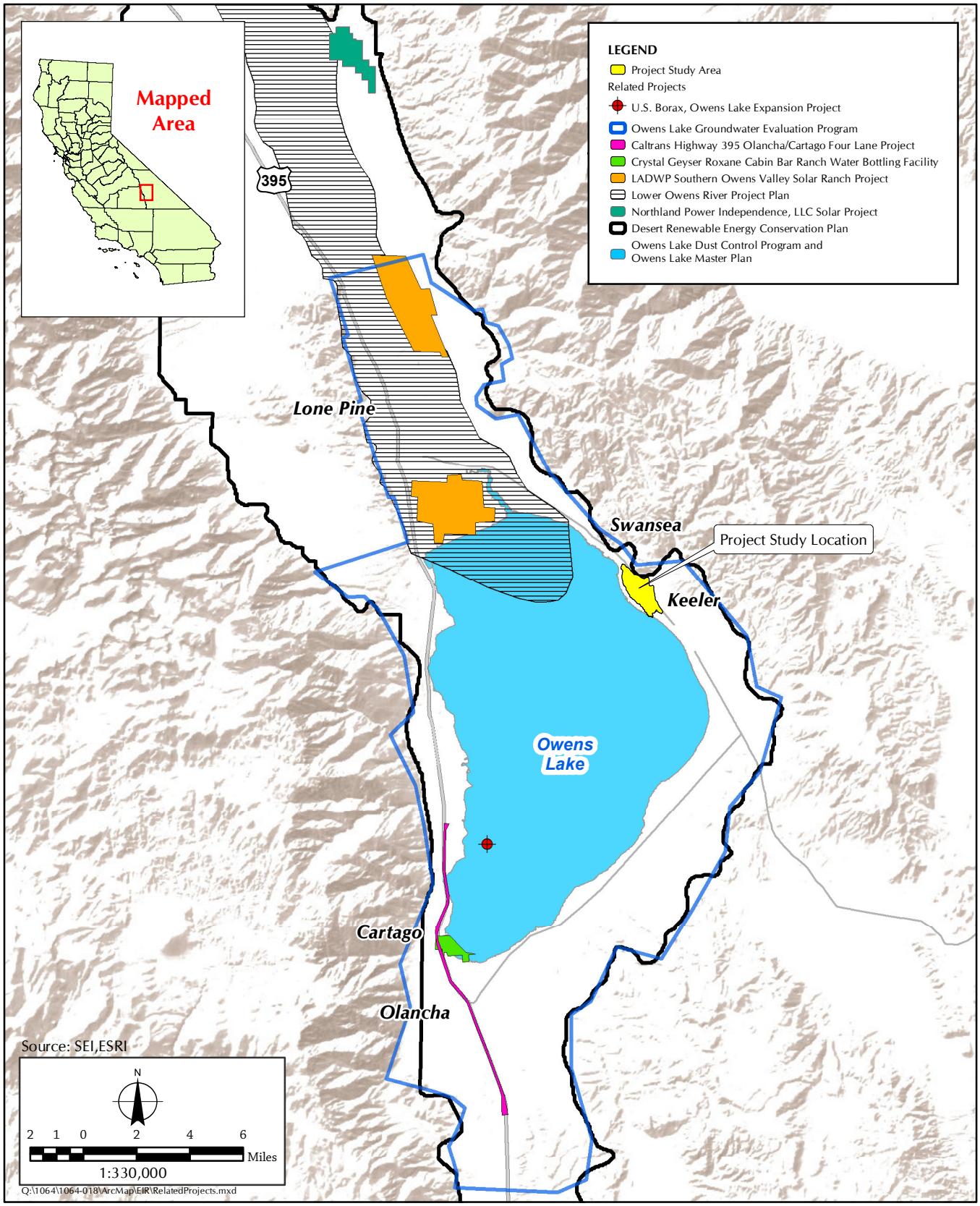

FIGURE 5.03-1

Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action

Table 5.03-1 provides a comprehensive listing of all reasonably foreseeable projects near the proposed project / proposed action. Reasonably foreseeable projects are those for which an application has been submitted to the appropriate agency, are currently undergoing environmental review, or will be pursuing environmental review in the near future (1 to 2 years or less). Activity must be occurring in order for the project to be reasonably foreseeable. Projects that have started the application or environmental review process but have been stalled over 6 months are not considered reasonably foreseeable.

Table 5.03-1 and Figure 5.03-1 identifies all projects that could contribute to a cumulative impact on the environment. Projects listed include projects on BLM-managed lands, California State managed lands and/or private lands, other actions/activities that have submitted an application and an acceptable plan of development for the use of public lands, and projects identified by state and local agencies. The table presents the name and owner, location, size, type, a brief description, status, potential impacts, assumptions, and status of each project, to the extent available. Most of the projects have been, are being, or would be required to undergo their own independent environmental review under CEQA, NEPA, and/or Council on Environmental Quality, as applicable. For the proposed project / proposed action, the cumulative scenario for each issue area includes all or a portion of the 10 projects listed in Table 5.03-1 and shown in Figure 5.03-1.

With the exception of climate change, which is a global issue, the California desert is identified as the largest area within which cumulative effects could be assessed for all disciplines. However, within the desert region, the specific area of cumulative effect varies by resource. For each resource, the geographic scope of analysis is based on the topographical surrounding of the project and the natural boundaries of the resource affected, rather than jurisdictional boundaries.

In addition, each project in a region would have its own implementation schedule, which may or may not coincide or overlap with the proposed project / proposed action's schedule. This is a consideration for short-term impacts from the proposed project. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the proposed project / proposed action.

The direct and indirect effects of the proposed project / proposed action and each alternative, together with the effects of the other actions that have a cumulative effect, are analyzed for each resource or issue area. For the sake of being conservative, the cumulative analysis assumes that the projects identified in the cumulative scenario would be constructed because they are considered to be reasonably foreseeable (i.e. projects for which an application has been submitted to the appropriate agency, are currently undergoing environmental review, or will be pursuing environmental review in the near future (1 to 2 years or less).

TABLE 5.03-1
CUMULATIVE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION

Project Name	Size/Location	Description of Project	Impacts	Assumptions	Status
Owens Lake Dust Control Program	The Owens Valley Planning Area (OVPA) includes portions of the Owens Lake bed. The lake bed extends about 17 miles north and south and 10 miles east and west and covers an area of approximately 110 square miles (70,000 acres).	Construction, operation, and maintenance of Dust Control Measures (DCMs).	Impacts include air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, traffic and transportation, and utilities and service systems.	Approximately 2.86 square miles of additional dust controls are required of which 11.4 acres of BLM lands will be subject to DCMs as indicated in 2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan.	As of January 2013, approximately 42 out of 45 square miles of committed dust controls have been completed.
Lower Owens River Project	77, 657 acres of land including 62 miles of river, 1,500 acres of wetland and numerous ponds and small rivers. The project is located in the Owens Valley north of Owens Lake.	A large-scale habitat restoration project. The project's main objective is to mitigate impacts related to groundwater pumping by LADWP from 1970 to 1990. The project includes (1) releasing water to the Lower Owens River to enhance native and game fisheries and riparian habitats along 62 miles of the river, (2) providing water to the Owens River delta to maintain and enhance various wetland and aquatic habitats, (3) enhancing a 1,500-acre off-river area with seasonal flooding and land management to benefit wetlands and waterfowl, and (4) maintaining several off-river lakes and ponds. The project also includes the construction of a pump station to capture and recover some of the water released to the river as well as range improvements and modified grazing practices on leases in the project area.	Water quality degradation and fish kills during initial releases to the river Possible reduction in existing flows to the delta that could adversely affect existing wetland habitats Degradation of brine pool transition and associated shorebird habitat due to reduced flow to the delta Conversion of 2,873 acres of native upland habitats to wetlands: potential increase in mosquito populations along the river, potential increase in saltcedar (a nonnative weed) Potential to impact cultural sites		2012 Annual Report released documenting on-going monitoring consisting of: -Seasonal Habitat Flow Flooded Extent and Water Quality (May 2012) -Rapid Assessment Survey (August 2012) Hydrologic Monitoring (throughout 2012) -Land Management (throughout 2012) -Streamside Monitoring for Woody Species Regeneration and other Riparian (September 2012) -Weed Monitoring and Treatment (growing Season 2012)
Owens Lake Master Project (formerly called the Owens Lake Master Plan)	110 square miles of Owens Lake bed, excluding the Lower Owens River Delta (covered by the Lower Owens River Project).	The intent of the draft Owens Lake Master Project (OLMP) is to provide a framework to manage the diverse resources of the lake, while continuing to control dust emissions. Owens Lake resources identified by OLMP include habitat, public access and recreation, open space and scenic amenities, a rich cultural history, grazing and mining resources, and opportunities for renewable energy and economic development	Impacts include visual aesthetics, possible impacts resultant from groundwater use in dust control measures, grazing impacts, impacts to biological and cultural resources due to increased public access and habitat alteration.	Unspecified amount of land managed by BLM within project area.	Review draft Master Plan submitted to planning committee December 2011, comments received 2012. Draft Master Project document available 2013.
Owens Lake Groundwater Evaluation Program	Owens Lake area and underlying groundwater basin.	The LADWP is evaluating Owens Lake groundwater as a water source for a portion of the dust control activities. Conceptual and numerical hydrogeological models and simulated pumping plans have been completed to date.	Possible future impacts due to water production and associated groundwater table reduction impacting spring flows, domestic water supply, ground subsidence and increase in dust source areas.		The program recommends further study into groundwater resources which includes the drilling of several new wells and a 3-year monitoring plan followed by a phased implementation of a groundwater production plan.

TABLE 5.03-1
CUMULATIVE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION, *CONTINUED*

Project Name	Size/Location	Description of Project	Impacts	Assumptions	Status
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	34.41 acre adjacent to US 395, immediately south of the unincorporated town of Cartago, Inyo County.	The proposed project involves construction of a spring water bottling facility and ancillary facilities utilizing groundwater from four existing groundwater wells on-site.	Impacts, via removal, to approximately 0.04 acre of non-wetland Army Corp of Engineer/Regional Water Quality Control Board jurisdictional "waters of the U.S." and 0.16 acre of California Fish and Wildlife jurisdictional streambed. These are considered significant impacts. Possible impacts to at least 16 special status flora species. Possible impacts to at least 10 special status fauna species. Possible impacts to jurisdictional resources as a result of seasonal lowering of groundwater table due to pumping. Effects upon nearby playa wetlands and/or riparian vegetation cannot be accurately determined. Possible impacts to unknown or buried archaeological and/or paleontological resources.		Draft EIR Submitted for public review in August 2012.
U.S. Borax, Owens Lake Expansion Project / Conditional Use Permit #02-13 / Reclamation Plan #02-1		This project proposes to install a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lake bed and a calcining and drying unit on the western shore.	Unknown.		
LADWP Southern Owens Valley Solar Ranch Project	1,600 acres of a 3,100-acre site in southern Owens Valley north of Owens Lake.	Development of net generation capacity of 200 megawatts of solar photovoltaic electrical energy and auxiliary equipment.	The planned EIR will analyze visual aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, noise, population and housing, public services, recreation, traffic and circulation, and utilities and service systems for potential impacts.		A Notice of Preparation of an Environmental Impact Report (EIR) was published in September 30, 2010

TABLE 5.03-1
CUMULATIVE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION, *CONTINUED*

Project Name	Size/Location	Description of Project	Impacts	Assumptions	Status
Desert Renewable Energy Conservation Plan	Area includes the Mojave and Colorado desert regions and adjacent lands of seven California counties - Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego. The Plan Area covers about 22,587,000 acres	The Desert Renewable Energy Conservation Plan (DRECP) is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California while facilitating timely permitting of renewable energy projects to help meet the State's goal of providing at least 33 percent of electricity generation through renewable energy by 2020 and the Federal government's goal of increasing renewable energy generation on public land. The plan is intended to serve as a Natural Community Conservation Plan (NCCP) under California Fish and Game code and a multiple-species Habitat Conservation Plan under the Federal Endangered Species Act and will provide a basis for the issuance of Take authorizations allowing the lawful Take of Covered Species incidental to Covered Activities.	Unknown potential impacts.		A Draft DRECP will be released for formal public review in 2013 according to the Renewable Energy Action Team
Caltrans Highway 395 Olancha / Cartago Four-Lane Project	12.6 miles of Highway 395	The Caltrans Highway 395 Olancha/Cartago Four-Lane Project will widen to four lanes approximately 12.6 miles of the two-lane highway.	Potential impacts to threatened or endangered species Potential impacts to wetlands. Potential impacts to cultural resources. Potential impacts to paleontological resources. Potential visual/aesthetic impacts.		On June 29, 2011, District 9 Director Tom Hallenbeck announced that the preferred alternative for the Olancha/Cartago 4 Lane project is a combination of Alternative 3 and Alternative 4.
Northland Power Independence, LLC Solar Project	The site is approximately 1,280-acres and is located about five miles east of Independence, CA	The proposed project would generate about 200 megawatts of power and would have a useful life of 35 years	The Initial Study, including an environmental checklist, indicates that the proposed project could potentially have a significant adverse impact on the environment or require mitigation to avoid potentially significant adverse effects on the environment for certain aspects of the following environmental topic areas: aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, public services, recreation, transportation/traffic, and utilities and service systems.	Two alternatives for an intertie to City of Los Angeles Department of Water and Power (DWP) transmission facilities to the west of the site through DWP lands, Bureau of Land Management (BLM) lands, and/or along the County's Mazourka Canyon Road right-of-way are proposed.	A Notice of Preparation of an EIR was issued on March 28, 2013

5.1 AESTHETICS / VISUAL RESOURCES

Visual resources were analyzed using the BLM's VRM system (described in Section 3.1). BLM requires that this system be used for analyzing visual resources on lands administered by the BLM. For consistency, the VRM system was also used to analyze visual resources for the components of the project on non-BLM lands.

The proposed project / proposed action falls in VRI III based on its Scenic Quality Classification of C, Low Visual Sensitivity Level, and viewing distance of Foreground, with some barely visible and intermixed with existing vegetation. The objective of Class III VRM is to partially retain the visual character of the landscape. The level of change to the visual character of the landscape should be moderate. Changes, which are modeled after the surrounding native vegetation, should not dominate the view of the casual observer. The project site has a low visual sensitivity level based on the number of viewers traveling along SR 136 and the relatively low profile of the proposed improvements. The project site is viewed from the KOPs at a viewing distance of foreground (less than 3 to 5 miles). This zone defines the area in which the landscape details transition from readily perceived to outlines and patterns.

A cumulative impact to visual resources would occur in a situation where the proposed project / proposed action or an alternative occupies the same field of view as other built facilities or impacted landscapes. If the change caused by the addition of the proposed project / proposed action or an alternative to the visible landscape is perceived as adverse, then a cumulative impact to visual resources would occur. Likewise if a viewer perceives that the general visual quality or landscape character of a localized or regional area is diminished by the proliferation of structures, or sources of light and glare, a cumulative impact to visual resources could also occur.

There is currently no anticipated development to occur along SR 136. A list of the existing and reasonably foreseeable cumulative projects is provided in Section 5.0.

5.1.1 GEOGRAPHIC SCOPE

The proposed project / proposed action is located immediately northwest of the community of Keeler in Inyo County, California. The proposed project / proposed action consists of DCMs applied to 194 acres of land within a 1.36-square-mile study area. The proposed project / proposed action study area is bounded approximately by the Inyo Mountains on the east-northeast and the dry Owens Lake bed shoreline on the west-southwest, and extends approximately 2.5 miles to the northwest from the community of Keeler. SR 136 bisects the study area. The proposed project / proposed action is located on lands administered by the BLM Bishop Office and the LADWP. Other stakeholders include Inyo County, the local Lone Pine Paiute-Shoshone Tribe, Caltrans District 9, Keeler Community Services District, and Keeler residents.

The visual character of the proposed project / proposed action site includes the Keeler Dunes geologic feature, with the dry Owens Lake Bed to the west, the nearby Inyo Mountains range to the east, the more distant Coso Mountain range to the south, and the Sierra Nevada range to the far west. Although the proposed project / proposed action site is uninhabited, the community of Keeler (population: 66) is located adjacent to the southern border of the site.[1] Residents of Keeler are known to use the Keeler

[1] U.S. Census Bureau. 2010 Census. Washington, DC.

Dunes for low-impact recreational activities, such as hiking and dog walking.[2] The proposed project / proposed action site may also be visible to outside recreationalists, such as birders, hikers, and visitors to the historic mining/smelter sites of Swansea and Cerro Gordo, as part of the viewshed from nearby recreational areas, such as the Lower Owens River/Lake area. Inyo County and LADWP are currently evaluating the potential opportunities and constraints with regard to existing recreational activities in the adjacent Lower Owens River/Lake area.

The nearest highways to the proposed project / proposed action site are SR 136, which bisects the study area, and SR 190, located south of the proposed project / proposed action site. SR 136 is not an officially designated state scenic highway. A segment of SR 190, approximately 16.7 miles from the proposed project / proposed action site, is designated a state scenic highway behind the Inyo Mountains near the entrance to Death Valley National Park. However, the portion of SR 190 that is located near the proposed project / proposed action site is only an eligible, not a designated, state scenic highway. SR 190 is located approximately 5 miles south of the community of Keeler, and the proposed project / proposed action site is not likely to be visible to travelers on that highway.

The proposed project / proposed action site is visible from the vantage points of residents at Keeler, at the historic mining/smelter sites of Swansea and Cerro Gordo, recreationalists at the Lower Owens River/Lake area, and corridor users of SR 136.

5.1.2 TIMEFRAME

The timeframe refers to the duration over which an impact would occur: short-term or long-term. Short-term impacts to visual resources would occur during the construction phase of the proposed project / proposed action in association with the addition of construction equipment to the landscape. Installation of the proposed project / proposed action would require a maximum of 11 months to complete. Construction of the proposed project / proposed action would be divided into the following parts: (1) preparation of temporary access routes and staging areas, (2) bale placement and planting and watering, and (3) project oversight and monitoring and supplemental watering (up to two per year for 3 years) and additional planting as required. Based on the nature of the proposed project / proposed action as a vegetation project to control dust, no long-term impacts to visual resources are anticipated in association with the operations and maintenance, or monitoring phase of the proposed project / proposed action.

5.1.3 EXISTING CUMULATIVE CONDITIONS

5.1.3.1 PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS

The existing cumulative conditions include past, present, and reasonably foreseeable future actions that could conflict with existing land use patterns or special designations. Past and present projects represent those that have been developed and are currently operational or projects that are currently under construction and will be operational in the near future (1 to 2 years or less). Reasonably foreseeable projects are those for which an application has been submitted to the appropriate agency, are currently undergoing environmental review, or will be pursuing environmental review in the near future (1 to 2 years or less). Activity must be occurring in order for the proposed project / proposed

[2] Sapphos Environmental, Inc. 12 July 2011. Memorandum for the Record No. 1. Subject: Summary of the June 29, 2011, Project Kickoff Meeting for the Keeler Dunes Environmental Impact Report / Environmental Impact Statement. Pasadena, CA.

action to be reasonably foreseeable. Projects that have started the application or environmental review process but have been stalled over 6 months are not considered reasonably foreseeable.

Section 5.0, *Cumulative Impacts*, describes in detail all past, present, and reasonably foreseeable projects in the vicinity of the proposed project / proposed action.

In addition to coordinating with their internal planning personnel, the District and BLM contacted the California State Lands Commission, Inyo County, and the LADWP to seek out information regarding past, present, and reasonably foreseeable probable future projects within the Owens Valley Planning Area. The District and the BLM identified nine past, present, and reasonably foreseeable probable future projects that were considered in the evaluation of the potential for the proposed project / proposed action to result in cumulative significant impacts (Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*, and Table 5.1.3.1-1, *List of Cumulative Projects within the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Aesthetics / Visual Resources*):

TABLE 5.1.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO AESTHETICS / VISUAL RESOURCES

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Aesthetics/Visual Resources
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	Yes	This project is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on its timing. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impact.
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	Yes	The Lower Owens River Project Plan is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on the nature and location of the project. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impact.
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No	The LADWP Owens Lake Master Project is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on its timing. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impacts.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No	The Owen Lake Groundwater Evaluation Program is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on its location and nature of the project. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impacts.

TABLE 5.1.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO AESTHETICS / VISUAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Aesthetics/Visual Resources
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	No	The Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on its location and timing. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impacts.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No	The U.S. Borax Owens Lake Expansion Project is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on its location and timing. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impacts.
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles northwest of the proposed project / proposed action site	No	The project involves the development of a 200-megawatt solar facility on 1,600 acres in the lower Owens River Valley. The LADWP Southern Owens Valley Solar Ranch is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on its location and timing. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impacts.
Desert Renewable Energy Conservation Plan	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	Yes	The Desert Renewable Energy Conservation Plan (DRECP) is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. The DRECP is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on the nature of the project. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impacts
Caltrans Highway 395 Olancha/ Cartago Four-Lane Project	Approximately 7 miles west of the proposed project / proposed action site	No	The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is neither within the 2.5-mile radius nor is it expected to be under construction simultaneously with the proposed project / proposed action. The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is not anticipated to cumulatively contribute to aesthetic and visual resource impacts based on its location and timing. In addition, all projects are anticipated to implement aesthetic and visual resource mitigation measures to reduce adverse impacts.

TABLE 5.1.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO AESTHETICS / VISUAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Aesthetics/Visual Resources
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No	The 1,280-acre project involves the development of a 200-megawatt solar facility in the lower Owens River Valley. Aesthetic and visual resource impacts are not known.

5.1.4 CUMULATIVE VISUAL RESOURCES IMPACTS

In consideration of related past, present, or reasonably foreseeable probable future projects as listed in Section 5.0, the incremental impact of the combined components of the proposed project / proposed action would not lead to a significant impact to aesthetics / visual resources.

5.1.4.1 SCENIC VISTAS

There are no scenic vistas within the vicinity of the proposed project / proposed action site. Therefore, the proposed project / proposed action when considered with the related past, present, or reasonably foreseeable, probable future projects would not result in significant impacts on scenic vistas, and the proposed project / proposed action would not contribute to cumulative impacts to scenic vistas.

5.1.4.2 SCENIC HIGHWAYS AND RESOURCES

There are no officially designated scenic highways within the vicinity of the proposed project / proposed action site. Therefore, the cumulative development would not result in significant impacts to scenic highways and the proposed project / proposed action would not contribute to cumulative impacts to scenic vistas and scenic resources.

5.1.4.3 VISUAL CHARACTER

The proposed project / proposed action would result in stabilization and revegetation of the sand dunes and sand sheet, which is currently in flux. Stabilization and revegetation of these sand deposits would be consistent with the visual character of the area because the bale pattern that will be installed will mimic a natural vegetation distribution in the area. Therefore, the proposed project / proposed action would not significantly contribute to cumulative impacts to the visual character of Owens Lake, Inyo County, or the Bishop Resource Management Area. Therefore, the proposed project / proposed action would not be expected to result in significant cumulative impacts to the visual character of Owens Lake, Inyo County, or the Bishop Resource Management Area.

5.1.4.4 LIGHT AND GLARE

The proposed project / proposed action would not create new sources of light and glare. Given that the proposed project / proposed action would not generate new sources of light or glare, the proposed project / proposed action would not contribute to a significant cumulative impact related to nighttime views in the area or light intrusion. Therefore, the proposed project / proposed action would not contribute to the cumulative creation of a new sources of substantial light or glare that would adversely affect day or nighttime views in the area.

5.2 AIR QUALITY

5.2.1 GEOGRAPHIC SCOPE

Cumulative impacts to air quality could occur if implementation of the proposed project / proposed action would combine with air quality impacts of other local or regional projects. A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.03-1*, Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*. Related projects are mapped in Figure 5.03-1*, Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*). A geographic scope of 2.5 miles from the proposed project / proposed action was used for this analysis.

5.2.2 TIMEFRAME

The timeframe refers to the duration over which an impact would occur: short-term or long-term. Short-term impacts to air quality would occur during the construction phase of the proposed project / proposed action in association with the addition of construction equipment to the landscape. Installation of the proposed project / proposed action would require a maximum of 11 months to complete. Construction of the proposed project / proposed action would be divided into the following parts: (1) preparation of temporary access routes and staging areas, (2) bale placement and planting and watering, and (3) project oversight and monitoring and supplemental watering (up to two per year for 3 years) and additional planting as required. Based on the nature of the proposed project / proposed action as a vegetation project to control dust, no long-term impacts to air quality are anticipated in association with the construction, operation and maintenance, or monitoring phase of the proposed project / proposed action. Very small increases in traffic volumes associated with operations would occur and are not anticipated to adversely impact air quality during the operational life of the proposed project / proposed action (approximately 3 years).

5.2.3 EXISTING CUMULATIVE CONDITIONS

5.2.3.1 PAST, PRESENT AND REASONABLY FORESEEABLE PROJECTS

The District and BLM contacted the California State Lands Commission, Inyo County, and the LADWP to seek out information regarding past, present and reasonably foreseeable probable future projects within the Owens Valley Planning Area. The District and the BLM identified 10 past, present, and reasonably foreseeable probable future projects that were considered in the evaluation of the potential for the proposed project / proposed action to result in cumulative significant impacts (Table 5.2.3.1-1, *Past, Present, and Reasonably Foreseeable Projects in the Vicinity of the Proposed Project / Proposed Action*).

TABLE 5.2.3.1-1
PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION

Project Name	Distance from Project Site	Included in Cumulative Analysis	Level of Impact to Air Quality
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	Yes. The Owens Lake Dust Control Program is within the 2.5-mile radius, but has already been implemented in support of compliance with the NAAQS for PM_{10}.	The Owens Lake Dust Control Program is not anticipated to cumulatively contribute to air quality impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts.
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	Yes. The Lower Owens River Project Plan is within the 2.5-mile radius; however, the nature of the project does not generate air quality impacts.	The Lower Owens River Project Plan is not anticipated to cumulatively contribute to air quality impacts based on the nature and location of the project. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No. The LADWP Owens Lake Master Project is neither within the 2.5-mile radius nor expected to be under construction simultaneously with the proposed project / proposed action.	The LADWP Owens Lake Master Project is not anticipated to cumulatively contribute to air quality impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No. The Owen Lake Groundwater Evaluation Program is neither within the 2.5-mile radius nor expected to result in air quality impacts.	The Owen Lake Groundwater Evaluation Program is not anticipated to cumulatively contribute to air quality impacts based on its location and nature of the project.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	No. The Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility is neither within the 2.5-mile radius nor expected to be under construction simultaneously with the proposed project / proposed action.	The Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project is not anticipated to cumulatively contribute to air quality impacts based on its location. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts.

TABLE 5.2.3.1-1
PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION, *CONTINUED*

Project Name	Distance from Project Site	Included in Cumulative Analysis	Level of Impact to Air Quality
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No. The U.S. Borax Owens Lake Expansion Project is not within the 2.5-mile radius of the proposed project / proposed action.	The U.S. Borax Owens Lake Expansion Project is not anticipated to cumulatively contribute to air quality impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts.
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No. The LADWP Southern Owens Valley Solar Ranch is neither within the 2.5-mile radius nor expected to be under construction simultaneously with the proposed project / proposed action.	The LADWP Southern Owens Valley Solar Ranch is not anticipated to cumulatively contribute to air quality impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts.
Desert Renewable Energy Conservation Plan	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	Yes. The DRECP is within the 2.5-mile radius; however, the nature of the project does not generate air quality impacts.	The DRECP is not anticipated to cumulatively contribute to air quality impacts based on the nature of the project.
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Approximately 7 miles west of the proposed project / proposed action site	No. The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is neither within the 2.5-mile radius nor expected to be under construction simultaneously with the proposed project / proposed action.	The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is not anticipated to cumulatively contribute to air quality impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts.
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No. The Northland Power Independence, LLC Solar Project is not within the 2.5-mile radius of the proposed project / proposed action area.	The 1,280-acre project involves the development of a 200-megawatt solar facility in the lower Owens River Valley based on its location and timing. In addition, this project would be required to implement air quality mitigation measures to reduce adverse impacts.

5.2.4 CUMULATIVE AIR QUALITY IMPACTS

5.2.4.1 DIRECT AND INDIRECT IMPACTS

A. Construction

As discussed in Section 4.4, the proposed project / proposed action or an alternative would not have any unmitigable construction air quality impacts with respect to ozone precursors NOx or PM_{10}. In addition, the cumulative projects identified in Table 5.2.3.1-1 are either: (1) not expected to be under peak construction concurrent with the proposed action; or the cumulative projects' estimated worst-case construction emissions would not overlap (i.e. combine) with the proposed project / proposed action or an alternative's worst-case estimated construction emissions. Stated another way, no significant cumulative project peak construction would coincide simultaneously with construction of the proposed project / proposed action. Or (2) such construction would be almost 2.5 miles away from the proposed project / proposed action site. Thus, if other projects are under construction simultaneously with the proposed project / proposed action, the cumulative impacts would be less than significant due to the proximity of past, present, and reasonably foreseeable projects to the proposed project / proposed action.

B. Operations and Maintenance

No cumulative air quality impacts are anticipated to occur during the 3 years of operations and maintenance or monitoring activities. The proposed project / proposed action by its nature as a vegetation project would not generate air emissions, and is intended to improve air quality through the reduction of PM_{10} emissions. A small amount of emissions would occur in association with operation and maintenance vehicle trips to and from the site. However, the number of trips is low and the associated air quality emissions would be low as well. As discussed in Section 4.2, emissions resulting from operations and maintenance of the proposed project / proposed action or an alternative for all criteria pollutants would be near zero. As is discussed above for construction, the temporal displacement between the proposed project / proposed action and other cumulative projects would ensure that emissions do not combine to create a cumulative effect. Therefore, no direct cumulative impact with regard to an air quality is anticipated during operations and maintenance of the proposed project / proposed action or an alternative.

5.2.4.2 CEQA SIGNIFICANCE DETERMINATIONS

For the purposes of the cumulative traffic analysis, only two CEQA significance criteria were considered appropriate for the analysis.

Would the proposed project:

(1) Violate air quality standards / cause air quality violations?

(2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

A. Construction

As discussed in Section 4.2, the proposed project or an alternative would not generate ozone precursors and PM_{10}. Thus, no violation of an air quality standard or an air quality violation would occur due to project construction. Therefore, the proposed project would result in a less than cumulatively considerable contribution to violation of an air quality standard or air quality violation under CEQA. In addition, the cumulative projects identified in Table 5.2.3.1-1 are still in the early stages of environmental review and thus not expected to be under peak construction at the same time as the proposed project or an alternative. Furthermore, if other cumulative projects are under construction simultaneous with the proposed project or an alternative, no cumulative construction air quality impacts are anticipated based on distance between construction activities. Other cumulative projects would also be assumed to implement mitigation measures to reduce their individual construction air quality impacts.

B. Operations and Maintenance

Emissions resulting from operations and maintenance of the proposed project for all criteria pollutants are anticipated to be near zero. Therefore, the proposed project or alternative would not result in cumulatively considerable contributions to impacts to air quality standards during operations and maintenance under CEQA.

5.3 BIOLOGICAL RESOURCES

The cumulative impacts on biological resources is defined as the incremental physical impact of the proposed project / proposed action when added to other closely related past; present; and reasonably foreseeable, probable future projects. A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.03-1*, Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*. Related projects are mapped in Figure 5.03-1*, Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*.

5.3.1 GEOGRAPHIC SCOPE

The geographic scope, for considering cumulative impacts on general biological resources from the proposed project / proposed action, consists of the alluvial fans with shadscale scrub and sand dune environments above the bed of Owens Lake.

The geographic scope for considering cumulative impacts for migratory birds, including raptors, is the Owens Valley, which is part of the Pacific Migration Flyway for birds migrating between as far south as South America and as far north as the arctic circle, the riparian and wetland resources within the Owens Valley serve as an important stopover site for many species for rest and foraging. There is no suitable breeding habitat within the proposed project / proposed action study area.

The geographic scope for considering cumulative impacts for jurisdictional waters is the Owens Valley Hydrologic Unit of the South Lahontan Hydrologic Basin. The hydrologic unit code is 18090103 of the USDA National Resources Conservation Services. The brine pool at Owens Lake is the lowest point in the Owens Valley and receives drainage from the Owens River and stormwater runoff from the east side of the Sierra Nevada and the west side of the Inyo Mountains and the White Mountains.

5.3.2 TIMEFRAME

The timeframe refers to the duration over which an impact would occur: short-term or long-term. Short-term impacts to biological resources would occur during the construction period in association with ground disturbance. Long-term impacts to biological resources would occur as a result of any changes caused by development of the proposed project / proposed action over its life (in perpetuity).

Determining the temporal scope requires estimating the length of time the effects of the proposed project / proposed action will last, either individually or in combination with other anticipated effects. The temporal scope of impacts to biological resources during the development of cumulative projects would be through the end of project maintenance, because any direct or indirect effects would only occur during the life of the proposed project / proposed action.

5.3.3 EXISTING CUMULATIVE CONDITIONS

The existing cumulative conditions include a single plant community, shadscale scrub, which is not a state-designated sensitive habitat. There are no sensitive plant species within the project study area. The Owens dune weevil, a locally important species, is the only special status wildlife species in the survey area. There are no riparian or wetland habitats within the proposed project / proposed action study area. The proposed project / proposed action has been designed to avoid areas that are subject to the jurisdiction of the USACOE or CDFW.

5.3.3.1 PAST, PRESENT AND REASONABLY FORESEEABLE PROJECTS

A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.3.3.1-1, *List of Cumulative Projects within the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Biological Resources*. These projects include proposed or approved projects within the County's jurisdiction and within BLM's jurisdiction. These projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not been completed for the projects described in Table 5.3.3.1-1, their potential effects were considered in the cumulative impacts analyses in this EA/EIR for the geographic area described above. These projects are in the various stages of permitting or construction.

TABLE 5.3.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO BIOLOGICAL RESOURCES

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Biological Resources
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	Yes	This project involves the construction, operation, and maintenance of Dust Control Measures over an approximately 110-square mile area of the Owens Lake bed. Implementation of the proposed project has the potential to result in the impacts to western snowy plover, birds and bats, wetlands, and sensitive plant communities. It was determined that with the implementation of avoidance, minimization, and mitigation measures, the project would have a less than significant impact on biological resources.
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	Yes	The project involved large-scale habitat restoration in the Owens Valley north of Owens Lake. The construction of access routes and a ditch has the potential to impact sensitive habitat. Implementation of mitigation measures is expected to reduce impacts to below the level of significance.
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No	This project involves the development of framework for the management of resources and preservation of habitat value on Owens Lake. There are no biological resources in the Keeler Dunes that would be impacted by this project.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No	The LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. Possible impacts to biological resources are not known but include potential reduction in spring flow at shoreline wetlands and related biological resource impacts to shoreline vegetation communities.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling	Approximately 16 miles southwest of the proposed	Yes	This project involves the construction of a spring water bottling facility and ancillary facilities. Anticipated biological impacts include those to yellow breasted chat, yellow warbler, Swainson's hawk, least Bell's

TABLE 5.3.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO BIOLOGICAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Biological Resources
Facility	project / proposed action site		vireo, southwestern willow flycatcher, western yellow-billed cuckoo, pallid and spotted bats. Waters under the jurisdiction of USACOE and CDFW are also anticipated to be impacted along with red willow thicket plant community. Mitigation measures have been developed that include restoration, water permitting and limiting construction to the non-breeding season to reduce the impacts to below the level of significance.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No	The project involves the development of a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lake bed and a calcining and drying unit on the western shore. Possible impacts to biological resources are not known
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No	The project involves the development of a 200 megawatt solar facility on 1,600 acres in the lower Owens River Valley. Possible impacts to biological resources are not known.
Desert Renewable Energy Conservation Plan (DRECP)	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	No	The DRECP is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. Possible impacts to biological resources are not known.
Caltrans Highway 395 Olancha / Cartago Four-Lane Project	Approximately 7 miles west of the proposed project / proposed action site	Yes	The study involves the widening of the existing Caltrans Highway 395 between Olancha and Cartago. Impacts to biological resources will be mitigated under the provisions of the Caltrans and Federal Highway Administration. Anticipated biological impacts include those to Parish's popcorn-flower, Owens Valley checkerbloom, pygmy poppy, sanicle cymopterus, crowned mullia, bats, alkali skipper, Owens Valley vole, Swainson's hawk, least Bell's vireo, desert tortoise, and Mojave ground squirrel. Waters under the jurisdiction of USACOE and CDFW are also anticipated to be impacted.

TABLE 5.3.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO BIOLOGICAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Biological Resources
			Impacts to biological resources will be minimized by implementing a well-designed biological resource mitigation plan.
Northland Power Independence, LLC Solar Project	Approximately 21 miles northwest of the proposed project / proposed action site	No	The 1,280-acre project involves the development of a 200 megawatt solar facility in the lower Owens River Valley. Possible impacts to biological resources are not known.

5.3.4 CUMULATIVE BIOLOGICAL RESOURCES IMPACTS

In consideration of the related past, present, or reasonably foreseeable, probable future projects, the incremental impact of the combined components of the proposed project / proposed action would not lead to a significant impact to biological resources. The potential impacts of the proposed project / proposed action can be evaluated within the context of the cumulative impacts of all ongoing and proposed development.

The proposed project / proposed action, in consideration with the 2008 SIP, the Owens Lake Master Project, the Lower Owens River Project Plan, and the Owens Lake Groundwater Evaluation Program, would not create considerable cumulative impacts to biological resources associated with the shadscale plant community and dune habitats. These projects have goals and objectives similar to those of the proposed project with regard to controlling dust emissions from the Keeler Dunes while allowing use of the project study areas as open space to support conservation of biological and cultural resources. The other four projects—Crystal Geyser Roxanne Cabin Bar Ranch Water Bottling Facility, U.S. Borax Owens Lake Expansion Project / Conditional Use Permit #02-13 / Reclamation Plant #02-1, LADWP Southern Owens Valley Solar Ranch Project, Desert Renewable Energy Conservation Plan, and California Department of Transportation Highway 395 Olancha/Cartago Four-Lane Project—have the potential to convert lands that are currently open space to developed lands. However, the proposed project / proposed action results in vegetation with native species and would not contribute to the cumulative effects of other development projects that would potentially affect habitats above the bed of Owens Lake.

The proposed project / proposed action would not alter "water of the United States" or waters of the State; therefore there would be no contribution to cumulative impacts to "waters of the US" or "waters of the State" in the Owens Valley Hydrologic Unit.

The proposed project / proposed action study area lacks riparian, wetland, and aquatic resources that provide important foraging habitat for migratory and resident species of wildlife. The proposed project

would enhance the habitat through revegetation; therefore, the proposed project would not contribute to cumulative loss of native habitat in the upland areas surrounding bed of Owens Lake.

The proposed project / proposed action would not conflict with any applicable HCP or NCCP; therefore, there would be no contribution to cumulative impacts on adopted HCPs or NCCPs in the region.

5.3.4.1 OWENS DUNE WEEVIL

The proposed project / proposed action possibly may have negative impact the Owens dune weevil but the impacts are largely unknown because of a knowledge gap in the ecology of Owens dune weevil. The proposed project / proposed action may contribute to a small loss of habitat; however, impacts are not expected to affect the species at a population level given the presence of several other dune complexes around Owens Lake. The remaining Owens dune weevil habitat in the Owens Valley will not be impacted as a result of the proposed project / proposed action, resulting in an overall conservation of the species and its habitat. Further, given the paucity of ecological information, the addition of vegetation to the dunes may not result in habitat loss for this species or may simply affect habitat quality without completely eliminating habitat. Presumably, there is a threshold in which vegetation becomes too abundant for dune species, but further research would be required to understand this potential threshold.

5.4 CULTURAL RESOURCES

Cumulative impacts to cultural resources take into account the impacts of the proposed project / proposed action or an alternative as well as those likely to occur as a result of other existing, proposed and reasonably foreseeable projects. When analyzing cumulative impacts to cultural resources, an assessment is made of the impacts on individual resources as well as the inventory of cultural resources within the cumulative impact analysis area.

5.4.1 GEOGRAPHIC SCOPE

The cumulative impacts of the proposed project / proposed action to cultural resources is defined as the incremental physical impact of the proposed project / proposed action or an alternative when added to other closely related past; present; and reasonably foreseeable, probable future projects.

The regulations implementing Section 106 of the NHPA encourage close coordination between the NEPA and NHPA processes (36 CFR §800.8), and expressly integrate consideration of cumulative concerns within the analysis of a proposed action's potential direct and indirect effects by defining "adverse effect" to include "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (36 CFR §800.5(a)(1)).

The Council on Environmental Quality provides that when establishing the proper geographic scope, the boundaries should not be too broad as to make the analysis unwieldy, nor to narrow as to miss significant issues. Additionally, the EPA provides that for non-ecological resources, other geographic areas should be considered, such as historic districts (for cultural resources). With this guidance in mind, the geographic scope for the analysis of cumulative impacts related to cultural resources within the Owens Valley Planning Area. More specifically, the geographic scope is defined as the dune complexes within the observed disturbance limits and the Owens River corridor.

5.4.2 TIMEFRAME

The timeframe refers to the duration over which an impact would occur: short-term or long-term. Short-term impacts to cultural resources would occur during the construction period in association with ground disturbance. Long-term impacts to cultural resources would occur as a result of any changes caused by development of the project over its life (in perpetuity).

Determining the temporal scope requires estimating the length of time the effects of the proposed project / proposed action will last, either individually or in combination with other anticipated effects. The temporal scope of impacts to cultural resources during the development of cumulative projects would be through the end of project maintenance, because any direct or indirect effects of the project would only occur during the life of the project.

5.4.3 EXISTING CUMULATIVE CONDITIONS

There are 21 cultural resources (4 archaeological sites and 17 archaeological isolates) within the proposed project / proposed action APE. Previous studies in the geographic scope have noted hundreds of archaeological sites within the vicinity of Owens Lake. These analyses have documented a

wide variety of resources including temporary camps, lithic scatters, ceramic and lithic scatters, rock features, historic period sites, historic buildings and structures, and prehistoric and historic isolates.[1,2]

5.4.3.1 Past, Present and Reasonably Foreseeable Projects

Cumulative conditions to cultural resources involve the disturbance of culturally significant resources and alteration of the historic and cultural landscape of the area over time. In the past, cultural resources have sometimes been damaged or destroyed by development projects resulting in the loss of potential knowledge. This has become less common in recent years, especially for projects undergoing environmental review under NEPA or CEQA, as laws now provide various protections for cultural resources.

Development projects in the region have resulted in the damage or destruction of cultural resources. Likewise, various human activities have taken place in the project area in the past and certain activities, such as recreation and agricultural endeavors, continue today. In recent times, the severity of impacts to previously unknown cultural resources has been reduced by implementing mitigation measures requiring construction monitoring, evaluation of resources discovered during monitoring, and avoidance or data recovery for significant resources.

A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.4.3.1-1, *List of Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Cultural Resources*; cumulative projects are mapped in Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*. These projects include proposed or approved projects that have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not be completed for the projects described in Table 5.4.3.1-1, their potential effects were considered in the cumulative impacts analyses in this EA/EIR for the geographic area described above. These projects are in the various stages of permitting or construction.

[1] Wells, H. 2003. *Cultural Resources Survey for 2003 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan, Final Report*. Prepared by Sapphos Environmental, Inc. Pasadena, CA.

[2] Sapphos Environmental, 2007. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan, Cultural Resources Technical Report*. Prepared for Great Basin Unified Air Pollution Control District, Bishop, CA.

TABLE 5.4.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO CULTURAL RESOURCES

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Cultural Resources
Owens Lake Dust Control Program	Less than 1 mile from the project site	Yes	This project involves the construction, operation, and maintenance of Dust Control Measures over an approximately 110-square mile area of the dried Owens lakebed. Implementation of the proposed project / proposed action has the potential to result in a substantial adverse change to the significance of archaeological and historical resources, and unknown burial sites. It was determined that with the implementation of avoidance, minimization, and mitigation measures, the project would have a less than significant impact to cultural resources and more specifically reduce any adverse effects on historic properties.
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	Yes	The project involved large-scale habitat restoration in the Owens Valley north of Owens Lake. The construction of access routes and a ditch has the potential to impact several cultural sites, both historic and prehistoric. Implementation of mitigation measures is expected to reduce impacts to below the level of significance.
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No	This project involves the development of framework for the management of resources at Owens Lake. Possible impacts to cultural resources are not known.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No.	The LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. Possible impacts to cultural resources are not known.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	Yes	This project involves the construction of a spring water bottling facility and ancillary facilities. There are no known cultural resources that will be impacted by the project. However, unknown or buried archaeological resources may be impacted by the project. Mitigation measures have been developed that include archaeological and Native American monitoring of construction activities to reduce the impacts to below the level of significance.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed	No	The project involves the development of a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lakebed and a calcining and drying unit

TABLE 5.4.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO CULTURAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Cultural Resources
	project / proposed action site		on the western shore. Possible impacts to cultural resources are not known
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No	The project involves the development of a 200-megawatt solar facility on 1,600 acres in the lower Owens River Valley. Possible impacts to cultural resources are not known
Desert Renewable Energy Conservation Plan (DRECP)	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	Yes	The DRECP is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. The Area of Critical Environmental Concern (ACEC) created for the plan prohibits the development of renewable energy within 500 meters of the late-Pleistocene / Holocene shorelines; therefore, there would be no impacts or adverse effects to cultural resources within the ACEC.
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Approximately 7 miles west of the proposed project / proposed action site	Yes	The study involves the widening of the existing Caltrans Highway 395 between Olancha and Cartago. The project identified 275 cultural resources within the Area of Potential Effects. Seventy-one sites were determined to be exempt under a Programmatic Agreement with the California Office of Historic Preservation. The evaluations of 62 sites were postponed until the preferred alternative is selected, to avoid unnecessary disruption of these sites. Of the remaining 213 sites, seven had already been evaluated for eligibility for listing on the National Register of Historic Places. Four sites had been previously determined eligible for listing on the National Register of Historic Places (NRHP). Testing was conducted on the remaining 132 sites and indicated that a further 13 sites are eligible for listing on the NRHP. Impacts to cultural resources will be mitigated under the provisions of the Caltrans, Federal Highway Administration, and the BLM project specific Memorandum of Agreement for Compliance with Section 106 of the NHPA.

TABLE 5.4.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO CULTURAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Cultural Resources
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No	The 1,280-acre project involves the development of a 200 megawatt solar facility in the lower Owens River Valley. Possible impacts to cultural resources are not known.

Note: The information provided in this table is based upon project documentation that has been made available to the public.

5.4.4 CUMULATIVE CULTURAL RESOURCES IMPACTS

In consideration of the related past, present, or reasonably foreseeable, probable future projects as listed in Table 5.4.3.1-1, the incremental impact of the combined components of the proposed project / proposed action would not lead to an adverse effect or a significant impact to cultural resources.

Implementation of the proposed project / proposed action would not have a cumulatively considerable impact to historic resources, as the project has been designed to avoid direct and indirect impacts to culturally sensitive areas identified within the geographic scope for cumulative projects. In addition, the proposed project / proposed action or an alternative would not contribute to cumulative impacts on unique archaeological resources pursuant to CEQA, as no such resources are present within the APE. Lastly, implementation of the proposed project / proposed action would not result in the disturbance of any known human remains, including those interred outside of formal cemeteries. Therefore, the project would not make a significant contribution to cumulative impacts related to disturbance of human remains.

Exposed cultural deposits are at greater risks of loss and damage due to vandalism. As discussed in Section 1.8.3, *Protecting Environmentally Sensitive Areas from Acceleration of Exposure*, the proposed project / proposed action would create a natural dune environment that would reduce wind speed at the ground surface and, consequently, act as a stabilizing measure during high wind events. As such, it is expected that the implementation of the proposed project / proposed action would lead to the greater preservation of sensitive cultural resources within the project area.

In summary, the cultural resources impact of the proposed project / proposed action would not be considerable when viewed in connection with the effects of the related past; current; and reasonably foreseeable, future projects.

5.5 GEOLOGY AND SOILS

5.5.1 GEOGRAPHIC SCOPE

The geographic scope for analysis of cumulative impacts related to geology and soil resources is limited to the proposed project / proposed action study area. Any potential impacts associated with geology and soil resources related to construction and operation of the proposed project / proposed action or an alternative would be site-specific and would only occur within the boundaries of the proposed project / proposed action study area. Therefore, the geographic scope for geology and soils is highly localized.

5.5.2 TIMEFRAME

The timeframe refers to short-term and long-term impacts to geology and soils. Short-term impacts to geology and soils would occur during construction in association with earthmoving activities such as grading and excavation to install temporary wind breaks. Examples of long-term impacts associated with geology and soils include seismic hazards throughout the life of the proposed project / proposed action.

5.5.3 EXISTING CUMULATIVE CONDITIONS

The proposed project / proposed action study area consists of largely undeveloped land covered by aeolian and alluvial sediments. No occupied structures are present within the proposed project / proposed action study area as it is primarily an unpopulated dune field. No past, present, or reasonably foreseeable projects identified in Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*, align through, or are within, the proposed project / proposed action study area. These projects include proposed or approved projects that have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not be completed for the projects described in Table 5.5.3-1, *List of Cumulative Projects within the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Geology and Soils*, their potential effects were considered in the cumulative impacts analyses in this EIR/EA for the geographic area described above. These projects are in the various stages of permitting or construction.

Only the proposed project / proposed action or an alternative would occupy the proposed project / proposed action study area. As a result, the proposed project / proposed action or an alternative would not combine with another project or contribute to existing cumulative conditions with regard to geology and soils. Therefore, existing cumulative conditions relevant to geology and soils are characterized only for the proposed project / proposed action or an alternative.

TABLE 5.5.3-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO GEOLOGY AND SOILS

Project Name	Distance from Project Site	Included in Cumulative Analysis?	Level of Impact to Geology and Soils
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	No	This project involves the construction, operation, and maintenance of Dust Control Measures over an approximately 110-square-mile area of the Owens Lake Bed. Implementation of the project would not result in significant impacts associated with geology and soils.
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	No	The project involved large-scale habitat restoration in the Owens Valley north of Owens Lake. Implementation of the project would not result in significant impacts associated with geology and soils.
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No	This project involves the development of framework for the management of resources at Owens Lake. Implementation of the project would not result in significant impacts associated with geology and soils.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No	The LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. Implementation of the project would not result in significant impacts associated with geology and soils.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	No	This project involves the construction of a spring water bottling facility and ancillary facilities. Implementation of the project would not result in significant impacts associated with geology and soils.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No	The project involves the development of a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lake bed and a calcining and drying unit on the western shore. Implementation of the project would not result in significant impacts associated with geology and soils within the Keeler Dunes.
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No	The project involves the development of a 200-megawatt solar facility on 1,600 acres in the lower Owens River Valley. Implementation of the project would not result in significant impacts associated with geology and soils within the Keeler Dunes.
Desert Renewable Energy Conservation Plan	Plan area covers about 22,587,000 acres, including proposed project / proposed action site	No	The Desert Renewable Energy Conservation Plan (DRECP) is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. Implementation of the project would not result in significant impacts associated with geology and soils within the Keeler Dunes.

TABLE 5.5.3-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO GEOLOGY AND SOILS, *CONTINUED*

Project Name	Distance from Project Site	Included in Cumulative Analysis?	Level of Impact to Geology and Soils
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Approximately 7 miles west of the proposed project / proposed action site	Yes	The study involves the widening of the existing Caltrans Highway 395 between Olancha and Cartago. Potential impacts to geology and soils, including seismic hazards and unstable soils, will be mitigated through project design. Implementation of the project would not result in significant impacts associated with geology and soils within the Keeler Dunes.
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No	The 1,280-acre project involves the development of a 200-megawatt solar facility in the lower Owens River Valley. Possible impacts to geology and soils within the project area are not known. Implementation of the project would not result in significant impacts associated with geology and soils within the Keeler Dunes.

5.5.4 CUMULATIVE IMPACTS TO GEOLOGY AND SOILS

5.5.4.1 GROUND SHAKING

The proposed project / proposed action site is in the seismically active Owens Valley of Eastern California. However, the proposed project / proposed action is not located in an APEFZ and does not involve the construction of buildings or structures; therefore, there is little or no exposure of people to injury or loss of life, and there are no structures that would be exposed to damage. Therefore, ground shaking impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects. The proposed project / proposed action would have a less than cumulatively considerable contribution to ground shaking impacts. Thus, cumulative impacts associated with ground shaking would be less than cumulatively considerable. The incremental impacts of the proposed project / proposed action, when considered with the related past, present, or reasonably foreseeable probable future projects, would not be expected to result in significant impacts related to geology and seismic hazards.

5.5.4.2 LIQUEFACTION / UNSTABLE SOILS

Due to the differences in soil compaction and groundwater depth, the conditions for liquefaction may be present in certain regions of the proposed project / proposed action study area. However, the proposed project / proposed action does not involve the construction of buildings or structures; therefore, there is little or no exposure of people to injury or loss of life and there are no structures that would be exposed to damage. Therefore, the potential for soils in selected areas to liquefy would not be expected to combine with similar impacts of past, present, or reasonably foreseeable projects. The proposed project / proposed action would have a less than cumulatively considerable contribution to liquefaction and unstable soils. Thus, cumulative impacts associated with liquefaction would be less than cumulatively considerable. The incremental impacts of the proposed project / proposed action,

when considered with the related past, present, or reasonably foreseeable probable future projects, would not be expected to result in significant impacts related to liquefaction and unstable soils.

5.5.4.3 SOIL EROSION

Construction soil erosion impacts are considered potentially significant short-term, site-specific impacts. However, the District and the BLM have required that erosion be controlled on-site with site-specific measures, a grading plan approved by the County Engineer, implementation of a dust control plan (Rule 801), and compliance with the NPDES Construction General Permit. Therefore, soil erosion impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable probable future projects. The proposed project / proposed action would have a less than cumulatively considerable contribution to soil erosion impacts. Thus, cumulative impacts associated with soil erosion would be less than cumulatively considerable.

5.5.4.4 EXPANSIVE SOILS

The majority of soils in the proposed project / proposed action study area are gravelly alluvium and coarse loamy aeolian sands. These types of soils do not exhibit shrink-swell patterns and are not considered expansive soils. Therefore, expansive soil impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable probable future projects. The proposed project / proposed action would have a less than cumulatively considerable contribution to expansive soils impacts. Thus, cumulative impacts associated with expansive soils would be less than cumulatively considerable.

5.5.4.5 DIFFERENTIAL SETTLEMENT

It is possible differential settlement in the proposed project / proposed action study area could occur from liquefaction or unconsolidated soils. However, the proposed project / proposed action does not involve the construction of buildings or structures; therefore, there is little or no exposure of people to injury or loss of life, and there are no structures that would be exposed to damage as a result of differential settlement of building foundations.

5.5.4.6 MINERAL RESOURCES

Trace amounts of valued mineral resources may have been transported into the proposed project / proposed action study area through the alluvial fan, but there are no substantial mineral resources identified within the proposed project / proposed action study area. The proposed project / proposed action involves the installation of straw bales and planting of native vegetation that does not require grading; therefore, the proposed project / proposed action would not hinder recovery of mineral resources or contribute cumulatively to lose of recoverable resources with combined with similar impacts of past, present, or reasonably foreseeable probable future projects.

5.6 PALEONTOLOGICAL RESOURCES

Cumulative impacts to paleontological resources take into account the impacts of the proposed project / proposed action or an alternative as well as those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects. When analyzing cumulative impacts to paleontological resources, an assessment is made of the impacts on individual resources as well as the inventory of paleontological resources within the cumulative impact analysis area.

5.6.1 GEOGRAPHIC SCOPE

The cumulative impacts of the proposed project / proposed action to paleontological resources is defined as the incremental physical impact of the proposed project / proposed action or an alternative when added to other closely related past, present, and reasonably foreseeable probable future projects.

The regulations implementing Section 106 of the NHPA contemplate encourage close coordination between the NEPA and NHPA processes (36 CFR §800.8), and expressly integrate consideration of cumulative concerns within the analysis of a proposed action's potential direct and indirect effects by defining "adverse effect" to include "reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative" (36 CFR §800.5(a)(1)).

The Council on Environmental Quality (CEQ) provides that when establishing the proper geographic scope, the boundaries should not be too broad as to make the analysis unwieldy, nor too narrow as to miss significant issues. Additionally, the EPA provides that for non-ecological resources, other geographic areas should be considered. With this guidance in mind, the geographic scope for the analysis of cumulative impacts related to paleontological resources within the Owens Valley Planning Area. More specifically, the geographic scope is defined as the area incorporating Owens Lake, the southern Owens Valley, and surrounding environs.

5.6.2 TIMEFRAME

The timeframe refers to the duration over which an impact would occur: short-term or long-term. Short-term impacts to paleontological resources would occur during the construction period in association with ground disturbance. Long-term impacts would occur as a result of any changes caused by development of the proposed project / proposed action over its life (in perpetuity).

Determining the temporal scope requires estimating the length of time the effects of the proposed project / proposed action will last, either individually or in combination with other anticipated effects. The temporal scope of impacts to paleontological resources during the development of cumulative projects would be through the end of project maintenance, because any direct or indirect effects of the project would only occur during the life of the project.

5.6.3 EXISTING CUMULATIVE CONDITIONS

The proposed project / proposed action site is located in the Owens Valley within the larger Basin and Range physiographic province. The proposed project / proposed action site is directly underlain by geologic units comprised of Quaternary alluvial and lake deposits. Paleontological resources surveys conducted along the lake margin immediately northwest of Keeler Dunes have

identified a number of Late Pleistocene and recent faunal remains in the lacustrine deposits including artiodactyl, rodent, bird, and freshwater shell.

5.6.3.1 PAST, PRESENT AND REASONABLY FORESEEABLE PROJECTS

Cumulative impacts to paleontological resources involve the loss of non-renewable scientifically important fossils and associated data, and the incremental loss to science and society of these resources over time. In the past, paleontological resources have sometimes been damaged or destroyed by development projects resulting in the loss of potential knowledge. This has become less common in recent years, especially for projects undergoing environmental review under NEPA or CEQA, as laws now provide various protections for paleontological resources.

Development projects in the region have resulted in the damage or destruction of paleontological resources. In recent times, the severity of impacts to previously unknown paleontological resources has been reduced by implementing mitigation measures requiring construction monitoring, evaluation of resources discovered during monitoring, and avoidance or data recovery for significant resources.

A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.6.3.1-1, *List of Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Paleontological Resources*; cumulative projects are mapped in Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*. These projects include proposed or approved projects that have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not be completed for the projects described in Table 5.6.3.1-1, their potential effects were considered in the cumulative impacts analyses in this EA/EIR for the geographic area described above. These projects are in the various stages of permitting or construction.

TABLE 5.6.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO PALEONTOLOGICAL RESOURCES

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Paleontological Resources[1]
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	Yes	This project involves the construction, operation, and maintenance of DCMs over an approximately 110-square mile area of the dried Owens lakebed. Implementation of the proposed project / proposed action has the potential to result in the destruction of unique paleontological resources. It was determined that with the implementation of avoidance, minimization, and mitigation measures, the project would have a less than significant impact to paleontological resources.

[1] The information provided in this table is based upon project documentation that has been made available to the public.

TABLE 5.6.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO PALEONTOLOGICAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Paleontological Resources[1]
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	No	The project involved large-scale habitat restoration of the Owens River north of Owens Lake. Impacts to paleontological resources were not addressed for this project.
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No	This project involves the development of framework for the management of resources at Owens Lake. There are no paleontological resources that would be impacted by this project.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No	The LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. Possible impacts to paleontological resources are not known.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	Yes	This project involves the construction of a spring water bottling facility and ancillary facilities. There are no known paleontological resources that will be impacted by the project. However, unknown or buried paleontological resources may be impacted by the project. Mitigation measures have been developed that include paleontological monitoring of construction activities to reduce the impacts to below the level of significance.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No	The project involves the development of a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lakebed and a calcining and drying unit on the western shore. Possible impacts to paleontological resources are not known.
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No	The project involves the development of a 200-megawatt solar facility on 1,600 acres in the lower Owens River Valley. Possible impacts to paleontological resources are not known.
Desert Renewable Energy Conservation Plan (DRECP)	Plan area covers about 22,587,000 acres, including proposed project / proposed action site	Yes	The DRECP is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. Possible impacts to paleontological resources are not known.

TABLE 5.6.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO PALEONTOLOGICAL RESOURCES,
CONTINUED

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Paleontological Resources[1]
Caltrans Highway 395 Olancha/ Cartago Four-Lane Project	Approximately 7 miles west of the proposed project / proposed action site	Yes	The study involves the widening of the existing Caltrans Highway 395 between Olancha and Cartago. Paleontological resources have been identified within the type of alluvial fan within the project area. Current environmental documentation recommends further studies to determine if mitigation is required. If it is determined necessary, Caltrans would implement a paleontological resource mitigation plan following Caltrans guidelines to salvage fossil specimens during construction excavation for this project. Implementation of the plan could minimize any adverse impacts to paleontological resources.
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No	The 1,280-acre project involves the development of a 200-megawatt solar facility in the lower Owens River Valley. Possible impacts to paleontological resources are not known.

5.6.4 CUMULATIVE PALEONTOLOGICAL RESOURCES IMPACTS

In consideration of the related past, present, or reasonably foreseeable probable future projects as listed in Table 5.6.3.1-1, the incremental impact of the combined components of the proposed project / proposed action would not lead to an adverse effort or a significant impact to paleontological resources. With regard to paleontological resources, implementation of the proposed project / proposed action or an alternative is not expected to contribute to cumulative impacts associated with the destruction of unique paleontological resources or unique geologic features.

In summary, the paleontological resources impact of the proposed project / proposed action, when viewed in connection with the effects of the related past, current, and reasonably foreseeable future projects, would not be expected to result in significant impacts related to paleontological resources.

5.7 GREENHOUSE GAS EMISSIONS AND GLOBAL CLIMATE CHANGE

5.7.1 GEOGRAPHIC SCOPE

The proposed project / proposed action is located immediately northwest of the community of Keeler in Inyo County, California. The proposed project / proposed action consists of dust control measures (DCMs) applied to 194 acres within a 1.36-square-mile study area. The study area is bounded approximately by the Inyo Mountains on the east-northeast and the historic shoreline of Owens Lake west-southwest, and extends approximately 2.5 miles to the northwest from the community of Keeler. SR 136 bisects the study area. The proposed project / proposed action is located on lands administered by the BLM Bishop Office and the LADWP. Other stakeholders include Inyo County, the local Lone Pine-Paiute Shoshone Tribe, Caltrans District 9, Keeler Community Services District, and Keeler residents.

5.7.2 TIMEFRAME

The timeframe refers to the duration over which an impact would occur: short-term or long-term. Short-term impacts to greenhouse gas (GHG) emissions and global climate change would occur during the construction phase of the proposed project / proposed action in association with the addition of construction equipment to the landscape. Installation of the proposed project / proposed action would require a maximum of 11 months to complete. Construction of the proposed project / proposed action would be divided into the following parts: (1) preparation of temporary access routes and staging areas, (2) bale placement and planting and watering, and (3) project oversight and monitoring and supplemental watering (up to two per year for 3 years) and additional planting as required. Based on the nature of the proposed project / proposed action as a revegetation project to control dust, no long-term impacts to GHG emissions and global climate change are anticipated in association with the operations and maintenance, or monitoring phase of the proposed project / proposed action. Very small increases in traffic volumes associated with operations would occur and are not anticipated to adversely impact GHG emissions and climate change during the operational life of the proposed project / proposed action (approximately 3 years).

5.7.3 EXISTING CUMULATIVE CONDITIONS

In order to establish a reference point for future GHG emissions, CO_{2e} emissions have been projected based on an unregulated, business as usual, GHG emissions scenario that does not consider the reductions in GHG emissions required by Executive Order S-3-05 or AB 32. CARB has stated that California contributed 427 million metric tons of GHG emissions in CO_{2e} in 1990 and, under a business as usual development scenario, will contribute approximately 596 million metric tons of CO_{2e} emissions in 2020, which presents a linear upward trend in California's total GHG emissions. To characterize the business as usual GHG emissions specifically for Inyo County, information on population has been collected from the California Department of Finance. It has been projected that the population of Inyo County will increase by approximately 27 percent from 2010 to 2050.[1] Using the current CO_{2e} emissions factor of 14 metric tons per capita,[2] Inyo County would be responsible for

[1] California Department of Finance. May 2012. *Interim Population Projections for California and Its Counties 2010-2050*. Available at: http://www.dof.ca.gov/research/demographic/reports/projections/interim/view.php

[2] California Air Resources Board. 15 October 2008. *Climate Change Proposed Scoping Plan: A Framework for Change*. Available at: http://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm

the emission of approximately 0.26 million metric ton of CO_{2e} in 2010 and 0.33 million metric ton of CO_{2e} in 2050 under a business as usual emissions scenario (Table 5.7.3-1, *Characterization of Business as Usual GHG Emissions for Inyo County*).

TABLE 5.7.3-1
CHARACTERIZATION OF BUSINESS AS USUAL GHG EMISSIONS FOR INYO COUNTY

	Year						
	1990	**2000**	**2010**	**2020**	**2030**	**2040**	**2050**
Population	18,281	17,945	18,624	19,388	20,657	22,091	23,618
CARB emission factor (metric tons of CO_{2e} *per capita*)	14	14	14	14	14	14	14
Annual GHG emissions for Inyo County (million metric tons of CO_{2e})	0.26	0.25	0.26	0.27	0.29	0.31	0.33

Sources:
California Department of Finance. May 2012. *Interim Population Projections for California and Its Counties 2010-2050*. Available at: http://www.dof.ca.gov/research/demographic/reports/projections/interim/view.php

California Department of Finance. August 2011. *Historic Census Populations of Counties and Incorporated Cities in California 1850-2010*. Available at: http://www.dof.ca.gov/research/demographic/state_census_data_center/historical_census_1850-2010/view.php

5.7.3.1 GREENHOUSE GAS EMISSIONS

The proposed project / proposed action's global climate change impacts were analyzed quantitatively considering the proposed project / proposed action's operational scenario, size, and location. To quantify the amount of GHG emissions contributed by construction and operation of the proposed project / proposed action, the CalEEMod emissions model and the California Climate Action Registry's General Reporting Protocol were used. The proposed project / proposed action would be expected to have the potential to result in significant impacts related to global climate change if the proposed project / proposed action conflicts with the goal of reducing California's GHG emissions to the 1990 levels (427 million metric tons CO_{2e}, which is equivalent to approximately 10 metric tons CO_{2e} per capita) by 2020 as required by AB 32. Based on the suggested thresholds proposed by the CAPCOA,[3] the proposed project / proposed action would be expected to have the potential to result in significant impacts related to global climate change if the proposed project / proposed action emits more than 25,000 metric tons of CO_{2e} per year.

5.7.3.2 QUALITATIVE ANALYSIS OF GREENHOUSE GAS EMISSION IMPACTS

The proposed project / proposed action's incremental impact to GHG emissions would be potentially significant if the size, nature, or duration of the construction phase would emit a substantial amount of GHGs. The construction phase of the proposed project / proposed action would take approximately 11 months to complete and would include the entire 194-acre proposed project / proposed action area.

[3] California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act.* Sacramento, CA. Voluntary Reporting of Greenhouse Gases, U.S. Department of Energy, Energy Information Administration (16 pp, 111K, About PDF)

During delivery of straw bales and planting, heavy-duty equipment would be operated, which, together with the large area under construction, would be expected to produce significant, but temporary, GHG emissions. Therefore, the GHG emissions due to the proposed project / proposed action's straw bale delivery and planting phases warrant a quantitative analysis.

During the operational phase, the proposed project / proposed action's GHG emissions would be expected to be below the level of significance. As described in the project description, the proposed project / proposed action is primarily the placement of straw bales and the planting of vegetation. Therefore, although the use of maintenance equipment for the proposed project / proposed action would be expected to emit GHGs, the operational phase would be expected to result in a net decrease in regional GHG emissions due to the generation of CO from the planting as well as a reduction of PM_{10} emissions. Operation of the proposed project / proposed action would not be expected to have a significant detrimental impact upon GHG emissions and would reduce GHG emissions in compliance with the goals of AB 32 by providing an additional sink for CO_{2e}, which would reduce GHG emissions compared to a business as usual scenario.

5.7.3.3 Quantitative Analysis of Greenhouse Gas Emission Impacts

Based on emissions modeling, construction activities would result in the emission of a maximum of approximately 3,668.47 metric tons of CO_{2e} per year (Table 5.7.3.3-1, *CO_2 and CO_{2e} Emissions of the Proposed Project / Proposed Action*). Operation of the proposed project / proposed action would result in the emission of approximately 2,696.38 metric tons of CO_{2e} per year. The operational GHG emissions can be attributed to mobile sources and use of operational equipment such as water trucks. However, it is anticipated that operation of the proposed project / proposed action would result in a net benefit to GHG emissions due to sequestration of approximately 836.14 metric tons of CO_{2e} per year by the native plants. Therefore, the overall impact of operation of the proposed project / proposed action would be expected to have no negative impact upon GHG emissions; would not trigger the reference point of 25,000 metric tons of direct CO_{2e} that would warrant detailed consideration in the NEPA review set forth in the draft Guidance by CEQ, would not exceed the CAPCOA reporting threshold of 25,000 metric tons per year, and would reduce GHG emissions in compliance with AB 32. Therefore, it is expected that the overall GHG emissions resulting from construction and operation of the proposed project / proposed action would be consistent with CEQ's guidance and would be below the level of significance.

TABLE 5.7.3.3-1
CO_2 AND CO_{2E} EMISSIONS OF THE PROPOSED PROJECT / PROPOSED ACTION

Construction Emission Sourced*	CO_2 Emissions	CO_{2e} Emissions
	Metric Tons/Year	Metric Tons/Year
Maximum Construction Emissions	**3,645.93**	**3,668.47**
Operational Emission Sources**	**Metric Tons/Year**	**Metric Tons/Year**
Operational Activity	1,856.42	1,868.06
ATVs	3.18	3.19
Water Trucks	818.58	823.71
Mobile Sources	1.41	1.42
Maximum Operational Emissions	**2,679.59**	**2,696.38**

In addition to coordinating with their internal planning personnel, the District and BLM contacted the State Lands Commission, Inyo County, and the LADWP to seek out information regarding past, present, and reasonably foreseeable probable future projects within the Owens Valley Planning Area. The District and the BLM identified nine past, present, and reasonably foreseeable probable future projects that were considered in the evaluation of the potential for the proposed project / proposed action to result in cumulative significant impacts (Table 5.7.3.3-2, *Past, Present, and Reasonably Foreseeable Projects in the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Greenhouse Gas Emissions and Global Climate Change*; and Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*):

TABLE 5.7.3.3-2
PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO GREENHOUSE GAS EMISSIONS AND GLOBAL CLIMATE CHANGE

Project Name	Distance from Site	Included in Cumulative Analysis	Level of Impact to Greenhouse Gas Emissions and Global Climate Change
Owens Lake Dust Control Program	Less than 1 mile from proposed project / proposed action site	Yes.	Owens Lake Dust Control Program are not anticipated to cumulatively contribute to GHG emission impacts based on its timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts.
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Approximately 15 miles southwest of proposed project / proposed action site	No. The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is neither within the 2.5 mile radius nor is it expected to be under construction simultaneously with the proposed project / proposed action.	The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is not anticipated to cumulatively contribute to GHG emission impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Located approximately 12.5 miles southwest from the southwest corner of proposed project / proposed action location	No. The Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility is neither within the 2.5 mile radius nor will the facility be under construction simultaneously with the proposed project / proposed action.	The Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project is not anticipated to cumulatively contribute to GHG emission impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
Owens Lake Master Project	Less than 1 mile from proposed project / proposed action site	No.	The Owens Lake Master Project is not anticipated to cumulatively contribute to GHG emission impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts

TABLE 5.7.3.3-2
PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO GREENHOUSE GAS EMISSIONS AND GLOBAL CLIMATE CHANGE, *CONTINUED*

Project Name	Distance from Site	Included in Cumulative Analysis	Level of Impact to Greenhouse Gas Emissions and Global Climate Change
LADWP Southern Owens Valley Solar Ranch	Located approximately 15 miles northwest from the northwest corner of the proposed project / proposed action location	No. The LADWP Southern Owens Valley Solar Ranch is neither within the 2.5 mile radius nor is it expected to be under construction simultaneously with the proposed project / proposed action.	The LADWP Southern Owens Valley Solar Ranch is not anticipated to cumulatively contribute to GHG emission impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
Owen Lake Groundwater Evaluation Program	Less than 1 mile from proposed project / proposed action site	No.	The Owen Lake Groundwater Evaluation Program is not anticipated to cumulatively contribute to GHG emission impacts based on its location and nature of the project. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
U.S. Borax Owens Lake Expansion Project	Located approximately 10.0 miles southwest of the southwestern corner of the proposed project / proposed action location	No. The U.S. Borax Owens Lake Expansion Project is not within the 2.5 mile radius of the proposed project / proposed action.	The U.S. Borax Owens Lake Expansion Project is not anticipated to cumulatively contribute to GHG emission impacts based on its location. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
Desert Renewable Energy Conservation Plan (DRECP)	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	Yes. The DRECP is within the 2.5 mile radius; however, the nature of the project does not generate air quality impacts.	The DRECP is not anticipated to cumulatively contribute to GHG emission impacts based on the nature of the project. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts
Lower Owens River Project	The southeastern corner of the Lower Owens River Project is located approximately 2.25 miles northwest from the northwestern corner of the proposed project / proposed action location	Yes. The Lower Owens River Project is within the 2.5 mile radius; however, the nature of the project does not generate air quality impacts.	The Lower Owens River Project is not anticipated to cumulatively contribute to GHG emission impacts based on the nature of the project.

5.7.4 CUMULATIVE GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE IMPACTS

In consideration of the related past, present, or reasonably foreseeable probable future projects, the incremental impact of the combined components of the proposed project / proposed action would not lead to a significant impact to GHG emissions. The potential impacts of the proposed project / proposed action can be evaluated within the context of the cumulative impacts of all ongoing and proposed development (Figure 5.03-1).

The proposed project / proposed action, in consideration with the Owens Lake Dust Control Program, the Owens Lake Master Project, the Lower Owens River Project, and the Owens Lake Groundwater Evaluation Program, would not contribute to significant cumulative impacts to GHG emissions. The goals and objectives of these related projects are similar to those of the proposed project / proposed action with regard to controlling the dust emissions from the Keeler Dunes while minimizing impacts to the environment. Of the other four projects, Geyser Roxanne Cabin Bar Ranch Water Bottling Facility, U.S. Borax, Owens Lake Expansion Project / Conditional Use Permit #02-13 / Reclamation Plant #02-1; LADWP Southern Owens Valley Solar Ranch Project; Desert Renewable Energy Conservation Plan; and California Department of Transportation Highway 395 Olancha/Cartago Four-Lane Project, none of these projects would be constructed during the same time period as the proposed project / proposed action. In sum, the GHG emissions impact of the proposed project / proposed action would not be cumulatively significant when viewed in connection with the greenhouse gas emissions and global climate change of the related past, current, and reasonably foreseeable probable future projects.

5.8 HYDROLOGY AND WATER QUALITY

Cumulative impacts on hydrology and water quality take into account the proposed project / proposed action's impacts as well as those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects. When analyzing cumulative impacts on hydrology and water quality, an assessment is made of the impacts on the hydrology and water quality within the cumulative impact analysis area.

5.8.1 GEOGRAPHIC SCOPE

The geographic extent of this cumulative impacts analysis for hydrology and water quality impacts under the proposed project / proposed action or an alternative includes local and regional projects of hydrologic units within the Owens Lake watershed. The watershed unit code is 18090103 of the USDA National Resources Conservation Services, (NRCS).[1] The principal sources of inflow to Owens Lake include: the Owens River, Shallow Flood and Managed Vegetation dust control measures, and natural seeps and springs along the shoreline. The perennial creeks from the east-facing slopes of the Sierra Nevada are diverted into the Los Angeles Aqueduct prior to reaching Owens Lake.

5.8.2 TIMEFRAME

The timeframe refers to the duration over which an impact would occur: short-term or long-term. Short-term impacts to hydrology and water quality would occur during the construction period in association with groundwater or surface water quality or quantities in conjunction with installation of straw bales and native vegetation during the 11-month construction period. Long-term impacts to hydrology and water quality would occur as a result of any permanent changes in permeability of the ground surface in the proposed project / proposed action area, permanent alteration of surface drainage courses, or groundwater extractions that exceed the capacity for sustainable yield.

5.8.3 EXISTING CUMULATIVE CONDITIONS

5.8.3.1 PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS

A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.8.3.1-1*, List of Cumulative Projects within the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Hydrology and Water Quality*. Cumulative projects are mapped in Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*. These projects include proposed or approved projects within the Owen's Valley that have a potential to contribute to regional impacts when considered in conjunction with the proposed project / proposed action. These projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to consideration for approval by the respective decision-making body. Even if environmental review has not been completed for the projects described in Table 5.8.3.1-1, their potential effects were considered in the cumulative impacts analyses in this EIS/EIR for the geographic area described above. These projects are in various stages of entitlement, permitting, or construction.

[1] USDA National Resources Conservation Services, Available at: http://cfpub1.epa.gov/surf/huc.cfm?huc_code=18090103

TABLE 5.8.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO HYDROLOGY AND WATER QUALITY

Project Name	Distance from Project Site	Included in Cumulative Analysis?	Level of Impact to Hydrology and Water Quality
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	Yes	This project involves the construction, operation, and maintenance of Dust Control Measures over approximately 45 square miles of the 110-square mile bed of Owens Lake. The Owens Lake dust control project has the potential to result in impacts to hydrology and water quality. Implementation of mitigation measures would be expected to reduce these impacts to surface water and groundwater quality and levels to below the level of significance.
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	Yes	The project involved large-scale habitat restoration of the Owens River north of Owens Lake. Possible impacts to hydrology include localized overbank flooding. A mitigation measure was developed to reduce the impact to a less than significant level. Implementation of the Lower Owens River Project is also expected to cause significant and unavoidable impacts to water quality.
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No	The Owens Lake Master Project involves the development of framework for the management of resources at Owens Lake. As a planning document, the Master Project does not specifically authorize or result in the ability to create impervious surfaces within the watershed, or change surface water drainages.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No	The LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. Additional study has been recommended to identify the impacts to hydrology and water quality.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	Yes	The Crystal Geyser project involves the construction of a spring water bottling facility and ancillary facilities. The water source for this project is located on the east-facing slopes of the Sierra Nevada. The implementation of this project was determined to result in less than significant impacts to groundwater or surface water hydrology and no mitigation measures were required.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No	The US Borax project involves the development of a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lake bed and a calcining and drying unit on the western shore and would be subject to obtaining a Notice of Applicability of Waste Discharge Requirement (WDR) permit. The WDR permit requires that there be no alteration of surface water resources in term of quality or quantity where the water discharges at the project boundary; therefore, this project is not expected to contribute to cumulative impacts related to surface or groundwater quality or quantity.

TABLE 5.8.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO HYDROLOGY AND WATER QUALITY, *CONTINUED*

Project Name	Distance from Project Site	Included in Cumulative Analysis?	Level of Impact to Hydrology and Water Quality
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No	The LADWP solar ranch project involves the development of a 200-megawatt solar facility on 1,600 acres in the lower Owens River Valley and would be subject to obtaining a Notice of Applicability of WDR permit. The WDR permit requires that there be no alteration of surface water resources in term of quality or quantity where the water discharges at the project boundary; therefore, this project is not expected to contribute to cumulative impacts related to surface or groundwater quality or quantity.
Desert Renewable Energy Conservation Plan	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	No	The Desert Renewable Energy Conservation Plan (DRECP) is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. As a planning document, the Conservation Plan does not specifically authorize or result in the ability to create impervious surfaces within the watershed, change surface water drainages, or allow the extraction of groundwater.
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Approximately 15 miles west of the proposed project / proposed action site	Yes	The Olancha/Cartago Four-Lane project involves the widening of the existing Caltrans Highway 395 between Olancha and Cartago. Adherence to proper and accepted engineering practices and best management practices is expected to result in less than significant impacts to hydrology and water quality.
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No	The 1,280-acre project involves the development of a 200-megawatt solar facility in the southern Owens Valley and would be subject to obtaining a Notice of Applicability of WDR permit. The WDR permit requires that there be no alteration of surface water resources in term of quality or quantity where the water discharges at the project boundary; therefore, this project is not expected to contribute to cumulative impacts related to surface or groundwater quality or quantity.

5.8.4 CUMULATIVE HYDROLOGY AND WATER QUALITY IMPACTS

In consideration of the related past, present, or reasonably foreseeable, probable future projects as listed in Table 5.8.3.1-1, the incremental impact of the combined components of the proposed project / proposed action would not lead to a significant impact to hydrology and water quality. The potential impacts of the proposed project can be evaluated within the context of the cumulative impacts of all ongoing and proposed development.

The proposed project / proposed action was considered in relation to four projects—the Owens Lake Dust Control Program, Lower Owens River Project, Crystal Geyser Roxanne Cabin Bar Ranch Water Bottling Facility, and the Caltrans Highway 395 Olancha/Cartago Four-Lane. No significant hydrology and water quality impacts were identified for these two latter projects. Although impacts were expected to occur with the implementation of the Owens Lake Dust Control Program, the incorporation of mitigation measures would reduce these impacts to below the level of significance. Finally, significant and unavoidable impacts to water quality are associated with the Lower Owens River Project. Given that the proposed project / proposed action is not expected to impact hydrology and water quality, its implementation would not contribute to cumulative hydrology and water quality impacts associated with the Lower Owens River Project.

5.9 LAND USE AND PLANNING

A cumulative impact to land use and planning would occur in a situation where the proposed project / proposed action or an alternative, in combination with other cumulative projects, would result in conflicts with applicable plans, policies, or regulations, or result in incompatibilities with surrounding areas. With regard to lands managed by the BLM, a cumulative impact would occur if the proposed project / proposed action or an alternative, in combination with other cumulative projects, would compromise management practices in the Owens Lake area that are intended to protect and prevent damage to historic, cultural, or scenic values through management of activities and uses allowed within this area.

5.9.1 GEOGRAPHIC SCOPE

The geographic scope for the analysis of cumulative impacts related to land use is the area within the vicinity of Owen Lake. This distance was determined based on capturing projects within a reasonable distance of the proposed project / proposed action site. These additional projects extend approximately 50 miles north, 12 miles west, and 25 miles south from the proposed project / proposed action. Cumulative impacts could result from conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating environmental impacts. Therefore, this analysis includes dust control and solar energy projects in Inyo County that may incur similar impacts to existing on-site land uses and surrounding areas, and would have to undergo a similar consistency analysis for plans, policies, and regulations as the proposed project / proposed action.

5.9.2 TIMEFRAME

The timeframe refers to the duration over which impacts associated with land use and planning would occur: short-term or long-term. Short-term impacts to land use and planning would occur during the construction period. Long-term impacts would occur as a result of developing dust control on the proposed project / proposed action site and the resulting change in land use to accommodate the proposed project / proposed action.

5.9.3 EXISTING CUMULATIVE CONDITIONS

The existing cumulative conditions include past, present, and reasonably foreseeable future projects that could conflict with existing land use patterns or special designations. Past and present projects represent those that have been developed and are currently operational, or projects that are currently under construction and will be operational in the near future (1 to 2 years or less). Reasonably foreseeable projects are those for which an application has been submitted to the appropriate agency, are currently undergoing environmental review, or will be pursuing environmental review in the near future (1 to 2 years or less). Activity must be occurring in order for the project to be reasonably foreseeable. Projects that have started the application or environmental review process but have been stalled over 6 months are not considered reasonably foreseeable.

In consideration of the related past, present, or reasonably foreseeable probable future projects, the incremental impact of the combined components of the proposed project / proposed action would not lead to impacts to land use and planning. The potential impacts of the proposed project / proposed action can be evaluated within the context of the cumulative impacts of all ongoing and proposed development.

These projects have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. The impacts of these projects were considered in the cumulative impacts analysis even if environmental review has not been completed.

5.9.3.1 PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS

Past, present, and reasonably foreseeable projects occurring in the vicinity of the proposed project / proposed action site occur on federal (managed by the BLM), LADWP, and private lands. The Land Use Element of the Inyo County General Plan designates the proposed project / proposed action study area as State and Federal Lands, Natural Resources, and Rural Protection.[1] The proposed project / proposed action is located within the OVPA (Figure 1.2-1, *Study Area Boundary in Relation to Owens Valley Planning Area*). The planning area is situated in the southern end of the Owens Valley; implementation of various DCMs on Owens Lake, adjacent and west of the proposed project / proposed action study area, has been ongoing since the year 2001. Cumulative projects identified on Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*, have the potential to combine with proposed project / proposed action or an alternative and result in cumulative impacts to land use.

A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.9.3.1-1, *List of Cumulative Projects within the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Land Use and Planning*; cumulative projects are mapped in Figure 5.03-1. These projects include proposed or approved projects that have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not be completed for the projects described in Table 5.9.3.1-1, their potential effects were considered in the cumulative impacts analyses in this EIR/EA for the geographic area described above. These projects are in the various stages of permitting or construction.

TABLE 5.9.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO LAND USE AND PLANNING

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Land Use and Planning
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	Yes	This project involves the construction, operation, and maintenance of DCMs over approximately 45 square miles of the 110-square-mile bed of Owens Lake. Implementation of the proposed project / proposed action would not result in impacts to land use and planning.
Lower Owens River Project (LORP)	Approximately 2 miles west of the proposed project / proposed action site	Yes	The LORP involves large-scale habitat restoration of the Owens River north of Owens Lake. Implementation of the proposed project / proposed action would not result in impacts to land use and planning associated with the LORP.

[1] Inyo County Planning Department. December 2001. *Inyo County General Plan, Land Use Element*. Independence, CA.

TABLE 5.9.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO LAND USE AND PLANNING, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Land Use and Planning
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	No	This project involves the development of framework for the management of resources at Owens Lake. Impacts to land use and planning are unknown.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No.	The LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. Impacts to land use and planning are unknown.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	Yes	This project involves the construction of a spring water bottling facility and ancillary facilities. The proposed project / proposed action would be consistent with the applicable goals and policies of the Inyo County General Plan. There would be no impacts to land use.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No	The project involves the development of a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lake bed and a calcining and drying unit on the western shore. Impacts to land use and planning are unknown.
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No	The project involves the development of a 200-megawatt solar facility on 1,600 acres in the lower Owens River Valley. The proposed solar ranch project would affect the use of the project property for at least the next 25 years and would need to be evaluated within the context of several land use plans and agreements of which LADWP is a party. The LORP and Owens Valley Land Management Plan establish resource management priorities on lands in the Owens Valley. Project consistency with the management objectives established in these plans would be evaluated in the EIR. Other potential land use effects to be evaluated would include compatibility with nearby uses and consistency with applicable local or regional ordinances or laws affecting solar energy. Depending upon the nature and extent of temporary housing provided by LADWP for the project construction workers, potential effects related to land use compatibility, development standards, planning/zoning issues, and community character would be evaluated. Possible impacts to land use and planning are not known.

TABLE 5.9.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO LAND USE AND PLANNING, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Land Use and Planning
Desert Renewable Energy Conservation Plan (DRECP)	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	No	The DRECP is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. Possible impacts to land use and planning are not known.
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Approximately 15 miles west of the proposed project / proposed action site	Yes	The study involves the widening of the existing Caltrans Highway 395 between Olancha and Cartago. There would be no impacts to land use.
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No	The 1,280-acre project involves the development of a 200 megawatt solar facility in the lower Owens River Valley. Possible impacts to land use and planning are not known.

5.9.4 CUMULATIVE LAND USE IMPACTS

The proposed project / proposed action would result in the revegetation of selected areas using biodegradable straw bales and native vegetation and is compatible and consistent with the Bishop RMP and the Land Use Element of the Inyo County General Plan and Inyo County Zoning Ordinance. The Bishop RMP's policies and guidelines applicable to the Owens Lake Management Area address preservation and protection of the environment and archaeological artifacts and management of domestic sources of minerals, off-highway vehicle use, grazing, and recreation on public lands. The Land Use Element of the Inyo County General Plan designates the proposed project / proposed action study area as State and Federal Lands, Rural Protection, and Natural Resources.[2] The Inyo County Zoning Ordinance designates the proposed project / proposed action study area as predominantly an Open Space Zone with 40-acre minimum lot size (OS-40).[3] The OS-40 designation encourages the preservation and protection of mountainous, hilly upland, valley, agricultural, potential agricultural, fragile desert areas, and other mandated lands from fire erosion, soil destruction, pollution, and other detrimental effects of intensive land use activities.[4]

[2] Inyo County Planning Department. December 2001. *Inyo County General Plan, Land Use Element*. Independence, CA.

[3] Inyo County. 30 June 2003. "Zoning Ordinance," Title 18, Inyo County Code. Independence, CA.

[4] Inyo County. 30 June 2003. "Zoning Ordinance," Title 18, *Inyo County Code*. Independence, CA.

5.10 RECREATION

Cumulative impacts on recreation take into account the proposed project / proposed action's impacts as well as those likely to occur as a result of other existing, proposed, and reasonably foreseeable probable future projects. When analyzing cumulative impacts on recreation, an assessment is made of the impacts on recreation within the cumulative impact analysis area. This cumulative analysis is focused on the proposed project / proposed action's potential contributions to impacts on recreation.

5.10.1 GEOGRAPHIC SCOPE

The cumulative impacts of the proposed project / proposed action on recreation is defined as the incremental physical impact of the proposed project / proposed action when added to other closely related past, present, and reasonably foreseeable probable future projects. The geographic scope of the cumulative effects analysis for recreation includes the local and regional recreation facilities in Inyo County. This geographic scope encompasses an area larger than the proposed project / proposed action site and provides a reasonable context wherein cumulative actions on the proposed project / proposed action site could affect recreation beyond the proposed project / proposed action site.

5.10.2 TIMEFRAME

The timeframe refers the duration over which an impact would occur: short-term or long-term. Short-term impacts to recreation would occur during the construction period. Long-term impacts would occur as a result of any changes in traffic patterns or volumes that would occur as a result of developing dust control on the proposed project / proposed action site and the resulting change in affect access to recreational facilities to accommodate the proposed project / proposed action.

5.10.3 EXISTING CUMULATIVE CONDITIONS

The cumulative conditions include recreation on the federal, state, county, and municipal lands. The proposed project / proposed action is within the Owens Lake Management Area and South Inyo Management Area, two of the nine areas managed by the BLM pursuant to the Bishop Resource Management Plan (RMP). The proposed DCMs would be implemented within the Owens Lake Management Area only. The proposed project / proposed action and alternatives include between 194 and 214 acres of land administered by the BLM where passive recreation is an allowable land use. The Bishop RMP's policies and guidelines applicable to the Owens Lake Management Area address preservation and protection of the environment and archaeological artifacts and management of domestic sources of minerals, off-highway vehicle use, grazing, and recreation on public lands. With regard to recreation within the South Inyo Management Area, the Bishop RMP includes the following policy:

> Manage for primitive recreation opportunities in the proposed Southern Inyo Wilderness Area. Provide for semi-primitive motorized and semi-primitive non-motorized recreation opportunities in the remainder of the area.[1]

[1] U.S. Department of the Interior, Bureau of Land Management, Bakersfield District. 1993. *Bishop Resource Management Plan Record of Decision*. Bakersfield, CA.

There are many federal lands located in the general project vicinity including the Inyo National Forest, Sequoia National Forest, Domeland Wilderness, South Sierra Wilderness, Golden Trout Wilderness, Coso Range Wilderness, Monarch Wilderness, Jennie Lakes Wilderness, Inyo Mountains Wilderness, Sequoia National Park, Kings Canyon National Park, and Death Valley National Park. These surrounding National Forest wilderness areas, National Parks, and National Forest areas provide numerous recreational opportunities including but not limited to hiking, backpacking, horse packing, mountain biking, winter recreation, and off-highway vehicle (OHV) use (see Figure 1.3.1-1, *Regional Vicinity Map*).

Red Rock Canyon State Park, located approximately 75 miles south of the proposed project / proposed action, is the closest recreation area administered by the State of California.

The proposed project / proposed action study area is located within an unincorporated area of Inyo County. Within Inyo County, there are 11 county-run campgrounds and seven county parks, among other recreational areas and facilities.[2] There are 18 public recreational areas within a 1-hour travel time of the proposed project / proposed action. These areas provide access to many types of generally passive recreation. Three of these areas managed by the BLM, nine are managed by Inyo County, two are managed by the National Park Service, and four are managed by the U.S. Forest Service (Table 3.10.2.2-1, *List of Public Recreation Areas within a 1-Hour Travel Time of the Proposed Project / Proposed Action*).

There are no parks of national, state, or historic nature within a 10-mile radius of the proposed project / proposed action study area. There are no designated parks or recreational facilities within the community of Keeler. Seven recreational areas are located within a 15-mile radius of the proposed project / proposed action study area (please refer to Figure 3.10.2.2-1, *Nearest Recreational Facilities to the Proposed Project / Proposed Action Study Area*, and Table 3.10.2.2-1). The nearest recreational areas are:

1. Diaz Recreational Lake Area, located approximately 9 miles northwest of the proposed project / proposed action study area (a 12–20 minute drive)
2. Spainhower Park, located approximately 11 miles northwest of the proposed project / proposed action study area (a 14–17 minute drive)
3. Portagee Joe Campground, located approximately 11 miles northwest of the proposed project / proposed action study area (a 16–19 minute drive)
4. Alabama Hills Recreation Area, located approximately 11 miles northwest of the proposed project / proposed action study area (a 25–31 minute drive)
5. Dirty Socks Hot Springs, located approximately 11.5 miles southwest of the proposed project / proposed action study area (a 17–19 minute drive)
6. Tuttle Creek Campground, located approximately 13 miles northwest of the proposed project / proposed action study area (a 29–34 minute drive)
7. Horseshoe Meadows Road Trailhead, located approximately 13 miles west of the proposed project / proposed action study area (a 52–60 minute drive).

In addition, the Keeler Dunes are located primarily on lands owned and administered by the BLM and where, according to the Bishop RMP, passive recreation is an allowable use. While the general vicinity is known for passive recreation and OHV use, the Bishop RMP states that all BLM lands are to be

[2] Inyo County Department of Parks and Recreation. 2008. *Parks and Recreation.* Available at: http://www.inyocounty.us/campgrounds/index.htm

designated as closed and/or limited to OHV use.[3] The Keeler Dunes are also closed to OHV use. Residents of the community of Keeler use the Keeler Dunes for hiking, dog-walking, and other low-impact recreational activities.[4] In addition, there are historic mining towns and smelter sites in the vicinity (Swansea and Cerro Gordo) that are popular destinations for visitors to the Owens Valley (please refer to Figure 3.10.2.2-2, *Historic Mining Towns and Smelter Sites*).

The proposed project / proposed action study area abuts the eastern shoreline of Owens Lake, which is included in the Owens Lake Master Project. Land on the lake bed and on both sides of the Lower Owens River is being evaluated for opportunities and constraints regarding recreational activities, such as fishing, non-motorized boating, birding and wildlife viewing, swimming and tubing, water fowl hunting, picnicking and camping, hiking/walking, scenic driving and road biking, mountain biking, historical and cultural tourism, and volunteer stewardship and environmental education.

A portion of the proposed project / proposed action is located on lands owned by the LADWP. Recreational usage on LADWP lands is generally light and low-impact. The primary recreational activities that occur on city-owned lands are hunting, fishing, and wildlife viewing. Hunting and fishing are allowed except in areas that are posted. All hunting and fishing activities are under the jurisdiction of the CDFW. Unregulated OHV activity also occurs on the lake, but information regarding the frequency is very limited.

5.10.3.1 Past, Present and Reasonably Foreseeable Projects

A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.10.3.1-1, *List of Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Recreational Resources*; cumulative projects are mapped in Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*. These projects include proposed or approved projects that have either undergone independent environmental review pursuant to NEPA and/or CEQA or will do so prior to approval. Even if environmental review has not be completed for the projects described in Table 5.10.3.1-1, their potential effects were considered in the cumulative impacts analyses in this EIR/EA for the geographic area described above. These projects are in the various stages of permitting or construction.

[3] U.S. Department of the Interior, Bureau of Land Management. April 1993. *Bishop Resource Management Plan, Record of Decision*. Bishop, CA.

[4] Sapphos Environmental, Inc. 12 July 2011. Memorandum for the Record No. 1. Subject: Summary of the June 29, 2011, Project Kickoff Meeting for the Keeler Dunes Environmental Impact Report / Environmental Impact Statement. Pasadena, CA.

TABLE 5.10.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO RECREATIONAL RESOURCES

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Recreation
Owens Lake Dust Control Program	Less than 1 mile from the proposed project / proposed action site	Yes	This project involves the construction, operation, and maintenance of Dust Control Measures over approximately 45 square miles of the approximately 110-square-mile bed of Owens Lake. Implementation of the proposed project would not result in any adverse impacts to recreational resources.
Lower Owens River Project	Approximately 2 miles west of the proposed project / proposed action site	Yes	The project involved the development of a recreation use plan and large-scale habitat restoration along the Owens River north of Owens Lake. Through the improvement of ecological conditions in the project area, this project would have beneficial effects on recreational uses and opportunities in the southern Owens Valley.
Owens Lake Master Project	Less than 1 mile from the proposed project / proposed action site	Yes	This project involves the development of framework for the management of resources at Owens Lake. Under the Master Plan, new recreational activities would be developed including the construction of hiking trails, viewing areas, and interpretative education.
Owens Lake Groundwater Evaluation Program	Less than 1 mile from the proposed project / proposed action site	No	The LADWP is evaluating Owens Lake groundwater for supplying water to a portion of the dust control activities. Impacts to recreation are unknown.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Approximately 16 miles southwest of the proposed project / proposed action site	Yes	This project involves the construction of a spring water bottling facility and ancillary facilities. The proposed project would be consistent with the applicable goals and policies of the Inyo County General Plan. There would be no impacts to recreation.
U.S. Borax, Owens Lake Expansion Project	Approximately 10 miles southwest of the proposed project / proposed action site	No	The project involves the development of a trona ore processing facility at Owens Lake. The facility would consist of portable and mobile washing equipment located on the lake bed and a calcining and drying unit on the western shore. Impacts to recreational resources are unknown.
LADWP Southern Owens Valley Solar Ranch Project	Approximately 12 miles north of the proposed project / proposed action site	No	The project involves the development of a 200-megawatt solar facility on 1,600 acres in the lower Owens River Valley. It is expected that the temporary workforce associated with the construction phase may increase the demand for recreation facilities, including local and community parks, in the project area. The forthcoming EIR will evaluate changes to existing recreation service and parks that may result from project implementation and will evaluate whether construction of the project could have other effects that could impact area recreation.

TABLE 5.10.3.1-1
LIST OF CUMULATIVE PROJECTS WITHIN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO RECREATIONAL RESOURCES, *CONTINUED*

Project Name	Distance from Proposed Project / Proposed Action Site	Included in Cumulative Analysis?	Level of Impact to Recreation
Desert Renewable Energy Conservation Plan	Plan Area covers about 22,587,000 acres, including proposed project / proposed action site	No	The Desert Renewable Energy Conservation Plan (DRECP) is intended to conserve threatened and endangered species and natural communities in the Mojave and Colorado Desert regions of Southern California. Possible impacts to recreation are not known.
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Approximately 7 miles west of the proposed project / proposed action site	Yes	The study involves the widening of the existing Caltrans Highway 395 between Olancha and Cartago. The project is not expected to adversely impact recreational resources.
Northland Power Independence, LLC Solar Project	Approximately 5 miles east of Independence, CA	No	The 1,280-acre project involves the development of a 200 megawatt solar facility in the southern Owens Valley. Possible impacts to recreation are not known.

5.10.4 CUMULATIVE RECREATION IMPACTS

There are 10 cumulative projects within the geographic scope and time frame, excluding the proposed project / proposed action. None of these projects has been determined to have adverse unavoidable environmental effects associated with recreation. Two of these cumulative projects will temporarily affect recreation, but these temporary effects were determined to not be adverse. However, given that most of these cumulative projects are located, in part, on public land, and given that most public land in the region is designated as recreational use, it can reasonably be expected that these 10 cumulative projects could result in temporary impacts on lands accessible for recreation during the construction phase.

5.10.4.1 DIRECT AND INDIRECT IMPACTS

A. Construction

As indicated in the description of the proposed project / proposed action and alternatives, signs directing passive recreation users to areas that are available for such uses during the revegetation efforts would be posted throughout the construction phase of the proposed project / proposed action. The proposed project / proposed action would temporarily limit recreation use on 194 acres of the 750,000 acres of land administered by BLM Bishop Field Office, representing a temporary reduction of less than 0.0003 percent of the land available for passive recreation.[5] The proposed project / proposed action and two cumulative projects would have temporary construction-related impacts on recreation. Neither the proposed project / proposed action nor the cumulative projects would have permanent adverse impacts on recreation. There would be a temporary increase in daytime population during

[5] BLM Bishop Field Office Website. Available at: http://www.blm.gov/ca/st/en/fo/bishop.html

construction and maintenance of the proposed project / proposed action and related projects. Construction workers would be drawn from the existing Owens Valley resident population wherever possible. Residents have existing access to recreation facilities and would not contribute to use levels at federal, state, or county public lands available for recreation. Where necessary, construction crews would be augmented and would most likely be housed temporarily at hotels in the town of Lone Pine. Most of the hotels in the town of Lone Pine have swimming pools and other forms of recreation to entertain guests. There is also sufficient capacity, at county and local recreation facilities within a 1-hour travel time of the town of Lone Pine, to absorb recreation use by construction workers temporarily housed at hotels in Lone Pine during the construction phase of the proposed project / proposed action and related projects As such, the construction phase of the proposed project / proposed action, when combined with the cumulative projects, would not result in a cumulatively considerable impact on recreational activities.

B. Maintenance and Monitoring

As indicated in the description of the proposed project / proposed action and alternatives, signs directing passive recreation users to areas that are available for such uses during the 3-year maintenance and monitoring efforts would be posted throughout the maintenance and monitoring phase of the project. The proposed project / proposed action would temporarily limit recreation use on 194 acres of the 750,000 of acres of land administered by BLM Bishop Field Office, representing a temporary reduction of less than 0.0003 percent of land available for passive recreation. The temporary construction-related impacts would not be present during the maintenance and monitoring phase of the proposed project / proposed action. As such, the maintenance and monitoring phase of the proposed project / proposed action, when combined with the cumulative projects, would not result in a cumulatively considerable impact on recreational activities.

5.10.4.2 CEQA Significance Determinations

There are 10 cumulative projects within the geographic scope; none of the cumulative projects has been determined to have adverse unavoidable environmental effects associated with recreation. The proposed project would not have a cumulative adverse effect on the federal, state, county, or local recreational resources in the region. The recreational lands would remain available for recreational activities that are permitted within their specified use designations. Furthermore, the proposed project does not involve or necessitate the construction of recreation facilities. The proposed project would not contain a residential component that would increase the use of an existing neighborhood park or a regional park or other recreational facilities such that substantial physical deterioration would occur. Implementation of the proposed project would not have a cumulatively considerable impact on recreational resources. All impacts are temporary, and would not obstruct opportunities for recreation for residents of the communities of Keeler or Swansea.

5.10.4.3 NEPA IMPACT ANALYSIS

The location of proposed action components on lands administered by the BLM would be consistent with intended land use designations set forth by BLM's Bishop RMP. The proposed action involves revegetation with plants that are native to and present on other shoreline dune complexes located above the high water line of the historic Owens Lake. Use of these areas is currently closed to OHV use and limited to passive recreation uses such as walking and bird watching and would continue to be suitable for such passive recreation uses when the 3-year maintenance and monitoring phase of the proposed action is completed. The proposed action would adhere to assigned land use designations and consequently would not contribute to cumulative recreation impacts.

5.11 TRAFFIC AND TRANSPORTATION

Cumulative impacts to traffic and transportation could occur if implementation of the proposed project / proposed action would combine with impacts of other local or regional projects. A list of the existing and reasonably foreseeable cumulative projects is provided in Table 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*. Related projects are mapped in Figure 5.03-1, *Cumulative Projects in the Vicinity of the Proposed Project / Proposed Action*.

5.11.1 GEOGRAPHIC SCOPE

The proposed project / proposed action is located immediately northwest of the community of Keeler in Inyo County, California. The proposed project / proposed action consists of194 acres of straw bales and native vegetation planted within a study area of approximately 870 acres. The study area is bounded approximately by the Inyo Mountains on the east-northeast and the Owens Lake bed shoreline on the west-southwest, and extends approximately 2.5 miles to the northwest from the community of Keeler. California State Route 136 bisects the study area. The proposed project / proposed action is located on lands administered by the BLM Bishop Office and the LADWP. Other stakeholders include Inyo County, the local Lone Pine Paiute-Shoshone Tribes, Caltrans District 9, Southern Pacific Railroad, Keeler Community Services District, and Keeler residents.

5.11.2 TIMEFRAME

Installation of the proposed project / proposed action and alternatives would require approximately 11 months to complete. Construction of the proposed project / proposed action and alternatives would be divided into the following parts: (1) temporary access route and staging area(s); (2) bale placement and planting and watering; (3) project oversight and monitoring; and (4) supplemental watering and planting (project operation and maintenance) for a period of 3 years, as required.

Construction would be scheduled in compliance with County of Inyo regulations. Construction employees would be expected to carpool from respective population centers such as Lone Pine, Olancha, or Keeler, California, and report to the designated construction staging area prior to the beginning of each work day. Employees would use SR 136 and the gravel haul road and the Old State Highway for ingress/egress to the proposed project / proposed action property and that, once on site, they would access various sections by foot and ATV along temporary access routes. Workers would be present at the proposed project / proposed action site between 7:00 a.m. and 5:00 p.m., Monday through Friday. During periods of high temperature, work may begin as early as 5:00 a.m.

Up to 72 workers would be expected to be on site during peak construction activity periods. Construction equipment would be turned off when not in use. The construction contractor would be required to ensure that all equipment is properly maintained. All vehicles would utilize exhaust mufflers and engine enclosure covers (as designed by the manufacturer) at all times.

The plans and specifications for the proposed project / proposed action would include the requirement for construction equipment and average number of hours of operation of the type specified in Table 5.11.2-1, *Dust Control Activity, Duration, Equipment, and Workers*. Table 5.11.2-1 lists the duration of each activity and maximum number of workers on the site each day.

TABLE 5.11.2-1
DUST CONTROL ACTIVITY, DURATION, EQUIPMENT, AND WORKERS

Activity	Duration (months)	Equipment	Workers (maximum)
Site preparation	~ 1 week	GrubberAll-terrain vehicle Pickup truck Trailers	10
Deliver and distribute straw bales over the dust control areas and Planting and watering	6 to 8 months	Semi-trucks with tandem trailers Loader with forks Hay Squeeze All-terrain Vehicles Water Trucks	72
Supplemental Watering	1 to 3 months	All-terrain vehicles Water trucks	13
Cleanup/restoration	~ 2 weeks	Semi-trucks with tandem trailers All-terrain vehicles Loader with forks Dozers and trailers Water trucks Pick-up trucks	20

5.11.3 EXISTING CUMULATIVE CONDITIONS

5.11.3.1 PAST, PRESENT AND REASONABLY FORESEEABLE PROJECTS

In addition to coordinating with their internal planning personnel, the District and BLM contacted the State Lands Commission, Inyo County, and the LADWP to seek out information regarding past, present, and reasonably foreseeable probable future projects within the Owens Valley Planning Area. The District and the BLM identified nine past, present, and reasonably foreseeable probable future projects that were considered in the evaluation of the potential for the proposed project / proposed action to result in cumulative significant impacts (Table 5.11.3.1-1, *Past, Present and Reasonably Foreseeable Projects in the Vicinity of the Proposed Project / Proposed Action for the Analysis of Cumulative Impacts to Traffic and Transportation*):

TABLE 5.11.3.1-1
PAST, PRESENT AND REASONABLY FORESEEABLE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO TRAFFIC AND TRANSPORTATION

Project Name	Distance from Project Site	Included in Cumulative Analysis	Level of Impact to Traffic and Transportation
Owens Lake Dust Control Program	Located approximately less than 1 mile from the proposed project / proposed action location.	Yes. Owens Lake Dust Control Program is within the 2.5-mile radius. Construction of the Phase 7a project will occur during the same time period as the dust control construction in the Keeler Dunes	The Owens Lake Dust Control Program is not anticipated to cumulatively contribute to transportation and traffic impacts.
Caltrans Highway 395 Olancha/Cartago Four-Lane Project	Located approximately 15 miles southwest from the southwest corner of the proposed project / proposed action location.	No. The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is neither within the 2.5-mile radius nor is it expected to be under construction simultaneously with the proposed project / proposed action.	The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is not anticipated to cumulatively contribute to transportation and traffic impacts based on its location and timing. In addition, all projects are anticipated to implement air quality mitigation measures to reduce adverse impacts.
Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility	Located approximately 12.5 miles southwest from the southwest corner of the proposed project / proposed action location.	No. The Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility is neither within the 2.5-mile radius nor will the facility be under construction simultaneously with the proposed project / proposed action.	The Crystal Geyser Roxane Cabin Bar Ranch Water Bottling Facility Project is not anticipated to cumulatively contribute to transportation and traffic impacts based on its location and timing.
Owens Lake Master Project	Located within 1 mile of the proposed project / proposed action location.	No. The Owens Lake Master Project is within the 2.5-mile radius but is not expected to be under construction simultaneously with the proposed project / proposed action.	The Owens Lake Master Project is not anticipated to cumulatively contribute to transportation and traffic impacts based on its location and timing.
LADWP Southern Owens Valley Solar Ranch	Located approximately 15 miles northwest from the northwest corner of the proposed project / proposed action location.	No. The LADWP Southern Owens Valley Solar Ranch is neither within the 2.5-mile radius nor is it expected to be under construction simultaneously with the proposed project / proposed action.	The LADWP Southern Owens Valley Solar Ranch is not anticipated to cumulatively contribute to transportation and traffic impacts based on its location and timing.

TABLE 5.11.3.1-1
PAST, PRESENT AND REASONABLY FORESEEABLE PROJECTS IN THE VICINITY OF THE PROPOSED PROJECT / PROPOSED ACTION FOR THE ANALYSIS OF CUMULATIVE IMPACTS TO TRAFFIC AND TRANSPORTATION, *CONTINUED*

Project Name	Distance from Project Site	Included in Cumulative Analysis	Level of Impact to Traffic and Transportation
Owens Lake Groundwater Evaluation Program	Located within 1 mile of the proposed project / proposed action location.	No. The Owens Lake Groundwater Evaluation Program is within the 2.5-mile radius but is not expected to result in transportation and traffic impacts.	The Owens Lake Groundwater Evaluation Program is not anticipated to cumulatively contribute to transportation and traffic impacts based on its location and nature of the project.
U.S. Borax Owens Lake Expansion Project	Located approximately 10.0 miles southwest of the southwestern corner of the proposed project / proposed action location.	No. The U.S. Borax Owens Lake Expansion Project is not within the 2.5-mile radius of the proposed project / proposed action.	The U.S. Borax Owens Lake Expansion Project is not anticipated to cumulatively contribute to transportation and traffic impacts based on its location.
Desert Renewable Energy Conservation Plan (DRECP)	The DRECP spans approximately 22,587,000 acres throughout Southern California's deserts. The proposed project / proposed action is located entirely within the DRECP, and shares its northeastern boundary with a small portion of the DRECP eastern boundary.	Yes. The DRECP is within the 2.5-mile radius; however, the nature of the project does not generate transportation and traffic impacts.	The DRECP is not anticipated to cumulatively contribute to transportation and traffic impacts based on the nature of the project.
Lower Owens River Project	The southeastern corner of the Lower Owens River Project is located approximately 2.25 miles northwest from the northwestern corner of the proposed project / proposed action location.	Yes. The Lower Owens River Project is within the 2.5-mile radius; however, the nature of the project does not generate transportation and traffic impacts.	The Lower Owens River Project is not anticipated to cumulatively contribute to transportation and traffic impacts based on the nature of the project.

5.11.3.2 EXISTING TRAFFIC VOLUMES

Recent traffic counts for U.S. Highway 395, SR 136, and SR 190 in the proposed project / proposed action vicinity were researched from data provided in *2011 Traffic Volumes on California State Highway System*, which was published by Caltrans in August 2012.[1] The Caltrans publication lists 2011 traffic volumes for all count locations on the California state highway system. Peak hours, peak month average daily traffic (ADT) volumes, and annual ADT (AADT) volumes are shown for each

[1] California Department of Transportation. August 2012. *2011 Traffic Volumes on California State Highway System*. Sacramento, CA.

count location in the publication. Significant volume changes (breakpoints) in the traffic profile along each route are counted and identified by name and milepost value. The existing traffic volumes for U.S. 395, SR 136, and SR 190 are shown in Figure 3.11.2.2-1, *Existing Year 2011 Annual ADT Volumes*.

The AADT is the total traffic volume for the year divided by 365 days. The traffic count year data are collected from October 1 through September 30. Very few locations in California are actually counted continuously. Traffic counting is generally performed by electronic counting instruments moved from location to location throughout the state in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation, and other variables that may be present. AADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways, and other purposes.

U.S. Highway 395 Traffic Volumes

The AADT volume on U.S. Highway 395 between SR 136 and SR 190 varies between 5,450 and 5,860 vehicles per day, respectively, with a peak hour traffic volume of approximately 1,100 vehicles (year 2011 traffic volumes adjusted to reflect year 2012 conditions). This AADT volume is well below the capacity of the four-lane section of the highway, extending between SR 136 and SR 190.

State Route 136 Traffic Volumes

The AADT along SR 136 ranges from approximately 545 vehicles east of U.S. Highway 395 to approximately 435 vehicles near SR 190 at the Olancha cutoff (year 2011 traffic volumes adjusted to reflect year 2012 conditions). The peak hour traffic volume at both of these locations is approximately 70 vehicles per hour. The current traffic volume data indicate that this route is currently operating well below capacity.

State Route 190 Traffic Volumes

The AADT volume along SR 190 ranges from approximately 230 vehicles both east of U.S. Highway 395 and west of SR 136 (year 2011 traffic volumes adjusted to reflect year 2012 conditions). The peak hour traffic volume at both of these locations is approximately 50 vehicles per hour. The current traffic volume data indicate that this route is currently operating well below capacity.

5.11.4 CUMULATIVE TRAFFIC AND TRANSPORTATION IMPACTS

In consideration of the related past, present, or reasonably foreseeable, probable future projects, the incremental impact of the combined components of the proposed project / proposed action would not lead to a significant impact to traffic and transportation. The potential impacts of the proposed project / proposed action can be evaluated within the context of the cumulative impacts of all ongoing and proposed development.

The proposed project / proposed action, in consideration with the Owens Lake Dust Control Program, the Owens Lake Master Project, the Lower Owens River Project, and the Owens Lake Groundwater Evaluation Program, would not create considerable cumulative impacts to traffic and transportation because the proposed project / proposed action would not result in any impacts to traffic and traffic.

Four projects, the Crystal Geyser Roxanne Cabin Bar Ranch Water Bottling Facility; U.S. Borax, Owens Lake Expansion Project/Conditional Use Permit #02-13/Reclamation Plant #02-1; LADWP Southern

Owens Valley Solar Ranch Project; and Desert Renewable Energy Conservation Plan, would not result in impacts to traffic and transportation, because potential impacts from these projects would be reduced below the level of significance with the incorporation of mitigation measures. In addition, these projects are not anticipated to occur while the proposed project / proposed action is being constructed. The Caltrans Highway 395 Olancha/Cartago Four-Lane Project is a transportation improvement project and, therefore, would not result in impacts related to traffic and transportation. Therefore, the impacts to traffic and transportation resulting from implementation of the proposed project / proposed action would not be significant when viewed in connection with the related impacts of other current projects.

CHAPTER 6.0
OTHER CEQA REQUIRED CONSIDERATIONS

6.0 OTHER CEQA REQUIRED CONSIDERATIONS

CEQA requires the discussion of significant irreversible environmental changes, growth-inducing impacts, and areas of unavoidable significant environmental impacts for the proposed project / proposed action and alternatives. This section of the EIR/EA addresses these issues as they relate to the development of the proposed project / proposed action.

6.1 PROPOSED PROJECT

6.1.1 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

6.1.1.1 CEQA

As required pursuant to Section 15126.2(c) of the State CEQA Guidelines, this section of the EIR/EA summarizes the potential for implementation of the proposed project to result in significant irreversible environmental changes. Such a change refers to an irretrievable commitment of nonrenewable resources, or other environmental changes that commit future generations to similar uses. Irreversible environmental changes can also result from potential accidents associated with the proposed project.

The implementation of the DCMs would not result in significant irreversible changes to the existing environmental conditions in the proposed project area. The analysis performed in Section 4 determined that the proposed project would not result in significant irreversible environmental changes that would commit future generations to similar uses. The use of resources is confined to limited amounts of gasoline and diesel fuel to support transportation of personnel and equipment to the site, as well as water to support irrigation during the initial phases of the project installation. The anticipated consumptive use of gasoline, diesel fuel, and water is consistent with regional levels of supply and demand. The District has determined that the water can be provided by existing groundwater wells that would not create or exacerbate groundwater drawdown. Therefore, the proposed project would not be expected to create the need for development of new sources of gasoline, diesel fuel, or water.

In exchange for the limited use of gasoline, diesel fuel, and water, the proposed project would reduce PM_{10} emissions consistent with the 24-hour standard pursuant to NAAQS and State AAQS, providing clean and healthful air for local residents and visitors and related improvements to visibility on the local and regional transportation corridors in the vicinity of the community of Keeler, as well as reducing the degeneration of environmentally sensitive areas.

6.1.1.2 NEPA

NEPA requires an analysis of the significant irreversible effects of a proposed action. Resources irreversibly or irretrievably committed to a proposed action are those used on a long-term or permanent basis. This includes the use of nonrenewable resources such as metal, wood, fuel, paper, and other natural resources. These resources are considered nonretrievable in that they would be used for a proposed action when they could have been conserved or used for other

purposes. Another impact that falls under the category of irreversible and irretrievable commitment of resources is the unavoidable destruction of natural resources.

The use of fuel and water for the proposed action is limited in duration, during the initial phase of project installation, and would not constitute an irretrievable commitment of resources pursuant to NEPA. The permanent installation is limited to biodegradable straw bales and native plants. Over its operational life, the proposed action would contribute to a reduction in PM_{10} emissions, consistent with the 24-hour standard for the NAAQS and the State AAQS, improved visibility on local and regional transportation systems in the vicinity of the community of Keeler, and improved conservation of environmentally sensitive resources.

6.1.2 GROWTH-INDUCING IMPACTS

6.1.2.1 CEQA

A project is considered growth-inducing if it can foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment (CEQA Guidelines §15126.2(d)). This definition includes projects that would remove obstacles to population growth, such as extending public services into areas not previously served. Growth inducement can also be defined as an action that would encourage an increase in density of development in surrounding areas or encourage adjacent development. According to CEQA Guidelines §15126.2(d), growth should not be assumed to be beneficial, detrimental, or of little significance to the environment.

Although the proposed project would provide jobs during the construction period, there is sufficient available labor in the community to support it. Approximately 72 people may be required during construction, and those jobs would be short-term in nature and would last only the duration of project construction. Additional labor may be required once annually, during supplemental watering. The proposed project would rely on existing infrastructure and utilities. The proposed project would not be expected to generate new jobs after the completion of construction for the maintenance and operation of the DCMs. The proposed project would not be expected to result in the construction of additional housing either directly or indirectly. The proposed project does not provide infrastructure such as water systems, energy generation, sewer systems, schools, public services, or transportation improvements that could potentially support increased growth in the region. The surrounding region is open space and undeveloped. The temporary routes constructed to access the project site would be revegetated following the completion of the initial installation phase of the project. The proposed project would provide a beneficial effect on the air quality of the community of Keeler and the region as a result of the reduction of PM_{10} emissions.

6.1.2.2 NEPA

Under NEPA, indirect effects including growth-inducing effects must be analyzed (40 CFR Section 1508.8(b)). Issuance of the right-of-way permit would allow implementation of the DCMs. There is sufficient labor supply available to support up to 72 laborers required for the initial installation of the project. Additionally, the project would not involve the development of any new roadways,

new water systems, or new sewer systems. Potable water supply would be provided from bottled water. Portable toilet facilities will be used during the initial phase of the installation. Therefore, there would be no infrastructure improvements that would be available to serve the surrounding areas. For these reasons, the proposed action would not be growth-inducing. The temporary road constructed to access the proposed action site would be revegetated following the completion of the initial installation phase of the proposed action.

6.1.3 UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL IMPACTS

Analysis of environmental impacts caused by the proposed project / proposed action has been completed and is included in Chapter 4 of this EIR/EA. Consistent with the requirements of Section 15126.2(b) of the State CEQA Guidelines, significant impacts, including those that can be mitigated but not reduced to the level below significance, are described in this section of the EIR/EA. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, are also described.

In coordination with BLM, the District incorporated into the project description a range of Best Management Practices, including measures to avoid impacts to biological, cultural, and paleontological resources, and traffic control measures to be employed during the installation phase of the proposed project / proposed action. No unavoidable significant environmental impacts were identified for the proposed project / proposed action or any of the five analyzed project/action alternatives. No development is proposed under Alternative 6, No Project / No Action Alternative. In the No Project / No Action scenario, exceedances of the 24-hour NAAQS and State AAQS would remain significant and unavoidable.

CHAPTER 7.0
EFFECTS FOUND NOT TO BE SIGNIFICANT

7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT FOR CEQA

CEQA Guidelines §15128 requires that an EIR contain a brief statement disclosing the reasons why various possible significant effects of the proposed project or analyzed alternatives were found not to be significant and, therefore, would not be discussed in detail in the EIR. The environmental issues not expected to have a significant impact as a result of the proposed project / proposed action or Alternatives 1 through 5 were scoped out. These are described in detail in Chapter 1, *Introduction*, subsection 1.13, and are briefly summarized in this section. The District reviewed previous Initial Studies and EIRs prepared for dust control activities at Owens Lake,[1,2,3] analyzed a variety of potential DCMs applicable to the proposed project study area, and conducted public information meetings to disseminate information regarding ongoing research about potential DCMs under consideration for the proposed project to assist in defining the scope of the environmental evaluation.[4,5]

The analysis provided in Sections 4.1 through 4.11 identified no adverse impacts for the proposed project and Alternatives 1 through 5.

Alternative 6, the No Project Alternative, would not involve any construction on the proposed project site. Therefore, no effects on any of the resource and issue areas were identified.

AESTHETICS / VISUAL RESOURCES

As documented in Section 4.1, the proposed project site is not near any scenic vista or scenic highway; nor does it appear that it would damage or degrade any existing scenic resources. The proposed project would be consistent with the visual character of the proposed project site and not produce a significant source of light or glare. Thus, no impact is identified for this issue area.

[1] Great Basin Unified Air Pollution Control District. January 2008. *2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan—Integrated Subsequent Environmental Impact Report*. State Clearinghouse Number 2007021127. Prepared by Sapphos Environmental, Inc. Pasadena, CA.

[2] Great Basin Unified Air Pollution Control District. February 2004. *2003 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan Integrated Environmental Impact Report*. State Clearinghouse House No. 2002111020. Prepared by: Sapphos Environmental, Inc., Pasadena, CA. Bishop, CA.

[3] Great Basin Unified Air Pollution Control District. February 2007. *2008 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan Initial Study*. State Clearinghouse Number 2007021127. Bishop, CA.

[4] Great Basin Unified Air Pollution Control District. 2011. *Preliminary Constraints Analysis*. Prepared by: Sapphos Environmental, Inc., Pasadena, CA. Bishop, CA.

[5] Great Basin Unified Air Pollution Control District. 2011. "Public Meeting Presentation Materials for January 20, 2010 and August 24, 2011 Public Meetings." Available at: http://www.gbuapcd.org/keelerdunes/reports/index.htm

AGRICULTURE AND FORESTRY RESOURCES

The proposed project area consists of a sand sheet and active sand dunes. The Bishop RMP does not designate any areas of Inyo County as prime or unique agricultural or farmlands.[6] Similarly, the California Department of Conservation's FMMP has not mapped Inyo County as part of the FMMP.[7] There would be no conversion of designated or potential prime or unique farmland that would occur as part of the proposed project. Therefore, this issue area was not carried forward for detailed evaluation in the EIR.

There are no existing forest lands, timberlands, timberland zones, or timberland production either on-site or in the immediate vicinity that would conflict with existing zoning or cause rezoning. There are no existing forest lands either on-site or in the immediate vicinity of the site. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, this issue area was not carried forward for detailed evaluation in the EIR.

AIR QUALITY

As documented in Section 4.2, the proposed project would be consistent with the 2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment SIP and required to meet the objectives of that plan. As such, implementation and monitoring of the plan would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The proposed project facilitates attainment of the 24-hour standard for PM_{10} pursuant to the Federal NAAQS and the State AAQS and would not result in an increase or contribute to an increase in any criteria pollutant. The proposed project protects sensitive receptors from the harmful effects of PM_{10} and would not expose sensitive receptors to substantial pollutant concentrations or objectionable odors.

BIOLOGICAL RESOURCES

As documented in Section 4.3, the proposed project would result in a net increase in native vegetation; therefore, there is no anticipated substantial adverse effect directly or indirectly through habitat modification on any special status species of plant or wildlife, riparian habitat, designated sensitive habitat, or the movement of native or migratory fish or wildlife. The proposed project does not include work in any federally protected wetland as defined by Section 404 of the CWA or any stream or lake bed afforded protection pursuant to Section 1600 of the State Fish and Game Code. The proposed project would not conflict with the provisions of an adopted or proposed Habitat Conservation Plan; Natural Community Conservation Plan; or any other federal, state, or local conservation plan.

[6] Bureau of Land Management, Bakersfield District. April 1993. *Bishop Resource Management Plan Record of Decision*. Bakersfield, CA.

[7] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. Accessed 3 October 2012. Available at: http://www.conservation.ca.gov/DLRP/fmmp/Pages/Index.aspx

CULTURAL RESOURCES

As documented in Section 4.4, the proposed project area has been surveyed for cultural resources. The proposed project has been designed in a manner that would not result in an adverse change to the significance of historical or archeological resources or directly or indirectly affect a paleontological resource, or disturb human remains, including those interred outside of formal cemeteries.

GEOLOGY AND SOILS

As documented in Section 4.5, the proposed project does not involve the construction or alteration of structures; therefore, the proposed project would not expose people or structures to potential substantial adverse effects. As the proposed project is limited to the installation of straw bales and vegetation with native plants, the proposed project would not affect soil stability, or contribute to landslides, lateral spreading, subsidence, liquefaction, or collapse. Portable toilet facilities will be used during the installation of the proposed project; therefore, there is no requirement of a septic system or a wastewater disposal system.

PALEONTOLOGY

As documented in Section 4.6, the proposed project area has been surveyed for paleontological resources. The proposed project has been designed in a manner that would not directly or indirectly affect a paleontological resource.

GREENHOUSE GAS EMISSIONS AND GLOBAL CLIMATE CHANGE

As documented in Section 4.7, the proposed project is limited to the installation of straw bales and vegetation with native plants that would not generate, directly or indirectly, greenhouse gas emissions that would have a significant impact on the environment or conflict with adopted plans related to the reduction of greenhouse gases.

HAZARDS AND HAZARDOUS MATERIALS

There are no hazards or hazardous materials sites occurring within the proposed project area; therefore, the proposed project would not expose people or property to negative impacts related to hazards or hazardous materials. The review of a federal, state, local, and tribal environmental regulatory database compilation, aerial photographs, and cultural resource data did not identify any locations within the proposed project area that have been effected by hazardous or solid waste materials. The former permitted solid waste disposal site known as the Keeler Landfill or disposal site was located 1/8th mile southeast of the proposed project area and would not pose a threat to the people, equipment, or plants that will be installed on 194 acres in conjunction with the proposed project.

The proposed project does not involve the use or storage of hazardous materials, other than fuel and oil used in proposed project vehicles and equipment during proposed project construction. The proposed project would not generate any hazardous or solid waste. The construction of DCMs could result in the routine transport, use, or disposal of potentially

hazardous materials, such as vehicle fuels, oils, and transmission fluids. Operational impacts are not anticipated to require these substances. During construction, all hazardous materials would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with applicable federal, state, and local standards and regulations including preparation of a SPCC program, as specified in the proposed project description, and therefore, no significant impact would occur.

Refueling activities may be conducted on-site during constructing and could result in a spill of gasoline or diesel to the ground surface, contaminating soils and possibly water quality, if contamination were to be transported off-site during a rain event. The SPCC program would minimize any impacts from the unexpected and accidental release of hazardous substances at the proposed project site by providing procedures for refueling activities and standard maintenance of construction equipment.

The proposed project is not located on the Comprehensive Environmental Response, Compensation, and Liability Information System list (CERCLIS) of potential Superfund sites identified by the U.S. EPA and is not on the California EPA Leaking Underground Storage Tank Information System list (LUSTIS). The proposed project is not located within one-quarter mile of a school or near an airport or airport planning area. The proposed project would not contribute to risk of a wildland fire as no structures would be developed. The proposed project and alternatives would be subject to compliance with applicable federal, state, and local standards and regulations that regulate the use, storage, and disposal of hazardous substances including preparation of an SPCC program. Therefore, no significant impact would occur due to hazards and hazardous materials, and the issue area was not carried forward for detailed evaluation in the EIR.

HYDROLOGY AND WATER QUALITY

As documented in Section 4.8, the proposed project does not suggest the placement of housing or structures within a 100-year flood hazard area. Thus, no impact is identified for these issue areas.

No bays or lakes, other than the dry bed of Owens Lake, are within a 2-mile radius of the proposed project site, and the proposed project site is over 100 miles from the Pacific Ocean. In addition, the proposed project site is relatively flat and level. Therefore, there is no potential for the proposed project site to be inundated by seiches, tsunamis, or mudflows. Thus, no impact is identified for this issue.

LAND USE AND PLANNING

As documented in Section 4.9, the vegetation of selected areas using biodegradable straw bales and native shrubs is compatible and consistent with the Bishop RMP and the Land Use Element of the Inyo County General Plan and Inyo County Zoning Ordinance. The Bishop RMP's policies and guidelines applicable to the Owens Lake Management Area address preservation and protection of the environment and archaeological artifacts and management of domestic sources of minerals, off-highway vehicle use, grazing, and recreation on public lands. The Land Use Element of the Inyo County General Plan designates the proposed project study area as State and Federal Lands, Rural Protection,

and Natural Resources.[8] The Inyo County Zoning Ordinance designates the proposed project study area as predominantly an Open Space Zone with 40-acre minimum lot size (OS-40).[9] The OS-40 designation encourages the preservation and protection of mountainous, hilly upland, valley, agricultural, potential agricultural, fragile desert areas, and other mandated lands from fire erosion, soil destruction, pollution, and other detrimental effects of intensive land use activities.[10]

MINERAL RESOURCES

There are no mineral leases within the proposed project study area. Therefore, there would be no loss of a known mineral resource that would be a future value to the region. The proposed project is designated OS-40. In addition, the proposed project is known to have important cultural significance for Native American tribes of the region. Therefore, the proposed project would not lead to a significant impact to a known mineral resource of local or regional importance.

NOISE

The proposed project is a DCM that would entail temporary and permanent measures to control dust that include straw bales and native vegetation. There are no structures or commercial establishments associated with the proposed project. The proposed project study area is currently periodically monitored by District and BLM staff, and only occasional vehicular traffic occurs at the proposed project site. However, the construction phase of the proposed project is anticipated to require up to 11 months. During this time period, workers and delivery vehicles, ATVs, and other equipment will be operating on-site. During the 3-year operations and maintenance phase, water delivery trucks and ATVs will be temporarily on-site for 2–6 months per year providing supplemental water for plant establishment. However, noise impacts to residents are not expected to be significant because all site access would occur approximately 0.4 mile from the nearest residence and construction work would be required to comply with Inyo County codes and ordinances. Therefore, this issue area was not carried forward for detailed evaluation in the EIR.

POPULATION AND HOUSING

Implementation of the proposed project does not involve development of new residences and would not generate a direct increase in the permanent population of the area. During proposed project construction, employees are expected to be local workers from surrounding communities, and a significant population increase is not anticipated. The proposed project would not affect the existing supply or demand for permanent housing or on available rental housing in the community of Keeler or surrounding communities. Therefore, impacts to population and housing associated with the proposed project would be less than significant, and this issue area was not carried forward for detailed evaluation in the EIR.

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[8] Inyo County Planning Department. December 2001. *Inyo County General Plan, Land Use Element.* Independence, CA.

[9] Inyo County. 30 June 2003. "Zoning Ordinance," Title 18, *Inyo County Code*. Independence, CA.

[10] Inyo County. 30 June 2003. "Zoning Ordinance," Title 18, *Inyo County Code*. Independence, CA.

PUBLIC SERVICES

The proposed project is a DCM and would not entail the construction of housing, commercial space, or other developments that would cause an impact on public services such as fire protection, police enforcement, schools, parks, solid waste, or other services. Construction workers are anticipated to be supplied from surrounding communities and would cause only a temporary increase in the daytime population of the community of Keeler. Periodic maintenance and monitoring of the proposed project would not create a substantial increase in population to the area. Therefore, there would be no significant impacts to existing public services of the area, and this issue area was not carried forward for detailed evaluation in the EIR.

RECREATION

As documented in Section 4.10, the proposed project is an uninhabited DCM, consisting of the installation and monitoring of straw bales and native vegetation and would not create a demand for recreation or parks in the County. Thus, no impact is identified for recreation as it relates to existing neighborhood and regional parks or the construction or expansion of recreational facilities. Recreation, as it relates to affecting access to recreational facilities located on BLM land, is discussed in Sections 3.10 and 4.10.

TRANSPORTATION AND TRAFFIC

As documented in Section 4.11, the proposed project would not result in changes to existing air traffic patterns through a decrease in traffic level of service or change in location. Thus, no impact is identified for this issue area.

The proposed project would not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Thus, no impact is identified for this issue area.

UTILITIES AND SERVICE SYSTEM

The proposed project would not result in the need for new water, wastewater, or solid waste disposal facilities. There are no buildings or other structures that would require water, power, or wastewater services. Construction and operation of the proposed project would require water for a period of 3 years to be applied annually to native vegetation planted at the site. This is a discrete temporary water demand and there are several potential water sources in the proposed project study area that could provide the necessary water supply. The proposed project is designed to require minimal resources for maintenance. Therefore, the proposed project is not anticipated to create significant impacts on utilities and service systems, and this issue area was not carried forward for detailed evaluation in the EIR.

CHAPTER 8.0
CONSULTATION AND COORDINATION

8.0 CONSULTATION AND COORDINATION

8.1 EIR/EA PREPARERS

The following individuals contributed to the preparation of this document:

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Big Pine Band of Owens Valley Tribal Historic Preservation Office
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8.3 DISTRIBUTION LIST

The column heads for the distribution list table provides information on the number of compact disc (CD), electronic copies, and/or paper hard copies of the Draft Environmental Impact Report / Environmental Assessment received by the corresponding recipient.

8.3.1 NEPA/CEQA LEAD AGENCIES

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[1] Individuals who requested an electronic copy transmitted via email will be sent a hyperlink to the Draft EIR/EA as posted on the District's website.

[2] The Cultural Resources Technical Report has been provided to these agencies and is available to other parties for review on a need-to-know basis.

[3] The Cultural Resources Technical Report has been provided to these agencies and is available to other parties for review on a need-to-know basis.

8.3.2 FEDERAL AGENCIES

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[6] The Cultural Resources Technical Report has been provided to these agencies and is available to other parties for review on a need-to-know basis.

[7] The Cultural Resources Technical Report has been provided to these agencies and is available to other parties for review on a need-to-know basis. The Governor's Office of Planning and Research California State Clearinghouse requested 15 hard copies of the Executive Summary only.

[8] The Cultural Resources Technical Report has been provided to these agencies and is available to other parties for review on a need-to-know basis.

[9] The Cultural Resources Technical Report has been provided to these agencies and is available to other parties for review on a need-to-know basis.

8.3.5 LOCAL

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[11] The Cultural Resources Technical Report has been provided to these agencies and is available to other parties for review on a need-to-know basis.

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8.3.8 LIBRARIES

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Libraries						
Independence Library	168 North Edwards Street Independence, CA 93526				1	1
Big Pine Library	500 South Main Street Big Pine, CA 93513				1	1
Bishop Library	210 Academy Avenue Bishop, CA 93514				1	1
Lone Pine Library	Intersection of Washington and Bush Streets Lone Pine, CA 93545				1	1

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8.3.9 OTHER INTERESTED PARTIES

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CHAPTER 9.0
REFERENCES

9.0 REFERENCES

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