

1 **3.3 AIR QUALITY**

<b>AIR QUALITY</b> – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2 **3.3.1 Environmental Setting**

3 The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over air  
 4 quality issues and regulations within the Mojave Desert Air Basin (MDAB), where the  
 5 Project is located. The Project area lies within low desert areas located in the Palo  
 6 Verde Valley portion of the MDAB. The MDAB is an interspersed mountain range with  
 7 long broad valleys that contain dry lake beds. The lower mountain terrain rises from  
 8 1,000 to 4,000 feet above the valley floor, where prevailing winds are out of the west  
 9 and southwest due to coastal and central regions and the blocking effect of the Sierra  
 10 Nevada Mountains to the north. In 2009, the MDAQMD estimated the average  
 11 precipitation in Needles, California over a 48-year period to be 4.55 inches for a  
 12 duration of 23 precipitation days.

13 The Project would be located within a designated OHV recreational area. The OHV  
 14 recreational area includes limited speed OHV access trails established adjacent to the  
 15 existing internal roadways, OHV temporary parking sites, and staging areas. In addition,  
 16 RV parking and camping areas are located to the east, between the Project area and  
 17 the River. Criteria air pollutant emissions within the proposed Project area are  
 18 generated from the use of OHVs and other motor vehicles including RVs and  
 19 watercrafts.

1 Sensitive receptors within and in the vicinity of the Project area include the OHV users,  
 2 riverfront cabin occupants, patrons of Pirate’s Cove Restaurant & Bar, Park  
 3 concessions, and River recreationalists.

4 **3.3.2 Regulatory Setting**

5 The following Federal and State laws and regulations pertaining to this issue area and  
 6 relevant to the Project are identified in Table 3.3-1.

7 **Table 3.3-1. Laws, Regulations, and Policies (Air Quality)**

<b>U.S.</b>	Federal Clean Air Act (FCAA) (42 USC 7401 et seq.)	<p>The FCAA requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. National standards are established for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead (Pb). In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO<sub>2</sub>) is an air pollutant as defined under the FCAA, and that the USEPA has authority to regulate GHG emissions. Pursuant to the 1990 FCAA Amendments, USEPA classifies air basins (or portions thereof) as in “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the NAAQS are achieved. The classification is determined by comparing monitoring data with State and Federal standards.</p> <ul style="list-style-type: none"> <li>• An area is classified as in “attainment” for a pollutant if the pollutant concentration is lower than the standard.</li> <li>• An area is classified as in “nonattainment” for a pollutant if the pollutant concentration exceeds the standard.</li> <li>• An area is designated “unclassified” for a pollutant if there are not enough data available for comparisons.</li> </ul>
<b>CA</b>	California Clean Air Act of 1988 (CCAA) (Assembly Bill [AB] 2595)	<p>The CCAA requires all air districts in the State to endeavor to achieve and maintain State ambient air quality standards for O<sub>3</sub>, CO, SO<sub>2</sub>, NO<sub>2</sub>, and PM; attainment plans for areas that did not demonstrate attainment of State standards until after 1997 must specify emission reduction strategies and meet milestones to implement emission controls and achieve more healthful air quality. The 1992 CCAA Amendments divide O<sub>3</sub> nonattainment areas into four categories of pollutant levels (moderate, serious, severe, and extreme) to which progressively more stringent requirements apply. State ambient air standards are generally stricter than national standards for the same pollutants; California also has standards for sulfates, hydrogen sulfide (H<sub>2</sub>S), vinyl chloride, and visibility-reducing particles.</p>
<b>CA</b>	Other	<ul style="list-style-type: none"> <li>• Under California’s Diesel Fuel Regulations, diesel fuel used in motor vehicles, except harbor craft, has been limited to 500 parts per million (ppm) sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006, and harbor craft were included starting in 2009.</li> <li>• CARB’s Heavy Duty Diesel Truck Idling Rule (Cal. Code Regs., tit. 13, § 2485) prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time (except while queuing, provided the queue is located beyond 100 feet from any homes or schools).</li> <li>• The Statewide Portable Equipment Registration Program (PERP) regulates portable engines/engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts.</li> </ul>

8 Local goals, policies and/or regulations applicable to air quality are listed below:

- 9 • The Mojave Desert Air Quality Management District California Environmental  
 10 Quality Act (CEQA) and Federal Conformity Guidelines, August 2011.

1 Table 3.3-2 below identifies air quality significance thresholds from the MDAQMD  
 2 CEQA and Federal Conformity Guidelines from August 2011. These were used to  
 3 determine whether the Project’s emissions could pose a significant threat to air quality.

4 **Table 3.3-2. Mojave Desert AQMD Emissions Thresholds\***

Pollutant	Pollutant Abr.	Daily Thresholds (Lbs./Day)	Annual Threshold (Metric Tons)
Greenhouse Gas (GHG) - Carbon Dioxide	CO <sub>2</sub> e	548,000	100,000.00
Carbon Monoxide	CO	548	100.00
Oxides of Nitrogen	NO <sub>x</sub>	137	25.00
Volatile Organic Compounds	VOC	137	25.00
Oxides of Sulfur	SO <sub>x</sub>	137	25.00
Particulate Matter (Primary)	PM <sub>10</sub>	82	15.00
Particulate Matter (Primary)	PM <sub>2.5</sub>	82	15.0

\*The MDAQMD emissions thresholds can be found in Table 6 of the MDAQMD CEQA and Federal Conformity Guidelines (August 2011).

5 The MDAQMD is responsible for updating the Air Quality Management Plan (AQMP) or  
 6 the Rules and Regulations. The AQMP was developed for the primary purpose of  
 7 controlling emissions to maintain all federal and state ambient air standards for the  
 8 MDAQMD. A project is non-conforming if it conflicts with or delays implementation of  
 9 any applicable attainment or maintenance plan. A project is conforming if it complies  
 10 with all applicable AQMP rules and regulations, complies with all proposed control  
 11 measures that are not yet adopted from the applicable plan(s), and is consistent with  
 12 the growth forecasts in the applicable plan(s) (or is directly included in the applicable  
 13 plan). Conformity with growth forecasts can be established by demonstrating that the  
 14 Project is consistent with the land use plan used to generate the growth forecast.

15 Projects that would result in the criteria air pollutant emissions below these significance  
 16 thresholds would not violate an air quality standard, contribute substantially to an air  
 17 quality violation, or result in a cumulatively considerable net increase in criteria air  
 18 pollutants within the MDAQMD.

19 **3.3.3 Impact Analysis (CEQA)**

20 **a) Conflict with or obstruct implementation of the applicable air quality plan?**

21 **Less than Significant Impact.** The Project is consistent with the zoning and  
 22 land use classifications that were used to prepare the MDAQMP. In addition,  
 23 Project-generated emissions were calculated using the criteria pollutant  
 24 emission factors obtained from the Environmental Protection Agency’s (EPA)  
 25 Clearinghouse for Inventories and Emissions Factors, Web Factor Information  
 26 Retrieval System (WebFIRE) (EPA 2015 and Appendix D).<sup>7</sup>

<sup>7</sup> The project generated emissions were calculated using the EPA’s emissions factors identified in WebFIRE for ultra low sulfur diesel fuel. The emission factor was converted from pounds/gallon to tons

1 The Project's air pollutant emissions generated during all phases were  
2 calculated based on the estimated total Project fuel use in gallons (Table 3.3-3).  
3 Because each phase of the Project would require the use and operation of  
4 different type of equipment and hours of operation of each type of equipment,  
5 emission from each phase of the proposed Project was calculated and  
6 evaluated against the MDAQMD daily emission threshold (lbs./day).

7 Air pollutant emissions generated by the implementation of the Project will not  
8 exceed the daily (by each phase) and annual emission thresholds in tons (Table  
9 3.3-4). Therefore, the proposed Project's emissions are in compliance with the  
10 thresholds established by the MDAQMD. The Project would not significantly  
11 increase local air emissions and not conflict with or obstruct implementation of  
12 the AQMP. Therefore, it would be a less than significant impact.

13 Even though the Project's air quality impacts are expected to be less than  
14 significant, existing federal policies encourage federal implementing agencies to  
15 take actions that reduce pollution and the generation of emissions to the extent  
16 practicable. As a result, Reclamation will implement the following best  
17 management practices (BMPs) to control dust and pollutant emissions:

18 **BMP AQ-1: Reduce Dust Emissions During Grading.** Reclamation shall  
19 ensure that any portion of the Project site to be graded shall be pre-  
20 watered before grading the ground and ensure the following:

- 21 1. Watering of the site or other soil stabilization method shall be  
22 employed on an on-going basis after the initiation of any grading.
- 23 2. Portions of the site that are actively being graded shall be watered  
24 to ensure that a crust is formed on the ground surface, and shall be  
25 watered at the end of each workday.
- 26 3. All disturbed areas are treated to prevent erosion.
- 27 4. All grading activities are suspended when winds exceed 25 miles  
28 per hour.

29 **BMP AQ-2: Reduce Pollutant Emissions.** Reclamation shall implement  
30 the following:

- 31 1. All equipment used for grading and construction must be tuned and  
32 maintained to the manufacturer's specification to maximize efficient  
33 burning of vehicle fuel.

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[short US]. Calculations were made for each phase based on the anticipated equipment being used for each phase, estimated hours operated and estimated gallons burned per hour for each equipment being operated. Total emissions for the Proposed Project were divided by the three years, the estimated duration of construction and restoration phases of the proposed project to estimate Annual emissions and determine compliance with the AQMP.

- 1                   2. The operator shall maintain and effectively utilize and schedule on-  
2                   site equipment and on-site and off-site haul trucks in order to  
3                   minimize exhaust emissions from truck idling.
  
- 4                   3. The operator shall comply with all existing and future California Air  
5                   Resources Board (CARB) and MDAQMD regulations related to  
6                   diesel-fueled trucks, which may include among others:
  - 7                   A. Meeting more stringent emission standards;
  - 8                   B. Retrofitting existing engines with particulate traps;
  - 9                   C. Using of low sulfur fuel; and
  - 10                  D. Using alternative fuels or equipment. MDAQMD rules for diesel  
11                  emissions from equipment and trucks are embedded in the  
12                  compliance for all diesel fueled engines, trucks, and equipment  
13                  with the statewide CARB Diesel Reduction Plan. These  
14                  measures will be implemented by CARB in phases with new  
15                  rules imposed on existing and new diesel-fueled engines.

16                   **BMP AQ-3: Reduce Dust Emissions.** Reclamation shall use water to  
17                   control dust through the following measures:

- 18                  1. Water all active construction areas at least twice daily.
- 19                  2. Cover all trucks hauling soil, sand, and other loose materials or  
20                  require all trucks to maintain at least 2 feet of freeboard.

21                   ***b) Violate any air quality standard or contribute substantially to an existing or***  
22                   ***projected air quality violation?***

23                   **Less than Significant Impact:** The CEQA Guidelines indicate that a significant  
24                   impact would occur if the Project would violate any air quality standard or  
25                   contribute significantly to an existing or projected air quality violation. The  
26                   applicable thresholds of significance for air emissions generated by the Project  
27                   are established by the MDAQMD and are described in Table 3.3-2.

28                   Table 3.3-3 summarizes the type of equipment and fuel anticipated to be used  
29                   during all four phases of the proposed Project. Table 3.3-4 calculates the daily  
30                   and annual Project emissions during Phase 1 through Phase 4 of the proposed  
31                   Project. Based on the information presented in Table 3.3-3 and Table 3.3-4,  
32                   emissions generated by the Project during all four phases would not exceed the  
33                   MDAQMD’s daily or annual thresholds.

1 **Table 3.3-3. Estimated Total Project Fuel Use per Equipment Type**

Project Emissions: Total for all 4 Phases <sup>1</sup>				
Estimated Quantity	Equipment Type	Estimated Hours in Operation	Estimated Gallons/Hour	Estimated Fuel Use (Gallons)
<b>Gasoline</b>				
1	Crew/Staff Transportation to and from Workstation to Project area	204	4	738
<b>Sub-Total Gasoline Estimate:</b>		<b>204</b>	<b>4</b>	<b>738</b>
<b>Low Sulfur Diesel Fuel</b>				
5	Heavy Equipment Transport	29	9	265
1	Crane	80	10	800
2	D6R Dozer	1,200	6	7,200
3	John Deere Tractor Scraper	2,340	7	16,380
1	345 Excavator	1,000	8	8,000
1	4000 Gallon Water truck	800	6	4,800
1	140M Motor Grader	80	6	480
1	Dredging Machine	2,000	25	50,000
<b>Sub-Total Low Sulfur Diesel Fuel Estimate:</b>		<b>7,529</b>	<b>77</b>	<b>87,925</b>
<b>Total Combined Fuel Type Estimate:</b>		<b>7,733</b>	<b>81</b>	<b>88,663.32</b>

<sup>1</sup> Estimated fuel use in gallons reflects estimated quantities for use for all Project phases, including construction (anticipated to be completed in 2-3 years), monitoring and maintenance (anticipated for the life of the project). These quantities were estimated by considering the estimated duration of each phase of the project and the type of equipment that would be used to accomplish the tasks in each phase.

2 **Table 3.3-4. Project Emissions – Combined all Fuel Types**

Pollutant	Abr.	Maximum Unmitigated Daily Emissions (lbs./day) <sup>1</sup>				Daily Thresholds (lbs./day)	Maximum Unmitigated Annual Emissions (tons) <sup>2</sup>	Annual Thresholds (Tons)	Exceeds Daily or Annual Thresholds ?
		Phase 1	Phase 2	Phase 3	Phase 4		All Phases		
		Carbon Monoxide	CO	256.88	255.58		254.19		
Oxides of Nitrogen	NOx	98.08	68.96	37.76	58.56	137	3.48	25	NO
Volatile Organic Compounds	VOC	8.78	7.50	6.12	7.04	137	0.17	25	NO
Oxides of Sulfur	SOx	0.38	0.37	0.35	0.36	137	0.00	25	NO
Particulate Matter (Primary)	PM <sub>10</sub>	3.17	2.29	1.35	1.97	82	0.11	15	NO
	PM <sub>2.5</sub>	3.06	2.22	1.31	1.91	82	0.10	15	NO

<sup>1</sup> Daily emission was calculated by phase for the proposed Project. Each phase would require the use and operation of different types of equipment, frequency, and number of hours operated. The determination of daily thresholds are based on emission totals by phase (As a reference to how these estimate quantities were calculated, the Estimated Quantities calculation sheet provided in Appendix C).

<sup>2</sup> Annual emissions estimated for this project were calculated by dividing the proposed Project totals for the life of the project by the expected duration of Phase 1 through Phase 3, estimated at 3 years.

1 Although the Project would not exceed MDAQMD thresholds, and the impacts  
2 would be less than significant, compliance with all applicable MDAQMD rules and  
3 regulations is required as the MDAB is in non-attainment status for ozone and  
4 suspended particulates (PM<sub>10</sub> and PM<sub>2.5</sub>). Although less than significant impacts  
5 are anticipated to air quality, to further reduce fugitive dust production (ozone,  
6 NOx and PM<sub>10</sub>), **BMP AQ-1, BMP AQ-2, and BMP AQ-3** would be incorporated  
7 into the Project. Studies show that BMPs significantly control fugitive dust and  
8 the mitigation measures imposed by the proponent reduces fugitive dust  
9 generated by construction and demolition activities from 10 to 98 percent  
10 (Countness Environmental 2006).

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

15 **Less than Significant Impact.** The Project is located in a region that is identified  
16 as a non-attainment area for Ozone and PM<sub>10</sub> according to the California Air  
17 Resources Board Area Designation Maps (California Air Resources Board 2013).  
18 This means that the background concentration of these pollutants have  
19 historically been over the Federal and/or State Ambient Air Quality Standards.  
20 With respect to air quality, no individual project would by itself result in non-  
21 attainment of the Federal or State Ambient Air Quality Standards. However, a  
22 Project's air pollution emissions, although individually limited, may be  
23 cumulatively considerable when taken in combination with past, present, and  
24 reasonably foreseeable future development projects. In order to be considered  
25 significant, a project's air pollutant emissions must exceed the emission  
26 thresholds established by the MDAQMD.

27 According to the calculations for criteria air pollutants, emissions do not exceed  
28 the annual thresholds established by the MDAQMD (Table 3.3-4). Therefore, the  
29 criteria air pollutant emissions generated by the Project would not be  
30 cumulatively considerable when included with other past, present, and  
31 foreseeable future projects and would result in a less than significant impact.

32 **d) Expose sensitive receptors to substantial pollutant concentrations?**

33 **Less than Significant Impact.** According to the MDAQMD CEQA Guidelines,  
34 residences, schools, daycare centers, playgrounds and medical facilities are  
35 considered sensitive receptor land uses. The following project types proposed for  
36 sites within the specified distance to an existing or planned (zoned) sensitive  
37 receptor must not expose sensitive receptors to substantial pollutant  
38 concentrations (MDAQMD 2011).

- 39 • Any industrial project within 1,000 feet;
- 40 • A distribution center (40 or more trucks per day) within 1,000 feet;
- 41 • A major transportation project (50,000 or more vehicles per day) within  
42 1,000 feet;

- 1           • A dry cleaner using perchloroethylene within 500 feet; and
- 2           • A gasoline dispensing facility within 300 feet.

3           The Project would not result in any of the above uses. Therefore, implementation  
4           of the Project would result in a less than significant impact to sensitive receptors  
5           to substantial pollutant concentrations.

6           **e) Create objectionable odors affecting a substantial number of people?**

7           **Less than Significant Impact.** The Project would provide restored and  
8           enhanced backwater habitat within the existing Park. The generation of  
9           objectionable odors is typically not associated with construction, restoration,  
10          management and maintenance of habitat conservation projects. The Project  
11          design does not include the construction or installation of structures and/or  
12          permanent equipment that would release objectionable odors. Therefore, less  
13          than significant impacts are anticipated with respect to odors.

14          **3.3.4 Environmental Consequences (NEPA)**

15          **No Action Alternative**

16          The No Action Alternative would have no effect to Air Quality because there would be  
17          no criteria air pollutant emissions generated by the Project. The current use as a  
18          designated regional park OHV recreational area would continue and the criteria air  
19          pollutants would remain in its current condition.

20          **Proposed Action (Project)**

21          Short-term impacts are anticipated to Air Quality as a result of the implementation of the  
22          Project. The Project is anticipated to generate criteria air pollutant emissions resulting  
23          from the use of vehicles for travel and heavy fuel based equipment for transport,  
24          clearing, and construction to complete the four phases of the Project. The generation of  
25          criteria air pollutant emissions from temporary and short-term burning of gasoline and  
26          diesel fuel during the Project is estimated to be under the maximum daily and annual  
27          emission thresholds set by the MCAQMD (Table 3.3-4 and a calculation sheet is  
28          provided in Appendix C).

29          Additionally, although the Project's estimated emissions would be under the established  
30          emission thresholds and no mitigation measures are required, **BMP AQ-1, BMP AQ-2,**  
31          and **BMP AQ-3** would be implemented to further control and reduce the production of  
32          fugitive dust. Overall, the Project's estimated criteria pollutant emissions would be below  
33          the MDAQMD thresholds. Moreover, it is anticipated that re-vegetation of native plants  
34          and the creation of backwater habitat would potentially result in long-term improvements  
35          to air quality within the Project area.

36          **Cumulative Impacts**

37          Although implementation of the Project would generate criteria air pollutant emissions,  
38          emissions would not exceed the daily and annual thresholds established by the

1 MDAQMD and emissions (Table 3.3-4). Thus, cumulative impacts to air quality are not  
2 anticipated when considered with other projects in the past, present, and foreseeable  
3 future.

4 **3.3.5 Mitigation Summary (CEQA Only)**

5 The Project would not result in significant impacts to Air Quality. Therefore, no  
6 mitigation is required.