

### **3.13 INDIAN TRUST ASSETS**

Indian Trust Assets are legal interests in property held in trust by the United States for Indian Tribes and individuals.

#### **3.13.1 Affected Environment**

There are two Indian Trust Assets that either occur in the vicinity of the Coachella Canal or that may be affected by the proposed project: (1) the Torres-Martinez Indian Reservation and (2) facilitation of implementation of the San Luis Rey Indian Water Rights Settlement Act (P.L. 100-675 Title I).

##### **Torres-Martinez Indian Reservations**

The Torres-Martinez Indian Reservation, consisting of approximately 24,000 acres, lies at the northwest end of the Salton Sea in a “checkerboard” pattern, interspersed with private land and some public land. The reservation land is held in trust by the Federal Government and administered by the Bureau of Indian Affairs. The nearest tract of Reservation land to the remaining unlined canal lies approximately four miles northwest of siphon 32.

Approximately half of the reservation land is submerged by the Salton Sea. The Salton Sea’s water level affects the usefulness of reservation land lying adjacent to the shoreline of the Sea. For example, a decrease in water level would decrease the amount of reservation land that is submerged, and vice versa.

##### **San Luis Rey Indian Water Rights Settlement**

As described in Section 1.8.3, the San Luis Rey Indian Water Rights Settlement Act (Title I of P.L. 100-675) enacted by Congress in 1988, authorizes a settlement of water rights claims to San Luis Rey River water among the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, and the City of Escondido, the Escondido Mutual Water Company, and Vista Irrigation District. This settlement is expected to be facilitated through the use of about 16,000 acre-feet of conserved water from the AAC and Coachella Canal lining projects, with use of 4,500 acre-feet per year from the Coachella Canal Lining Project.

### **3.13.2 Significance Criteria**

An alternative would have a significant impact on Indian Trust Assets if it would substantially reduce the value of any such asset.

### **3.13.3 Environmental Consequences**

#### **Conventional Lining Alternative**

The Conventional Lining Alternative would have no impact on Indian Trust Assets. In contrast, this alternative would have a beneficial effect by providing 4,500 acre-feet of water annually to help the Federal Government meet its obligations under the San Luis Rey Indian Water Rights Settlement Act.

#### **Torres-Martinez Indian Reservation**

As discussed under “Surface Water,” this alternative would have no measurable impact on the level of the Salton Sea. Accordingly, the Torres-Martinez Indian Reservation would not be affected by this alternative.

#### **San Luis Rey Indian Water Rights Settlement**

This alternative would have a beneficial effect by providing 4,500 acre-feet of water annually to facilitate implementation of the San Luis Rey Indian Water Rights Settlement Act. Implementation of the San Luis Rey Indian Water Rights Settlement Act is subject to separate NEPA evaluation.

#### **Underwater Lining Alternative**

The impacts of the Underwater Lining Alternative on Indian Trust Assets would be identical to those described for the Conventional Lining Alternative.

#### **Parallel Canal Alternative**

The impacts of the Underwater Lining Alternative on Indian Trust Assets would be identical to those described for the Conventional Lining Alternative.

### **No Action Alternative**

The No Action Alternative would not cause any impacts to Indian Trust Assets. Unlike the other alternatives addressed in this EIS/EIR, however, the No Action Alternative would not provide conserved water to facilitate implementation of the San Luis Rey Indian Water Rights Settlement Act.

#### Torres-Martinez Indian Reservation

The No Action Alternative would have no effect on the level of the Salton Sea. Accordingly, the Torres-Martinez Indian Reservation would not be affected by this alternative.

#### San Luis Rey Indian Water Rights Settlement

The No Action Alternative would not provide conserved water to facilitate implementation of the San Luis Rey Indian Water Rights Settlement Act. Thus, under the No Action Alternative, the Federal Government would be required to identify another source for the 4,500 acre-feet of water that the Coachella Canal Lining Project would have provided to this settlement.

### **3.14 RECREATION**

#### **3.14.1 Affected Environment**

Riverside and Imperial counties are popular recreational areas for water, mountain, and desert-based activities. Opportunities for recreation occur along the Coachella Canal and in the surrounding desert and mountains, primarily under BLM auspices. At greater distance from the canal, the Salton Sea is the focal point for the Salton Sea State Recreation Area (SRA).

BLM manages recreation on an extensive area of federal land adjacent to the Coachella Canal, with the Sand Hills along the previously lined 49-mile-section providing the greatest attraction.

#### **General Recreation**

The Coachella Canal and its surrounding area form part of the regional southern California desert recreation and long-term visitation area. The peak visitor season is generally in January and February; however, visitation is also heavy in November, December, and March for many recreation vehicle (RV) parks. The area along the canal in Imperial County is served by a partially paved county road (Coachella Canal Road) along the west side of the canal and numerous other unimproved roads.

The area along the canal contains several private RV parks that feature accommodations for mobile homes and whose use is predominantly from late fall to early spring. Some of the parks (or “spas”) contain warm water wells, which provide for baths and year-round swimming. These parks lie generally along the southerly half of the canal to be lined. (See Section 3.15.1, Land Ownership and Use, Affected Environment, for more specific description of spa and RV park locations.)

The land along the canal provides an attraction to seasonal desert recreationists who may be staying at nearby RV parks or campgrounds. Although the canal is posted against trespass by CVWD, the canal itself attracts fishermen. Very little recreation opportunity exists to the east of the canal because most of the land is in the Chocolate Mountains Aerial Gunnery Range, which is closed to the public and used for air-to-ground artillery practice. There are, however, recreational opportunities east of the canal just north of the Chocolate Mountains Aerial Gunnery Range, including the Salt Creek and Bradshaw Trail Back Country Byways. Bradshaw Trail traverses the Coachella Canal at siphon 24. The BLM’s El Centro Resource Area office, in their comment letter on the previous Draft EIS/EIR (see Attachment G), noted that these trails are heavily used access

points for off-highway vehicle loop trips that eventually end at Interstate 10 to the north or State Highway 78 to the east of the gunnery range.

The Salton Sea SRA located west of the canal along the shores of the Salton Sea, offers camping, RV camping, power boating, sailing, windsurfing, shore fishing, boat fishing, and sunbathing.

### **Canal Fishing**

The Coachella Canal supports a fishery that is used by year-round and winter residents, although the canal is posted “No Trespassing” and fishing is, therefore, by illegal entry. CVWD has closed the canal to fishing because of the hazard of drownings. CVWD has posted the canal against trespassing by placing signs at or near the exterior boundaries of the canal every 600 feet. This posting meets the requirements of the State<sup>7</sup> to establish that persons fishing in the canal are in violation of the trespass ordinance. In 1986, CVWD requested that DFG cease stocking the canal with channel catfish, maintaining that the stocking attracted anglers. DFG halted its stocking program that year in recognition of CVWD’s trespass and liability concerns.

Channel catfish are the dominant fish in the canal, constituting about 81 percent of the total fish population. Shoreline gamefish—largemouth bass, sunfish, and flathead catfish, which favor shoreline habitat—constitute about 9 percent of the total. This fish community profile is influenced by the current fish management practices of the CVWD’s active triploid grass carp stocking program and the cessation of channel catfish stocking by DFG.

An exception to the no trespassing (no fishing) rule is the 1.4-mile section of canal between siphons 14 and 15. Public access is allowed at a pedestrian bridge traversing this section, which was lined with concrete under the in-place lining prototype project. The concrete lining has escape ridges of the type discussed under “Large Mammal Escape” and “Public Safety,” which materially reduces the drowning hazard. Reclamation, CVWD, and Imperial County are developing a joint program to establish a public fishery in that section of canal, and the bridge spanning the lined section was constructed to help facilitate this process.

A “creel survey” was conducted along the unlined section of the canal (siphons 7 to 32) from 1986 through 1989<sup>8</sup> to monitor fishing in the canal. Creel surveyors encountered an average of 5.2 anglers along the 34.8 miles of unlined canal. The study also determined that during the winter months, the

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<sup>7</sup> Penal Code Section 554, et. seq.

<sup>8</sup> Calculated from CVWD’s “Monitoring Program For Operational Use of Triploid Grass Carp in the Coachella Canal,” Report Nos. 2-7. Represents a total average over 3 years of creel surveys.

proportion of winter resident anglers increases in relationship to the number of Coachella Valley resident anglers. Channel catfish comprise over 80 percent of the fish caught, largemouth bass and sunfish about 15 percent, and flathead catfish about 2 percent of the total fish caught.

In the future, unauthorized fishing is expected to continue in the canal. The stocking of triploid grass carp will also continue. Future fish populations in the canal could, however, decrease somewhat due to increases in fishing pressure proportionate to the increase of year-round and winter residents both in the general area and in the immediate area of the unlined portion of the Coachella Canal.

### **Other Fishing**

The Salton Sea offers a recreational fishery in the area. Another important fishery in the Coachella Valley is Lake Cahuilla, the terminal reservoir of the Coachella Canal. This 135-acre lake provides a public fishery managed by Riverside County Parks Department and is stocked, in part, by DFG.

#### **3.14.2 Significance Criteria**

An alternative would have a significant impact on recreational resources if it would:

- cause the substantial physical degradation of either public recreation uses or public recreational facilities,
- increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated, or
- result in the construction or expansion of recreational facilities that may result in adverse environmental impacts not discussed as part of the project.

#### **3.14.3 Environmental Consequences**

##### **Conventional Lining Alternative**

The Conventional Lining Alternative could cause a significant recreation impact by blocking access to a recreational trail on BLM land. This impact would be mitigated to less than significant levels.

### General Recreation

Construction of the Coachella Canal lining would have a minor adverse impact on general recreation activities along the canal. The impact would consist of temporary closure of access on top of siphons, which provide local means of crossing the canal, and a temporary increase in local traffic caused by construction forces and materials delivery trucks.

Construction activities would require use of some spots of disturbed desert land that have convenient access to paved county roads and are used by the public for camping or day use. Seasonal RV campers would be exposed to project access traffic but would not be constrained by construction. After completion, the lining project would not alter the present access or general recreation opportunity in the area.

Of these temporary disturbances, only the potential obstruction of access to the Bradshaw Trail at Siphon 24 would constitute a significant impact. To mitigate this impact, off-highway vehicle access along the Bradshaw Trail would be maintained during construction (for example, by posting signs directing visitors to alternate locations where they may cross the Coachella Canal when siphon 24 is blocked by construction activity).

The traffic control plan described in Section 3.17, Transportation, would also help minimize impacts to recreational visitors in the area. The traffic control plan would include signs at public access points to inform the public of temporary closures to public access, construction hazards, and alternative access points.

This alternative would not affect recreational use of the Salton Sea SRA.

### Canal Fishing

Canal fishing is prohibited along the canal; however, it does illegally take place. Without mitigation, lining the canal would reduce the amount of fish available for fishermen to catch. However, the mitigation for the fishery that is required by P.L. 100-675, discussed in Section 3.11 under “Canal Fishery,” would maintain fish numbers approximately at current levels. It is not the intent of this alternative (or the intent of the other project alternatives) to support an illegal activity. Reclamation and CVWD anticipate, however, that following the completion of the canal-lining project, legal fishing may be established between siphons 7 and 14 and siphons 15 and 32 if associated liability issues can be resolved. This is anticipated to occur in a manner similar to that described above for

the prototype lined section between siphons 14 and 15. It is expected that angler pressure in the lined portion of the canal would remain at about current levels.

#### Other Fishing

The project would not affect public fishing opportunities at the Salton Sea or Lake Cahuilla.

#### Summary of Recreation Impacts

Without mitigation, the Conventional Lining Alternative could cause a significant impact at the access point for the Bradshaw Trail (siphon 24). As mitigated, this impact would be less than significant because access to the trail would be provided via alternate routes. No other recreation impacts associated with this alternative would be significant.

#### **Underwater Lining Alternative**

The effects of this alternative would be the same as for the Conventional Lining Alternative, and the same mitigation would be implemented to reduce impacts at the Bradshaw Trail to less than significant levels.

#### **Parallel Canal Alternative**

The effects of this alternative would be the same as for the Conventional Lining Alternative, as would the mitigation.

#### **No Action Alternative**

This alternative would not have an effect on recreation. This alternative would not, however, provide the benefits of safer (albeit illegal) fishing along the currently unlined portion of the canal.

### **3.15 LAND OWNERSHIP AND USE**

#### **3.15.1 Affected Environment**

Most of the land bordering the canal right-of-way is federal land. The area east of the canal and part of the area west of the canal are part of the U.S. Navy's Chocolate Mountain Aerial Gunnery Range. The area west of the canal also contains land administered by BLM under the California Desert Conservation Area Plan, which provides for the use of public lands and resources in a manner that does not diminish the environmental, cultural, and aesthetic value of the desert. The area on the west bank adjacent to siphon 14 is owned by the State of California.

The Coachella Canal right-of-way is approximately 1,000 feet wide in the project area. Part of the right-of-way is owned in fee by Reclamation, and the remainder is used under a right-of-way permit from BLM. Canal service roads are located on both canal banks, and Imperial County Road 7603 (also called Coachella Canal Road) parallels the west (downslope) side of the canal right-of-way. Other area roads which could be used during construction include Old Niland Road, Parkside Drive, Hot Mineral Springs Road, and Frink Road.

Approximately 97 percent of the land adjacent to the canal is undeveloped, consisting of open desert. Approximately 2 percent of the land along the south and western boundary of the canal right-of-way has been developed with single-family homes and with spas that include mobile home/RV parks (defined as "residential" in the previous Draft EIS/EIR). The spas along the canal generally include spring-related spa activities (e.g., tubs or pools fed by hot mineral springs or wells), year-round residents in mobile homes, and seasonal visitors in RVs. There are also minor amounts of agricultural and gravel quarry operations along the canal; however, each of these land uses represents less than one percent of the linear distance along the edge of the unlined canal sections.

Land uses along the unlined canal right-of-way are described from upstream (siphon 7) to downstream (siphon 32). The bulk of this discussion focuses on the land to the west and south of the canal. The majority of the land to the east of the canal between siphons 7 and 24 is within the Navy's Chocolate Mountain Aerial Gunnery Range, and the area north and east of the canal between siphon 24 and siphon 32 consists of undeveloped private property and BLM lands.

An unincorporated residential community known as Slab City is located to the south and west of the canal near siphons 7 and 8. Slab City occupies a 640-acre former World War II-era military compound site. It is the compound's abandoned concrete foundations that give Slab City its name. Slab City includes seasonal campers in RVs, as well as more permanent residents in trailers and

various other shelters, although there is no utility or water service in this area. Further downstream, just east of siphon 10, is one of the few built facilities located east of the canal—Camp Billy Machen. Camp Billy Machen is the desert warfare training facility for Naval Special Warfare Group One, which is based in San Diego, and it occupies Navy land located just outside the limits of the live bombing area. Very little other development is located adjacent to the canal right-of-way between siphon 10 and siphon 14 (the upstream terminus of the prototype lined portion).

Agricultural land uses are located intermittently from roughly 0.5 to 1 mile to the southwest of the Coachella Canal between siphons 7 and 14. These agricultural lands are within the IID and are irrigated with water from the IID's East Highline Canal.

Between siphons 15 and 21, there are several spas near the canal, as well as a sand and gravel quarry, aquaculture facilities, and a few single-family residences. The Frink Sand and Gravel Corporation quarry is located approximately 1,500 feet southwest of the canal just upstream from siphon 17. The Lark Spa RV and mobile home park is located approximately 1,500 feet southwest of the canal between siphons 17 and 18 (just east of Frink Road). The Fountain of Youth Spa and RV Resort is located approximately 1,000 feet southwest of the canal between siphons 18 and 19 (at the intersection of Coachella Canal Road and Spa Road). There are also several single-family residences immediately adjacent to the canal right-of-way between these two siphons.

Between siphons 19 and 21, the Bashford's Hot Mineral Spa and the Imperial Hot Mineral Spa, respectively, are located 1,000 and 1,500 feet southwest of the canal. These spas, accessible from Hot Mineral Springs Road, each serve year-round residents and seasonal visitors. Hot Mineral Springs Road also provides access to several single-family residences and to aquacultural operations in this area. From siphon 21 to siphon 32, there is virtually no development immediately adjacent to the canal right-of-way, although the Eagle Mountain Railroad traverses the canal approximately 4,000 feet upstream of siphon 24.

The Dos Palmas area, including the BLM's Dos Palmas ACEC, is located west of the canal from siphon 23 to siphon 24 and south of the canal from approximately siphon 24 to siphon 29. (The canal makes a nearly 90-degree turn to the west immediately downstream from siphon 24.) The Dos Palmas area includes a residential community centered along Parkside Drive, nature preserves, and an aquaculture and nursery operation (Aqua Farms International). The nature preserves, managed by the BLM and the Center for Natural Lands Management, are primarily focused on springs, fan palm oases, and Salt Creek.

Toward the downstream limits of the unlined canal, there are two residential communities located 1,000 feet and 500 feet southwest of the canal, respectively, near siphon 30. These communities consist primarily of single family homes and mobile homes/trailers.

### **3.15.2 Significance Criteria**

An alternative would have a significant land ownership or use impact if it would:

- physically divide an established community, or
- conflict with any applicable land use plan or regulation of any agency with jurisdiction over the project.

### **3.15.3 Environmental Consequences**

#### **Conventional Lining Alternative**

The Conventional Lining Alternative would not cause significant land ownership or use impacts.

This alternative would not require additional land for permanent location or operation of project facilities. As described in Section 3.5, privately owned land may be acquired (purchased) and transferred to federal or State agency ownership as part of project mitigation. This land acquisition would be expected to occur in the Dos Palmas ACEC shown on Figure 3-5. Property owners would be compensated for the fair market value of their property in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601(1996)) and applicable State law (California Government code chapter 16 § 7260 et seq.). Accordingly, while ownership patterns in the area may change, this change would not constitute a significant environmental impact.

During construction, the positioning of the bypass pipelines would require a temporary use of an up to 65-foot-wide corridor of land to be located on either side of the canal, as discussed in Chapter 2.0. An estimated 275 acres would be used for this purpose. In addition, 15 acres would be needed for contractor staging and concrete batching. The types of land to be used for the bypass, staging, and batching are shown on Table 3-7, under “Terrestrial Habitat.” No farmlands would be affected by this alternative. Because this project would entail lining an existing canal, it would not conflict with land use plans or divide an existing community. Based on these factors, no significant impacts to land ownership or use are expected.

### **Underwater Lining Alternative**

The Underwater Lining Alternative would not cause significant land ownership or use impacts.

Underwater lining would be contained entirely within the existing Coachella Canal rights-of-way, and no additional right-of-way would need to be acquired for project facilities.

As with the Conventional Lining Alternative, 15 acres of land would be used temporarily for contractor staging and concrete batching. Disturbed land (ten acres) and desert scrub/ironwood (five acres) would be used. Acquisition of land for mitigation would be the same as is described for the Conventional Lining Alternative and would not constitute a significant impact. Also similar to the Conventional Lining Alternative, this alternative would not affect farmlands, conflict with land plans, or divide an existing community.

### **Parallel Canal Alternative**

The construction of this alternative would require 873 acres of land for situating the new canal and the spoil piles resulting from canal excavation. The new canal would be located on alternate sides of the existing canal, as discussed in Chapter 2.0 (see Table 2-5). As with the Conventional Lining Alternative, 15 acres of land would be used for contractor staging and concrete batching. The types of land that would be used for the parallel canal are shown in Table 3-7 in Section 3.7.

Table 2-5 lists the location of the proposed parallel canal alignment in relation to the existing canal. Following the alignments indicated in that table, the specific location of the parallel canal along each section of the canal would be based on the following criteria:

- Use terrain with the least amount of surface irregularity to minimize earthwork and associated cost.
- Avoid disturbance to private and public improvements along the canal, including flood control dikes.
- Minimize disturbance of vegetation that would not otherwise be adversely affected by the project.
- Consider using part of the embankment for the existing canal for part of the new canal embankment.

- Avoid or minimize impacts to archaeological resources (if present).

These features are considered part of project design, not as mitigation.

Additional rights-of-way may be needed for the new parallel canal, depending on how it is constructed. Most of the land needed would be federal land. Thirty-one acres would be on undeveloped private land. Acquisition of private land would be through purchase and easement, depending on the degree of use by the new canal. As with the previous alternatives, any land acquisition would be conducted in compliance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act and applicable State law.

Similar to the existing canal, the parallel canal would traverse undeveloped land. The parallel canal would not conflict with land use plans or divide an existing community, and it would not affect farmlands. Based on these factors and on the project design measures listed above, land ownership and use impacts would not be significant and would not require mitigation.

#### **No Action Alternative**

This alternative would have no effect on land ownership or use along the Coachella Canal.

### **3.16 SAND AND GRAVEL SUPPLIES**

#### **3.16.1 Affected Environment**

Sources of sand and gravel suitable for manufacture of concrete are located near the foot of the Chocolate Mountains in the Chocolate Mountains Aerial Gunnery Range, other scattered locations in the Imperial Valley, and along the Coachella Canal between Wister and Bombay Beach. Quarries are in operation at some of these sources.

The supply of sand and gravel available for commercial use in the Imperial Valley is limited because of the content of the deposits. Deposits near the Chocolate Mountains are abundant but unavailable because of military operations, except during a brief period each year when gunnery practice is suspended. The Bureau of Indian Affairs, in a comment letter on the 1994 Draft EIS/EIR, has indicated that sand and gravel supplies on Indian Lands should also be considered (see Attachment G). The federal laws and regulations applicable to sand and gravel extraction from Indian Lands include the Mineral Policy Acts of 1970 and 1980 and the Indian Mineral Leasing Act of 1982 (25 U.S.C. 396a-396g).

Quarrying sand and gravel in the Imperial Valley and Coachella Valley is also controlled for environmental reasons. The source along the Coachella Canal lies along the shoreline of prehistoric Lake Cahuilla, a zone of land that typically contains an abundance of cultural resources. In addition, areas containing sand and gravel may contain terrestrial wildlife habitat of value. Development of a new gravel quarry or expansion of an existing quarry typically affects these resources.

Much of the potential supply for the project is on federal land, and a permit from BLM would be needed. BLM permitting procedures include requirements for environmental assessments where additional land is disturbed.

Both Riverside and Imperial counties administer the Surface Mining and Reclamation Act of 1975 locally, which requires approved site reclamation plans for surface mining operations.

#### **3.16.2 Significance Criteria**

An alternative would have a significant sand and gravel impact if it would:

- result in the loss of a locally important sand and gravel extraction site designated on a local general plan, specific plan, or other land use plan,

- require sand and gravel resources in excess of those that can be developed (extracted) within the region, or
- require new sand and gravel extraction operations which causes a significant effect to biological or cultural resources.

### **3.16.3 Environmental Consequences**

#### **Conventional Lining Alternative**

The Conventional Lining Alternative would require 105,000 cubic yards of sand and gravel for concrete and for surfacing the canal bank road. Of that amount, 70,000 cubic yards of material would need to meet certification for concrete manufacture. The specific source(s) of sand and gravel for the project have not been determined. During the project design phase, samples of sand and gravel from potential sources would be tested for suitability for project concrete. On the basis of such tests, a variety of sources would be certified for use on the project. The use of 105,000 cubic yards of sand and gravel would not cause a significant sand and gravel supply impact; however, sand and gravel extraction could cause significant biological or cultural resource impacts, depending on the location of the sand and gravel extraction operations. Mitigation for these potential cultural resource and biological resource impacts would be mitigated as described below.

During the design phase, an assessment would be made of the cultural and biological resources that may be affected by quarry activities at each certified site. Based on this assessment, potential disturbance of sensitive areas would be avoided by excluding the source, or impacts would be mitigated in conjunction with mitigation for canal construction, as described elsewhere in this chapter. This mitigation would reduce impacts to less than significant levels. Environmental restrictions associated with certified sand and gravel sources would be included in the construction specifications. The construction specifications would allow the contractor to use one or more of the certified sources or request certification of another source of its choosing. If the contractor were to request using a source not previously certified and assessed environmentally, it would be required to comply with applicable requirements.

The effect of project sand and gravel requirements on the supply for local Imperial Valley use would depend on the degree to which material would be obtained in areas producing gravel for local use. The use of 105,000 cubic yards of sand and gravel from local sources would not substantially reduce the quantity of sand and gravel available for other projects in the region. Accordingly, the use of sand and gravel supplies from existing quarries would not cause significant effects.

### **Underwater Lining Alternative**

This alternative would require sand and gravel for concrete, for surfacing the canal bank road, and for filling low spots in the canal bottom. An estimated 520,000 cubic yards of material would be needed, of which 130,000 cubic yards would need to meet certification for concrete manufacture. Impacts and procedures for obtaining sand and gravel would be the same as for the Conventional Lining Alternative. Although this alternative would require a greater amount of sand and gravel for construction, impacts to local quarries would be less than significant. Impacts to biological and cultural resources associated with new sources of sand and gravel extraction would be mitigated to less than significant levels as described for the Conventional Lining Alternative.

### **Parallel Canal Alternative**

This alternative would require 120,000 cubic yards of sand and gravel for concrete and for surfacing the canal bank road, of which 90,000 cubic yards of material would need to meet certification for concrete manufacture. Similar to the Conventional Lining Alternative, this would not constitute a significant impact to sand and gravel supplies. The potential impacts to biological and cultural resources associated with sand and gravel extraction would be mitigated to less than significant levels as described for the Conventional Lining Alternative.

### **No Action Alternative**

This alternative would not have an effect on sand and gravel supplies.

### **3.17 TRANSPORTATION**

#### **3.17.1 Affected Environment**

The area between the Salton Sea and the Coachella Canal serves as a major transportation corridor between the Coachella Valley to the north and the Imperial Valley to the south. Virtually all the vehicular transportation through this corridor is by means of State Highway 111, which runs roughly parallel to the eastern side of the Salton Sea, at distances varying from 1/4 to 1 mile.

Paved roads that branch from Highway 111 into the project study area include:

- Beale Road, which approaches the canal near siphons 7 and 8 in the Slab City area;
- Frink Road and Hot Mineral Springs Road, which are connected by Spa Road and which serve the spas, residences, and aquaculture operations in the Hot Mineral Springs and Frink Springs areas; and
- Parkside Drive, which is located at the northwest edge of the Dos Palmas area. An unpaved road at the terminus of Parkside Drive connects to the canal access road.

A network of other unpaved roads between the canal and Highway 111 provides access for scattered residential and resort properties and circulation for seasonal desert recreationists. Coachella Canal Road parallels most of the section of canal proposed for lining. CVWD maintains graded access roads along both banks of the canal.

A main line of the Southern Pacific Railroad also runs through this corridor, with the tracks generally running adjacent to the east side of Highway 111. A branch rail line leaves the mainline between North Shore and Niland and proceeds northeast across the canal and up Salt Creek to the upper desert to the northwest. Known as the Eagle Mountain Railroad and currently unused, it has been used to haul iron ore to the coastal area for processing.

#### **3.17.2 Significance Criteria**

An alternative would have a significant impact on transportation if it:

- causes an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system,

- exceeds either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways,
- substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment),
- results in inadequate emergency access,
- results in inadequate parking capacity, or
- conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

### **3.17.3 Environmental Consequences**

#### **Conventional Lining Alternative**

This alternative would not cause any significant impacts to transportation. Many types of vehicles would use the existing service road along the canal and various dirt roads more extensively during construction activities. In some cases, public travel along the service road would be blocked briefly or slowed down. Due to the equipment on the roads, standard construction safety measures would be implemented to avoid safety hazards on public roads. No public roads would be closed during construction.

Highway 111 and county roads close to the canal would also carry equipment and materials to the construction site and staging areas. Although these truck trips would occur primarily on rural roads, the contractor would be required to implement a traffic control plan for safety reasons and to minimize the effects of these trips on the lightly traveled local roadway network.

The traffic control plan, which is considered a project feature and not a mitigation measure, would be prepared by the construction contractor prior to the commencement of any construction or hauling activities. At minimum, the plan would address and outline appropriate vehicular speeds in construction areas; travel routes, detours, or lane closures; flag-person requirements; appropriate signage and safety reflectors; coordination with Imperial County Department of Public Works, and the California Department of Transportation (Caltrans); the location of staging areas; safety procedures to reduce hazards to motorists, bicyclists, and pedestrians; and emergency information. The traffic control plan would also address Border Patrol access in the area. Implementation of the

required traffic control plan would minimize the short-term transportation impacts of this alternative. The proposed project would not create any long-term transportation impacts.

**Underwater Lining Alternative**

The transportation impacts of this alternative would be less than significant for the same reasons described for the Conventional Lining Alternative.

**Parallel Canal Alternative**

The Parallel Canal Alternative would have less than significant transportation impacts for the same reasons that are described for the Conventional Lining Alternative.

**No Action Alternative**

This alternative would not have an effect on transportation.

## 3.18 AIR QUALITY

### 3.18.1 Affected Environment

#### Geography and Climate

The section of the Coachella Canal to be lined lies in a very sparsely populated area that consists of the extreme northeast corner of the Imperial Valley and the extreme southeast corner of the Coachella Valley. Approximately half of the earthen canal to be lined lies in Imperial County and half in Riverside County. Siphon 32, the northern extremity of the project, lies in Riverside County, approximately 20 miles southeast of Coachella, California. Siphon 7, the southern extremity of the project, lies in Imperial County, approximately 4 miles east of the community of Niland.

The project site is located in the Salton Sea Air Basin (Basin), which includes the Coachella Valley area of Riverside County and all of Imperial County. As described below under “Applicable Regulations, Plans, and Policies,” the Basin is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) in Riverside County and the Imperial County Air Pollution Control District (ICAPCD) in Imperial County, respectively. The attainment status of each district with regard to federal and State air quality standards is addressed below under “Clean Air Act Conformity” and “Existing Air Quality.” The Coachella Valley is bounded on the west by the San Jacinto Mountains, which rise to a height of 10,000 feet, and the Little San Bernardino Mountains to the east, which reach heights of over 5,000 feet. The entrance to the north end of the valley is San Geronio Pass, also known as Banning Pass.

The climate of the Coachella Valley is a continental, desert type, with hot summers, mild winters, and very little annual rainfall. Precipitation is less than six inches annually, and occurs mostly in the winter months. Temperatures exceed 100 degrees Fahrenheit (°F), on average, for four months each year, with daily highs exceeding 105°F during July and August. During the winter season, daytime highs are quite mild, with an average of 70°F in January, with early morning lows around 40°F. Average annual precipitation at Mecca, approximately 10 miles northwest of the project site, is 2.9 inches (Western Region Climate Center 2000).

The Coachella Valley is exposed to frequent gusty winds, and prevailing winds are west to east. The strongest and most persistent winds typically occur immediately to the east of Banning Pass, which is noted as a wind power generation resource area (and is also known as Windy Point). Aside from this locale, the wind conditions in the remainder of the valley are geographically distinct. Stronger winds occur most often in the spring and summer. Additionally, stronger winds tend to occur in the

open mid-portion of the valley, while lighter winds tend to occur closer to the foothills. The wind can pick up large amounts of natural desert soils which can be transported over long distances (SQAMD 1990), and the Coachella Valley experiences occasional severe and widespread dust storms.

Northwesterly winds dominate throughout the year, with southeasterly winds showing a secondary peak frequency. Stronger winds occur most often in the spring and summer months. High-wind situations, which can produce widespread dust storms, are limited primarily to the spring months of April through June, although these conditions more rarely can occur any time during the year.

### **Applicable Regulations, Plans, and Policies**

#### Federal and State Standards

The federal Clean Air Act (42 U.S.C. §§ 7401-7671q) requires the adoption of national ambient air quality standards (NAAQS) to protect the public health and welfare from the effects of air pollution. The NAAQS have been updated as needed. Current standards are set for seven air pollutants that have been identified by the U.S. Environmental Protection Agency (EPA) as being of concern nationwide: carbon monoxide (CO); ozone (O<sub>3</sub>); nitrogen dioxide (NO<sub>2</sub>); particulate matter sized 10 microns or less (PM<sub>10</sub>), also called respirable particulate and suspended particulate; fine particulate matter equal to or less than 2.5 microns in size (PM<sub>2.5</sub>); sulfur dioxide (SO<sub>2</sub>); and lead (Pb)<sup>9</sup>. These pollutants are collectively referred to as criteria pollutants. The State of California Air Resources Board (CARB) has established additional standards which are generally more restrictive than the NAAQS. Federal and state standards are shown in Table 3-12.

#### Regional Authority

The regional air quality authority in the Riverside County part of the study area is the SCAQMD, which is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws, regulations, and policies. Included in SCAQMD's tasks are the monitoring of air pollution, the preparation of the State Implementation Plan (SIP) for the Basin, and the promulgation of Rules and Regulations. The SIP includes

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<sup>9</sup> Eight-hour Ozone and PM<sub>2.5</sub> standards became effective on September 15, 1997, and policies and systems to implement these new standards are being developed. No new controls with respect to the new standards will be required by the EPA until after the year 2002.

**Table 3-12. National and California Ambient Air Quality Standards**

| Pollutant   | Averaging Time                             | NAAQS <sup>1</sup>                 |                                  | CAAQS <sup>2</sup>   |
|---|--|------------------------------------|----------------------------------|--|
|   |  | Primary <sup>3</sup>               | Secondary <sup>4</sup>           | Concentration <sup>5</sup>   |
| Ozone (O <sub>3</sub> ) <sup>6</sup>                      | 1 Hour                                     | 0.12 ppm (235 µg/m <sup>3</sup> )  | Same as Primary Standard         | 0.09 ppm (180 µg/m <sup>3</sup> )  |
|   | 8 Hour                                     | 0.08 ppm                           |                                  | -  |
| Carbon Monoxide (CO)                                      | 8 Hour                                     | 9.0 ppm (10 µg/m <sup>3</sup> )    | None                             | 9.0 ppm (10 µg/m <sup>3</sup> )  |
|   | 1 Hour                                     | 35 ppm (40 µg/m <sup>3</sup> )     |                                  | 20 ppm (23 µg/m <sup>3</sup> )   |
| Nitrogen Dioxide (NO <sub>2</sub> )                       | Annual Average                             | 0.053 ppm (100 µg/m <sup>3</sup> ) | Same as Primary Standard         | -  |
|   | 1 Hour                                     | -                                  |                                  | 0.25 ppm (470 µg/m <sup>3</sup> )  |
| Sulfur Dioxide (SO <sub>2</sub> )                         | Annual Average                             | 80 µg/m <sup>3</sup> (0.03 ppm)    | -                                | -  |
|   | 24 Hour                                    | 365 µg/m <sup>3</sup> (0.14 ppm)   | -                                | 0.04 ppm (105 µg/m <sup>3</sup> )  |
|   | 3 Hour                                     | -                                  | 1300 µg/m <sup>3</sup> (0.5 ppm) | -  |
|   | 1 Hour                                     | -                                  | Same as Primary Standard         | 0.25 ppm (655 µg/m <sup>3</sup> )  |
| Suspended Particulate Matter (PM <sub>10</sub> )          | Annual Geometric Mean                      | -                                  | -                                | 30 µg/m <sup>3</sup>   |
|   | 24 Hour                                    | 150 µg/m <sup>3</sup>              |                                  | 50 µg/m <sup>3</sup>   |
|   | Annual Arithmetic Mean                     | 50 µg/m <sup>3</sup>               |                                  | -  |
| Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>6</sup> | 24 Hour                                    | 65 µg/m <sup>3</sup>               | Same as Primary Standard         | -  |
|   | Annual Arithmetic Mean                     | 15 µg/m <sup>3</sup>               |                                  | -  |
| Lead (Pb)   | 30 Day Average                             | -                                  | -                                | 1.5 µg/m <sup>3</sup>  |
|   | Calendar Quarter                           | 1.5 µg/m <sup>3</sup>              | Same as Primary Standard         | -  |
| Hydrogen Sulfide (HS)                                     | 1 Hour                                     | No Federal Standards               |                                  | 0.03 ppm (42 µg/m <sup>3</sup> )   |
| Sulfates (SO <sub>4</sub> )                               | 24 Hour                                    |                                    |                                  | 25 µg/m <sup>3</sup>   |
| Visibility Reducing Particles                             | 8 Hour (10 am-6 pm, Pacific Standard Time) |                                    |                                  | In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. |

µg/m<sup>3</sup> - micrograms per cubic meter; ppm - parts per million  
 Source: California Air Resources Board (CARB) 1999

- National Ambient Air Quality Standards (other than O<sub>3</sub>, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O<sub>3</sub> standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.
- California Ambient Air Quality Standards for O<sub>3</sub>, CO (except Lake Tahoe), SO<sub>2</sub> (1 and 24 hours), NO<sub>2</sub>, PM<sub>10</sub>, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 °C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25 °C and a reference pressure of 760 mm of mercury (1,013.2 millibar). Ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas.
- New federal 8-hour O<sub>3</sub> and fine particulate matter standards were promulgated by EPA on July 18, 1997. The federal 1-hour O<sub>3</sub> standard continues to apply in areas that violated the standard. Contact EPA for further clarification and current federal policies.

strategies and tactics to be used to attain the federal air quality standards in the basin. The SCAQMD elements of the SIP are taken from the Air Quality Management Plan (AQMP), which contains the SCAQMD plans for attaining the federal and state standards. The Rules and Regulations include procedures and requirements to implement the AQMP, control the emissions of pollutants, and prevent adverse impacts. The Imperial County segment of the canal is under the jurisdiction of the ICAPCD which has responsibilities in Imperial County similar to those described above for the SCAQMD.

### **Clean Air Act Conformity**

The 1990 amendments to federal Clean Air Act Section 176 required the EPA to promulgate rules to ensure that federal actions conform to the appropriate SIP. These rules, known together as the *General Conformity Rule* (40 C.F.R. §§ 51.850-860 and 40 C.F.R. §§ 93.150-160), require any federal agency responsible for an action in a nonattainment area to determine that the action is either exempt from the General Conformity Rule's requirements or positively determine that the action conforms to the applicable SIP. In addition to the roughly 30 presumptive exemptions established and available in the General Conformity Rule, an agency may establish that rates would be less than the specified emission rate thresholds, known as *de minimis* limits. An action is exempt from a conformity determination if an applicability analysis shows that the total direct and indirect emissions from the project will be below the applicable *de minimis* thresholds and will not be regionally significant, which is defined as representing 10 percent or more of an area's emissions inventory or budget.

If an action is not exempt, the federal agency must demonstrate that the total of direct and indirect emissions from the proposed action which would be presumed to conform would not:

- Cause or contribute to any new violation of any standard in any area;
- Interfere with provisions in the applicable SIP for maintenance of any standard;
- Increase the frequency or severity of any existing violation of any standard in any area; or
- Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area including, where applicable, emission levels specified in the applicable SIP for the purposes of demonstration of reasonable further progress, a demonstration of attainment, or a maintenance plan.

Specific geographic areas are classified by the EPA and the CARB as either *attainment* or *nonattainment* for each pollutant, based upon the achievement of federal and state standards. The attainment status for each pollutant in the Basin is shown in Table 3-13, and the *de minimis* thresholds applicable to the Basin are shown in Table 3-14.

**Table 3-13. Nonattainment Classifications for the Salton Sea Air Basin**

| Pollutant        | EPA Designation       | CARB Designation                               |
|------------------|-----------------------|--|
| Ozone            | Nonattainment Severe  | Nonattainment                                  |
| PM <sub>10</sub> | Nonattainment Serious | Nonattainment (Air quality now meets standard) |
| Carbon monoxide  | Attainment            | Attainment                                     |
| Nitrogen dioxide | Attainment            | Attainment                                     |

Source: EPA 1999; CARB 1999

**Table 3-14. De Minimis Emission Thresholds for General Conformity Applicability**

| Salton Sea Air Basin                    | Pollutant       |                      |                              |                 |                       |
|---|-----------------|----------------------|------------------------------|-----------------|-----------------------|
|   | CO              | ROC <sup>1</sup>     | NO <sub>x</sub> <sup>1</sup> | SO <sub>x</sub> | PM <sub>10</sub>      |
| Attainment status                       | Attainment      | Nonattainment Severe | Nonattainment Severe         | Attainment      | Nonattainment Serious |
| <i>De minimis</i> emissions (tons/year) | NA <sup>2</sup> | 25                   | 25                           | NA <sup>2</sup> | 70                    |

<sup>1</sup> Attainment status is for ozone; *de minimis* limits apply to precursor pollutants Reactive Organic Compounds (ROC) and Oxides of Nitrogen (NO<sub>x</sub>).

<sup>2</sup> *De minimis* thresholds do not apply to attainment pollutants.

### Existing Air Quality

There are generally two sources of PM<sub>10</sub>: natural sources, including sea salts, volcanic ash, and pollens, and man-made or anthropogenic sources. Man-made sources originate from direct emissions, such as industrial facilities; fugitive dust sources (e.g., construction sites) and paved and unpaved road dust; and secondary particulate matter that is formed in the atmosphere as a result of chemical reactions driven by sunlight. Agriculture is the major industry in Imperial County, and the most prevalent airborne pollution in the Basin is particulate matter (including PM<sub>10</sub>) in the form of dust. As described above, strong winds often occur in Coachella Valley, and the soil transported by these winds also contributes to PM<sub>10</sub> levels. In 1995, approximately 50 tons of PM<sub>10</sub> were emitted on an average day in Coachella Valley (SCAQMD 1997). According to the SCAQMD’s Draft 1997 Coachella Valley Maintenance Plan:

Approximately 48 tons/day (~95% of the total) were fugitive dust emissions from wind erosion of disturbed sources, entrained road dust, construction and demolition activity, and farming operations. Windblown dust from disturbed desert soils accounts for ~11 tons per day; windblown dust from agricultural lands accounts for ~16 tons/day. About 1.6 tons ... are emitted by mobile sources, with heavy-duty diesel trucks accounting for over half of the total. However, mobile sources contribute to PM<sub>10</sub> exceedances through entrained paved road dust (~9 tons per day) and entrained unpaved road dust (~5 tons per day).

In 1998, the Basin exceeded federal PM<sub>10</sub> standards in 15 percent of the samples taken, and the Basin exceeded State PM<sub>10</sub> standards in 73 percent of the samples taken (CARB 2000d). (PM<sub>10</sub> measurements are not taken daily in the Basin, which is why exceedances are listed in terms of percentages of samples taken.)

With regard to ozone, the federal one-hour ozone standard was exceeded in the Basin on 11 days in 1998, and the federal eight-hour standard was exceeded on 38 days. The stricter one-hour State standard was exceeded on 68 days during 1998.

Ambient air pollutant concentrations in the project area portion of the Basin are measured at Indio and Niland. Tables 3-15 and 3-16 present summaries of the highest pollutant values recorded at these stations and the exceedances of federal and state standards for the period of 1995-1999. Over these five years, the federal and state standards for ozone have been exceeded at each station, although there is a general trend of improvement. There were no other exceedances of federal standards.

### **3.18.2 Significance Criteria**

An alternative would have a significant air quality impact if it would cause emissions that:

- conflict with or obstruct the implementation of any applicable air quality plan,
- violate an air quality standard or contribute substantially to an existing or projected standard violation,
- result in a cumulatively considerable net increase of any nonattainment air pollutant within the project region,
- expose sensitive receptors to substantial pollutant concentrations, or
- create objectionable odors affecting a substantial number of people.

**Table 3-15  
Air Pollutant Summary, Indio (Jackson Street) Station 1995-1999**

| Pollutant  | California Standard  | National Standard     | Monitoring Data |       |       |       |       |
|--|----------------------|-----------------------|-----------------|-------|-------|-------|-------|
|  |                      |                       | 1995            | 1996  | 1997  | 1998  | 1999  |
| <b>Ozone (O<sub>3</sub>)</b>                           |                      |                       |                 |       |       |       |       |
| Highest 1-hour average, ppm                            | 0.09 ppm             | 0.12 ppm              | 0.142           | 0.118 | 0.102 | 0.134 | 0.126 |
| Number of days state standard exceeded                 |                      |                       | 25              | 27    | 1     | 16    | 13    |
| Number of days national standard exceeded              |                      |                       | 3               | 0     | 0     | 2     | 1     |
| Highest 8-hour average, ppm                            | --                   | 0.08 ppm              | 0.111           | 0.100 | 0.094 | 0.115 | 0.107 |
| Number of days national standard exceeded              |                      |                       | 17              | 23    | 1     | 12    | 7     |
| <b>Particulate matter (PM<sub>10</sub>)</b>            |                      |                       |                 |       |       |       |       |
| Highest 24-hour average, µg/m <sup>3</sup>             | 50 µg/m <sup>3</sup> | 150 µg/m <sup>3</sup> | 199.0           | 215.0 | 182.0 | 158.0 | 119.0 |
| Number of days state standard exceeded <sup>1</sup>    |                      |                       | 162             | 177   | 150   | 147   | 180   |
| Number of days national standard exceeded <sup>1</sup> |                      |                       | 6               | 12    | 12    | 3     | 0     |
| Annual geometric mean, µg/m <sup>3</sup>               | 30 µg/m <sup>3</sup> | --                    | 47.2            | 48.3  | 46.4  | 44.5  | 49.8  |
| Annual arithmetic mean                                 | --                   | 50 µg/m <sup>3</sup>  | 52.3            | 55.6  | 53.9  | 48.3  | 52.7  |

Source: California Air Resources Board 2000

ppm - parts per million

µg/m<sup>3</sup> - micrograms per cubic meter

NA - Data is not available for this monitoring station

<sup>1</sup> This represents the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day.

**Table 3-16**  
**Air Pollutant Summary, Niland (English Road) Station 1995-1999**

| Pollutant  | California Standard  | National Standard     | Monitoring Data |      |       |       |      |
|--|----------------------|-----------------------|-----------------|------|-------|-------|------|
|  |                      |                       | 1995            | 1996 | 1997  | 1998  | 1999 |
| <b>Ozone (O<sub>3</sub>)</b>                           |                      |                       |                 |      |       |       |      |
| Highest 1-hour average, ppm                            | 0.09 ppm             | 0.12 ppm              | NA              | NA   | 0.100 | 0.110 | NA   |
| Number of days state standard exceeded                 |                      |                       | --              | --   | 1     | 5     | --   |
| Number of days national standard exceeded              |                      |                       | --              | --   | 0     | 0     | --   |
| Highest 8-hour average, ppm                            | --                   | 0.08 ppm              | NA              | NA   | 0.070 | 0.100 | NA   |
| Number of days national standard exceeded              |                      |                       | --              | --   | 0     | 4     | --   |
| <b>Particulate matter (PM<sub>10</sub>)</b>            |                      |                       |                 |      |       |       |      |
| Highest 24-hour average, µg/m <sup>3</sup>             | 50 µg/m <sup>3</sup> | 150 µg/m <sup>3</sup> | NA              | 71.0 | 191.0 | 75.0  | 58.0 |
| Number of days state standard exceeded <sup>1</sup>    |                      |                       | --              | 36   | 72    | 24    | 42   |
| Number of days national standard exceeded <sup>1</sup> |                      |                       | --              | 0    | 6     | 0     | 0    |
| Annual geometric mean, µg/m <sup>3</sup>               | 30 µg/m <sup>3</sup> | --                    | NA              | 41.7 | 42.1  | 26.1  | 30.9 |
| Annual arithmetic mean                                 | --                   | 50 µg/m <sup>3</sup>  | NA              | 43.6 | 46.9  | 30.2  | 34.1 |

Source: California Air Resources Board 2000

ppm - parts per million

µg/m<sup>3</sup> - micrograms per cubic meter

NA-Data is not available for this monitoring station

<sup>1</sup> This represents the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day.

This analysis also addresses General Conformity *de minimis* thresholds. Although these thresholds do not represent impact significance criteria, Reclamation cannot approve an alternative that exceeds *de minimis* levels without conducting a General Conformity determination pursuant to the federal Clean Air Act.

### 3.18.3 Environmental Consequences

#### **Methodology**

##### Construction Elements

The following methodology was used for estimating construction emissions for each of the action alternatives. The construction activities were divided into five main groups of tasks: (1) excavation of the canal for shaping of the prism; (2) import of sand and aggregate for concrete; (3) placement of the concrete in the canal; (4) operation of the concrete batch plant; and (5) pump operations for draining each canal section. Vehicle emissions related to workers commuting to and from the job site are included in each task. Each activity was evaluated to estimate the number of work days, type and quantity of equipment to be used, number of operation hours for each type of activity, number of truck trips, crew size for each task, and number of work days for each crew. Estimates were based on the project summary of physical properties as described in Table 2-3 and projected construction practices. Engineering judgment was used to estimate other factors, such as the average daily use of construction equipment, daily grading, number of trips and lengths of travel on paved and unpaved roads, and the duration of activities.

The principal source of NO<sub>x</sub> emissions for each alternative would be the diesel-engine driven construction equipment used during the excavation phase. The quantity of equipment used was derived from the estimated excavation volumes shown in Table 2-3 and an assumed schedule for each alternative, resulting in an estimate of the number of cubic yards per day that would be excavated. For the Conventional Lining Alternative, it was assumed that excavation would occur during 23 months of the 24-month schedule, and for each siphon encountered, there would be five days of construction time when there would be no excavation. For the Underwater Lining Alternative, the assumptions regarding construction schedule were similar to the Conventional Lining Alternative, except that excavation would be limited to nine months per year. For the Parallel Canal Alternative, it was assumed that excavation could occur every working day for 23 months of the 24-month schedule. It was then assumed that one major piece of equipment, such as a scraper, backhoe or bulldozer, would be required for each 750 cubic yards per day of excavation.

The principal source of PM<sub>10</sub> emissions for each alternative would be the travel of trucks and heavy equipment over unpaved roads parallel to the canal during the period that concrete is delivered to each section under construction. The calculation of uncontrolled emissions is the product of estimated vehicle miles traveled and an emission factor for travel on unpaved roads. The quantity of vehicle miles traveled would be directly proportional to the estimated quantity of concrete listed in Table 2-3. Other assumptions include 9.5-cubic-yard concrete trucks and an average of 20-ton truck weight, including both loaded and unloaded runs. Control factors for PM<sub>10</sub> were calculated for various frequencies of watering. It was assumed that if the unpaved roads along the canal are watered so that they are continuously moist, PM<sub>10</sub> generation from truck traffic on unpaved roads could be reduced to negligible levels.

The control factor also varies with the estimated number of vehicles per hour. Control factors applied to uncontrolled emissions result in estimates of controlled emissions.

#### Operations and Maintenance Elements

Operations and maintenance activities associated with the canal lining alternatives would include periodic inspection, maintenance, and repair of the lined channel. The resulting vehicle emissions associated with these infrequent activities would be negligible; therefore, long-term impacts are not further discussed in this section.

#### Emissions Factors

Emission rates and total emissions for each of the five main tasks were calculated using emission factors published in the EPA *Compilation of Air Pollution Emission Factors, AP-42*; the SCAQMD *CEQA Air Quality Handbook* (1993); and the Mojave Desert AQMD *Emissions Inventory Guidance* (1997). (Although the project area is not within the Mojave Desert AQMD, many of the emissions criteria published by that district can be applied to the air quality analyses in the Salton Sea Air Basin due to similarities between the two regions in terms of climate and geographical setting.) Although not included in the published emission factors, it is assumed that watering the unpaved access-roads parallel to the canal to the point that they are continuously moist would drastically reduce PM<sub>10</sub> emissions. For the purposes of this analysis, a nearly total (98 percent) reduction in PM<sub>10</sub> emissions was assumed based on maintaining a continuously wet road surface.

### **Conventional Lining Alternative**

Without mitigation, the Conventional Lining Alternative would result in significant air quality impacts. As mitigated, these impacts would remain significant in comparison to adopted CEQA significance thresholds; however, they would not result in significant effects to the environment. Also, as mitigated, emissions would be below federal Clean Air Act *de minimis* levels.

#### Estimated Emissions

Estimated emissions for construction of the Conventional Lining Alternative were calculated in accordance with the methodology described above. Data sheets, including assumptions and emissions factors, are included in Attachment F. Table 3-17 summarizes estimated construction emissions and compares the emissions to the General Conformity *de minimis* thresholds. Table 3-17 does not include the emissions associated with the operation of the concrete batch plant and the engine-pump that would be used to drain the canal section prior to excavation. It is assumed that the batch plant and any stationary engines greater than 50 horsepower, as may be required for the batch plant and pump in areas where no power lines are located, would be permitted sources. Either a State or district permit would be required for operation of these sources. In accordance with the General Conformity Rule, the emissions of permitted sources are not included when comparing anticipated project emissions with *de minimis* thresholds.

Based on the calculations, uncontrolled construction emissions would exceed the federal threshold for  $PM_{10}$ . The principal source of  $PM_{10}$  emissions would be truck travel on unpaved roads for the import of sand and gravel to the concrete batch plant and the concrete truck travel from the batch plant to the canal section being lined. Uncontrolled emissions, as shown in Table 3-17, assume that there are no measures taken to reduce dust emissions from truck travel on unpaved roads. Table 3-18 shows the magnitude of emission reduction that can be achieved by watering of unpaved roads. The value of 48.5 tons per year was estimated with the assumption that the time between applications of water to unpaved roads would be every 45 minutes.

Construction emissions may be further analyzed by comparison with the SCAQMD CEQA impact guidelines, as these limits are indicative of the emission rates anticipated in SCAQMD AQMP for the attainment of federal and State ambient air quality standards. Estimated daily and quarterly construction emissions are shown in Table 3-19. Daily emissions are estimated by assuming that all tasks would be likely to occur simultaneously during some days of the construction period. The daily values for  $PM_{10}$  and the quarterly values for  $NO_x$  would exceed the SCAQMD significance thresholds.

**Table 3-17. Estimated Annual Construction Emissions –  
Uncontrolled - in Comparison to Federal *De Minimis* Thresholds  
(Conventional Lining Alternative)**

| Activity  | Emissions - tons per year |            |                 |                  |                  |
|---|---------------------------|------------|-----------------|------------------|------------------|
|   | CO                        | ROC        | NO <sub>x</sub> | SO <sub>x</sub>  | PM <sub>10</sub> |
| Excavation of canal   | 2.8                       | 0.4        | 4.8             | 0.5              | 4.3              |
| Import sand, aggregate, cement and miscellaneous materials <sup>1</sup> | 0.5                       | 0.1        | 0.2             | 0.0              | 8.8              |
| Place concrete in canal <sup>1</sup>                                    | 2.5                       | 0.3        | 1.9             | 0.1              | 0.1              |
| Trucks on unpaved roads - uncontrolled                                  | -                         | -          | -               | -                | 730              |
| <b>Total</b>  | <b>5.7</b>                | <b>0.8</b> | <b>6.9</b>      | <b>0.7</b>       | <b>743.2</b>     |
| General Conformity <i>de minimis</i> and NEPA impact thresholds         | 100 <sup>2</sup>          | 25         | 25              | 100 <sup>2</sup> | 70               |
| Threshold exceeded?   | No                        | No         | No              | No               | Yes              |
| Regional Emissions <sup>3</sup>   | 62,050                    | 8,760      | 15,330          | 470              | 10,585           |
| Ten percent of area's annual emissions exceeded?                        | No                        | No         | No              | No               | No               |

<sup>1</sup> Except for trucks on unpaved roads.

<sup>2</sup> CO and SO<sub>2</sub> are attainment pollutants and have no applicable *de minimis* thresholds. The thresholds for nonattainment or maintenance areas are used for comparison with estimated emissions.

<sup>3</sup> Forecast 2010 emissions for that portion of Riverside County in the Salton Sea Air Basin (CARB 2000c). While 2000-2005 emissions may be different, the order of magnitude shown is adequate for comparison with project emissions. Imperial County emissions (1996 estimate) are of similar magnitude, except for PM<sub>10</sub>, with a value of 91,250 tons per year.

**Table 3-18. Estimated Annual Construction Emissions –  
Controlled - in Comparison to Federal *De Minimis* Thresholds  
(Conventional Lining Alternative)**

| Activity  | Emissions - tons per year |            |                 |                  |                  |
|---|---------------------------|------------|-----------------|------------------|------------------|
|   | CO                        | ROC        | NO <sub>x</sub> | SO <sub>x</sub>  | PM <sub>10</sub> |
| Excavation of canal   | 2.8                       | 0.4        | 4.8             | 0.5              | 4.3              |
| Import sand, aggregate, cement and miscellaneous materials <sup>1</sup> | 0.5                       | 0.1        | 0.2             | 0.0              | 8.8              |
| Place concrete in canal <sup>1</sup>                                    | 2.5                       | 0.3        | 1.9             | 0.1              | 0.1              |
| Trucks on unpaved roads - controlled                                    | -                         | -          | -               | -                | 48.5             |
| <b>Total</b>  | <b>5.7</b>                | <b>0.8</b> | <b>6.9</b>      | <b>0.7</b>       | <b>61.7</b>      |
| General Conformity <i>de minimis</i> and NEPA impact thresholds         | 100 <sup>2</sup>          | 25         | 25              | 100 <sup>2</sup> | 70               |
| <b>Threshold exceeded?</b>  | <b>No</b>                 | <b>No</b>  | <b>No</b>       | <b>No</b>        | <b>No</b>        |
| Regional Emissions <sup>3</sup>   | 62,050                    | 8,760      | 15,330          | 470              | 10,585           |
| Ten percent of area's annual emissions exceeded?                        | No                        | No         | No              | No               | No               |

<sup>1</sup> Except for trucks on unpaved roads.

<sup>2</sup> CO and SO<sub>2</sub> are attainment pollutants and have no applicable *de minimis* thresholds. The thresholds for nonattainment or maintenance areas are used for comparison with estimated emissions.

<sup>3</sup> Forecast 2010 emissions for that portion of Riverside County in the Salton Sea Air Basin (CARB 2000c). While 2000-2005 emissions may be different, the order of magnitude shown is adequate for comparison with project emissions. Imperial County emissions (1996 estimate) are of similar magnitude, except for PM<sub>10</sub>, with a value of 91,250 tons per year.

**Table 3-19. Estimated Daily and Quarterly Construction Emissions – Controlled- in Comparison to SCAQMD CEQA Thresholds (Conventional Lining Alternative)**

|   | CO                                      | ROC | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> |
|---|---|-----|-----------------|-----------------|------------------|
|   | Emissions - pounds per day <sup>1</sup> |     |                 |                 |                  |
| Total estimated construction emissions <sup>2</sup> | 77                                      | 10  | 84              | 8               | 977.4            |
| SCAQMD CEQA significance threshold                  | 550                                     | 75  | 100             | 150             | 150              |
| Threshold exceeded?                                 | No                                      | No  | No              | No              | Yes              |
|   | Emissions - tons per quarter            |     |                 |                 |                  |
| Total estimated construction emissions              | 1.4                                     | 0.2 | 1.7             | 0.2             | 15.4             |
| SCAQMD CEQA significance threshold                  | 24.75                                   | 2.5 | 2.5             | 6.75            | 6.75             |
| Threshold exceeded?                                 | No                                      | No  | No              | No              | Yes              |

<sup>1</sup> Based on peak day (not average day) construction activity levels.

<sup>2</sup> Assumes controlled emissions on unpaved roads.

### Regional Impacts

As shown in Table 3-18, construction emissions would not approach 10 percent of the regional emissions and, therefore, would not be regionally significant, as defined in the General Conformity Rule. Additionally, controlled (mitigated) emissions would not exceed annual *de minimis* thresholds.

As shown in Table 3-19, construction emissions of PM<sub>10</sub> would exceed the SCAQMD daily and quarterly significance thresholds and are, therefore, considered significant under CEQA. All available and feasible mitigation measures would be incorporated into the project in order to minimize emissions of nonattainment and precursor pollutants (see mitigation measures described below).

Although PM<sub>10</sub> emissions would exceed SCAQMD thresholds, the actual physical impacts would be minimal. The prevailing westerly wind would dilute and move emissions into the unpopulated Chocolate Mountains Aerial Gunnery Range and adjacent unpopulated areas east of the canal. The emissions would not have an adverse impact on vegetation or animal life in the project area.

### Mitigation Measures

The following mitigation measures would reduce fugitive dust impacts of the Conventional Lining Alternative.

- Contractors will perform excavation, grading, materials handling, and hauling of materials in compliance with SCAQMD Rule 403, Fugitive Dust and ICAPCD Rule 800, Fugitive dust requirements for Control of Fine Particulate Matter (PM-10). Specific measures to be included in construction specifications will address the maintenance of adequate moisture content in soils to be excavated and transported; the stabilization of exposed graded areas; the cleaning of paved roads to be used as haul roads; paving or alternate treatment of unpaved roads considered for haul roads; and prevention of soil track-out from construction areas onto paved roads. Where required, contractors will obtain approval of dust control plans from the respective AQMD or APCD prior to the start of work.
- The construction contractor will obtain applicable air quality permits for the batch plant and any portable or stationary internal combustion engine subject to SCAQMD or ICPACD permit requirements.
- To reduce fugitive dust, the excavation site, the temporary stockpile material, and the unpaved roads would be watered frequently enough to reduce PM<sub>10</sub> levels to less than *de minimis* levels (projected to be approximately twice a day for stockpiles and approximately every 45 minutes for unpaved roads).
- Truck speeds on unpaved roads will not exceed 30 miles per hour.
- All trucks hauling materials subject to wind dispersal will be watered and covered.
- All disturbed soil areas not subject to revegetation will be stabilized with approved nontoxic soil binders, jute netting, or other methods, as appropriate. In particular, this applies to excavated soil placed along the banks of the canal.
- Where feasible, the construction contractor will use electric power from poles.
- Idling time of trucks and other construction equipment will be minimized.

With the implementation of these measures emissions would be reduced below Clean Air Act *de minimis* levels; however, PM<sub>10</sub> emissions would still exceed established thresholds and are considered significant. However, as mitigated, air quality impacts would not be considered to have significant effects on the environment for the following reasons:

- Air pollutant emissions would occur only for two years and would be moving (as opposed to representing the establishment of a permanent emissions source),
- All practical mitigation would be implemented, as described above, and

- The air pollutants generated during construction would generally be carried by prevailing winds over the unpopulated Chocolate Mountains Aerial Gunnery Range, where they would disperse without affecting sensitive receptors. Also, the immediate project area is 97 percent undeveloped.

### **Underwater Lining Alternative**

Without mitigation, this alternative would generate significant air quality impacts and would exceed federal Clean Air Act *de minimis* levels for PM<sub>10</sub>. As mitigated, these impacts would remain significant in comparison to adopted significant thresholds; however, they would not result in significant effects. Also, as mitigated, air pollutant emissions would not exceed *de minimis* levels.

The methodology and significance criteria described for the Conventional Lining Alternative apply to this alternative. Data sheets, including assumptions and emissions factors, are included in Attachment F. Table 3-20 summarizes estimated construction emissions of this alternative and compares the emissions to the General Conformity *de minimis* thresholds. As with the Conventional Lining Alternative, emissions from batch plant and engine pump activities are not included, as they would be permitted sources.

Based on the calculations, uncontrolled construction emissions would exceed the federal threshold for PM<sub>10</sub>. The principal source of PM<sub>10</sub> emissions would be truck travel on unpaved roads for the import of sand and gravel to the concrete batch plant and the concrete truck travel from the batch plant to the canal section being lined. Uncontrolled emissions, as shown in Table 3-20, assume that there are no measures taken to reduce dust emissions from truck travel on unpaved roads. Table 3-21 shows the magnitude of emission reduction that can be achieved by watering of unpaved roads. The value of 24.0 tons per year was estimated with the assumption that the unpaved roads along the canal would be maintained in a continuously wetted state. In other words, water application would occur so frequently that the unpaved roads would never dry during periods of construction activity and there would be no visible dust generation along the roads. Given the high temperatures and extremely arid environment of the project area, this represents a substantial commitment to watering the unpaved roads.

Estimated daily and quarterly construction emissions are shown in relation to SCAQMD CEQA thresholds in Table 3-22. Daily emissions are estimated by assuming that all tasks would be likely to occur simultaneously during some days of the construction period. The daily and quarterly values for PM<sub>10</sub> and NO<sub>x</sub> would exceed the SCAQMD significance thresholds.

**Table 3-20. Estimated Annual Construction Emissions –  
Uncontrolled - in Comparison to Federal *De Minimis* Thresholds  
(Underwater Lining Alternative)**

| Activity  | Emissions - tons per year |            |                 |                  |                  |
|---|---------------------------|------------|-----------------|------------------|------------------|
|   | CO                        | ROC        | NO <sub>x</sub> | SO <sub>x</sub>  | PM <sub>10</sub> |
| Excavation of canal   | 2.8                       | 0.7        | 8.1             | 0.9              | 0.8              |
| Import sand, aggregate, cement and miscellaneous materials <sup>1</sup> | 1.5                       | 0.2        | 0.5             | 0.0              | 29.0             |
| Place concrete in canal <sup>1</sup>                                    | 4.4                       | 0.7        | 5.9             | 0.5              | 0.5              |
| Trucks on unpaved roads - uncontrolled                                  | -                         | -          | -               | -                | 1,334            |
| <b>Total</b>  | <b>8.7</b>                | <b>1.6</b> | <b>14.5</b>     | <b>1.4</b>       | <b>1,364.3</b>   |
| General Conformity <i>de minimis</i> and NEPA impact thresholds         | 100 <sup>2</sup>          | 25         | 25              | 100 <sup>2</sup> | 70               |
| Threshold exceeded?   | No                        | No         | No              | No               | Yes              |
| Regional Emissions <sup>3</sup>   | 62,050                    | 8,760      | 15,330          | 470              | 10,585           |
| Ten percent of area's annual emissions exceeded?                        | No                        | No         | No              | No               | Yes              |

<sup>1</sup> Except for trucks on unpaved roads.

<sup>2</sup> CO and SO<sub>2</sub> are attainment pollutants and have no applicable *de minimis* thresholds. The thresholds for nonattainment or maintenance areas are used for comparison with estimated emissions.

<sup>3</sup> Forecast 2010 emissions for that portion of Riverside County in the Salton Sea Air Basin (CARB 2000c). While 2000-2005 emissions may be different, the order of magnitude shown is adequate for comparison with project emissions. Imperial County emissions (1996 estimate) are of similar magnitude, except for PM<sub>10</sub>, with a value of 91,250 tons per year.

**Table 3-21. Estimated Annual Construction Emissions –  
Controlled - in Comparison to Federal *De Minimis* Thresholds  
(Underwater Lining Alternative)**

| Activity  | Emissions - tons per year |            |                 |                  |                  |
|---|---------------------------|------------|-----------------|------------------|------------------|
|   | CO                        | ROC        | NO <sub>x</sub> | SO <sub>x</sub>  | PM <sub>10</sub> |
| Excavation of canal   | 2.8                       | 0.7        | 8.1             | 0.9              | 0.8              |
| Import sand, aggregate, cement and miscellaneous materials <sup>1</sup> | 1.5                       | 0.2        | 0.5             | 0.0              | 29.0             |
| Place concrete in canal <sup>1</sup>                                    | 4.4                       | 0.7        | 5.9             | 0.5              | 0.5              |
| Trucks on unpaved roads - controlled                                    | -                         | -          | -               | -                | 24.0             |
| <b>Total</b>  | <b>8.7</b>                | <b>1.6</b> | <b>14.5</b>     | <b>1.4</b>       | <b>54.3</b>      |
| General Conformity <i>de minimis</i> and NEPA impact thresholds         | 100 <sup>2</sup>          | 25         | 25              | 100 <sup>2</sup> | 70               |
| <b>Threshold exceeded?</b>  | <b>No</b>                 | <b>No</b>  | <b>No</b>       | <b>No</b>        | <b>No</b>        |
| Regional Emissions <sup>3</sup>   | 62,050                    | 8,760      | 15,330          | 470              | 10,585           |
| Ten percent of area's annual emissions exceeded?                        | No                        | No         | No              | No               | No               |

<sup>1</sup> Except for trucks on unpaved roads.

<sup>2</sup> CO and SO<sub>2</sub> are attainment pollutants and have no applicable *de minimis* thresholds. The thresholds for nonattainment or maintenance areas are used for comparison with estimated emissions.

<sup>3</sup> Forecast 2010 emissions for that portion of Riverside County in the Salton Sea Air Basin (CARB 2000c). While 2000-2005 emissions may be different, the order of magnitude shown is adequate for comparison with project emissions. Imperial County emissions (1996 estimate) are of similar magnitude, except for PM<sub>10</sub>, with a value of 91,250 tons per year.

**Table 3-22. Estimated Daily and Quarterly Construction Emissions –  
Controlled - in Comparison to SCAQMD CEQA Thresholds  
(Underwater Lining Alternative)**

|   | CO                                      | ROC | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> |
|---|---|-----|-----------------|-----------------|------------------|
|   | Emissions - pounds per day <sup>1</sup> |     |                 |                 |                  |
| Total estimated construction emissions <sup>2</sup> | 106                                     | 20  | 192             | 18              | 584.5            |
| SCAQMD CEQA significance threshold                  | 550                                     | 75  | 100             | 150             | 150              |
| Threshold exceeded?                                 | No                                      | No  | Yes             | No              | Yes              |
|   | Emissions - tons per quarter            |     |                 |                 |                  |
| Total estimated construction emissions              | 2.9                                     | 0.5 | 4.8             | 0.5             | 18.1             |
| SCAQMD CEQA significance threshold                  | 24.75                                   | 2.5 | 2.5             | 6.75            | 6.75             |
| Threshold exceeded?                                 | No                                      | No  | Yes             | No              | Yes              |

<sup>1</sup> Based on peak day (not average day) construction activity levels

<sup>2</sup> Assumes controlled emissions on unpaved roads.

### Regional Impacts

As shown in Table 3-21, construction emissions would not approach 10 percent of the regional emissions and, therefore, would not be regionally significant, as defined in the General Conformity Rule. As mitigated, the construction emissions would not exceed annual *de minimis* thresholds for any pollutants and would, therefore, not require a General Conformity determination.

As shown in Table 3-22, construction emissions of PM<sub>10</sub> and NO<sub>x</sub> would exceed SCAQMD thresholds and are, therefore, considered significant. The same mitigation measures described for the Conventional Lining Alternative would be required for this alternative.

Although PM<sub>10</sub> and NO<sub>x</sub> emissions would exceed SCAQMD thresholds, the actual physical impacts would be minimal. The prevailing westerly wind would dilute and move emissions into the unpopulated Chocolate Mountains Aerial Gunnery Range and adjacent unpopulated areas east of the canal. The emissions would not have an adverse impact on vegetation or animal life in the project area.

### Mitigation Measures

The same mitigation measures described for the Conventional Lining Alternative would be required for the Underwater Lining Alternative, with the exception that a much more extensive road watering program would be required due to the increased number of trips associated with sand and gravel

import. With the implementation of these measures, NO<sub>x</sub> and PM<sub>10</sub> would still exceed established thresholds and are considered significant. However, as mitigated, air quality impacts would not be considered to have significant effects for the same reasons described for the Conventional Lining Alternative.

### **Parallel Canal Alternative**

The Parallel Canal Alternative would have significant air quality impacts. As mitigated, impacts would remain significant in comparison to SCAQMD's CEQA significance thresholds; however, pollutant emissions would not result in significant effects on the environment. Even with mitigation, NO<sub>x</sub> levels would exceed federal Clean Air Act *de minimis* thresholds.

The methodology and significance criteria described for the previous alternatives would apply to this alternative. Data sheets, including assumptions and emissions factors, are included in Attachment F. Table 3-23 summarizes estimated construction emissions of this alternative and compares the emissions to the General Conformity *de minimis* thresholds. As with the other alternatives, emissions from batch plant and engine pump activities are not included, as they would be permitted sources.

Based on the calculations, uncontrolled construction emissions would exceed the federal threshold for NO<sub>x</sub> and PM<sub>10</sub>. The principal source of PM<sub>10</sub> emissions would be truck travel on unpaved roads for the import of sand and gravel and delivery of concrete and the excavation of the parallel canal. The principal source of NO<sub>x</sub> would be excavation of the parallel canal. Uncontrolled emissions, as shown in Table 3-23, assume that there are no measures taken to reduce dust emissions from truck travel on unpaved roads. Table 3-24 shows the magnitude of emission reduction that can be achieved by watering of unpaved roads. The value of 27.0 tons per year was estimated with the assumption that the time between applications of water to unpaved roads would be 20 minutes.

Estimated daily and quarterly construction emissions are shown in relation to SCAQMD CEQA thresholds in Table 3-25. Daily emissions are estimated by assuming that all tasks would be likely to occur simultaneously during some days of the construction period. The daily and quarterly values for PM<sub>10</sub> and NO<sub>x</sub> would exceed the SCAQMD significance thresholds.

**Table 3-23. Estimated Annual Construction Emissions –  
Uncontrolled - in Comparison to Federal *De Minimis* Thresholds  
(Parallel Canal Alternative)**

| Activity  | Emissions - tons per year |            |                 |                  |                  |
|---|---------------------------|------------|-----------------|------------------|------------------|
|   | CO                        | ROC        | NO <sub>x</sub> | SO <sub>x</sub>  | PM <sub>10</sub> |
| Excavation of canal   | 24.7                      | 5.0        | 66.9            | 7.7              | 28.0             |
| Import sand, aggregate, cement and miscellaneous materials <sup>1</sup> | 0.5                       | 0.1        | 0.2             | 0.0              | 10.0             |
| Place concrete in canal <sup>1</sup>                                    | 3.0                       | 0.4        | 2.9             | 0.2              | 0.2              |
| Trucks on unpaved roads - uncontrolled                                  | -                         | -          | -               | -                | 897              |
| <b>Total</b>  | <b>28.1</b>               | <b>5.5</b> | <b>70.0</b>     | <b>7.9</b>       | <b>935.0</b>     |
| General Conformity <i>de minimis</i> and NEPA impact thresholds         | 100 <sup>2</sup>          | 25         | 25              | 100 <sup>2</sup> | 70               |
| Threshold exceeded?   | No                        | No         | Yes             | No               | Yes              |
| Regional Emissions <sup>3</sup>   | 62,050                    | 8,760      | 15,330          | 470              | 10,585           |
| Ten percent of area's annual emissions exceeded?                        | No                        | No         | No              | No               | No               |

<sup>1</sup> Except for trucks on unpaved roads.

<sup>2</sup> CO and SO<sub>2</sub> are attainment pollutants and have no applicable *de minimis* thresholds. The thresholds for nonattainment or maintenance areas are used for comparison with estimated emissions.

<sup>3</sup> Forecast 2010 emissions for that portion of Riverside County in the Salton Sea Air Basin (CARB 2000c). While 2000-2005 emissions may be different, the order of magnitude shown is adequate for comparison with project emissions. Imperial County emissions (1996 estimate) are of similar magnitude, except for PM<sub>10</sub>, with a value of 91,250 tons per year.

**Table 3-24. Estimated Annual Construction Emissions –  
Controlled - in Comparison to Federal *De Minimis* Thresholds  
(Parallel Canal Alternative)**

| Activity  | Emissions - tons per year |            |                 |                  |                  |
|---|---------------------------|------------|-----------------|------------------|------------------|
|   | CO                        | ROC        | NO <sub>x</sub> | SO <sub>x</sub>  | PM <sub>10</sub> |
| Excavation of canal   | 24.7                      | 5.0        | 66.9            | 7.7              | 28.0             |
| Import sand, aggregate, cement and miscellaneous materials <sup>1</sup> | 0.5                       | 0.1        | 0.2             | 0.0              | 10.0             |
| Place concrete in canal <sup>1</sup>                                    | 3.0                       | 0.4        | 2.9             | 0.2              | 0.2              |
| Trucks on unpaved roads - controlled                                    | -                         | -          | -               | -                | 27.0             |
| <b>Total</b>  | <b>28.1</b>               | <b>5.5</b> | <b>70.0</b>     | <b>7.9</b>       | <b>65.2</b>      |
| General Conformity <i>de minimis</i> and NEPA impact thresholds         | 100 <sup>2</sup>          | 25         | 25              | 100 <sup>2</sup> | 70               |
| <b>Threshold exceeded?</b>  | <b>No</b>                 | <b>No</b>  | <b>Yes</b>      | <b>No</b>        | <b>No</b>        |
| Regional Emissions <sup>3</sup>   | 62,050                    | 8,760      | 15,330          | 470              | 10,585           |
| Ten percent of area's annual emissions exceeded?                        | No                        | No         | No              | No               | No               |

<sup>1</sup> Except for trucks on unpaved roads.

<sup>2</sup> CO and SO<sub>2</sub> are attainment pollutants and have no applicable *de minimis* thresholds. The thresholds for nonattainment or maintenance areas are used for comparison with estimated emissions.

<sup>3</sup> Forecast 2010 emissions for that portion of Riverside County in the Salton Sea Air Basin (CARB 2000c). While 2000-2005 emissions may be different, the order of magnitude shown is adequate for comparison with project emissions. Imperial County emissions (1996 estimate) are of similar magnitude, except for PM<sub>10</sub>, with a value of 91,250 tons per year.

**Table 3-25. Estimated Daily and Quarterly Construction Emissions –  
Controlled - in Comparison to SCAQMD CEQA Thresholds  
(Parallel Canal Alternative)**

|   | CO                           | ROC | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> |
|---|------------------------------|-----|-----------------|-----------------|------------------|
|   | Emissions - pounds per day   |     |                 |                 |                  |
| Total estimated construction emissions <sup>1</sup> | 246                          | 47  | 580             | 65              | 743.1            |
| SCAQMD CEQA significance threshold                  | 550                          | 75  | 100             | 150             | 150              |
| Threshold exceeded?                                 | No                           | No  | Yes             | No              | Yes              |
|   | Emissions - tons per quarter |     |                 |                 |                  |
| Total estimated construction emissions              | 7.0                          | 1.4 | 17.5            | 2.0             | 16.3             |
| SCAQMD CEQA significance threshold                  | 24.75                        | 2.5 | 2.5             | 6.75            | 6.75             |
| Threshold exceeded?                                 | No                           | No  | Yes             | No              | Yes              |

<sup>1</sup> Based on peak day (not average day) construction activity levels

<sup>2</sup> Assumes controlled emissions on unpaved roads.

### Regional Impacts

As shown in Table 3-24, construction emissions would not approach 10 percent of the regional emissions and, therefore, would not be regionally significant, as defined in the General Conformity Rule. However, the construction emissions would exceed the annual *de minimis* thresholds for NO<sub>x</sub>.

Because emissions would exceed *de minimis* levels, the Parallel Canal Alternative could not be approved by Reclamation without a determination of conformity with the SIP. The General Conformity Rule at §51.858(a)(5)(i)(A) states,

An action . . . will be determined to conform to the applicable SIP if, . . . the total of direct and indirect emissions (or portion thereof) is determined and documented by the State agency primarily responsible for the applicable SIP to result in a level of emissions which, together with all other emissions in the nonattainment (or maintenance) area, would not exceed the emissions budget specified in the applicable SIP.

If this alternative is selected for implementation, in order to demonstrate conformity with the SIP, SCAQMD and ICAPCD will be requested to review the estimated project construction emissions to determine if they would not exceed the applicable emissions budget. If not, the Parallel Canal Alternative would be presumed to conform.

As shown in Table 3-25, construction emissions of PM<sub>10</sub> and NO<sub>x</sub> would exceed the SCAQMD daily and quarterly significance thresholds and are, therefore, considered significant. These emissions would be considered a significant CEQA impact. The same mitigation measures described for the Conventional Lining Alternative would be required for this alternative.

Although NO<sub>x</sub> emissions would exceed *de minimis* levels and both NO<sub>x</sub> and PM<sub>10</sub> would exceed SCAQMD thresholds, the actual physical impacts would be minimal. The prevailing westerly wind would dilute and move emissions into the unpopulated Chocolate Mountains Aerial Gunnery Range and adjacent unpopulated areas east of the canal. The emissions would not have an adverse impact on vegetation or animal life in the project area.

#### Mitigation Measures

The same mitigation measures described for the Conventional Lining Alternative would be required for the Parallel Canal Alternative, except that watering would be required at a frequency of once every 20 minutes. With the implementation of these measures, NO<sub>x</sub> and PM<sub>10</sub> would still exceed established thresholds and are considered significant. However, as mitigated, air quality impacts would not be considered to have significant effects on the environment for the same reasons described for the Conventional Lining Alternative.

#### **No Action Alternative**

This alternative would not alter local or regional air quality conditions.