Section 4 – Environmental Effects Found Not to be Significant

CEQA requires that a Draft PEIR discuss all potentially significant effects created by a project onto the environment, discussing the effects with emphasis in proportion to their severity and probability of occurrence. Effects determined in an Initial Study as insignificant and unlikely to occur need not be discussed further in the Draft PEIR unless information inconsistent with the finding in the Initial Study is subsequently received.

4.1 Effects Found Not to be Significant During Preparation of the Initial Study/Notice of Preparation

Section 21100(c) of the Public Resources Code states that an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore, not discussed in detail in the EIR. Section 15128 of the *CEQA Guidelines* adds, "Such a statement may be contained in an attached copy of an Initial Study."

The Initial Study/Notice of Preparation (IS/NOP) prepared for the Project concluded that the proposed Project would not result in significant impacts to the following issue areas or portions of those issue areas, as described below. These specific issues listed are not substantively discussed further within the body of the Draft PEIR; See Appendix A to this Draft PEIR for the IS/NOP and related documents

4.1.1 Aesthetics

The following issues related to Aesthetics were determined to be less than significant during preparation of the IS/NOP.

Effect on a Scenic Vista

A scenic vista is a distant and picturesque view of a natural landscape. According to the *City of Moreno Valley General Plan* (MVGP), the proposed Project is surrounded by Reche Canyon area to the north, the "Badlands" to the east, and the Mount Russell area to the south. Also, Moreno Peak is located south of State Route (SR) 60, along Moreno Beach Drive. Construction of the proposed Project could have short-term visual impacts from construction equipment and construction activity. However, the Project will not substantially alter the views of, or from the MDP Watershed since the proposed MDP Facilities consist of proposed storm drains, open channels (lined and unlined) and detention basins, all of which will be located below or at ground surface level. The proposed Project does not entail any vertical facilities or structures. **Therefore, Project implementation would not obstruct any scenic views and potential impacts to scenic vista are less than significant**.

Damage to Scenic Resources

The proposed Project is not located adjacent to or in the immediate vicinity of any state scenic highways. The proposed MDP Facilities are primarily within the road rights-of-way and disturbed agricultural areas. Areas where basins are planned are not located on elevated lands. The conceptual alignments and locations of the proposed MDP Facilities do not contain any rock outcroppings or historic buildings that are of significant visual quality; thus, implementation of the Project would not

damage any such resources. The proposed MDP Facilities are primarily within or adjacent to road rights-of-way; however, construction of MDP Facilities may require vegetation removal. Once construction of the underground facilities is complete the surface will be returned to its original condition. Overhanging trees (if present) may need to be minimally trimmed to facilitate construction of the MDP Facilities. The Caltrans Scenic Highway System does not identify any highways within Riverside County that are in the vicinity of the MDP Watershed as scenic highways. **For these reasons implementation of the proposed Project will not substantially damage scenic resources and impacts are considered less than significant.**

Degrade Existing Visual Character

The proposed Project is located in the city of Moreno Valley and in unincorporated areas of Riverside County. The portion of the Project Boundary or Project Watershed within the unincorporated area is also within Moreno Valley's Sphere of Influence. Exposed surfaces, construction debris, and construction equipment may temporarily affect the aesthetic quality of the area in immediate proximity to the construction. These impacts will be short term and will cease when construction is completed. Therefore, they are considered to be less than significant. When construction is completed, the underground storm drains will not be visible. **The open storm channels and basins will be visible, but are facilities that are aesthetically consistent with existing residential and non-residential development and therefore, will not substantially degrade the existing visual character or quality of the Project Watershed area and impacts will be less than significant.**

Light or Glare

The proposed Project Facilities will not create new or additional light or glare, either during construction or operation and maintenance; therefore, this will not conflict with any day or nighttime views in the Project Watershed. The only lighting that may be expected to be used in connection with the proposed Project would be temporary lighting used for emergency conditions; however, any such lighting would be directed towards the Project Facilities and not onto adjacent property or into the sky**. For these reasons, impacts from light and glare will be less than significant.**

4.1.2 Agriculture and Forest Resources

The following issues related to Agriculture and Forest Resources were determined to be less than significant during preparation of the IS/NOP.

Farmland Conversion

Designated Prime and Unique Farmland are located within the MDP Watershed.

Proposed storm drains are underground facilities, and as such, will not result in a permanent conversion of Important Farmland, as the facility footprint could be returned to its original condition. Proposed open channel, Line G-7 will result in a permanent change. However, construction of the proposed open channels will be primarily located within or adjacent to road rights-of-way and impacts, if any, will be negligible.

Construction and operation of the proposed Quincy Basin will result in a permanent change to Important Farmland, since it is an open facility and must be maintained in order to retain flood control capacity. The Quincy Basin is anticipated to encompass approximately 18 acres; however, approximately six acres of the western portion of the basin is mapped as Prime Farmland. According to the city of Moreno Valley General Plan Final Environmental Impact Report (MVGP FEIR), the Moreno Valley planning area has approximately 1,639 acres mapped as Prime Farmland**. Table 4-A – Moreno Valley Planning Area Important Farmland** depicts the acreage for Prime, Unique, and Farmland of Statewide Importance within the Moreno Valley planning sphere.

Table 4-A – Moreno Valley Planning Area Important Farmland

Agricultural Classification	Approximate Acreage
Prime Farmland	1,639
Farmland of Statewide Importance	330
Unique Farmland	60
Total Important Farmland	2,029
Moreno Valley Planning Area	26,820
Percentage of Moreno Valley Planning Area	7.6%

Source: City of Moreno Valley, Final Environmental Impact Report, City of Moreno Valley General Plan, Table 5.8-1, Planning Area Agricultural Resources.

In relation to the Moreno Valley planning area of 26,820 acres, approximately 7.6 percent is mapped as Important Farmland. The MVGP acknowledges that increasing pressures from surrounding urban development and economic pressures will result in the transition of agricultural areas to urban uses and includes policies to supports agriculture as an interim use (MVGP, p. 7-11). However, the MVGP Land Use Plan does not designate any land within Moreno Valley or its sphere for long-term agricultural use. Further, the EIR prepared for the MVGP determined impacts to agricultural resources from its implementation will result in significant and unavoidable impacts regarding farmland conversion, and there are no feasible mitigation measures consistent with MVGP's objectives (MVGP FEIR, p. 5.8-10). As such, the MVGP has articulated its farmland conversion and adopted a Statement of Overriding Considerations pursuant to State *CEQA Guidelines* Section 15093. To minimize zoning conflicts associated with the transition from agricultural uses to more urban uses, Moreno Valley's zoning ordinance permits agricultural crops as an allowable use in all zoning categories as long as such agricultural activities can be economically conducted (MVGP FEIR, p. 5.8-7).

The Quincy Basin is bounded by SR60 to the south, existing residential development to the west, residential and residential agricultural to the north, and an existing cell tower and mini-storage facility to the east. Therefore, pressure from existing surrounding urban development is present without the proposed revisions to the Moreno MDP. Additionally, since development can occur in the MDP Watershed under the 1991 Moreno MDP, the proposed revisions to the Moreno MDP will not exacerbate the transition to urban uses.

Implementation of this Project will be within the loss of farmland foreseen by the MVGP, and the adopted Statement of Overriding Considerations has demonstrated that economic and physical development from urbanization within Moreno Valley is the preferred long-term direction for the city's future. As such, the Project's potential impacts to farmland conversion have been considered, albeit indirectly, and determined acceptable as allowed under CEQA. Moreover, this Project provides a necessary component to best complement the anticipated growth in the MDP Watershed with flood control and water management facilities. Further, it should be recognized that a relatively small footprint of Important Farmland will be impacted by the Project, and that this Project will comply with MVGP objectives. **Therefore, potential impacts to Important Farmland are considered to be less than significant.**

Conflict with Existing Zoning/Williamson Act Contract

The California Land Conservation Act of 1965, also known as the Williamson Act, allows owners of agricultural land to have their properties assessed for tax purposes on the basis of agricultural production rather than current market value. According to the MVGP FEIR and Riverside County Land Information System, no lands within the MDP Watershed are under Williamson Act contract (MVGP FEIR, p. 5.8-6). The proposed Project does not conflict with existing zoning for agricultural use and will not affect agricultural land subject to a Williamson Act or within an Agricultural Preserve. **Therefore, no impacts are anticipated.**

Other Changes in Environment Leading to Conversion of Farmland

Construction and operation of the proposed Quincy Basin will convert approximately six acres of Prime Farmland to drainage facility uses. The open channels are not within located within Important Farmland; thus no conversion of Farmland will occur as a result of construction and operation of those MDP Facilities. Implementation of the proposed Project in conjunction with the ultimate street improvements will provide protection from the 100-year flood discharge and alleviate the primary sources of flooding within the MDP Watershed; the Project is not considered growth-inducing. **As discussed later in Section 4.1.11, indirect growth inducing impacts are considered to be less than significant for the proposed Project.**

Conflict with Zoning or Cause Rezoning of Forest Land, Timberland, or Timberland Production Zones

"Forest land," as defined in Public Resources Code (PRC) section 12220(g), is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Moreno Valley has a wide variation in soil types, terrain, and micro-climates that allow several types of vegetation communities to grow in the region. Oak Woodland is within the MDP Watershed (MVGP FEIR, Figure 5.9-2 Planning Area Vegetation Community). However, the MVGP FEIR states that non-native woodland was erroneously mapped as oak woodland vegetation communities (MVGP FEIR, p. 5.9-5). The city of Moreno Valley staff found the

woodland community to consist of non-native eucalyptus and pepper trees (MVGP FEIR, p. 5.9-11). Therefore, there is no forest land within Moreno Valley as defined by PRC.

Additionally, a portion of the MDP Watershed is in unincorporated Riverside County. Only one of the MDP Facilities will be constructed outside of Moreno Valley, the Ironwood Debris Basin. According the Riverside County Land Information System, the Ironwood Debris Basin is not within any forest land. Additionally, given that this basin is proposed to encompass approximately 1.5 acres and is located adjacent to Ironwood Avenue, it is highly unlikely the proposed location for this basin will support forest land.

"Timberland," as defined in PRC Section 4526, means land, other than land owned by the federal government and land designated as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. According to Riverside County Zoning Ordinance 348, tree crops are permitted uses in the following zones: Rural Residential (R-R), Rural Residential-Outdoor Advertising (R-R-O); One-Family Dwellings (R-1); One-Family Dwellings- Mountain Resort (R-1A), Residential Agricultural (R-A), Multiple Family Dwellings (R-2), Limited Multiple – Family Dwellings (R-2A), General Residential (R-3), Village Tourist Residential (R-3A), Mobile home Subdivision-Rural (R-T-R), all agricultural zoning (A-1, A-P, A-2, and A-D), Controlled Development Areas (W-2), and Regulated Development Areas (R-D). Only one of the MDP Facilities will be constructed outside of Moreno Valley, the Ironwood Debris Basin. Additionally, according to Title 9 of the Moreno Valley Municipal Code (MVMC), crops are permitted uses in all of its zoning. Therefore, portions of MDP Facilities will be constructed within or adjacent to property zoned for timberland according to PRC 4526. According to the Moreno Valley Planning Department, construction of MDP Facilities will not result in the rezoning of property (MV Planning). Riverside County Ordinance No. 348, Section 18.2a(b), exempts public agency projects, such as this proposed Project, from county zoning regulations and the MVMC does not prohibit infrastructure in any zoning district. Moreover, Timberland Production is defined by California Government Code Section 51104(g) as an area devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses.[1] **The areas proposed for channels and basins are not zoned for nor are they used for Timberland Production, and thus, no impacts to Timberland Production will result.**

It should be noted that, as discussed in under the subheading "Farmland Conversion," above, the ground surface will be restored to its original condition after construction of the storm drains and as such will not result in a permanent change in land use.

[1] Compatible uses are defined as any use which does not significantly detract from the use of the property for, or inhibit, growing and harvesting timber, and shall include, but not be limited to, any of the following: management for watershed; management for fish and wildlife habitat or hunting and fishing; a use integrally related to the growing, harvesting and processing of forest products, including but not limited to roads, log landings, and log storage areas; the erection, construction, alteration, or maintenance of gas, electric, water, or communication transmission facilities; grazing; a residence or other structure necessary for the management of land zoned as timberland production.

Therefore, implementation of the Project will not conflict with zoning or cause the rezoning of Forest land, Timberland, or Timberland Production zones and impacts will be less than significant.

Forest Land Conversion

See discussion under the subheading "Conflict with Zoning or Cause Rezoning of Forest Land, Timberland, or Timberland Production Zones" above. No impacts are anticipated.

4.1.3 Air Quality and Greenhouse Gas Emissions

The following issues related to Air Quality and Greenhouse Gas Emissions were determined to be less than significant during preparation of the IS/NOP. The analysis of other Air Quality and Greenhouse Gas Emissions issues is presented in Section 5.1 of the Draft PEIR.

Conflict with or Obstruct Implementation of the Applicable Air Quality Plan

The proposed Project site is within the South Coast Air Basin (Basin), which is in the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The Air Quality Management Plan (AQMP) for the Basin was established by SCAQMD to set forth a comprehensive program that will lead the Basin into compliance with all federal and state air quality standards. To achieve compliance with these standards, the AQMP establishes control measures and related emission reduction estimates that are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQMP for any given project is determined by demonstrating that such project is consistent compliance with local land use plans and/or population projections.

The proposed MDP Facilities are considered to be compatible with all zoning designations pursuant to Section 18.2.a.b of Riverside County Ordinance No. 348, which exempts public agency projects from zoning designations and with Title 9 Planning and Zoning of the MVMC, which does not prohibit storm water drainage facilities in any zoning district Thus, implementation of the proposed Moreno MDP revisions will not conflict with or obstruct implementation of the AQMP**. For these reasons there will be no impacts to the AQMP.**

Objectionable Odors

The Project presents the potential for generation of objectionable odors in the form of diesel exhaust during construction in the immediate vicinity of the proposed MDP Facilities. However, these odors will be of short-term duration and will not result in permanent impacts to surrounding land uses or sensitive receptors in the MDP Watershed. **For these reasons, implementation of the Project will result in less than significant impacts relating to objectionable odors.**

4.1.4 Cultural Resources

The following issues related to Cultural Resources were determined to be less than significant during preparation of the IS/NOP. The analysis of other Cultural Resource issues is presented in Section 5.3 of the Draft PEIR.

Human Remains

There are no cemeteries located within the MDP Watershed (Google Earth). Due to the previously disturbed condition of most of the MDP Watershed, the discovery of human remains is unlikely. The proposed Project is not expected to disturb any human remains, including those interred outside of formal cemeteries. In the unlikely event that, during construction suspected human remains are uncovered, all activities in the vicinity of the remains shall cease and the contractor shall notify the County Coroner immediately, pursuant to California Health & Safety Code Section 7050.5 and California Resource Protection Code Section 5097.98. **Therefore, potential impacts to human remains are less than significant**.

4.1.5 Geology and Soils

The following issues related to Geology and Soils were determined to be less than significant during preparation of the IS/NOP.

Earthquake Fault

An Alquist-Priolo Earthquake Fault Zone that consists of the Claremont segment of the San Jacinto Fault Zone crosses the northeast portion of the proposed MDP Watershed (Leighton, p. 5). Proposed MDP Facilities that are within the Alquist-Priolo Fault Zone are portions of Line B, B 1, B 2, C, D 1, and D 5 storm drain facilities, and the Ironwood Debris Basin. Additionally, two separate Riverside County faults, the Reche Canyon and Claremont, cross the northern portion of the proposed MDP Watershed. Proposed MDP Facilities that are within the Reche Canyon Fault Zone are portions of Line K, an open channel and storm drain system, and portions of the Reche Canyon Debris Basin. No proposed MDP Facilities are located within the Claremont Fault Zone on the eastern portion of the MDP Watershed. However, just outside the Alquist-Priolo Fault Zone lies a Claremont Fault Line which crosses portions of Line B, B-3, and C storm drain facilities.

The Project itself does not contain structures that would be inhabited by humans; and thereby, will not expose persons directly to substantial adverse effects from ground shaking. Detention basin failure, as a result of ground shaking, could indirectly expose humans and structures to adverse effects such as flooding, if it were to occur during periods of high water in the basins. However, the probability is low due to the short duration of flood water storage within the basins (less than 72 hours) and the absence of large embankments to store large enough quantities of water to cause flooding.

In addition, the proposed Project Facilities will be designed and constructed to withstand expected ground shaking levels and potential soil instability. A geotechnical report will be prepared as part of the final design for the individual MDP Facilities. All recommended measures outlined by the geotechnical engineer in the geotechnical report will be incorporated into the final design and construction of the MDP Facilities. **Therefore, at a programmatic level, potential impacts to people or structures due to seismic hazards are considered less than significant**.

Seismic Ground Shaking

See Section 4.1.5.1, above. Impacts will be less than significant.

Liquefaction

According to the MVGP, liquefaction is not considered to be a local hazard since groundwater levels in Moreno Valley are far below the surface (MVGP p. 6-19). However, portions within the MDP Watershed are underlain with young alluvial fan deposits that lie within a moderate liquefaction hazard zone (Leighton, p. 6). The proposed Project Facilities will be designed and constructed to withstand expected ground failure, including liquefaction. Facility-specific geotechnical reports will be prepared as part of the final design for the individual Project Facilities. All recommended measures outlined by the geotechnical engineer in the geotechnical report will be incorporated into the final design and construction of the Project Facilities.

Additionally, the proposed Project does not provide habitable structures. The District's routine inspection and maintenance activities will ensure that the local Project Facilities are repaired if damage does occur during a seismic-related ground failure, including liquefaction. **Therefore, the Project is anticipated to have a less than significant impact**.

Landslides

The Project site is relatively flat, with an elevation ranging of approximately 1,500 feet to 2,400 feet above mean sea level. Loose rocks might roll down mountain slopes during strong ground shaking, specifically the granitic boulders on the mountains located at the northern and southern margins of the MDP Watershed (MVGP, p. 6-19). However, the Project is not located on a hillside and will be installed at or below the ground surface. Regarding mudflows from the canyons, the two proposed debris basins will entrap mud, rocks, and sediments, within the Moreno MDP. This will allow only relatively desilted water to continue downstream within the Moreno MDP. Additionally, the proposed Project does not provide habitable structures. **Therefore, potential impacts to people or structures due to landslides or mudflows are anticipated to have a less than significant impact.**

Soil Erosion

The proposed MDP Facilities are generally located at or below ground surface and would not entail substantial changes in topography or create unstable soil conditions. The primary components of the Project will reduce erosion. The proposed Project has the potential to result in the short-term loss of top soil during construction due to runoff and soil erosion. This will be minimized, however, by compliance with the National Pollutant Discharge Elimination System (NPDES) general construction permit, which requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared before construction activities and implemented during construction activities. **The SWPPP will incorporate applicable Best Management Practices (BMPs) to minimize the loss of topsoil or substantial erosion, thus, potential impacts are considered less than significant.**

Unstable Geologic Unit or Soil

Based on published geologic maps, the Moreno MDP Watershed is underlain by several surficial deposits and/or bedrock units. The major surficial deposits and bedrock units that are most likely to be encountered are the following: young alluvial-fan deposits (Qyf), old alluvial-fan deposits (Qof), very old alluvial-fan deposits (Qvof), landslide deposits (Qls), San Timoteo formation (Tss), granitic crystalline rocks-undifferentiated (gr), and heterogeneous granitic rocks (Khg) (Leighton, pp. 2 and 3). The proposed Project Facilities are mostly underlain by young and old alluvial deposits (Leighton, Figure 2). Alluvial soils can be unstable in that they can be prone to liquefaction, landslides, lateral spreading, collapse, and subsidence. Lateral spreading, subsidence, and collapse are discussed in this section. **Potential impacts regarding landslides and liquefaction are found to be less than significant as discussed in under the subheadings "Liquefaction and Landslides."**

The phenomenon of liquefaction may also produce lateral spreading of soils adjacent to a body of water or watercourse (Lake Perris and other water retention basins). Lateral spreading is therefore considered a liquefaction-induced ground failure whereby block(s) of surficial, intact natural or artificial fill soils displace laterally, downslope, or towards a free face along a shear zone that has formed within the liquefied sediment. The displacement of the ground surface associated with this lateral spreading may be on the order of several inches to several feet at the top of the slope and may affect areas well beyond the top-of-slope. Developments located further from the lake, retention basins, or drainage courses are anticipated to be at less risk from lateral spreading (Leighton, p. 7).

Subsidence is a lowering or collapse of the ground. Ground fissuring typically develops along previous established planes of weakness such as active and possibly potentially active fault traces as well as along steep buried contacts between bedrock to recent alluvial soils. The active San Jacinto fault may develop fissuring along the fault trace during a significant seismic event or groundwater elevation change (Leighton, p. 6).

Collapsible soils are those that appear to be strong and stable in their natural (dry) state, but which can rapidly consolidate under wetting, generating large and often unexpected settlements. This collapse (or sometimes referred to as 'hydro-collapse') potential can be evaluated in the laboratory on undisturbed soil samples in accordance with ASTM Test Method D4546. Based on past projects in this area, the near surface alluvial soils (upper 10 to 20 feet) are potentially 'hydro-collapsible' (up to 10 percent collapse/vertical settlement). Therefore, the facility-specific geotechnical reports prepared during the design phase for the individual MDP Facilities that are located within areas containing upper/near surface alluvial fan deposits, shall include an investigation of the potential for 'hydro-collapse' within the upper 10 to 20 feet of soil and identify what, if any, measures or design considerations are required (Leighton, p. 8).

Therefore, the proposed MDP Facilities will be designed and constructed to withstand lateral spreading, subsidence, collapsible soils, and any other potential soil instability. Facility-specific geotechnical reports will be prepared as part of the final design for the individual MDP Facilities. All recommended measures outlined in the facility-specific geotechnical reports will be incorporated into the final design and

construction of the Project Facilities. **Therefore, at a programmatic level, potential impacts to life or property due to unstable soils are considered less than significant.**

Expansive Soil

Expansive soils are those that expand when water is added, and shrink when they dry out. Based on past projects within specific areas of the Project, expansive soils may be encountered within the young and old alluvial deposits. The Expansion Index (EI) of such soils is expected to vary from one location to another. However, soils with an EI greater than 51 per ASTM Test Method D4829, can be found locally within the interbedded silt and clay layers and be a significant impact to drainage structures (lined channels or box culverts) if found at foundation or below grade levels (Leighton, p. 8).

However, because facility-specific geotechnical reports will be prepared during the design phase for the individual MDP Facilities and the recommendations of such geotechnical reports will be incorporated into the Facilities' designs, the proposed MDP Facilities will be designed and constructed to withstand expansive soil and potential soil instability. **Therefore, at a programmatic level, potential impacts to life or property due to expansive soil are considered less than significant.**

Soils Incapable of Adequately Supporting Structures, Fill or Other Improvements

The proposed MDP Facilities consist of detention basins, debris basins, soft- and hard-bottomed channels, and underground storm drains. The proposed MDP Facilities do not include any other structures, fill, or other improvements that would require supporting soils. **Therefore, no impacts are anticipated.**

4.1.6 Hazards and Hazardous Materials

The following issues related to Hazards and Hazardous Materials were determined to be less than significant during preparation of the IS/NOP.

Routine Transport

During construction and future maintenance, some potential hazardous materials such as fuel, herbicides and pesticides will be used. These materials will be used in accordance with standard safety measures and regulations. Such measures and regulations are under the jurisdiction of numerous federal, state, and local agencies. At the federal level, such agencies and legislation include Environmental Protection Agency; Occupational Safety and Health Administration; Resource Conservation and Recovery Act; Hazardous Materials Transportation Act; Hazardous and Solid Waste Amendments Act; Comprehensive Environmental Response, Compensation, and Liability Act; Superfund Amendments and Reauthorization Act; Emergency Planning and Community Right-to-Know; and Code of Federal Regulations Titles 10, 29, 40, and 49. At the state level, such agencies and legislations include, but are not necessarily limited to: State Occupational Safety and Health Administration; California Environmental Protection Agency; Department of Fish and Game; Department of Transportation; Department of Toxic Substances Control; Air Resources Board; Regional Water Quality Control Board; Office of Emergency Services; State Office of Environmental Health Hazard Assessment; Hazardous

Material Management Act; Hazardous Waste Control Law; Emergency Services Act; Hazardous Materials Storage and Emergency Response; Safe Drinking Water and Toxic Enforcement Act of 1986; and the California Code of Regulations. Lastly, at the local level there is the Riverside County Hazardous Waste Management Plan. **Therefore, there will not be a significant hazard to the public or environment from the proposed Project.**

Release of Hazardous Materials

See the discussion under the subheading "Routine Transport," above**. Impacts will be less than significant.**

Vicinity of a School

The MDP Watershed is within Moreno Valley Unified School District and Val Verde Unified School District (MVGP, Figure 2-3, School District Boundaries). Because of the size of the MDP Watershed, the proposed Project Facilities will be within one-quarter mile of five existing schools, as identified below on **Table 4-B – Schools Along/Adjacent Proposed MDP Facilities**. Only one of the MDP Facilities will be constructed outside of Moreno Valley, the Ironwood Debris Basin, which has no schools located within a one-quarter mile (Google Earth).

Table 4-B – Schools Along/Adjacent Proposed MDP Facilities

School	Location
Moreno Elementary School	26700 Cottonwood Avenue
Ridge Crest Elementary School	28500 John F. Kennedy Drive
Landmark Middle School	15261 Legendary Drive
Mountain View Middle School	13130 Morrison Street
Valley View High School	13135 Nason Street
Source: Moreno Valley General Plan Final Environmental Impact Report, Table 5.13-2 Moreno Valley Unified School District Schools and Table 5.13-3 Val Verde Unified School District Schools, pp. 5.13-8 and 5.13-9.	

Since hazardous materials will be handled in accordance with applicable regulations as discussed in the response under the subheading "Routine Transport," above, potential impacts resulting from hazardous emissions, materials, and wastes will be less than significant.

Hazardous Materials Site

According to the environmental regulatory database search that was performed by EDR, dated September 20, 2011. Sites identified within one mile of the proposed Project were evaluated for their potential to be encountered and/or unearthed during construction of proposed MDP Facilities. Seventy (70) sites were recorded on 24 database lists, but often individual sites are included on multiple lists. Of the 70 recorded sites, 21 are along or adjacent to the proposed MDP Facilities, as described below in

Table 4-C – Hazardous Materials Sites Along/Adjacent Proposed MDP Facilities. EDR's full report listing all of the identified sites is included as Appendix B to the IS/NOP, which is Appendix A of this Draft PEIR.

Table 4-C – Hazardous Materials Sites Along/Adjacent Proposed MDP Facilities

Site Address	Federal, State, and Local Databases	Description
O' Connell Calvin Motorsports 28411 Black Oak St	HAZNET	This site had waste oil and mixed oil disposed of through a recycler program.
11-150 Redlands Blvd	ERNS and CHMIRS	25 gallons of waste oil found abandoned at a park on 9/29/00. Waste contained by Riverside Co. Fire Department.
Hud Intown Properties 11266 Weber Ave	HAZNET	This site had household waste disposed of through a recycler program.
29305 Highland Blvd	CDL	Site where an illegal drug lab was operated or drug lab equipment and/or materials were stored.
11630 Redlands Blvd	CHMIRS and CDL	Site where an illegal drug lab was operated. Three 55-gallons drums of assorted hazardous drug waste, chemicals and trash was cleaned up by a contractor.
Sunnymead Poultry Ranch 29170 Ironwood Ave	HIST CORTESE, LUST, and HAZNET	This site had waste oil and mixed oil disposed of through a recycler program. An underground storage tank leak was reported on 3/30/94 of potential contaminants of diesel and gasoline affecting soil. Case was closed with no further action letter on 8/19/94.
Delbert Waddell 12170 Theodore St	HAZNET	This site had tank bottom waste disposed of through a recycler program.
12264 Redlands Blvd	CDL	Site where an illegal drug lab was operated or drug lab equipment and/or materials were stored.
Leni Axup 28011 White Sand Trail	HAZNET	This site had waste oil, mixed oil, and liquids with halogenated organic compounds >=1,000 mg/l disposed of through a recycler program.
United Housing 12472 Prairie Wind Trail	HAZNET	This site had household waste disposed of through a recycler program.
Icne Contractors 28900 Spruce Ave	HAZNET	This site had unspecified aqueous solution disposed of through a recycler program.

Site Address	Federal, State, and Local Databases	Description
Kern Ranch 12520 Redlands Blvd	HAZNET	This site had asbestos containing waste and other inorganic solid waste disposed of through a recycler program.
Highland Fairview Properties 12520 Redlands Blvd	HAZNET	This site had off-specification, aged or surplus organics, unspecified organic liquid mixture, other organic solids, and unspecified aqueous solution disposed of through a recycler program.
28885 Fir St	CHMIRS	Drug lab bust by S.O. on 10/12/98. Drug lab waste was cleaned up by DTSC and S.O.
Eucalyptus High School #5 Site Eucalyptus Ave and Redlands Blvd	SCH and ENVIROSTOR	This site is a proposed or existing school and is being evaluated by DTSC for possible hazardous materials contaminations. Site entered into mitigation and brownfield reuse program addressing past use of agricultural orchards and row crops. School completed Preliminary Endangerment Assessment Report and Workplan receiving no further action on 02/06/07.
Eastern Municipal Water District 13400 Redlands Blvd	CA FID UST and SWEEPS UST	Has two active underground storage tanks since 10/29/92 containing motor oil. Additionally, an underground storage tank that holds waste oil since 10/29/92. No leaks reported.
Huston Fergurson Apiaries 27913 Cottonwood Ave	HAZNET	This site had unspecified organic liquid mixture disposed of through a recycler program.
Alessandro Blvd and Redlands Blvd	ERNS and CHMIRS	Two abandoned 5-gallon buckets found next to the road on 12/13/11. Waste cleaned up by County Health.
Easter Market at 29010 Alessandro Blvd	LUST, UST, SWEEPS UST, HAZNET, and CA FID UST	Has four active underground storage tanks since 10/29/92 containing two regular unleaded and two leaded fuel. No leaks reported. An underground storage tank leak was reported on 3/30/05 of potential contaminants of gasoline affecting soil. Case was completed and closed on 10/5/05. This site had other organic solids disposed of through a recycler program.
14101 Oliver St	CDL	Site where an illegal drug lab was operated or drug lab equipment and/or materials were stored.

Site Address	Federal, State, and Local Databases	Description
EF Aranda's Mobile Maintenance Mechanic 28993 Maltby Ave	HAZNET	This site had waste oil and mixed oil disposed of through a recycler program.
Dr Horton 27000 Cactus Ave	HAZNET	This site had latex waste disposed of through a recycler program.
Riverside County Regional Medical Center 26520 Cactus Ave	HAZNET, UST, RCRA-LQG, and FINDS	This hospital is a large quantity generator that generates 1,000 kg or more of hazardous waste during any calendar month. Hazardous waste includes barium, silver, a corrosive waste, and an ignitable waste. There are no reported violations found. Also, this site has photochemicals / photoprocessing waste, laboratory waste chemicals, unspecified organic liquid mixture, empty containers less than 30 gallons, off-specification, aged or surplus organics, and other waste disposed of through a recycler program. A record of one underground storage tank is listed; however, no mention of its contents or of a reported spill.

DTSC = Department of Toxic Substances Control. S.O. = Special Operations.

Federal Databases: ERNS = Emergency Response Notification System. FINDS = Facility Index System. RCRA-LQG = Resource Conservation and Recovery Act-Large Quantity Generators.

State and Local Databases: CA FID UST = Facility Inventory Database. CDL = California Drug Labs. CHMIRS = California Hazardous Material Incident Report System. ENVIROSTOR = DTSC's Site Mitigation and Brownfields Reuse Program Database. HAZNET = Hazardous waste manifests received by DTSC. HIST CORTESE: List designated by DTSC, Integrated Waste Board, and State Water Resource Control Board. LUST = Leaking Underground Storage Tank Incident Reports. SCH = Proposed and existing school sites being evaluated by DTSC. SWEEPS UST = Statewide Environmental Evaluation and Planning System. UST = Underground Storage Tank.

Based on the information provided in the EDR report these sites do not pose a potential significant hazard to the public or environment. Most of records are listing of sites that have participated in hazardous waste recycling. Those sites with previous leaking storage tanks have been closed with no further action. Therefore, the proposed Project Facilities do not pass through a known contaminated site that would create a significant hazard to the public or the environment. The majority of the proposed Project will be constructed within rights-of-ways and other previously disturbed areas. **Therefore, there will not be a significant hazard to the public or environment from the proposed Project.**

Vicinity of an Airport

The closest public or private airport to the Project site is March Joint Air Reserve Base which is located approximately 2.5 miles west of the Project site. However, the Moreno Watershed lies outside of the

airport influence area boundary. Therefore, the Project would not result in a safety hazard for people working within the MDP Watershed. **No impacts are anticipated.**

Vicinity of Private Airstrip

See the discussion under the subheading "Vicinity of an Airport," above**. No impacts are anticipated.**

Emergency Response/Evacuation Plan

Any potential hazard in Moreno Valley resulting from a manmade or natural disaster may result in the need for evacuation. The Emergency Management Office within the Moreno Valley Fire Department prepares the Emergency Operations Plan (EOP) and uses the Standardized Emergency Management System when responding to emergencies. The EOP identifies resources available for emergency response and establishes coordinated action plans for specific emergency situations including earthquake, fire, major rail and roadway accidents, flooding, hazardous materials incidents, terrorism, and civil disturbances, etc. (EOP, p. 5).

However, implementation of the proposed Project will not reconfigure current roadways that would result in inadequate emergency access. Construction of certain Project Facilities may require temporary closure of a travel lane; however, access will be maintained throughout the construction activities. Additionally, when the proposed Project is constructed in conjunction with the ultimate street improvements, the Project will provide protection from the 100-year flood discharge and alleviate the primary sources of flooding within the MDP Watershed. **Therefore, the proposed Project will not impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts will be less than significant.**

Wildland Fires

Reche Canyon Debris Basin and Line K will be in a very high fire risk area and Ironwood Debris Basin in a substantial fire risk area as identified in the MVGP FEIR (**Figure 5.5-2, Floodplains and High Fire Hazard Areas**). However, the Project is primarily within urbanized areas and will not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Additionally, the Moreno MDP Facilities transport flood waters and will be impervious to damage from wildland fires. **Impacts will be less than significant.**

4.1.7 Hydrology and Water Quality

The following issues related to Hydrology and Water Quality were determined to be less than significant during preparation of the IS/NOP. The analysis of other Hydrology and Water Quality issues is presented in Section 5.4 of the Draft PEIR.

Alter Drainage Pattern & Soil Erosion

The Project proposes two debris basins that will entrap mud, rocks, and sediments within the Moreno MDP. This will allow only relatively desilted water to continue downstream within the Moreno MDP. As discussed previously under the subheading "Soil Erosion," the proposed Project has the potential to

result in the short-term loss of top soil during construction due to runoff and soil erosion. This will be minimized, however, by compliance with the NPDES General Construction Permit which requires that a SWPPP be prepared before construction activities and implemented during construction activities. **The SWPPP will incorporate applicable BMPs to minimize the loss of topsoil or substantial erosion; thus, potential impacts will be less than significant.**

Exceed the Capacity of Storm Water Drainage Systems

The proposed Project will be designed to prevent the overflow of existing and proposed MDP Facilities through the design and construction of new and/or revised facilities**. Impacts will be less than significant.**

Place Housing Within a 100-Year Flood Hazard Area

No housing is proposed as part of the Project; therefore, no impacts are anticipated.

Failure of a Levee or Dam

Dam inundation is a potential flood hazard within portions of the Moreno Valley planning area. This condition is based on the assumption of instantaneous failure of a dam with the reservoir at or near its full capacity. Two locations of concern are Poorman Reservoir (Pigeon Pass Reservoir) and Lake Perris. Failure of the dam at Poorman Reservoir could result in extensive flooding downstream. However, the reservoir does not retain water throughout the year and the risk of flooding due to dam failure is limited to the period during and immediately after major storms. (MVGP FEIR, p. 5.5-6) Failure of the dam at Lake Perris would only affect a very small area south of Nandina Avenue along the Perris Valley Storm Drain and the Mystic Lake area in the southeast corner of the planning area (MVGP FEIR, p. 5.5-4). Both of these locations are outside of the Moreno Watershed.

Additionally, the primary purpose of the proposed Project is to control flooding associated with storm water runoff within the MDP Watershed. The proposed basins are expected to be primarily constructed below the existing ground surface. When embankments are required, they will be designed and constructed in accordance with standard engineering and seismic criteria to minimize the risk of failures. The proposed Project does not include construction of a levee or dam. Standard inspection and maintenance activities will ensure that any damaged facilities are repaired. Finally, the proposed basins would mostly be incised, with a maximum embankment height of approximately six feet, and would only impound floodwaters temporarily during large and infrequent storm events. Moreover, floodwaters in contact with that portion of the basin embankment would have a maximum drawdown time of approximately 24-hours. Thus, the likelihood of flooding due to a failure from an earthquake while the basins contain storm water is remote, since the bulk of storm water would be below ground level. **Potential impacts to people or structures from flooding as a result of a levee or dam failure is less than significant.**

Inundation by Seiche, Tsunami or Mudflow

The Project is not located within an area that would be subjected to seiche, tsunami, or mudflow. As discussed under the subheading "Failure of a Levee or Dam," above, the proposed basins will only store floodwaters temporarily during large and infrequent storm events thus limiting the potential for inundation that would impact people or structures. **Additionally, the proposed basins will be designed and constructed to District standards, which require slopes adjacent to storm water impoundment areas to be stable during storm events. Impacts will be less than significant.**

4.1.8 Land Use and Planning

The following issues related to Land Use and Planning were determined to be less than significant during preparation of the IS/NOP.

Divide Established Community

Underground storm drains by their very nature, do not divide communities. While open channels can divide communities, crossings for traffic, pedestrians, and wildlife will be provided to retain the connections from one side of the channel to the other. For these reasons, no impacts are anticipated.

Conflict with Land Use Plan, Policy or Regulation

The MDP Watershed lies within an area designated by MVGP as Residential (R1, R2, R3, R5, R10, R15, R5/15, and R20), Rural Residential, Hillside Residential, Residential/Office, Office, Commercial, Business Park/Light Industrial, Open Space, Floodplain, and Public Facilities land uses. The MDP Watershed lies within an area designated by Riverside County as Rural Residential, Rural Mountainous, Rural Community-Very Low Density Residential, Conservation Habitat, Open Space Rural, and Open Space Recreation land use designations. Installation of the proposed MDP Facilities would not affect the surrounding land use designations or other policies or regulations. In addition, Riverside County Ordinance No. 348, Section 18.2a(b), exempts public agency projects, such as this proposed Project, from County zoning regulations and the MVMC does not prohibit infrastructure in any zoning district. **For these reasons, no impacts are anticipated.**

4.1.9 Mineral Resources

The following issues related to Mineral Resources were determined to be less than significant during preparation of the IS/NOP.

Known Mineral Resource

According to the Riverside County General Plan, the proposed MDP Watershed is located within an area designated as Mineral Resource Zone-3 (MRZ-3), as determined by the State Mining and Geology Board (SMGB). This mineral resource zone includes areas where the available geologic information indicates that mineral deposits exist, or are likely to exist; however, the significance of the deposit is undetermined. According to the MVGP, the planning area does not have significant mineral resources (MVGP, p. 5.14-1). Additionally, there is only one inactive sand and gravel quarry on record within Moreno Valley, the Jack Rabbit Canyon Quarry near Quail Ranch Golf Course which is outside the MDP

Watershed (MVGP, pp. 4-4 and 7-14). The proposed Project Facilities are primarily within the road rights-of-way located at or below ground surface and will not preclude significant area from being mined, if resources occur. **The proposed Project is not located on a known important mineral resource recovery site; therefore, no impacts are anticipated**.

Locally Important Mineral Resource

See discussion in Section 4.1.9.1, above. **No impacts are anticipated.**

4.1.10 Noise

The following issues related to Noise were determined to be less than significant during preparation of the IS/NOP. The analysis of other Noise issues is presented in Section 5.5 of the Draft PEIR.

Permanent Ambient Noise

The increased noise levels associated with construction activities will not be permanent. Maintenance activities will be infrequent and short-term in nature and would not permanently increase noise levels in the MDP Watershed. Therefore, operation of the proposed Project will not create a substantial permanent increase in ambient noise above levels which already exist without the Project**. Impacts will be less than significant.**

Vicinity of Airport Plan

The MDP Watershed is not located within the vicinity (or within two miles) of a public airport or public use airport and lies outside of the airport influence area boundary. Additionally, as the Project will not result in the construction of new places of employment or residences, the Project will not involve placing people in a noisy environment near an airport or private airstrip. **For these reasons, no impact will occur.**

Vicinity of Private Airstrip

The closest airport is March Joint Air Reserve Base which is located approximately 2.5 miles west of the MDP Watershed. **The proposed Project is not located within two miles of a private airstrip; therefore, no impact will occur.**

4.1.11 Population and Housing

The following issues related to Population and Housing were determined to be less than significant during preparation of the IS/NOP.

Induce Population Growth

Implementation of the proposed Project will not directly induce substantial population growth, as it does not include the construction of homes or businesses. A project could indirectly induce growth by removing barriers to growth, by creating a condition that attracts additional population or new economic activity, or by providing a catalyst for future unrelated growth in an area. While a project may have a potential to induce growth, it does not automatically result in growth. Growth can only happen

through capital investment in new economic opportunities by the public or private sectors. The land use policies established by Moreno Valley will regulate growth in the MDP Watershed. Growth induced by a project is considered a significant impact if it directly or indirectly affects the ability of agencies to provide needed public services, or if can be demonstrated that the potential growth significantly affects the environment in some other way.

Implementation of the MVGP land use policies and proposed developments will increase the need for storm drainage facilities and infrastructure contained in the proposed Project. The proposed MDP Facilities have been designed to convey storm water flows from areas planned for urban development within Moreno Valley. The MDP Watershed currently experiences periodic flooding due to the relatively flat topography of the area, and the inadequacy of the existing Moreno MDP Facilities. The proposed Project includes Project Facilities designed to attenuate peak-flow rates and create a more efficient storm water drainage system. Though the Project would alter the flow velocity and volume of storm water flows, the proposed Moreno MDP will result in decreased flood potential in the MDP Watershed. This is because the Moreno MDP Facilities have been sized in a comprehensive manner that takes into account the existing and proposed land uses within the proposed Moreno MDP Watershed. When constructed in conjunction with the ultimate street improvements, the Project will provide protection from the 100-year flood discharge and alleviate the primary sources of flooding within the Moreno MDP Watershed.

Additionally, the MVGP FEIR addressed potential impacts involving growth inducement from the implementation of policies and land use designations set forth in the MVGP. It was concluded that adoption and implementation of the MVGP would not indirectly induce substantial population growth through increased residential and non-residential development. This is because, the rate of population and housing growth resulting from the implementation of the MVGP, "would not differ substantially from recently experienced growth rates." (MVGP FEIR, p. 5.12-2.) **Therefore, potential indirect impacts to population growth within the Moreno Watershed are considered less than significant.**

Displace Existing Housing

The Project does not propose the displacement of any persons or housing, or necessitate the construction of replacement housing elsewhere. **No impacts are anticipated.**

Displace People

See discussion under the subheading "Displace Existing Housing," above. **For these reasons, no impacts are anticipated.**

4.1.12 Public Services

The following issues related to Public Services were determined to be less than significant during preparation of the IS/NOP.

Fire Protection

The nature of this Project generally does not require fire protection and will not necessitate the construction of new facilities or increase the demand on fire services. **Therefore, no impacts are anticipated**.

Police Protection

The nature of this Project generally does not require police protection and will not necessitate the construction of new facilities or increase the demand on police protection services. **Therefore, no impacts are anticipated.**

Schools

The nature of this Project generally does not require school services and will not necessitate the construction of new facilities or increase the demand on schools. **Therefore, no impacts are anticipated.**

Parks

The nature of this Project generally does not require park services and will not necessitate the construction of new facilities or increase the demand on park services. Although, proposed MDP Facilities are within one-quarter mile of five parks, as identified below on **Table 4-D – Parks Along/Adjacent Proposed MDP Facilities** (MVGP FEIR and Google Earth), MDP facilities are not proposed to cross these parks. **Therefore, no impacts are anticipated.**

Table 4-D – Parks Along/Adjacent Proposed MDP Facilities

Park	Location
Morrison Park	26667 Dracaea Ave.
Moreno Valley Equestrian Park and Nature Center	11150 Redlands Blvd.
Ridge Crest Park	28506 John F. Kennedy Dr.
Vista Lomas Park	26700 Iris Ave.
Celebration Park	14875 Caliente Dr.
Source: Moreno Valley General Plan Final Environmental Impact Report, Table 5.13-4 Existing Parks and Recreational Facilities, pp. 5.13-13 and 5.13-14.	

Other Public Facilities

There are no other public facilities that would be adversely impacted by implementation of the proposed Project. **Therefore, no impacts are anticipated.**

4.1.13 Recreation

The following issues related to Recreation were determined to be less than significant during preparation of the IS/NOP.

Increased Use of Existing Facilities

The proposed Project does not involve new housing or employment opportunities that would directly generate users which would result in an increased use of existing parks or recreational facilities. **Therefore, no impacts are anticipated.**

Construction/Expansion of New Facilities

The proposed Project does not include recreational facilities or involve the construction of housing or creation of employment opportunities that would directly generate users that would result in a need for construction or expansion of recreational facilities **Therefore, no impacts are anticipated.**

4.1.14 Transportation and Traffic

The following issues related to Transportation and Traffic were determined to be less than significant during preparation of the IS/NOP.

Conflict with an Adopted Plan

The MVGP Circulation Element identifies Level of Services standards "C" and "D" within the City of Moreno Valley roadway network. The exceptions to this standard are primarily located on Perris Blvd., Cactus Ave., and Frederick St./Pigeon Pass Rd. in the vicinity of SR 60 (MVGP, pp. 5-3–5-5).

The Riverside Transit Agency (RTA) has existing bus routes along Eucalyptus Avenue, Alessandro Avenue, Cactus Avenue, Iris Avenue, Nason Street and Moreno Beach Boulevard, portions of which lie within the Moreno Watershed. Currently, the locations of facilities in the MDP are conceptual. The Riverside County Flood Control District, Moreno Valley, and/or future developers of the Project Facilities will coordinate with the RTA during the final design stages of the Project Facilities. The MVGP does not identify any service standards for public transit or bikeway systems (MVGP, pp. 5-3–5-5).

The proposed Project is not a traffic-generating use. Temporary truck traffic will be incrementally increased on area roadways during the construction period. Ongoing maintenance will involve infrequent visits to the site, likely utilizing a light truck; however, this will not contribute to any significant increase in traffic on area roadways. Since the Project will not cause an increase in traffic that is considered substantial in relation to the existing traffic load and capacity of the street system, less than significant impacts are anticipated. Therefore, the Project does not include any factor that would cause a conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. This includes all modes of transportation, taking into account mass transit and non-motorized methods of travel. **Impacts will be less than significant.**

Conflict with an Adopted Congestion Management Program

As described in Section 4.1.14.1, the MVGP Circulation Element identifies Level of Services standards "C" and "D" within the city of Moreno Valley roadway network (MVGP, pp. 5-4–5-5).

The city of Moreno Valley complies with the 2010 Congestion Management Program (CMP) that has been put in place by the Riverside County Transportation Commission (RCTC) (MVGP, p. 5-3). A portion of the proposed Project (Lines G-3, G-4, and F-2) is planned to be constructed near a CMP designated State Highway facility; however, this will not affect traffic along the highway.

There are no components of the proposed Project that would cause a substantial permanent increase in traffic, which would result in an individual or cumulative exceedance of an established level of service standard. There will be a temporary increase in trips associated with construction of the Project Facilities, and there will be a minor increase in trips associated with ongoing maintenance of the Project Facilities. Therefore, with respect to a Project-specific exceedance, either individually or cumulatively, of an established level of service standard, less than significant impacts are expected. Additionally, for the same reasons, the proposed Project will not conflict with the CMP, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways will occur as a result of the proposed Project. **Impacts will be less than significant.**

Design Feature Hazards

The proposed Project does not include any component that would alter existing roadway design features. The proposed Project does not include any component that would introduce new hazards to design features since the Project does not propose any new roadways. The Project is not proposing a new use that could introduce incompatible elements to area roadways. **Therefore, with respect to substantially increasing hazards due to a design feature or incompatible uses, no impact is anticipated.**

Inadequate Emergency Access

Construction of the proposed Project will not reconfigure current roadways that would result in inadequate emergency access. Construction of certain Project Facilities may require temporary closure of a travel lane; however, access will be maintained throughout the construction activities**. Therefore, impacts will be less than significant.**

Inadequate Parking

Adequate construction parking will be provided through construction staging areas to accommodate employee and construction vehicles. Once construction is completed the Project does not need parking. **Therefore, no impacts are anticipated.**

Alternative Transportation

The proposed Project will not reconfigure any roadways or alternative transportation services. Proposed Project Facilities are within 100 feet of four Riverside Transit Agency (RTA) bus routes, Route 20, 35, 41, and 210 (RTA). Although construction of Project Facilities may require temporary closure of a traffic lane, such closure would be temporary and road access would be maintained or a detour provided. If access to a RTA bus route will be affected, then the party constricting the facility (e.g., District, Moreno

Valley, and/or private developer) would be required to coordinate with RTA in advance to maintain service in the area. **Therefore, impacts to alternative transportation services from the Project are considered less than significant.**

4.1.15 Utilities and Service Systems

The following issues related to Utilities and Service Systems were determined to be less than significant during preparation of the IS/NOP.

Electricity

The nature of this Project generally does not require electricity services and will not necessitate the construction of new facilities or increase the demand for electricity services**. Therefore, no impacts are anticipated.**

Natural Gas

The nature of this Project generally does not require natural gas services and will not necessitate the construction of new facilities or increase the demand for natural gas services**. Therefore, no impacts are anticipated.**

Communication System

The nature of this Project generally does not require communication system services and will not necessitate the construction of new facilities or increase the demand for communication system services. **Therefore, no impacts are anticipated.**

Street Lighting

The nature of this Project generally does not require street lighting services and will not necessitate the construction of new facilities or increase the demand for street lighting services. **Therefore, no impacts are anticipated.**

Public Facilities

There are no other public facilities that would be adversely impacted by implementation of the proposed Project. **Therefore, no impacts are anticipated.**

New Storm Water Drainage Facilities

This Project is the result of the Moreno Watershed developing with a much higher density than originally anticipated, therefore, prompting the Flood Control and Water Conservation District to revise the master plan adopted in April 1991. The potential environmental impacts (such as those to biological resources, air quality, cultural resources) from implementation of the proposed Project are addressed within each respective issue in this Draft PEIR.

The construction of new or expanded non-Project Facilities may be needed. However, because the location, type, and size of such non-Project Facilities are not known at this time, they cannot be

addressed in this Draft PEIR. A separate CEQA review will be required for any non-Project Facilities that will connect to the proposed Project Facilities in the future. **Therefore, impacts are less than significant.**

Sufficient Water Supplies

The proposed Project does not involve activities that will require new or expanded permanent water supplies. Construction of the proposed Project Facilities will necessitate short-term water use in order to provide for dust control. **Therefore, impacts are less than significant.**

Adequate Wastewater Treatment Capacity

The proposed Project would not generate wastewater. No new wastewater facilities are required as a result of the proposed Project. **Therefore, no impacts are anticipated.**

Sufficient Landfill Capacity

The proposed Project would not generate solid waste and will not require landfill service on a long-term basis. Construction waste will be limited to trash generated by construction crews plus minimal debris created during maintenance of Project Facilities. Demolition of existing structure may be necessary. Local landfills that have sufficient capacity to accept construction materials include the Riverside County Waste Management Department's Badlands Landfill, located approximately 1.5 miles north of State Route 60 near Ironwood Avenue and Theodore Street (MVGP FEIR, p. 5.13-35). The Badlands Landfill currently has a permitted maximum disposal capacity of 4,000 tons per day (CalRecycle Badlands) and received approximately 1,638 tons of waste per day in October 2011 (CalRecycle Badlands Tonnage). The remaining estimated capacity at Badlands Landfill is 43.9 percent with an expected closure date in 2024 (CalRecycle Badlands). Additionally, other County landfills in the area such as El Sobrante and Lambs Canyon Landfill can also serve the Project (MVGP FEIR, p. 5.13-35). **For these reasons impacts would be less than significant.**

Solid Waste Regulations

As discussed above, the proposed Project will not generate large quantities of solid waste on a long-term basis. The disposal of construction waste will comply with all federal, state, and local status and regulations related to solid waste. Potential impacts will be less than significant.

4.2 Notice of Preparation Comment Letters

The public review period for the IS/NOP began on April 3, 2012, and ended on May 2, 2012; and a public scoping meeting was held on April 19, 2012, at Moreno Valley City Council Chambers, 14177 Frederick Street, Moreno Valley, California 92552. The agencies and interested parties that commented on the IS/NOP or at the scoping meetings, and a brief summary of the issues raised are presented in **Table 4-E – Comments Received in Response to the Notice of Preparation**. Copies of the comment letters are included in Appendix A.

Table 4-E –Comments Received in Response to the Notice of Preparation

Commenter	Location in Draft PEIR where Comment is Addressed
Written comments received on the IS/NOP	
California Department of Fish and Wildlife (CDFW)[2]	CDFW's concerns regarding biological resources are addressed in Section 5.2 – Biological Resources. Cumulative impacts are analyzed in Section 5.2 – Biological Resources and Section 6.1 – Other CEQA Topics, Cumulative Impact Analysis. An alternatives analysis is discussed in Section 7 – Alternatives to the Proposed Project.
California Department of Toxic Substances Control (DTSC)	As discussed in Section 4.1.6 under the subheading "Hazardous Materials Sites," a search of environmental regulatory databases was completed for the Project as part of the IS/NOP and none of the proposed Project Facilities pass through a known or suspected contaminated site. Any hazardous material will be handled in accordance with all applicable regulations. No buildings are expected to be demolished as part of the Project. Issues related to hazards and hazardous materials were determined to be less than significant during preparation of the IS/NOP and are not discussed further in the Draft PEIR.
California Department of Transportation (Caltrans)	Drainage is addressed in Section 5.4 – Hydrology and Water Quality. Applicable Encroachment permits and/or traffic control plans required from Caltrans are identified in Section ~~3.4.1~~ 3.6 – Required Permits and Approvals.
Federal Emergency Management Agency (FEMA)	The requested discussion regarding floodplain requirements is included in Section 5.4 – Hydrology and Water Quality.
Governor's Office of Planning and Research	There are no comments that required discussion in the Draft PEIR.
Metropolitan Water District of Southern California	Because Metropolitan's facilities are located outside of the Moreno MDP Watershed, there will be no impact to Metropolitan as a result of Project implementation. This issue will not be discussed further in the Draft PEIR.
Native American Heritage Commission (NAHC)	NAHC's concerns are discussed in Section 5.3 – Cultural Resources.
Soboba Band of Luiseño Indians	Soboba Band of Luiseño Indians concerns are discussed in Section 5.3 – Cultural Resources.

[2] Effective January 1, 2013, the California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW), although its services and purpose has not changed. This document includes several references to CDFG and the Fish and Game Code, all of which coincide with the services, purpose and mission of the CDFW. Because applicable statues and the CEQA Checklist have not yet been updated, this document and related technical reports refers to the CDFW as the CDFG.

Commenter	Location in Draft PEIR where Comment is Addressed
South Coast Air Quality Management District (SCAQMD)	The air quality/greenhouse gas analysis was prepared per SCAQMD methodology and is included in Appendix B of the Draft PEIR. The results of this analysis are summarized in Section 5.1 – Air Quality and Greenhouse Gas Emissions. SCAQMD will be provided a copy of the Draft PEIR along with electronic versions of the modeling when the document is released for public comment. SCAQMD's concerns are addressed in Section 5.1 – Air Quality.
Southern California Association of Governments (SCAG)	The regional significance of the Project is discussed in Section 2.5.1 – Introduction, Environmental Procedures. The side-by-side comparison of RTP and CGV policies and the projects consistency, non-consistency, or non-applicability is provided in Section 6.5 – Other CEQA Topics, Consistency with Regional Plans.
Comments received at the April 19, 2012, scoping meetings	
Riverside County Department of Environmental Health – Vector Control	The discussion regarding vectors and flood control facilities is included in Section 4.3 – Areas of Controversy, below.
Roger Turner	These comments are addressed in Section 5.4 – Hydrology and Water Quality.
Late Comments	
Devlin Engineering[3] (on behalf of Multivac, Inc., the owner of property located at the northwest corner of Cactus Avenue and Redlands Boulevard)	The circulation of the IS/NOP is discussed in Section 1.1.2, and includes citations to the appropriate sections of the State *CEQA Guidelines*. The circulation was adequate and achieved legal requirements of the law. The noticing requirements for review of the Draft PEIR and the District's purpose in preparing master drainage plans is discussed in Section 4.3 – Areas of Controversy. A discussion of other locations considered for the Cactus Basin is included in Section 7 – Alternatives to the Proposed Project.

4.3 Areas of Controversy

Three areas of controversy were identified during the NOP and public scoping process: mosquito abatement in unlined channels, CEQA notification, and the location of the Cactus Basin.

Mosquito Abatement in Unlined Channels

At the Agency scoping meeting held on April 19, 2012, at the District's office, representatives of the Riverside County Department of Environmental Health's Vector Control Program conveyed their concern regarding the Project's proposed earthen Facilities, which can result in ponding that in turn attracts mosquitoes. The Vector Control Program representatives also raised the issue of the proposed earthen Facilities allowing for vegetation growth to occur, which requires increase in maintenance, pesticide use,

[3] The letter from Devlin Engineering is dated March 21, 2013 and includes as an attachment a copy of a letter with the same date addressed to the city of Moreno Valley regarding the World Logistics Center Draft EIR. The letter to Moreno Valley does not include comments regarding the contents of the Draft PEIR; therefore that letter is not addressed in this Draft PEIR.

and weed abatement. The Vector Control Program representatives expressed a preference for concrete-lined facilities, as these facilities are easier to maintain. Although from an engineering, economic, and maintenance perspective, a concrete-lined channel is more efficient than an unlined (soft bottom) channel, in recognition of regulatory requirements and potential environmental impacts regarding water quality, the Project includes soft bottomed channels.

In order to balance the need for effective vector control and comply with regulatory requirements regarding water quality, the California Department of Public Health and the Mosquito and Vector Control Association of California has collaborated to produce *Best Management Practices (BMPs) for Mosquito Control in California* (most recently published in July 2012). This document contains the recommendations of the California Department of Public Health and the Mosquito and Vector Control Association of California and sets forth actions to reduce mosquito production from permanent water sources, reduce or eliminate mosquito production from temporary water sources, and to reduce the potential for disease transmission to humans on their property. Specifically, these BMPs can reduce mosquito populations through a variety of means including (CDPH, pp. ii, iv):

- Reducing or eliminating breeding sites;
- Increasing the efficacy of biological control; and
- Decrease the amount of pesticides applied while increasing the efficacy of chemical control measures.

Federal and state environmental regulations require mitigation of the harmful effects of runoff water storms, irrigation, or other sources before entering natural waterways from point and non-point sources. Mitigation may include water capture, slowing flow velocity, reducing volume, and removal of pollutants. The size and variability of storm water infrastructure, inconsistent quantity and timing of water flows, and propensity to carry and accumulate sediment, trash, and debris, make these systems highly conducive to holding areas of standing water ideal for production of mosquitoes. Identification of the potential mosquito sources (often belowground) found within storm water infrastructure is often more difficult than the solutions needed to minimize mosquitoes.

The proposed MDP Facilities will be designed and maintained to incorporate the following recommended BMPs applicable to storm water management and associated infrastructure (CDPH, pp. 14-17):

General Storm Water Management Mosquito Control

- Design and maintain systems to fully discharge captured water in 96 hours or less.
- Include access for maintenance in system design.

Storm Water Conveyance

- Provide proper grades along conveyance structures to ensure that water flows freely.

Storm Water Storage and Infiltration Systems (Aboveground)

- Design structures so that they do not hold standing water for more than 96 hours to prevent mosquito development. Features to prevent or reduce the possibility of clogged discharge orifices (e.g., debris screens) should be incorporated into the design.
- Provide a uniform grade between the inlets and outlets to ensure that all water is discharged in 96 hours or less. Routine inspection and maintenance are crucial to ensuring the grade remains as designed.
- Avoid the use of electric pumps. They are subject to failure and often require permanent-water sumps. Structures that do not require pumping should be favored over those that have this requirement.
- Design distribution pumping and containment basins with adequate slopes to drain fully. The design slope should take into consideration buildup of sediment between maintenance periods.

General Access Requirements for Storm Water Treatment Structures

- All storm water treatment structures should be easily and safely accessible without the need for special requirements (e.g., Occupational Safety and Health Administration requirements for "confined space"). This will allow for monitoring and, if necessary, abatement of mosquitoes.
- Control vegetation (by removal, thinning, or mowing) periodically to prevent barriers to access.

Most of the open channel facilities as identified in the 1991 Moreno MDP are already constructed or currently in the plan check process. Unlined channels proposed by the Project include: Line F from approximately 350 feet south of Eucalyptus Avenue continuing south to the Cactus Basin; Line G from its confluence with existing Line G-6 southwest to Quincy Street and continuing south to Cactus Avenue; Line G-7 from the outlet of the Quincy Basin south of SR 60 continuing south to its confluence with Line G. The 1991 Moreno MDP identified Line K as a concrete trapezoidal channel; however, the Project proposes this channel section as a soft bottom channel.

These above-listed BMPs will assist with and facilitate vector control in Riverside County, specifically with the proposed MDP Facilities. It should also be noted that there is an environmental advantage to the earthen Facilities, or soft bottom, proposed by the Moreno MDP revision. These types of facilities are more environmentally-friendly alternatives that allow greater infiltration and better trapping of water pollutants such as sediment, nutrients, trace metals, oxygen-demanding substances, bacteria, oil and grease, and pathogens. The generated on-site flow from the Moreno Watershed will ultimately be discharged into Canyon Lake and Lake Elsinore, which do not meet water quality standards associated with its beneficial uses. Overflows from Lake Elsinore go into Temescal Creek, which then flow to Santa Ana River Reach 3. Canyon Lake is impaired for nutrients and pathogens, Lake Elsinore is impaired for nutrients, pathogens, and oxygen-demanding substances, and Santa Ana River Reach 3 is impaired for pathogens. For this reason, the proposed Moreno MDP Revision has been designed to not only address flood control but as water quality treatment to the maximum extent practicable for pathogens and

nutrients, which is assisted by the development of earthen Project Facilities. Further, the greater infiltration will increase groundwater recharge in the area, which is another environmental benefit.

Thus, while it is recognized the county's Department of Environmental Health's Vector Control Program prefers concrete lined facilities, implementation of appropriate and applicable BMPs will facilitate vector control needs in the Moreno Watershed and elsewhere, which is the objective of the Vector Control Program. The incorporation and development of the earthen, soft bottom channels are exceedingly important to achieving water quality goals and increasing groundwater supply, and therefore, are necessary design considerations and remain part of the proposed MDP Revision.

CEQA Notification

It is the opinion of Devlin that notification should be provided to each "property owner affected by the project" when the Draft PEIR is available for review because publishing the notice in the paper is "completely inadequate."

The public review process for Draft EIRs is set forth in Section 15087 of the State *CEQA Guidelines*. With regards to notice, Section 15087(a) states (emphasis added), "…Notice shall be mailed to the last known name and address of all organizations and individuals who have previously requested such notice in writing, and shall also be given by at least one of the following procedures:

1) Publication at least one time by the public agency in a newspaper of general circulation in the area affected by the proposed project. If more than one area is affected, the notice shall be published in the newspaper of largest circulation from among the newspapers of general circulation in those areas.
2) Posting of notice by the public agency on and off the site in the area where the project is to be located.
3) Direct mailing to the owners and occupants of property contiguous to the parcel or parcels on which the project is located. Owners of such property shall be identified as shown on the latest equalized assessment roll.

The District provided notice of availability of the Draft PEIR by publication in the Press Enterprise, which is a newspaper of general circulation in Moreno Valley.

District's Purpose in Preparing a Master Drainage Plan

A master drainage plan addresses the current and future drainage needs of a given community. The boundary of the plan usually follows regional watershed limits. The proposed facilities may include channels, storm drains, levees, basins, dams, wetlands or any other conveyance capable of economically relieving flooding problems within the plan area. The plan includes an estimate of facility capacity, sizes and costs. (RCFCWCD MDP/ADP)

MDP's are prepared for a variety of purposes. First, the plans provide a guide for the orderly development of the County. Second, they provide an estimate of costs to resolve flooding issues within a community. These plans are used by the District's Management, Zone Commissioners and Board of

Supervisors to determine Capital Project expenditures for each budget year. Finally, the plans can be used to establish Area Drainage Plan fees for a given community, which prevent existing taxpayers from having to shoulder the burden of land development costs.

Identification of a Conceptual Basin Location Constitutes Taking without Compensation

The MDP Revision is a long range planning document; therefore, due to the conceptual nature of the MDP Revision; the extended timeline expected to actually build out District Facilities; and the fact that many Facilities may never actually come to fruition, it is far too speculative at this time to address any issues related to property acquisition for any individual properties. Additionally, if easements are required and/or property acquisition is required to construct any Facility, the CEQA document for the construction of said Facility will address any environmental impacts related to any required easements and/or property acquisitions. If District easements and/or property acquisition is required, the District will follow all applicable federal, state and local laws and regulations.

Alternative Locations for the Cactus Basin

Devlin is not in agreement with the location of the Cactus Basin as shown on the Moreno MDP Revision (**Figure 3-2 – Proposed Project**) and opines that the location was requested by Moreno Valley to facilitate the World Logistics Center Project. Devlin suggested the following locations for this basin: keep the existing location at the northeast corner of Alessandro Boulevard/Merwin Street, south of Alessandro Boulevard and north of Brodiaea Avenue (on the World Logistics Center property), and a location bounded on the east by Redlands Boulevard, on the west by Wilmont Street, on the south by Cactus Avenue, and on the north by Brodiaea Avenue. Alternative basin locations are discussed in Section 7 – Alternatives to the Proposed Project.

4.4 Effects Found to be Less Than Significant as Part of the Draft PEIR Process

There are no environmental factors with effects found to be less than significant as part of the Draft PEIR process. All issues addressed evaluated in the Draft PEIR were determined to be less than significant with mitigation as discussed below.

4.4.1 Biological Resources

As discussed in Section 5.2, the Project's impacts will be reduced to less than significant based on compliance with Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and implementation of identified mitigation measures. Implementation of mitigation measures Implementation of mitigation measure **MM BIO 1** will require general biological resources assessments for Project Facilities not constructed as part of private development projects for which a biological resources assessment has been conducted; **MM BIO 2** will require individual projects to conduct habitat assessments, including focused burrow surveys; **MM BIO 3** will require individual projects to conduct pre-construction surveys before ground disturbance and avoid take of active nests; **MM BIO 4** will require project-specific riparian/riverine surveys; **MM BIO 5** will require individual projects within areas of suitable riparian habitat to conduct protocol presence/absence surveys for the least Bell's vireo and require additional measures for positive surveys; **MM BIO 6** will require a qualified biologist to conduct

presence/absence surveys for listed fairy shrimp within potentially suitable habitat and require additional measures for positive surveys; **MM BIO 7** will require individual projects located within the MSHCP Los Angeles pocket mouse survey area to conduct a habitat assessment and require additional measures for positive surveys; **MM BIO 8** will require facility-specific jurisdictional delineations to determine whether features will be subject to the jurisdictions of the United States Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game; and **MM BIO 9** will require seasonal avoidance of vegetation removal and/or nesting bird surveys to ensure that migratory birds (and their nests) will not be directly harmed. **Therefore, the Project will be in compliance with federal, state, and local laws, including MSHCP and CEQA, and potential impacts related to biological resources will be less than significant with mitigation**.

4.4.2 Cultural Resources

As discussed in Section 5.3, the Project's impacts related to historic and archaeological resources were found to be less than significant within or adjacent to proposed Project Facilities. However, the proposed Project Facilities are conceptual at this time. The proposed MDP Facilities depicted in the Moreno MDP can change as more detailed information becomes available during the final design process. For example, the locations of underground utilities, new development patterns, right-of-way availability, or the results of subsequent focused biological surveys may necessitate a shift in alignment or change in facility type. Subsequent CEQA analysis would be required if the proposed MDP Facilities were to undergo changes in areas not covered by the cultural study.

Mitigation measure **MM CR 1**, requires the proponent for any specific proposed Project Facility to notify local Native American tribes before ground-disturbing activities and may allow tribal monitors to be present during grading, excavation, and other ground-disturbing activities. Mitigation measures **MM CR 2** and **MM CR 3**, include provisions for the accidental discovery of archaeological resources and human remains.

No unique geologic feature is known to exist and no fossils have been documented within or adjacent to the proposed Project Facilities. However, the Project footprint is underlain by deposits that could potentially have a high sensitivity for paleontological resources. Ground-disturbing activities resulting from construction of the proposed Project could damage or destroy previously undocumented unique fossils, if located within the proposed Project Facilities. Mitigation measures **MM CR 4** through **MM CR 7**, outline specific measures that will be taken if certain soil types are present that support paleontological resources or any artifacts deemed to be rare, substantial, or otherwise, unique are unearthed during construction activities**. Therefore, potentially significant impacts on historical, archaeological, and paleontological resources will be less than significant with mitigation.**

4.4.3 Hydrology and Water Quality

As discussed in Section 5.4, construction of the Project Facilities must comply with various statutory requirements necessary to achieve regional water quality objectives and protect groundwater and surface waters from polluted storm water runoff. Site-specific projects are considered "new development and significant redevelopment projects" and are required to comply with the provisions of

the MS4 permit by preparing a site-specific SWPPP and WQMP. However, because Facility-specific projects entail only the construction of Moreno MDP Facilities, only a Facility-specific SWPPP is required. A WQMP is not required for MDP Facilities constructed as Facility-specific projects. In the unlikely event that a Facility-specific project entails less than one acre of disturbance and does not require preparation of a Facility-specific SWPPP, mitigation measure **MM HYD 1** will be implemented, which requires the preparation of an erosion control plan to identify necessary erosion control BMPs. Further, to avoid the potential for a specific MDP Facility to not operate as intended due to the timing or phasing of the MDP Facilities, **MM HYD 2**, which requires an adequate outlet system is available, will be implemented to ensure specific Facilities will operate adequately in conveying storm flows and runoff**. Therefore, potentially significant impacts on hydrology and water quality will be less than significant with mitigation.**

4.4.4 Noise

As discussed in Section 5.5, the Project will incorporate mitigation measures to assure construction- and maintenance-related noise impacts resulting from Project implementation will not be substantial or significant. Mitigation measure **MM NOI 1** requires preparation of a Facility-specific construction noise analysis that includes an evaluation of groundborne vibration before the construction of any proposed Project Facility that: (i) is not being constructed as part of a private development project for which a Facility-specific construction noise analysis that includes an evaluation of groundborne vibration has been prepared and (ii) will entail construction less than 50 feet from an occupied residence. Mitigation measures **MM NOI 2** through **MM NOI 6**, are related to temporary construction-sourced noise. **MM NOI 2** limits the times during which construction may occur to the daytime hours during which humans are less sensitive. It also requires maximum possible setbacks from equipment and receivers. **MM NOI 3** requires that all utilized construction equipment has properly working factory-installed noise reduction device. **MM NOI 4** requires written notification be provided to all landowners, tenants, business operators, and residents within 50 feet of the construction site 30 days before the start of construction. **MM NOI 5** requires the use electricity from power poles instead of diesel- or gasoline-powered generators when technically feasible. **MM NOI 6** prohibits idling of vehicles and construction equipment in excess of three minutes, which will reduce the amount of noise generated by vehicles and equipment when not in use. **Therefore, potentially significant noise impacts will be less than significant with mitigation.**

4.5 References

In addition to other documents, the following references were used in the preparation of this section of this Draft PEIR:

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- City of Moreno Valley, *General Plan Final Environmental Impact Report (SCH #200091075)*, Certified July 2006. (Available at http://www.moreno-valley.ca.us/city_hall/general-plan/06gpfinal/ieir/eir-tot.pdf, accessed March 26, 2012.) [Cited ad MVGP FEIR]
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- County of Riverside, *Integrated Project General Plan, County of Riverside,* Adopted October 7, 2003. (Available at http://www.rctlma.org/genplan/, accessed January 18, 2012.)
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- Google, Inc., Google Earth (Version 6.1.0.4857). (Available at http://www.google.com/earth/download/ge/, accessed January 12, 2012.)
- Leighton Consulting, Inc., *Seismic and Geologic Hazards Review, Moreno Master Drainage Plan (MDP), Moreno Valley, California*, March 23, 2012. (Appendix A to the IS/NOP)
- Ormsby, Chris, City of Moreno Valley Planning Department. Personal communication (via email) to Jenny Cleary on August 1, 2012. [Cited as MV Planning]
- Riverside County Flood Control and Water Conservation District, *Master Drainage Plan and Area Drainage Plan*. (Available at http://rcflood.org/MasterPlan.aspx, accessed March 27, 2014.) [Cited as RCFCWCD MDP/ADP]
- Riverside Transit Agency, *2012-01 System Map*. (Available at http://www.riversidetransit.com/home/images/stories/DOWNLOADS/PUBLICATIONS/SYSTEM_MAPS/2012-01%20System%20Map.pdf, accessed December 2011.)

- South Coast Air Quality Management District, *2007 Air Quality Management Plan*, June 2007. (Available at http://www.aqmd.gov/aqmp/07aqmp/aqmp/Complete_Document.pdf, accessed December 2011.)
- State of California, Department of Conservation, Division of Land Resource Protection, *Farmland Mapping and Monitoring Program, Riverside County Important Farmland 2008, Sheet 1 of 3*, September 2009. (Available at ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2008/riv08_west.pdf, accessed November 1, 2011.)
- State of California, Department of Public Health, and Mosquito and Vector Control Association of California, *Best Management Practices for Mosquito Control in California*, July 2012. (Available at http://www.cdph.ca.gov/HealthInfo/discond/Documents /BMPforMosquitoControl07-12.pdf, accessed August 30, 2012.) [Cited as CDPH]
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- State of California, *Public Resources Code*. (Available at http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=prc, accessed January 12, 2012.)
- State of California, Regional Water Quality Control Board, Santa Ana Region, *2009-0009-DWQ Construction General Permit*, July 1, 2010. (Available at http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml, accessed January, 12, 2012.)

Section 5 – Potentially Significant Environmental Effects

CEQA requires consideration and discussion of significant environmental effects. Sections 15126–15126.2 of the *CEQA Guidelines* states, "All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation…an EIR shall identify and focus on the significant environmental effects of the proposed project."

This section will address each environmental effect that was determined to be potentially significant during preparation of the Notice of Preparation prepared for this project (Appendix A). Each effect is organized into an issue area; those that will be analyzed are listed below:

- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Cultural Resources
- Hydrology and Water Quality
- Noise

The impact analyses of these environmental issues are discussed in Sections 5.1 through 5.5 of the Draft PEIR. Those issue areas that have less than significant adverse environmental effects without mitigation measures are discussed in **Section 4 – Environmental Effects Found Not to be Significant** of this Draft PEIR.

Technical Studies
Technical studies in the areas of air quality, biological resources, cultural resources, and hydrology were produced providing detailed technical analyses that were used in this Draft PEIR. These documents are identified in **Section 2.6.3 – Project Technical Studies and Supporting Analyses**, and included as technical appendices on a CD attached to the Draft PEIR.

Analysis Format
The Draft PEIR assesses how the proposed Project would impact these issue areas. Each environmental issue addressed in this Draft PEIR is presented in terms of the following subsections:

- **Setting:** Provides information describing the existing setting on or surrounding the Project site which may be subject to change as a result of the implementation of the Project. This setting describes the conditions that existed at the time the NOP was sent to responsible agencies and the State Clearinghouse.
- **Related Regulations:** Provides a discussion of the applicable regulations with respect to each environmental issue.
- **Significance Thresholds Criteria:** Provides criteria for determining the significance of Project impacts for each environmental issue.

- **Project Design Considerations:** Provides a discussion of the Project design considerations and features with respect to each environmental issue.

- **Environmental Impacts Before Mitigation:** Provides a discussion of the characteristics of the proposed Project that may have an effect on the environment; analyzes the nature and extent to which the proposed Project is expected to change the existing environment, and whether or not the Project impacts meet or exceed the levels of significance thresholds.

- **Proposed Mitigation Measures:** Identifies mitigation measures to reduce significant adverse impacts to the extent feasible.

- **Environmental Effects After Mitigation Measures are Implemented:** Provides a discussion of significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, adverse environmental impacts that are not significant, and beneficial impacts.

- **Cumulative Environmental Effects after Mitigation Measures are Implemented:** Provides a discussion of cumulative environmental impacts resulting from implementation of the Project in conjunction with other future projects.

5.1 Air Quality and Greenhouse Gas Emissions

This section of the Draft PEIR evaluates Project-related impacts to air quality and greenhouse gas (GHG) emissions and is based on the *Air Quality and Greenhouse Gas Impact Analysis for the Moreno Master Drainage Plan Revision* (AQIA). The AQIA was conducted within the context of the California Environmental Quality Act (CEQA; California Public Resources Code Sections 21000 *et seq.*). The methodology follows the *CEQA Air Quality Handbook* (1993) prepared by the South Coast Air Quality Management District (SCAQMD) for quantification of emissions and evaluation of potential impacts to air quality. As recommended by SCAQMD and District staff, the California Emissions Estimator Model (CalEEMod™) version 2011.1.1 computer program was used to quantify Project-related emissions.

The following impact areas were found to be less than significant in the Initial Study/Notice of Preparation (IS/NOP) prepared for this Project (Appendix A):

- Conflicting with or obstructing of implementation of the applicable air quality plan; and
- Creation of objectionable odors affecting a substantial number of people;

The following discussion addresses potential impacts related to:

- Violation of any air quality standard or contributing substantially to an existing or projected air quality violation;
- Cumulatively considerable net increases of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard *(including releasing emissions which exceed quantitative thresholds for ozone precursor);*
- Exposure of sensitive receptors to substantial pollutant concentrations;
- Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or
- Conflicting with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As discussed in this section, the Project's potential to have a substantial adverse effect to air quality (both Project-specific and cumulative) is considered to be significant and a Statement of Overriding Considerations will be required prior to Project approval.

5.1.1 Setting

Physical Setting

The proposed Project is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the SCAQMD. The Basin consists of Orange County, coastal and mountain portions of Los Angeles County, as well as Riverside and San Bernardino counties (SCAQMD 1993, p. 2-1). Regional and local air quality within the Basin is affected by topography, atmospheric inversions, and dominant onshore flows. Topographic features such as the San Gabriel, San Bernardino, and San Jacinto Mountains form natural

horizontal barriers to the dispersion of air contaminants. The presence of atmospheric inversions limits the vertical dispersion of air pollutants. With an inversion, the temperature initially follows a normal pattern of decreasing temperature with increasing altitude; however, at some elevations, the trend reverses and temperature begins to increase as altitude increases. This transition to increasing temperature establishes the effective mixing height of the atmosphere and acts as a barrier to vertical dispersion of pollutants. (SCAQMD 1993, p. A8-2.)

Dominant onshore flow provides the driving mechanism for both air pollution transport and pollutant dispersion. Air pollution generated in coastal areas is transported east to inland receptors by the onshore flow during the daytime until a natural barrier (the mountains) is confronted, limiting the horizontal dispersion of pollutants. The result is a gradual degradation of air quality from coastal areas to inland areas, which is most evident with the photochemical pollutants such as ozone formed under reactions with sunlight. (SCAQMD 1993, pp. A8-1–A8-2.)

Climate

Terrain and geographical location determine climate in the Basin. The Project site lies within the terrain south of the San Gabriel and San Bernardino Mountains and north of the Santa Ana Mountains. The climate in the Basin is typical of southern California's Mediterranean climate, which is characterized by dry, warm summers and mild winters. Winters typically have infrequent rainfall, light winds, and frequent early morning fog and clouds that turn to hazy afternoon sunshine. (SCAQMD 1993, pp. A8-1–A8-2.)

The following factors govern microclimate differences among inland locations within the Basin: (1) distance of the mean air trajectory from the site to the ocean; (2) site elevation; (3) existence of any intervening terrain that may affect airflow or moisture content; and (4) proximity to canyons or mountain passes. As a general rule, locations farthest inland from the ocean have the hottest summer afternoons, the lowest rainfall, and the least amount of fog and clouds. Foothill communities in the Basin have greater levels of precipitation, cooler summer afternoons, and may be exposed to wind funneling through nearby canyons during Santa Ana winds. Terrain will generally steer local wind patterns. (SCAQMD 1993, pp. A8-1–A8-2.)

The Project site is located in the city of Moreno Valley and unincorporated Riverside County (**Figure 3-1 – Vicinity Map**), within the western portion of Riverside County in the Basin.

Precipitation and Temperature

Annual average temperatures in the Basin are typically in the low to mid-60 degrees Fahrenheit. Temperatures above 100 degrees are recorded for all portions of the Basin during the summer months. (SCAQMD 1993, p. A8-1.)

The rainy season in the Basin is November to April. Summer rainfall can occur as widely scattered thunderstorms near the coast and in the mountainous regions in the eastern Basin. Rainfall averages vary over the Basin. The city of Riverside averages 9 inches of rainfall; the city of Corona averages 12.7

inches, while the city of Los Angeles averages 14 inches. Rainy days vary from 5 to 10 percent of all days in the Basin, with the most frequent occurrences of rainfall near the coast. (SCAQMD 1993, p. A8-1.)

Winds

The interaction of land (offshore) and sea (onshore) breezes control local wind patterns in the area. Daytime winds typically flow from the coast to the inland areas, while the pattern typically reverses in the evening, flowing from the inland areas to the ocean. Air stagnation may occur in the early evening and early morning during periods of transition between day and nighttime flows.

Approximately 5 to 10 times a year, the site vicinity experiences strong, hot, dry desert winds known as the Santa Ana winds. These winds, associated with atmospheric high pressure, originate in the upper deserts and are channeled through the passes of the San Bernardino Mountains and into the inland valleys. Santa Ana winds can last for a period of hours or days, and gusts of over 60 miles per hour have been recorded.

High winds, such as the Santa Ana winds, affect dust generation characteristics and create the potential for off-site air quality impacts, especially with respect to airborne nuisance and particulate emissions. Local winds in the Project area are also an important meteorological parameter because they control the initial rate of dilution of locally generated air pollutant emissions.

Categories of Emission Sources

Air pollutant emissions sources are typically grouped into two categories: stationary and mobile sources. These emission categories are defined and discussed in the following subsections.

Stationary Sources

Stationary sources are divided into two major subcategories: point and area sources. Point sources consist of a single emission source with an identified location at a facility. A single facility could have multiple point sources located on site. Stationary point sources are usually associated with manufacturing and industrial processes. Examples of point sources include boilers or other types of combustion equipment at oil refineries, electric power plants, etc. Area sources are small emission sources that are widely distributed, but are cumulatively substantial because there may be a large number of sources. Examples include residential water heaters; painting operations; lawn mowers; agricultural fields; landfills; and consumer products, such as barbecue lighter fluid and hair spray. (SCAQMD 1993, p. 1-1.)

Mobile Sources

Mobile sources are motorized vehicles which are classified as either on-road or off-road. On-road mobile sources typically include automobiles and trucks that operate on public roadways. Off-road mobile sources include aircraft, ships, trains, and self-propelled construction equipment that operate off of public roadways. Mobile source emissions are accounted for as both direct source emissions (those directly emitted by the individual source) and indirect source emissions, which are sources that by themselves do not emit air contaminants but indirectly cause the generation of air pollutants by

attracting vehicles. Examples of indirect sources include office complexes, commercial and government centers, sports and recreational complexes, and residential developments. (SCAQMD 1993, p. 1-2.)

Air Pollution Constituents

Criteria Pollutants

Air pollutants are classified as either primary or secondary, depending on how they are formed. Primary pollutants are generated daily and are emitted directly from a source into the atmosphere. Examples of primary pollutants include carbon monoxide (CO), nitrogen dioxide (NO_2) and nitric oxide (NO),[1] sulfur dioxide (SO_2), particulates (PM-10 and PM-2.5) and various hydrocarbons (HC) or volatile organic compounds (VOC), which are also referred to as reactive organic gases (ROG). The predominant source of air emissions expected to be generated by the proposed Project is vehicle emissions. Motor vehicles primarily emit CO, NO_X, and VOC/ROG/HC.

Secondary pollutants are created over time and occur within the atmosphere as chemical and photochemical reactions take place. An example of a secondary pollutant is ozone (O_3), which is one of the products formed when NO_X reacts with HC in the presence of sunlight. Other secondary pollutants include photochemical aerosols. Secondary pollutants such as ozone represent major air quality problems in the Basin.

The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). Six "criteria" air pollutants were identified using specific medical evidence available at that time, and NAAQS were established for those chemicals. The State of California has adopted the same six chemicals as criteria pollutants, but has established different allowable levels. The six criteria pollutants are: carbon monoxide, nitrogen dioxide, ozone, lead, particulates less than 10 microns in size, and sulfur dioxide. The following is a further discussion of the criteria pollutants, as well as volatile organic compounds.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon-containing substances. Concentrations of CO are generally higher during the winter months when meteorological conditions favor the build-up of primary pollutants. (USEPA 2005, Homepage) Automobiles are the major source of CO in the Basin, although various industrial processes also emit CO through incomplete combustion of fuels. In high concentrations, CO can cause serious health problems in humans by limiting the red blood cells' ability to carry oxygen (SCAQMD 1993, p. 3-2).
- **Oxides of Nitrogen (NO_X)** contribute to air pollution include nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed by a combination of nitrogen and oxygen when combustion takes place under high temperatures and pressures. NO_2 is a reddish-brown gas formed by the combination of NO with oxygen. Combustion in motor vehicle engines, power plants, refineries, and other industrial operations, as well as ships, railroads, and aircraft, are the primary sources of NO_X. NO_2 at atmospheric concentrations is a potential irritant and can cause

[1] NO_2 and NO are collectively known as oxides of nitrogen (NO_X).

coughing in healthy people, can alter respiratory responsiveness and pulmonary functions in people with preexisting respiratory illness, and potentially lead to increased levels of respiratory illness in children (USEPA 2005, Homepage).

- **Ozone (O_3)** is a colorless toxic gas that irritates the lungs and damages materials and vegetation. During the summer's long daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between NO_2 and VOC which results in the formation of O_3. Conditions that lead to high levels of O_3 are adequate sunshine, early morning stagnation in source areas, high surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer (all of which are characteristic of western Riverside County). Ozone represents the worst air pollution-related health threat in the Basin as it affects people with preexisting respiratory illness as well as reduces lung function in healthy people. Studies have shown that children living within the Basin experience a 10–15 percent reduction in lung function (SCAQMD 1993, p. 3-2).

- **Atmospheric Particulate Matter (PM)** is made up of fine solid and liquid particles, such as soot, dust, aerosols, fumes, and mists. PM-10 consists of particulate matter that is 10 microns or less in diameter, and PM-2.5 consists of particulate matter of 2.5 microns or less in size. Both PM-10 and PM-2.5 can be inhaled into the deepest part of the lung, contributing to health effects. The presence of these fine particles by themselves cause lung damage and interfere with the body's ability to clear its respiratory tract. These particles can also act as a carrier of other toxic substances. (SCAQMD 1993, p. 3-3.)

  Sources contributing to particulate matter pollution include road dust, windblown dust, agriculture, construction, fireplaces and wood burning stoves, and vehicle exhaust. Specifically, SCAQMD data indicates the largest component of PM-10 particles in the area comes from dust (unpaved roads, unpaved yards, agricultural lands, and vacant land that has been disked). PM-2.5 particles are mostly manmade particles resulting from combustion sources. According to SCAQMD, one component of PM-2.5 pollution in Riverside comes from ammonium nitrate (NH_4NO_3) particulates. NO_X, emitted throughout the Basin by vehicles, reacts with ammonia produced from livestock and horses to form ammonium nitrate. Organic carbon particles generated from paints, degreasers, and vehicles are another component of PM-2.5 pollution. The last notable constituent of PM-2.5 sources is elemental carbon, which is used as a surrogate for diesel particulates.

- **Sulfur dioxide (SO_2)** is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. SO_2 can result in temporary breathing impairment in asthmatic children and adults engaged in active outdoor activities. When combined with PM, SO_2 can cause symptoms such as shortness of breath and wheezing; and, with long-term exposure, lead to the exacerbation of existing cardiovascular disease and respiratory illnesses (USEPA 2005, Homepage). Although SO_2 concentrations have been reduced to levels well below state and federal standards, further reductions in SO_2 emissions are needed because SO_2 is a precursor to sulfate and PM-10.

- **Lead (Pb)** concentrations once exceeded the state and federal air quality standards by a wide margin, but have not exceeded state or federal air quality standards at any regular monitoring station since 1982. Health effects associated with lead include neurological impairments, mental retardation, and behavioral disorders. At low levels, lead can damage the nervous systems of fetuses and result in lowered IQ levels in children (USEPA 2005, Homepage). Although special monitoring sites immediately downwind of lead sources recorded very localized violations of the state standard in 1994, no violations have been recorded at these stations since 1996. Unleaded gasoline has greatly contributed to the reduction in lead emissions in the Basin. Since the proposed Project will not involve leaded gasoline, or other sources of lead emissions, this criteria pollutant is not expected to increase with Project implementation.
- **Reactive Organic Gases/Volatile Organic Compounds (ROG/VOC)** are not classified as criteria pollutants and as such do not have any state or federal ambient air quality standards. VOCs are regulated; however, a reduction in VOC emissions reduces certain chemical reactions which contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM-10 and lower visibility levels. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere, even at low concentrations, are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, is a hydrocarbon component of VOC emissions that is known to be a human carcinogen. (SCAQMD 2005, p. 1-5.)

Toxic Air Contaminants

Toxic air contaminants (TACs) are chemicals generally referred to as “non-criteria” air pollutants which are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. There are hundreds of air toxics, and exposure to these pollutants can cause or contribute to cancer or non-cancer health effects such as birth defects, genetic damage, and other adverse health effects. Effects on human health may be both chronic (i.e., of long duration) or acute (i.e., severe but of short duration). Acute health effects are attributable to sudden exposure to high quantities of air toxics. These effects can include nausea, skin irritation, respiratory illness, and, in some cases, death. Chronic health effects usually result from low-dose, long-term exposure from routine releases of air toxics. The effect of major concern for this type of exposure is cancer, which typically requires a latency period of 10-30 years after exposure to develop.

Greenhouse Gas Emissions and Climate Change

Some gases in the atmosphere affect the Earth’s heat balance by absorbing infrared radiation. This layer of gases in the atmosphere functions much the same as glass in a greenhouse (i.e., both prevent the escape of heat). This is why global warming is also known as the “greenhouse effect.” Increased emissions of these gases, due to combustion of fossil fuels and other activities, have increased the greenhouse effect, leading to global warming and other climate changes. Gases responsible for global

climate change in the South Coast Air Basin (Basin) and their relative contribution to the overall warming effect are carbon dioxide (55 percent), chlorofluorocarbons (CFCs) (24 percent), methane (15 percent), and nitrous oxide (6 percent) (SCAQMD 2005, p. 1-8). It is widely accepted that continued increases in GHG will contribute to global climate change, although there is uncertainty concerning the magnitude and timing of future emissions and the resultant warming trend (SCAQMD 2005, p. 1-8). Human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors contribute to these GHG (CEC 2006a, p. 7). According to a report published by the California Energy Commission in December of 2006, transportation was responsible for 41 percent of the state's GHG emissions, followed by electricity generation for the most recent reporting year, 2004 (CEC 2006a, p. 8). In November 2007, CARB reported that transportation was 38 percent of the state's GHG emissions, followed by electricity generation for 2004 (CARB 2007, p. 7). Emissions of carbon dioxide (CO_2) and nitrous oxide (N_2O) are byproducts of fossil fuel combustion (CARB 2007, p. 15). Methane (CH_4), a highly potent GHG, results from off-gassing associated with agricultural practices, landfills, and wastewater treatment (CARB 2007, pp. 19–22; IPCC 2007, p. 593).

"Stratospheric ozone depletion" refers to the slow destruction of naturally occurring ozone, which lies in the upper atmosphere (called the stratosphere) and which protects Earth from the damaging effects of solar ultraviolet radiation. Certain compounds, including CFCs, halons, carbon tetrachloride, methyl chloroform, and other halogenated compounds, accumulate in the lower atmosphere and then gradually migrate into the stratosphere. In the stratosphere, these compounds participate in complex chemical reactions to destroy the upper ozone layer. Destruction of the ozone layer increases the penetration of ultraviolet radiation to the Earth's surface, a known risk factor that can increase the incidence of skin cancers and cataracts, contribute to crop and fish damage, and further degrade air quality (SCAQMD 2005, p. 1-8).

GHG and ozone-depleting gases include, but are not limited to, the following:

- **Carbon dioxide –** Carbon dioxide results from fossil fuel combustion in stationary and mobile sources. It contributes to the greenhouse effect, but not to stratospheric ozone depletion. In 2004, carbon dioxide accounted for approximately 84 percent of total GHG emissions in the state (CEC 2006a, p. 5). In the South Coast Air Basin (Basin), approximately 48 percent of carbon dioxide emissions come from transportation, residential, and utility sources which contribute approximately 13 percent each, 20 percent come from industry, and the remainder comes from a variety of other sources (SCAQMD 2005, p. 1-8).
- **Methane (CH_4) –** Atmospheric methane is emitted from both non-biogenic and biogenic sources. Non-biogenic sources include fossil fuel mining and burning, biomass burning, waste treatment, geologic sources, and leaks in natural gas pipelines. Biogenic sources include wetlands, rice agriculture, livestock, landfills, forest, oceans, and termites. Methane sources can also be divided into anthropogenic and natural. Anthropogenic sources include rice agriculture, livestock, landfills, and waste treatment, some biomass burning, and fossil fuel combustion. Natural sources are wetlands, oceans, forests, fire, termites, and geological sources. Anthropogenic sources currently account for more than 60 percent of the total global emissions. (IPCC 2007, p. 593) It is a GHG and

traps heat 40–70 times more effectively than carbon dioxide. In the Basin, more than 50 percent of human-induced methane emissions come from natural gas pipelines, while landfills contribute 24 percent. Methane emissions from landfills are reduced by SCAQMD Rule 1150.1 – Control of Gaseous Emissions from Active Landfills. Methane emissions from petroleum sources are reduced by a number of rules in SCAQMD Regulation XI that control fugitive emissions from petroleum production, refining, and distribution. (SCAQMD 2005, p. 1-9.)

- **Other regulated greenhouse gases include Nitrous Oxide, Sulfur Hexafluoride, Hydrofluorocarbons, and Perfluorocarbons** – These gases all possess heat-trapping potentials hundreds to thousands of times more effective than carbon dioxide. Emission sources of nitrous oxide gases include, but are not limited to, waste combustion, wastewater treatment, fossil fuel combustion, and fertilizer production. Because the volume of emissions is small, the net effect of nitrous oxide emissions relative to carbon dioxide or methane is relatively small. Sulfur hexafluoride, hydrofluorocarbon, and perfluorocarbon emissions occur at even lower rates.
- **Chlorofluorocarbons** – CFCs are emitted from blowing agents used in producing foam insulation. They are also used in air conditioners and refrigerators and as solvents to clean electronic microcircuits. CFCs are primary contributors to stratospheric ozone depletion and to climate change. Sixty-three percent of CFC emissions in the Basin come from the industrial sector. Federal regulations require service practices that maximize recycling of ozone-depleting compounds (CFCs, hydro-chlorofluorocarbons and their blends) during the servicing and disposal of air-conditioning and refrigeration equipment. SCAQMD Rule 1415 – Reduction of Refrigerant Emissions from Stationary Refrigeration and Air Conditioning Systems requires CFC refrigerants to be reclaimed or recycled from stationary refrigeration and air conditioning systems. SCAQMD Rule 1405 – Control of Ethylene Oxide and Chlorofluorocarbon Emissions from Sterilization or Fumigant Processes requires recovery of reclamation of CFCs at certain commercial facilities and eliminates the use of some CFCs in the sterilization processes. Some CFCs are classified as TACs and regulated by SCAQMD Rule 1401 – New Source Review of Toxic Air Contaminants and SCAQMD Rule 1402 Control of Toxic Air Contaminants from Existing Sources. (SCAQMD 2005, p. 1-8 through 1-9.)
- **Halons –** These compounds are used in fire extinguishers and behave as both ozone-depleting and greenhouse gases. Halon production ended in the United States in 1993. SCAQMD Rule 1418—Halon Emissions from Fire Extinguishing Equipment requires the recovery and recycling of halons used in fire extinguishing systems and prohibits the sale of halon in small fire extinguishers. (SCAQMD 2005, p. 1-9.)
- **Hydro-chlorofluorocarbons –** HCFCs are solvents, similar in use and chemical composition to CFCs. The hydrogen component makes HCFCs more chemically reactive than CFCs, allowing them to break down more quickly in the atmosphere. These compounds deplete the stratospheric ozone layer, but to a much lesser extent than CFCs. HCFCs are regulated under the same SCAQMD rules as CFCs (SCAQMD 2005, p. 1-9).
- **1,1,1-trichloroethane or methyl chloroform (TCA**) **–** TCA is a solvent and cleaning agent commonly used by manufacturers. It is less destructive on the environment than CFCs or HCFCs, but its

continued use will contribute to global climate change and ozone depletion. TCA is a synthetic chemical that does not occur naturally in the environment. No TCA is supposed to be manufactured for domestic use in the United States after January 1, 2002 because it affects the ozone layer. TCA had many industrial and household uses, including use as a solvent to dissolve other substances, such as glues and paints; to remove oil or grease from manufactured metal parts; and as an ingredient of household products such as spot cleaners, glues, and aerosol sprays. SCAQMD regulates this compound as a toxic air contaminant under Rules 1401 and 1402. (SCAQMD 2005, p. 1-9.)

Global Warming Potentials

Individual GHGs have varying global warming potential and atmospheric lifetimes. The Intergovernmental Panel on Climate Change (IPCC) developed the Global Warming Potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of individual GHGs is determined through a comparison with the GWP of CO_2. CO_2 has a GWP of one. CH_4 has a GWP of 21, meaning that on a molecule by molecule basis, CH_4 has 21 times the global warming potential of CO_2. CO_2 equivalents (CO_2E) are the emissions of a GHG multiplied by the GWP. The CalEEMod program calculates the CO_2E based on the GWPs reported in the IPCC Second Assessment Report (IPCC 1995, p. 22). **Table 5.1-A** shows the GWP and atmospheric lifetimes of various GHGs with relatively long atmospheric lifetimes from the IPCC 1995 report.

Table 5.1-A – Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide (CO_2)	50-200	1
Methane (CH_4)	12±3	21
Nitrous Oxide (N_2O)	120	310
Hydrofluorocarbons (HFCs)		
HFC-23	264	11,700
HFC-32	5.6	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
Perfluoromethane (CF_4)	50,000	6,500
Perfluoroethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900
Source: IPCC 1995, Table 4		

GHG Effects

As emissions of GHGs increase, temperatures in California are projected to rise significantly over the twenty-first century. The modeled magnitudes of the warming vary because of uncertainties in future emissions and in the climate sensitivity. According to the California Climate Change Center (CEC 2005, p. 7), there are three projected warming scenarios referred to as the low, medium, and high range. These expected increases from 2000 to 2100 vary from approximately 1.7°C–3.0°C (3.0°F–5.4°F) in the lower

range of projected warming, 3.1°C–4.3°C (5.5°F–7.8°F) in the medium range, and 4.4°C–5.8°C (8.0°F–10.4°F) in the higher range. To comprehend the magnitude of these projected temperature changes, over the next century, the lower range of projected temperature rise is slightly larger than the difference in annual mean temperature between Monterey and Salinas, which is 2.5°F, and the upper range of projected warming is greater than the temperature difference between San Francisco and San Jose, which is 7.4°F.

Other resource areas could be affected as a result of GHGs. For example, increased global average temperature will cause increases to ocean temperatures and the Pacific Ocean strongly influences the climate within California. As the temperature of the ocean warms, it is anticipated that rain will fall instead of snow in the Sierra Nevada during the wet season. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. According to a California Energy Commission report, the snowpack portion of the supply could potentially decline by 70–90 percent by the end of the 21st century (CEC 2006b, p. 6). This phenomenon could lead to significant challenges securing an adequate water supply for a growing population.

Some models indicate that the increased ocean temperature could result in increased moisture into the state; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential for flood events, placing more pressure on California's levee/flood control system. Sea level has risen approximately 7 inches during the last century and, according to the CEC report, it is predicted to rise an additional 22–35 inches by 2100, depending on the future GHG emissions levels (CEC 2006b, p. 12), further straining the state's water conveyance infrastructure.

Another impact of climate change is increased fire hazard. Fire is an important natural disturbance within many California ecosystems that promotes vegetation and wildlife diversity, releases nutrients, and eliminates heavy fuel accumulations that can lead to catastrophic burns. The changing climate could alter fire regimes in ways that could have social, economic, and ecological consequences. (CEC 2005, p. 22) As the existing climate throughout California changes over time, mass migration of species, or worse, failure of species to migrate in time to adapt to the changes in climate, could also result.

Many factors contribute to an area being at risk or structural fire in terms of the local fire departments' capabilities to control them, including the construction size and type, built-in protection, density of construction, street widths, and occupancy size. Sources of wildfire risk in the Project area includes Reche canyon to the northwest and Lake Perris to the south. According to Figure 5.5-2, Floodplains and High Fire Hazard Areas of the *City of Moreno Valley General Plan FEIR* (MVGP FEIR), some Moreno MDP Facilities will be located within a high fire risk or substantial fire risk area while the majority of Facilities will be within urbanized areas. As stated in the IS/NOP (Appendix A), the Moreno MDP Facilities transport flood waters and will be impervious to damage from wildland fires.

Due to its weather, topography, and native vegetation, nearly all Southern California is at some risk from wildland fires also called wildfires. The extended droughts characteristic of California's Mediterranean

climate result in large areas of dry vegetation that provide fuel for wildland fires which can spread into urban areas. Wildland-urban fires occur when a fire burning in wildland vegetation gets close enough to ignite urban structures. Areas of dense, dry vegetation, particularly in canyon areas and hillsides, pose the greatest wildland fire potential.

Conservative estimates indicate the risk of large statewide wildfires, characterized as approximately 500 acres, would rise almost 35 percent by 2050 and 55 percent by 2100 under the medium temperature described previously. Under the low warming range, the increased risk of wildfires is nearly cut in half. (CEC 2005, p. 22.)

Wildfires affect public safety and have the potential to significantly impact public health through smoke inhalation. For example, a survey of 26 percent of all tribal households on the Hoopa Valley National Indian Reservation in northern California showed a 52 percent increase in medical visits for respiratory problems during a large fire in 1999, compared to the same period of 1998. More than 60 percent of those surveyed reported an increase in respiratory symptoms during the smoke episode, and 20 percent continued to report increased respiratory symptoms two weeks after the smoke cleared. The projected increases in fire season severity could lead to more "bad air" days. However, quantitative estimation of the impacts of future wildfire events is extremely difficult. The impacts of any fire are unique to that event, and are influenced not only by the magnitude, intensity, and duration of the fire, but also the proximity of the smoke plume to a population. (CEC 2005, p. 30.)

Climate change will affect the health of Californians by increasing the frequency, duration, and intensity of ambient conditions conducive to air pollution formation, oppressive heat, and wildfires. Not only are average temperatures expected to increase, but the projected increase in extreme temperatures is also expected to increase which can cause the most serious health impacts. The modeled warming scenarios indicate that the number of extremely hot and extremely cold days will increase by 2100. For Riverside/ San Bernardino metropolitan areas, the number of extremely hot days will increase approximately 40 to 80 days per year under the lower and higher warming scenarios, respectively. Recent studies suggest that no capacity for future adaptation to extreme heat is seen in San Bernardino/Riverside metropolitan areas. The results the San Bernardino/Riverside metropolitan areas actually indicate increased sensitivity during the hottest summers, which is counterintuitive to what might be expected in hot inland urban areas. Current investigations are underway seeking alternative explanations by taking greater account of socioeconomic factors (such as the availability of air conditioning, age structure of the population, and the housing stock) that might explain these non-intuitive results. If, for example, the San Bernardino/Riverside metropolitan area has a lesser proportion of air conditioned residents than other hot inland urban areas, increased heat could create an indoor environment that is almost intolerable and could lead to greater numbers of deaths. It is clear that a thorough investigation of these socio-economic issues is necessary to understand the increased sensitivity of San Bernardino/Riverside metropolitan area residents to heat during the hottest summers. (CEC 2006c, p. 6.)

GHG Inventory

Unlike criteria air pollutants and TACs, which are pollutants of regional and local concern, global climate change is a global problem and GHGs are global pollutants. Impacts of GHG emissions are a function of

their total atmospheric concentration and most GHGs are globally well mixed atmospheric constituents. This means that in contrast to the situation for criteria pollutants, the location of a particular GHG emission does not change its environmental impact.

Globally, for the years 2000 through 2005, the annual average emissions of fossil fuel-related carbon dioxide was 26.4 gigatons of CO_2 (one gigaton equals one billion MT) per year (IPCC 2007, Summary for Policy Makers p. 2). It should also be noted that the annual total U.S. emissions of GHG dropped 1.5 percent in 2006 from 7,181 million MT to 7,075 million MT due to warmer weather and decreased energy demand, according to the Energy Information Administration (EIA, p. 1). During the same timeframe, the U.S. economic output increased 2.9 percent (EIA, p. 2). This decline results in a GHG intensity reduction of 4.2 percent as a measure of gross domestic product (EIA, p. 2).

Worldwide, California is the 12th to 16th largest emitter of CO_2, and is responsible for approximately two percent of the world's CO_2 emissions (CEC 2006a, p. i). In 2004, the most recent year for which statewide data is available, the CEC reported that California produced 492 million gross metric tonnes (one metric tonne equals 2,205 pounds) of carbon dioxide-equivalent (CEC 2006a, p. 5).

In January 2007, Assembly Bill 1803 transferred responsibility for developing and maintaining the state's GHG inventory from the California Energy Commission (CEC) to CARB. Using the CEC GHG inventory as a starting point, CARB staff determined the state's 1990 GHG emissions level by conducting a comprehensive review of all GHG emitting sectors. The seven sectors are: Transportation, Electricity Generation, Industrial, Residential, Agriculture, Commercial, and Forestry.

In November 2007, the CARB released its staff report establishing a statewide 1990 GHG emission level and a 2020 emission limit (CARB 2007). As part of this staff report, CARB staff recommended an amount of 427 million metric tonnes of carbon dioxide equivalent ($MMTCO_2e$) as the total statewide GHG 1990 emissions level and 2020 emissions limit (CARB 2007, p. 2). The Board approved the 2020 limit on December 6, 2007. This limit is an aggregated statewide limit, rather than sector- or facility-specific. The staff report also included the statewide GHG emissions for 2004, which was 480 $MMTCO_2e$ (CARB 2007, p. 7).

While the inventory data numbers from the CEC and CARB are similar for 2004, these estimates have important differences. Emissions from individual sectors differ between CEC and CARB estimates by up to 30 percent due to updated data, methodologies, and differences in included and excluded emissions. Staff at CARB treated carbon stored in landfills differently than CEC by separately tracking stored carbon instead of considering it an emission sink within a landfill. In addition, the CARB estimate only includes intrastate aviation, whereas the CEC estimates include both interstate and intrastate flights. Staff also included emissions from international shipping and related port activities in California waters, whereas the CEC excluded all emissions from international ships. (CARB 2007, p. 9.)

Monitored Air Quality

The Project area is located within SCAQMD Source Receptor Area (SRA) 24. The most recent published data for the SRA 24 is presented in **Table 5.1-B – Air Quality Monitoring Summary – 2002–2011 (SRA**

24). This data indicates that the baseline air quality conditions in the Project area include occasional events of very unhealthful air. However, the frequency of smog alerts has dropped significantly in the last decade. Atmospheric concentrations of ozone and particulate matter are the two most significant air quality concerns in the Project area. It is encouraging to note that ozone levels have decreased in the last few years with approximately one-fifth or less days each year experiencing a violation of the state hourly ozone standard since 2000. Locally, no second stage alert (0.35 ppm/hour) has been called by SCAQMD in the last twenty years. In fact, the last second stage alert was in 1988 in Upland.

The California Air Resources Board (CARB) established a new 8-hour average California ozone standard of 0.07 ppm, effective May 17, 2006. The federal 1-hour ozone standard was revoked and replaced by the 8-hour average ozone standard of 0.08 ppm, effective in June 2005. The federal 8-hour ozone standard was recently revised from 0.08 ppm to 0.075 ppm and became effective on May 27, 2008.

The California NO_2 standards were amended and lowered the 1-hour standard from 0.25 ppm to 0.18 ppm and established a new annual standard of 0.030 ppm. The new standards became effective on March 20, 2008. A new federal 1-hour NO_2 standard of 0.100 ppm was established and became effective January 22, 2010.

Monitoring for PM-2.5 did not begin until 1999. Since then, the annual standard has been consistently exceeded as shown in **Table 5.1-B**. The 1997 federal annual average standard for PM-2.5 (15 micrograms per cubic meter [$\mu g/m^3$]) was upheld by the U.S. Supreme Court in February 2001. Effective in December 2006, the federal 24-hour PM-2.5 standard was revised from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. The state annual average standard for PM-2.5 (12 $\mu g/m^3$) was finalized in 2003 and became effective on July 5, 2003. Additionally, the federal annual PM-10 standard was revoked in December 2006.

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Table 5.1-B – Air Quality Monitoring Summary – 2002–2011 (SRA 24)

	Pollutant/Standard Source: SCAQMD	Monitoring Year									
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
No. Days Exceeded	**Ozone:**										
	Health Advisory - 0.15 ppm	1	1	0	0	3	0	0	0	0	0
	California Standard:										
	1-Hour - 0.09 ppm	59	67	37	11	76	66	65	53	42	44
	8-Hour - 0.07 ppm [a]	--	--	47	18	84	88	94	88	82	77
	Federal Primary Standards:										
	8-Hour - 0.08 ppm (0.075 ppm)[a]	41	47	19	3	53	37(73)	41(77)	(67)	(50)	(54)
	Max 1-Hour Conc. (ppm)	0.147	0.155	0.128	0.126	0.17	0.139	0.142	0.125	0.122	0.125
	Max 8-Hour Conc. (ppm)	0.117	0.121	0.103	0.103	0.122	0.116	0.114	0.108	0.107	0.112
No. Days Exceeded	**Carbon Monoxide:** [b]										
	California Standard:										
	1-Hour - 20 ppm	0	0	0	0	0	0	0	0	0	0
	8-Hour - 9.0 ppm	0	0	0	0	0	0	0	0	0	0
	Federal Primary Standards:										
	1-Hour - 35 ppm	0	0	0	0	0	0	0	0	0	0
	8-Hour - 9.0 ppm	0	0	0	0	0	0	0	0	0	0
	Max 1-Hour Conc. (ppm)	8.0	5	4	3	3	4	3	2	3	--
	Max 8-Hour Conc. (ppm)	3.0	3.7	3.0	2.5	2.1	2.9	2.0	1.9	1.8	1.4
No. Days Exceeded	**Nitrogen Dioxide:** [b]										
	California Standard:										
	1-Hour - 0.18 ppm, (Federal -100 ppb)	0	0	0	0	0	0	0	0	0	0
	Federal Standard:										
	Annual Arithmetic Mean (AAM) (ppm) [c]	0.024	0.022	0.017	0.022	0.020	0.021	0.019	0.017	0.017	0.017
	Max. 1-Hour Conc. (ppm)	0.10	0.09	0.09	0.08	0.08	0.07	0.09	0.08	0.06	0.06
No. Days Exceeded	**Sulfur Dioxide:** [b]										
	California Standards:										
	1-Hour – 0.25 ppm	0	0	0	0	0	0	0	0	0	0
	24-Hour – 0.04 ppm	0	0	0	0	0	0	0	0	0	0
	Federal Primary Standards:										
	24-Hour – 0.14 ppm[d]	0	0	0	0	0	0	0	0	0	0
	Annual Standard – 0.03 ppm [e]	No	No	No	No	No	No	No	No	No	--
	Max. 1-Hour Conc. (ppm)	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.02	0.05
	Max. 24-Hour Conc. (ppm)	0.002	0.012	0.015	0.011	0.004	0.002	0.003	0.003	0.005	--
No. Days Exceeded	**Suspended Particulates (PM10):**										
	California Standards:										
	24-Hour - 50 μg/m^3	24	19	15	19	19	32	12	9	1	3
	Federal Primary Standards:										
	24-Hour – 150 μg/m^3	0	0	0	0	0	0	0	0	0	0
	Annual Arithmetic Mean (μg/m^3) [f]	45.2	43.9	41.4	39.2	45.0	54.8	38.3	34.8	28.0	29.2
	Max. 24-Hour Conc. (μg/m^3)	100	142	83	80	125	120	85	80	51	65
No. Days Exceeded	**Suspended Particulates (PM2.5):** [b]										
	California and Federal Primary Standards:										
	24-Hour – 65 μg/m^3 (35μg/m^3) [g]	8	8	5	4	1(32)	3(33)	0(14)	0(12)	(4)	(4)
	Annual Arithmetic Mean (μg/m^3) [h]	27.5	24.9	22.1	21.0	19.0	19.1	16.4	15.3	13.2	13.6
	Max. 24-Hour Conc. (μg/m^3)	77.6	104.3	91.7	98.7	68.5	75.7	57.7	47.2	46.5	60.8

Note -- No data available. Ppm = parts per million; ppb = parts per billion

a. 2004 is first year of SCAQMD records for state 8-hour Ozone standard. Federal ozone standard is 0.075 ppm, effective May 27, 2008.
b. Metro Riverside County 1 air monitoring station (SRA 23) data summaries used because this pollutant not monitored for SRA 24.
c. Federal NO_2 standard is AAM > 0.053; State NO_2 standard of AAM > 0.030 effective March 20, 2008.
d. Federal SO_2 standard revoked 24-hour and AAM standards and established new 1-hour standard of 0.075 ppm, effective August 2, 2010.
e. Yes or No indicating whether or not the standard has been exceeded for that year.
f. Federal PM-10 standard is AAM> 50μg/m^3 was revoked December 17, 2006. State standard is AAM> 20μg/m^3, effective July 5, 2003.
g. Federal 24-hour PM-2.5 standard changed to 35μg/m^3 in 2006. Data for 2009 did not reflect old 24-hour standard.
h. Federal PM-2.5 standard is annual average (AAM) > 15μg/m^3. State standard is AAM > 12μg/m^3.

5.1.2 Related Regulations

Criteria Air Pollutants

The federal and state ambient air quality standards (AAQS) establish the context for the local air quality management plans (AQMP) and for determination of the significance of a project's contribution to local or regional pollutant concentrations. The federal and state AAQS are presented in **Table 5.1-B**. The AAQS represent the level of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other diseases or illness and persons engaged in strenuous work or exercise, all referred to as “sensitive receptors.” SCAQMD defines a "sensitive receptor" as a land use or facility such as schools, childcare centers, athletic facilities, playgrounds, retirement homes, and convalescent homes. (SCAQMD 1993, p. 1-2.)

Both federal and state Clean Air Acts require that each non-attainment area prepare a plan to reduce air pollution to healthful levels. The 1988 California Clean Air Act and the 1990 amendments to the federal Clean Air Act (CAA) established new planning requirements and deadlines for attainment of the air quality standards within specified time frames which are contained in the State Implementation Plan (SIP). Amendments to the SIP have been proposed, revised, and approved over the past decade. (SCAQMD 1993, p. 2-4) The currently adopted clean air plan for Basin is the 1999 SIP Amendment, approved by the U.S. Environmental Protection Agency (USEPA) in 2000.

The AQMP for Basin establishes a program of rules and regulations directed at attainment of the state and national air quality standards. The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections. The SCAQMD adopted an updated AQMP in June 2007, which outlines the air pollution measures needed to meet federal health-based standards for particulates (PM-2.5) by 2014 and for ozone by 2023 (SCAQMD 2007). The AQMP was forwarded to the CARB for review and approved on September 27, 2007. It was sent to the USEPA for its final approval and to be included as a revision to California’s SIP on November 16, 2007. On November 22, 2010, USEPA published its notice of proposed partial approval and partial disapproval of the 2007 AQMP PM-2.5 Plan. The disparity exists primarily because the attainment demonstration relies too heavily (i.e., greater than 10 percent) on emissions reductions from several state rules that have not been finalized or submitted to USEPA for approval. However, according to the SCAQMD Board Meeting Agenda on March 4, 2011, the proposed revision to the PM-2.5 and Ozone SIP for the South Coast Air Basin and Coachella Valley will not adversely impact the 2007 SIP attainment demonstration, or the overall SIP reduction commitment.

The CARB maintains records as to the attainment status of air basins throughout the state, under both state and federal criteria. The portion of Basin within which the proposed Project is located is

designated as a non-attainment area for NO_2 under state standards, and as a non-attainment area for ozone, PM-10, and PM-2.5 under both state and federal standards.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. They include the application of water or chemical stabilizers to disturbed soils at least twice a day; covering all haul vehicles before transport of materials; restricting vehicle speeds on unpaved roads to 15 mph; and sweeping loose dirt from paved site access roadways used by construction vehicles. In addition, it is required to establish a vegetative ground cover on disturbance areas that are inactive within 30 days after active operations have ceased. Alternatively, an application of dust suppressants can be applied in sufficient quantity and frequency to maintain a stable surface. Rule 403 also requires grading and excavation activities to cease when winds exceed 25 mph.

Toxic Air Contaminants

Toxic Air Contaminants are regulated under both federal and state laws. Federally, the 1970 Amendments to the Clean Air Act included a provision to address air toxics. California regulates toxic air contaminants through its air toxics program, mandated in Chapter 3.5 (Toxic Air Contaminants) of the Health and Safety Code §39660, *et seq.*, and Part 6 Air Toxics "Hot Spots" Information and Assessment (§44300, *et seq.*). CARB, working in conjunction with the Office of Environmental Health Hazard Assessment (OEHHA), identifies toxic air contaminants. Air toxic control measures may then be adopted to reduce ambient concentrations of the identified toxic air contaminant below a specific threshold based on its effects on health, or to the lowest concentration achievable through use of best available control technology for toxics (T-BACT). The program is administered by the CARB. Air quality control agencies, including the SCAQMD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by CARB.

Greenhouse Gas Emissions

Federal

Previously the U.S. EPA (USEPA) had not regulated GHGs under the Clean Air Act because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In Massachusetts v. Environmental Protection Agency et al. (127 S. Ct. 1438 (2007)), however, the U.S. Supreme Court held that GHGs are pollutants under the Clean Air Act and directed the USEPA to decide whether the gases endangered public health or welfare. On December 7, 2009, the USEPA issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the USEPA has not promulgated major regulations on GHG emissions, but it has begun to develop them.

The USEPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before Congress adopts major climate change legislation. The USEPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress. To date, Congress, under the Consolidated Appropriations Act of 2008 (HR 2764), has established mandatory GHG reporting requirements for some emitters of GHGs. On September 22, 2009, the USEPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires annual reporting to the USEPA of GHG emissions from large sources and suppliers of GHGs, including facilities that emit 25,000 MT or more a year of GHGs.

State

Title 24

For decades, California's Building Codes have mandated energy efficiency. Since the production of energy uses large quantities of fossil fuels, efficient use of energy reduces GHGs. California Code of Regulations Title 24 Part 6; California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The amendments made in October 2005 require new homes to use half the energy they used only a decade ago. In September 2008, the new 2008 standards were adopted to update the Building Energy Efficiency Standards contained in the California Code of Regulations (CCR), Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1. The amended 2008 standards went into effect in January 2010. Energy efficient buildings require less electricity, and electricity production by fossil fuels results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

The California Building Standards Commission adopted the nation's first green building standards on July 17, 2008. The California Green Building Standards Code, also known as the CalGreen Code, (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that become mandatory in the 2010 edition of the Code (January 2011), on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

Assembly Bill 1493 (Pavley)

In addition to building code requirements, California is leading the U.S. in regulating the emissions of GHGs directly. In July 2002, Governor Gray Davis signed California Assembly Bill (AB) 1493 (Pavley), which requires CARB to develop and adopt regulations that reduce GHG emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB will apply to 2009 and later model year vehicles. CARB estimates that the regulation, if implemented, will reduce GHG emissions from the light duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030. The USEPA initially denied the Clean Air Act waiver required to implement AB 1493 on December 19, 2007.

However, in January 2009, President Barack Obama issued a directive to the USEPA to reconsider California's request for the waiver. The USEPA granted California's request for a Clean Air Act waiver on June 30, 2009.

Executive Order S-03-05

In June 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. This Order calls for the following GHG emission reduction targets to be established: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80 percent below 1990 levels by 2050. S-3-05 also requires that the Secretary of the California Environmental Protection Agency (CalEPA) shall coordinate oversight of the efforts made to meet the targets with: the Secretary of the Business, Transportation and Housing Agency, Secretary of the Department of Food and Agriculture, Secretary of the Resources Agency, Chairperson of the Air Resources Board, Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary of CalEPA leads a "Climate Action Team" made up of representatives from the agencies listed above to implement GHG emission reduction programs and report on the progress made toward meeting the statewide GHG targets that were established in the executive order. Per the Executive Order, the first Climate Action Team report to the Governor and the Legislature was released in March 2006.

Assembly Bill 32

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 directs the California Air Resources Board (CARB) to implement regulations for a cap on sources or categories of sources of GHG emissions. The bill requires that CARB develop regulations to reduce emissions with an enforcement mechanism to ensure that the reductions are achieved, and to disclose how it arrives at the cap. It also includes conditions to ensure businesses and consumers are not unfairly affected by reductions.

AB 32 requirements and milestones are as follows:

- June 30, 2007 – Identification of discrete early action greenhouse gas emissions reduction measures. Three early action measures were approved by CARB on June 21, 2007. Six other discrete early action measures were subsequently approved.
- January 1, 2008 – Establish a 1990 baseline GHG emissions level and approval of a statewide limit equivalent to that level. Adoption of mandatory reporting and verification requirements concerning GHG emissions. On December 6, 2007, CARB approved a statewide limit on GHG emissions levels for the year 2020 consistent with the determined 1990 baseline.
- January 1, 2009 – Adoption of a scoping plan for achieving GHG emission reductions. On December 11, 2008, the CARB Board adopted the *Climate Change Scoping Plan* (Scoping Plan) at its meeting.
- January 1, 2010 – Adoption and enforcement of regulations to implement the "discrete" actions. The Board identified nine discrete early action measures including regulations affecting landfills, motor vehicle fuels, refrigerants in cars, tire pressure, port operations, and other sources in 2007

that included ship electrification at ports and reduction of high global warming potential (GWP) gases in consumer products. Regulatory development for the remaining measures is ongoing.

- January 1, 2011 – Adoption of GHG emissions limits and reduction measures by regulation.
- January 1, 2012 – GHG emissions limits and reduction measures adopted in 2011 become enforceable.

AB 32 codifies S-3-05's year 2020 goal by requiring that statewide GHG emissions be reduced to 1990 levels by the year 2020.

Under AB 32, CARB published its *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions* in California in October 2007. There are 44 early action measures, both regulatory and non-regulatory, and are currently underway or to be initiated by the CARB in the 2007 to 2012 timeframe. The early action measures apply to the fuels, transportation, forestry, agriculture, education, energy efficiency, commercial, waste, fuels, cement, oil and gas, electricity, and fire suppression sectors. As noted in the milestones above, nine of the early action measures are discrete early action measures that are regulatory and enforceable by January 1, 2010. CARB estimates that the 44 recommendations have the potential to result in GHG reductions of at least 42 $MMTCO_2E$ by 2020, representing approximately 25 percent of the 2020 target.

As discussed in the Scoping Plan (CARB 2008b), the projected total business-as-usual emissions for year 2020 (596 $MMTCO_2E$) must be reduced approximately 30 percent to achieve CARB's approved 2020 emission target of 427 $MMTCO_2E$. This is approximately 15 percent reduction in today's levels. The Scoping Plan identifies recommended measures for several GHG emission sectors and the associated emission reductions to meet the 2020 emissions target. Each sector has a different emission reduction target. The majority of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements for reducing California's GHG to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

Renewable Portfolio Standard (RPS)

A regulation establishing the 33 percent renewable electricity standard was adopted unanimously on September 23, 2010 by CARB. The standard will promote green jobs to construct and run renewable facilities in California, reduce hundreds of tons of harmful air pollution, insulate California's economy from the shock of volatile natural gas prices and help establish the state as a global leader in the research, development and manufacturing of clean, renewable energy sources.

Senate Bill 1368

Also in September 2006, Governor Arnold Schwarzenegger signed Senate Bill (SB) 1368 which calls for the adoption of a GHG performance standard for in-state and imported electricity generators to mitigate climate change. On January 25, 2007, the California Public Utilities Commission adopted an interim GHG emissions performance standard. This standard is a facility-based emissions standard requiring all new long-term commitments for baseload generation to serve California consumers with power plants that have emissions no greater than a combined cycle gas turbine plant. The established level is 1,100 pounds of CO_2 per megawatt-hour.

Executive Order S-01-07

Executive Order S-01-07 was approved by the Governor on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It also required that a Low Carbon Fuel Standard for transportation fuels be established for California which was approved by CARB on April 23, 2009. The regulation is designed to increase the use of alternative fuels, replacing 20 percent of the fuel used by cars in California with clean alternative fuels by 2020, including electricity, biofuels, hydrogen, and other options.

Senate Bill 97 (CEQA Guideline Amendments)

In August 2007, Governor Arnold Schwarzenegger signed Senate Bill (SB) 97, CEQA: Greenhouse Gas Emissions. The bill required the Office of Planning and Research (OPR), by July 1, 2009, to prepare guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. The Natural Resources Agency was required to certify and adopt those guidelines by January 1, 2010. On June 19, 2008, OPR released an interim technical advisory for addressing climate change in CEQA documents (OPR 2008). The recommended approach is to identify and quantify project-related GHG emissions; determine its significance; and if the impact is found to be potentially significant, implement mitigation measures or alternatives that will reduce the impact below significance (OPR 2008). Further, the guidance states that the lead agency is not responsible for completely eliminating all project-related GHG emissions (OPR 2008).

Pursuant to SB 97, OPR released and the Natural Resources Agency adopted CEQA Guideline Amendments (Adopted Amendments) addressing GHG emissions on December 30, 2009 (OPR 2009). The amended State *CEQA Guidelines* went into effect in March 2010. As a result, CEQA now requires a discussion of potential climate change impacts for projects that require environmental analysis. Lead agencies are now required to consider the adverse effects of a project's cumulative contribution to GHG

emissions on the environment and determine if a project's climate change impact may be significant. The amended State *CEQA Guidelines* provide that significance thresholds may be quantitative, qualitative, or in the form of performance-based standards. Various agencies, including the CARB and SCAQMD, have been developing and drafting standards and guidelines for determining the cumulative significance of a project's GHG emissions on global climate change. However, there is currently no single accepted industry practice or methodology for analyzing GHG impacts under CEQA. The approach used in this analysis is to disclose the most recent regulatory activity. The Project's GHG emissions will be evaluated according to the draft thresholds proposed by SCAQMD, discussed in more detail below.

Senate Bill 375

On September 30, 2008, Governor Arnold Schwarzenegger signed Senate Bill (SB) 375 (Steinberg). SB 375 focuses on housing and transportation planning decisions to reduce fossil fuel consumption and conserve farmlands and habitat. This legislation is important to achieving AB 32 goals because GHG emissions associated with land use, which includes transportation, are the single largest source of emissions in California. SB 375 provides a path for better planning by providing incentives to locate housing developments closer to where people work and go to school, allowing them to reduce vehicle miles traveled (VMT) every year.

To achieve these goals, SB 375 will:

- Require the regional transportation plan for each of the state's major metropolitan areas to adopt a "sustainable community strategy" that will meet the region's target for reducing GHG emissions from cars and light trucks. These strategies would get people out of their cars by promoting smart growth principles such as: development near public transit; projects that include a mix of residential and commercial use; and projects that include affordable housing to help reduce new housing developments in outlying areas with cheaper land and reduce vehicle miles traveled (VMT).
- Create incentives for implementing the sustainable community strategies by allocating federal transportation funds only to projects that are consistent with the emissions reductions.
- Provide various forms of CEQA relief by allowing projects that are shown to conform to the preferred sustainable community strategy through the local general plans (and therefore contribute to GHG reduction) to have a more streamlined environmental review process. Specifically, if a development is consistent with the sustainable community's strategy and incorporates any mitigation measures required by a prior EIR, then the environmental review does not have to consider: a) growth-inducing impacts, or b) project-specific or cumulative impacts from cars on global climate change or the regional transportation network. In addition, a narrowly-defined group of "transit priority projects" will be exempt from CEQA review.

On September 23, 2010, CARB adopted regional targets for reducing GHG emissions in 2020 and 2035 associated with passenger vehicles in the state's 18 Metropolitan Planning Organizations (MPOs). The Southern California Association of Governments (SCAG) is the local MPO for the region. The SCAG targets are an eight percent reduction in per capita emissions by 2020 and a 13 percent reduction in per capita GHG emissions by 2035 (the 2035 target is conditioned on discussion with the MPO). With the

targets adopted, SCAG will develop and finalize a Sustainable Community Strategy (SCS) as part of the 2012 Regional Transportation Plan.

CARB's Preliminary Draft Staff Proposal for Interim Significance Thresholds

Pursuant to OPR's request to recommend significance thresholds, CARB released the Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significant Thresholds for Greenhouse Gases under CEQA on October 24, 2008 (CARB 2008a). The current recommendations are a sector-specific approach to develop thresholds for projects that result in a substantial portion of the state's GHG emissions. The preliminary interim thresholds are for two sectors: 1) industrial projects, and 2) residential and commercial projects. For industrial projects that do not qualify under existing CEQA statutory or categorical exemptions, CARB recommends that GHG-related impacts may be found to be insignificant if they: (1) meet interim performance standards for construction and transportation-related emissions; and (2) emit no more than 7,000 $MTCO_2E$ from non-transportation operational sources. CARB recommends that residential and commercial projects that do not qualify under existing CEQA statutory or categorical exemptions are presumed to have a less than significant impact related to climate change if: (1) construction activities meet an interim CARB performance standard for construction-related emissions; (2) operational activities: i) meet the California Energy Commission's Tier II Energy Efficiency goal; ii) meet an interim CARB performance standard for water use; iii) meet an interim CARB performance standard for waste; and iv) meet an interim CARB performance standard for transportation; and (3) the project will emit no more than a "to be determined" limit for $MTCO_2E$ per year. Although the CARB 2008 Draft Guidance indicated CARB's intent to provide final guidance to OPR before OPR issued its draft CEQA guidelines, CARB did not release final guidance before the CEQA Guideline Amendments were adopted in December 2009. Because no further guidance has been issued as of April 2014, these recommendations are not utilized in the Project's analysis; they are briefly addressed here for the purpose of full disclosure.

Regional

In addition to current rules and regulations which also address GHG, SCAQMD plans to provide guidance to local lead agencies on determining significance for GHG in their CEQA documents by convening a GHG CEQA Significance Threshold Working Group to work with SCAQMD staff on developing GHG CEQA significance thresholds. The SCAQMD began hosting monthly working group meetings in April 2008. The result of the October 2008 working group meeting was a *Draft AQMD Staff CEQA Greenhouse Gas Significance Threshold* (SCAQMD 2008a) and the *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008b). The Draft Threshold is intended to be interim guidance until statewide significance thresholds or guidance is established. The proposed significance threshold is a tiered approach which allows for flexibility by establishing multiple thresholds to cover a broad range of projects.

SCAQMD proposes three tiers of compliance that may lead to a determination that impacts are less than significant, including: (1) projects with greenhouse gas emissions within budgets set out in approved regional plans, to be developed under the SB 375 process; (2) projects with GHG emissions that are below designated quantitative thresholds: (i) industrial projects with an incremental GHG emissions

increase that falls below (or is mitigated to be less than) 10,000 $MTCO_2E$/yr; or (ii) commercial and residential projects with an incremental GHG emissions increase that falls below (or is mitigated to be less than) 3,000 $MTCO_2E$/yr, provided that such projects also meet energy efficiency and water conservation performance targets that have yet to be developed; (3) projects that purchase GHG offsets which, either alone or in combination with one of the three tiers mentioned above, achieve the target significance screening level.

On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for projects where the SCAQMD is the lead agency. Currently, the Board has only adopted thresholds relevant to industrial (stationary source) projects.

Since December of 2008, the SCAQMD continued hosting the working group meetings and revised the draft threshold proposal several times although it did not officially provide these proposals in a subsequent document. The most recent working group meeting on September 28, 2010[2] proposed two options lead agencies can select from for GHG screening thresholds of significance in residential and commercial projects and proposes to expand the industrial GHG threshold for use by lead agency. Option 1 proposes a threshold of 3,000 $MTCO_2E$/year for all residential and commercial projects; Option 2 proposes a threshold value by land use type where the numeric threshold is 3,500 $MTCO_2e$/year for residential projects; 1,400 $MTCO_2E$/year for commercial projects; and 3,000 $MTCO_2E$/year for mixed use projects. Although both Options are recommended, a lead agency is advised to use only one Option, and to use it consistently. The Project's GHG emissions will be compared to the Option 1 of the SCAQMD recommendations.

5.1.3 Significance Thresholds Criteria

The Initial Study Environmental Checklist form found in Appendix G of the CEQA Guidelines defines thresholds of significance for Air Quality and GHG Emissions. The Notice of Preparation for the PEIR included the Initial Study Environmental Checklist to show the areas being analyzed in the PEIR; refer to Appendix A of this PEIR. Accordingly and based on the IS, the Project may be considered to have a significant impact on Air Quality and GHG Emissions in the following areas if the Project would:

- (Threshold A) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- (Threshold B) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- (Threshold C) Expose sensitive receptors to substantial pollutant concentrations;
- (Threshold D) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or

[2] http://www.aqmd.gov/ceqa/handbook/GHG/nov19mtg/nov19.html

- (Threshold E) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.1.4 Project Design Considerations

Design considerations refer to ways in which the proposed Project will limit or mitigate for potential impacts to air quality or GHG, through the design of the Project. No specific design measures have been implemented that would avoid or reduce potentially significant impacts to air quality or GHG. However, the Facilities identified in the Moreno MDP will be constructed in numerous phases, minimizing emissions and dust generation at any given time.

5.1.5 Environmental Impacts before Mitigation

Threshold A: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

Air quality impacts can be divided into short-term and long-term impacts. Short-term impacts are usually related to construction and grading activities. Long-term impacts are usually associated with build-out conditions and long-term operations of a project. Both short-term and long-term air quality impacts can be analyzed on a regional and localized level. Regional air quality thresholds examine the effect of project emissions on the air quality of the Basin, while localized air quality impacts examine the effect of project emissions on the neighborhood around the Project site. The following information was derived from the AQIA which is found in Appendix B of this Draft PEIR.

SCAQMD's Regional Significance Threshold (RST) Analysis

The thresholds contained in the SCAQMD CEQA Air Quality Handbook are considered regional thresholds and are shown in **Table 5.1-C – SCAQMD CEQA Regional Significance Thresholds**. These regional thresholds were developed based on the SCAQMD's treatment of a major stationary source.

Table 5.1-C – SCAQMD CEQA Regional Significance Thresholds

Emission Threshold	Units	VOC	NO_X	CO	SO_X	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55
Operations	lbs/day	55	55	550	150	150	55

Short-Term Analysis

Short-term emissions consist of fugitive dust and other particulate matter, as well as exhaust emissions generated by construction-related vehicles. Short-term impacts will also include emissions generated during construction as a result of operation of personal vehicles by construction workers, asphalt degassing, and architectural coating (painting) operations.

The Project will be required to comply with existing SCAQMD rules for the reduction of fugitive dust emissions. SCAQMD Rule 403 establishes these procedures. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, managing haul road dust by application of water, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph,

sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 miles per hour and establishing a permanent, and stabilizing ground cover on finished sites. In addition, projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day are required to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size of the Project (analyzed facilities are less than 50 acres) a Fugitive Dust Control Plan or Large Operation Notification would not be required.

Short-term emissions were evaluated using the CalEEMod version 2011.1.1 computer program. The model evaluated emissions resulting from a reasonably foreseeable representative project (described later in this section). Construction timing and overall phasing sequence of the Moreno MDP Facilities are currently unknown; however, it is anticipated that construction would occur over many years. Due to funding availability, construction could potentially occur intermittently over the next 10 to 50 years. Actual air quality impacts would depend upon the types and lengths of MDP Facilities constructed and on the timing of multiple projects located in the same vicinity. By nature of a Programmatic EIR, project components have yet to be designed; thus, construction specifics are currently unknown, and therefore this analysis is somewhat speculative. **This analysis uses conservative assumptions in an attempt to provide a worst-case scenario and to not understate any potential impacts.**

For modeling purposes, it was assumed that construction of the representative project could start no sooner than September 2014. Although MDP Facility construction may not start in September 2014, assuming construction would occur in 2014 represents a conservative estimate of emissions because vehicle and equipment emissions generally improve over time. The default parameters within CalEEMod were used and these default values reflect a worst-case scenario, which means that any other MDP Facility emissions are expected to be equal to or less than the estimated construction emissions modeled.

To provide a worst-case analysis of the Moreno MDP, a representative project was identified for construction of MDP Facilities. This representative project entails a typical (i.e., usual) construction scenario, including anticipated phasing, construction equipment, area disturbed during grading activities, and export of excavated material. **The representative project consists of site preparation, grading, and installation during construction of a storm drain, a trapezoidal channel (partially concrete-lined), and a detention basin.** Construction scenario assumptions were based on anticipated construction of and along Line F and Line F-2, which include the Cactus Basin (see **Table 3-B –Moreno MDP Facilities Overview**). These MDP Facilities were chosen as the representative project in order to determine the maximum reasonably foreseeable air quality impacts or worst-case scenario associated with construction of the MDP Facilities. Therefore, while actual construction could differ from the scenario analyzed in this Draft PEIR, the modeled analysis and estimated maximum daily emissions included herein represent a conservative assessment of air quality impacts associated with anticipated construction of MDP Facilities.

Modeled construction for the representative project consists of the following activities, which are assumed to be constructed sequentially for the purposes of this analysis:

Basin Excavation:

- Construction of a 28.5-acre basin is anticipated to require approximately two months, of which site preparation is assumed for one week and grading/excavation of the basin is assumed for 1.5 months, beginning no earlier than September 2014.
- Approximately 429,000 cubic yards of soil will be exported from the basin. A maximum disturbance area of four acres is assumed to occur per day.

Trapezoidal Channel (partially lined):[3]

- Construction of approximately 3,800 linear feet of open, trapezoidal channel will begin no earlier than September 2014 and is expected to last eight months.
- Site Preparation is expected to last two weeks and will occur before grading operations.
- Grading/excavation are anticipated to require two months. The footprint for the grading/excavation of the channel is anticipated to disturb 200 feet per day. Excavation to a depth of six feet is anticipated, resulting in approximately 74,400 cubic yards of soil export.
- Construction of the channel is anticipated to take approximately six months after grading/excavation.

Storm Drain Installation:

- Construction of an approximately1,800-linear foot underground storm drain is expected to begin no earlier than September 2014 and last approximately one month.
- A trench depth of 10 feet is assumed, resulting in approximately 8,000 cubic yards of potential soil export.
- Approximately 25,200 square feet (0.58 acres) of surface area will be covered in asphalt once the pipeline is in place.

The construction equipment estimated to be used for each analyzed activity is shown in Appendix A of the AQIA and is based on the District's input and typical construction practices. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week. To evaluate Project compliance with SCAQMD Rule 403 for fugitive dust control, the modeling utilized the mitigation option of watering the representative project site three times daily which achieves a control efficiency of 61 percent for PM-10 and PM-2.5 emissions.

Table 5.1-D summarizes the estimated construction emissions for the representative project.

[3] Also referred to as soft-bottom channels in other sections of the Draft PEIR.

Table 5.1-D – Unmitigated Estimated Maximum Daily Construction Emissions

Activity	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Basin Excavation						
Site Preparation	3.35	27.55	14.69	0.03	1.24	1.17
Grading	69.69	787.87	380.70	1.23	1,028.41	37.52
Trapezoidal Channel Construction						
Site Preparation	0.92	6.67	5.50	0.01	0.40	0.36
Grading	15.55	153.12	81.39	0.22	184.29	9.66
Construction	0.09	0.69	0.66	0.00	0.12	0.04
Storm Drain Installation						
Grading	6.76	64.33	34.96	0.08	27.75	4.59
Paving	2.15	11.79	8.19	0.01	1.09	0.97
Maximum	**69.69**	**787.87**	**380.70**	**1.23**	**1,028.41**	**37.52**
Exceeds Threshold?	**No**	**YES**	**No**	**No**	**YES**	**No**

Notes: See Appendix A of the AQIA for model output report. Numbers may not match due to rounding within the model. Results shown were modeled using the representative project, which is the maximum reasonably foreseeable air quality impacts, or worst-case scenario associated with implementation of the Moreno MDP.

As shown in **Table 5.1-D** above, criteria pollutant emissions from construction of the representative project will exceed the SCAQMD regional daily thresholds for NO_X and PM-10, but will not exceed the thresholds for VOC, CO, SO_2, or PM-2.5. The main source of NO_X emissions are from on-road vehicle exhaust from soil hauling and construction equipment while the main source of PM-10 emissions is from hauling during basin and channel excavation activities.

Representative project modeling assumed that construction of MDP Facilities (**Table 5.1-D**) would occur sequentially (i.e. one after another). In the event two construction activities would overlap, the combined emissions from both activities would not exceed additional SCAQMD thresholds for criteria pollutants, with the exception of VOC emissions. If the two activities that would generate the greatest amount of emissions (i.e., basin excavation (grading) and trapezoidal channel grading) would occur simultaneously, then VOC emissions could be as high as 85 pounds per day. Accordingly, based on the SCAQMD's quantitative significance thresholds and the maximum emissions presented in **Table 5.1-D**, in addition to impacts from NO_X and PM-10, significant VOC emissions, would result if two construction phases occurred concurrently. Please see the discussion under the heading "Threshold A Conclusion" for additional information regarding the significance determination and implementation of mitigation.

Long-Term Analysis

Long-term air quality analysis addresses the post-construction impacts related to the Moreno MDP Facilities. Once an MDP Facility is constructed, it would require maintenance in order to retain flood control capacity. It is expected that the District will operate and maintain the MDP Facilities. Maintenance of storm drains and open channels typically consists of keeping those facilities and their side drains clear of debris and sediment, as well as repairing access roads and fences. On rare occasions, major repairs may be required following damaging storm events. Thus, major grading is not expected to routinely occur while maintaining the underground storm drains and open channels. In addition to maintenance activities required for the proposed storm drains and open channels, the routine maintenance of the partially-lined channels and basins likely require the removal of deposition, repair of eroded slopes, and reduction of fire hazard by annual mowing and application of herbicides. Vegetation may be removed or mowed annually, or as necessary, to provide the designed hydraulic capacity. Anticipated maintenance activities may require the temporary and short-term use of an excavator, small tractor, or loader, and operation of light-duty trucks utilized by maintenance workers. Most maintenance projects would be completed in one day. MDP Facility operation and maintenance would be similar to the District's existing maintenance operations and the Project does not propose new long-term uses. Therefore, long-term air quality impacts associated with operational air pollutant emissions will be less than significant.

Regional Significance Threshold Conclusion

Based on the regional significance threshold analysis for the representative project, the short-term construction emissions will exceed the daily regional thresholds set by SCAQMD for NO_X and PM-10 and mitigation measures will be required. If two construction activities occur concurrently, additional VOC impacts may result. As the Moreno MDP does not propose new long-term uses, no new long-term air quality impacts will result.

SCAQMD's Localized Significance Threshold (LST) Analysis

As part of the SCAQMD's environmental justice program, attention has been focused on localized effects of air quality. Staff at SCAQMD has developed localized significance threshold (LST) methodology (SCAQMD 2008) that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts (both short-term and long-term). LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area (SRA). The Moreno MDP is located within SRA 24.

Methodology

The emissions analyzed under the LST methodology are NO_2, CO, PM-10, and PM-2.5. For attainment pollutants, NO_2 and CO, the LSTs are derived using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any ambient air quality standard for a particular source receptor area. LSTs for NO_2 and CO are derived by adding the incremental emission impacts from the project activity to the peak background NO_2 and CO concentrations and comparing the

total concentration to the state ambient air quality standards. The state standard for NO_2 is the 1-hour state standard of 18 parts per hundred million and for CO it is the 1-hour and 8-hour state standards of 9 parts per million (ppm) and 20 ppm respectively. For PM-10 and PM-2.5, for which the Basin is non-attainment, the LSTs are derived using an air quality dispersion model to back-calculate the emissions necessary to make an existing violation in the specific source receptor area worse, using the allowable change in concentration thresholds approved by the SCAQMD. For PM-10 and PM-2.5, the approved 24-hour concentration

Short-Term Analysis

According to the LST methodology, only on-site emissions need to be analyzed. Emissions associated with hauling, vendor trips, and worker trips are mobile source emissions that occur off-site and need not be considered. SCAQMD has provided LST lookup tables and sample construction scenarios[4] to allow users to readily determine if the daily emissions for proposed construction or operational activities could result in significant localized air quality impacts for projects five acres or smaller. Although some facilities are larger than five acres, it is anticipated that an area no larger than four acres would be disturbed per day during construction of a typical project, which corresponds to the detention basin.[5] Because the representative project consist of three types of facilities of varying size, the LST analysis for the representative project is analyzed independently and the corresponding LST lookup tables were used for construction emissions. Default information contained in the LST sample construction scenarios for each analyzed facility was modified using Project-specific information such as the construction equipment usage information from the CalEEMod data found in Appendix A of the AQIA.

The LST thresholds are estimated using the maximum daily disturbed area (in acres) and the distance of the Project to the nearest sensitive receptors (in meters). The Moreno MDP area includes many types of sensitive receptors consisting of schools, child care centers, athletic facilities, playgrounds, retirement homes and convalescent homes adjacent to and in close proximity with the majority of the MDP Facilities. However, existing residences are the nearest sensitive receptors in the Project vicinity for each facility within the representative project. The Cactus Basin is separated from its nearest sensitive receptors by Cactus Avenue to the south at a distance of approximately 100 feet (30 meters) and Brodiaea Avenue to the north at a distance of approximately 100 feet (30 meters). Line F will traverse through predominantly vacant land and will be separated from the nearest sensitive receptors, by approximately 150 feet (46 meters) as it crosses Brodiaea Avenue. Line F-2 will be constructed within Redlands Boulevard immediately adjacent to existing residences. The closest receptor distance on the LST look-up tables is 25 meters. According to SCAQMD Methodology, projects with boundaries closer than 25 meters to the nearest receptor should use LST's for receptors located at 25 meters. Therefore, a receptor distance of 25 meters was chosen for all the analyzed facilities, to provide a worst-case scenario. The results are summarized in **Table 5.1-E – Unmitigated LST Results for Construction Emissions**.

[4] http://www.aqmd.gov/ceqa/handbook/LST/LST.html

[5] http://www.aqmd.gov/ceqa/handbook/LST/CalEEModguidance.pdf

Table 5.1-E – Unmitigated LST Results for Construction Emissions

Activity	Peak Daily Emissions (lb/day)			
	NO_X	CO	PM-10	PM-2.5
Basin Excavation				
25 meter LST Threshold for 4-acre per day	**237**	**1,346**	**11**	**7**
Site Preparation	33.5	14.9	6.4	2.4
Site Grading	108.6	52.2	10.0	5.6
Exceeds Threshold?	**No**	**No**	**No**	**No**
Trapezoidal Channel				
25 meter LST Threshold for 3-acre per day	**203**	**1,114**	**9**	**5**
Site Preparation	20.9	10.8	3.3	1.4
Site Grading	64.6	33.7	4.9	3.2
Pipeline Construction	1.8	0.8	0.1	0.1
Exceeds Threshold?	**No**	**No**	**No**	**No**
Storm Drain				
25 meter LST Threshold for 1-acre per day	**118**	**602**	**4**	**3**
Site Grading	31.9	16.7	1.8	1.5
Asphalt and Paving	12.2	7.9	0.8	0.8
Exceeds Threshold?	**No**	**No**	**No**	**No**

Note: LST Threshold for the 3-acre and 4-acre site has been calculated by using Appendix K of SCAQMD's LST Methodology, dated February 2005, available at SCAQMD. Each activity occurs separately. Results shown were modeled using the representative project, which is the maximum reasonably foreseeable air quality impacts, or worst-case scenario associated with implementation of the Moreno MDP.

As shown in **Table 5.1-E**, short-term construction emissions from the representative project facilities will not exceed the SCAQMD-established LST for any criteria pollutant.

Long-Term Analysis

The proposed drainage facilities may include channels, storm drains, levees, basins, dams, or any other conveyance capable of feasibly relieving flooding problems within the plan area. There would be no long-term operation of the proposed MDP Facilities that would generate localized emissions that could expose sensitive receptors to substantial pollutant concentrations. Maintenance activities would be temporary and would not represent a long-term source of potential localized emissions that would impact sensitive receptors within the MDP Boundary.

Localized Significance Threshold Analysis Conclusion

Based on the LST analysis, the short-term construction of the Moreno MDP will not result in localized air quality impacts to sensitive receptors within the Project vicinity. Due to the lack of any new long-term source of emissions, long-term LST impacts are considered less than significant. Therefore, mitigation measures will not be required.

Threshold A Conclusion

Based on the regional analysis provided above, short-term construction emissions will exceed daily regional thresholds set by SCAQMD for NO_X and PM-10 during construction of the representative project, where each activity is constructed sequentially. If the two activities with the greatest emissions are constructed concurrently, VOC impacts may result. Therefore, based on the analysis of the representative project, implementation of the Moreno MDP could potentially result in significant impacts to VOC, NO_X, and PM-10 emissions when construction of MDP Facilities occurs sequentially or concurrently. **It is important to note that storm drain installation (or any activity of similar magnitude) alone will not exceed any applicable SCAQMD thresholds and not result in significant air quality impacts during construction.** No long-term air quality impacts will occur because the Moreno MDP does not create a new long-term source of operational emissions. Implementation of mitigation measures **MM Air 1** through **MM Air 4** will reduce short-term construction impacts. However, as described in Section 5.1.7, estimated short-term emissions from construction of the Moreno MDP, as analyzed by the representative project, may exceed applicable SCAQMD regional thresholds for VOC, NO_X, and PM-10 after implementation of mitigation measures. **Therefore, the impacts to air quality from construction of the Moreno MDP are considered regionally significant and unavoidable after mitigation.**

Based on the LST analysis provided above, short-term construction emissions will not result in localized air quality impacts to sensitive receptors within the Moreno Watershed[6] and mitigation will not be required[7]. Due the lack of any new long-term source of emissions, long-term LST impacts are considered less than significant. **Therefore, the Moreno MDP's short-term construction and long-term operation emissions are less than significant on a localized level without mitigation**.

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

As previously stated in Section 5.1.2 (Related Regulations, Criteria Air Pollutants), the portion of the Basin within which the Project is located is designated as a non-attainment area for NO_2 under state standards, and for ozone, PM-10, and PM-2.5 under both state and federal standards.

In evaluating the cumulative effects of the Project, Section 21100(e) of CEQA states that "previously approved land use documents including, but not limited to, general plans, specific plans, and local

[6] As referred to in other sections of this Draft PEIR, the boundaries of the Moreno MDP are coterminous with the Moreno Watershed.

[7] LST emissions were modeled using the representative project, which is the maximum reasonably foreseeable air quality impacts, or worst-case scenario associated with implementation of the Moreno MDP.

coastal plans, may be used in cumulative impact analysis." In addressing cumulative effects for air quality, the AQMP utilizes approved general plans; therefore, it is the most appropriate document to use to evaluate cumulative impacts of the proposed Project. This is because the AQMP evaluated air quality emissions for the entire Basin using a future development scenario based on population projections and set forth a comprehensive program that would lead the region, including the Project area, into compliance with all federal and state air quality standards. As discussed in the IS/NOP, the Project will not conflict with or obstruct the implementation of the AQMP. As discussed in the analysis under Threshold A, the short-term construction emissions from the Moreno MDP's, representative project will exceed the daily regional thresholds set by SCAQMD for NO_X and PM-10, and VOC if two activities generating the greatest amount of emissions occur concurrently. Because no new long-term uses are proposed, air quality impacts associated with operational air pollutant emissions will be less than significant. Although the proposed Moreno MDP is in conformance with the AQMP, because the short-term construction emissions from the MDP's representative project will result in impacts to ozone precursors, the incremental contribution to criteria pollutant emissions resulting from the construction of MDP Facilities is **potentially cumulatively considerable**. **Therefore, the impact is considered significant**.

Threshold C: *Expose sensitive receptors to substantial pollutant concentrations.*

The closest sensitive receptors are residents immediately adjacent to the MDP Facilities. According to the analysis under Threshold A, short-term emissions will only be generated in the Project area during construction of the Project and as discussed above, have been found less than significant on a localized level. Additionally, no long-term localized impacts will occur as a result of the operation and maintenance of the Moreno MDP due to the lack of new long-term sources of emissions. However, emissions of NO_X and PM-10 during construction are above SCAQMD recommended daily regional thresholds. VOC emissions also exceed SCAQMD thresholds if the two activities generating the greatest amount of emissions were constructed concurrently. Therefore, exposure of sensitive receptors to substantial pollution concentrations from short-term construction emissions is considered potentially significant. Mitigation measures **MM Air 1** through **MM Air 4** will be implemented to reduce these impacts. **However, as discussed in Section 5.1.7, below, there are no distinct SCAQMD established quantitative reductions associated with them; therefore, to be conservative, it is assumed that there is no change in the estimated emissions from those mitigation measures and the emissions remain significant after implementation of mitigation measures.**

Threshold D: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.*

It should be noted that the release of GHG in general and CO_2 specifically into the atmosphere is not of itself an adverse environmental affect. It is the affect that increased concentrations of GHG including CO_2 in the atmosphere has upon the Earth's climate (i.e., climate change) and the associated consequences of climate change that results in adverse environmental affects (e.g., sea level rise, loss of snowpack, severe weather events). Although air quality modeling can estimate a project's incremental contribution of CO_2 into the atmosphere, it is not feasible to determine whether or how an individual

project's relatively small incremental contribution (on a global scale) might translate into physical effects on the environment. Since the Earth's climate is determined by the complex interaction of different components of the Earth and its atmosphere and the sun, it is not possible to discern whether the presence or absence of GHG emitted by the Project would result in any measurable impact that would cause climate change. Nonetheless, GHG emissions resulting from the Moreno MDP were quantified and evaluated pursuant to CEQA.

The construction activities from the previously identified representative project were analyzed below for their contribution to global GHG emissions:

Short-Term Analysis

Construction-Related Activities

The CalEEMod model calculates GHG emissions from fuel usage by construction equipment and construction-related activities, like construction worker trips, for a given project. The CalEEMod estimate does not analyze emissions from construction-related electricity or natural gas. Construction-related electricity and natural gas emissions vary based on the amount of electric power used during construction and other unknown factors which make them too speculative to quantify. Life-cycle emissions associated with the manufacture of building materials are also not quantified in this analysis although they undoubtedly exist. Quantification was not attempted because of the large spatio-temporal variation in sources for building products used to construct the MDP Facilities and the consequent large uncertainty associated with the resulting emissions. For this reason, to attempt to quantify life-cycle emissions of materials would be speculative. This conclusion is consistent with guidance on quantification of emissions for commercial projects presented by the California Air Pollution Control Officer's Association guidance. (CAPCOA, p. 65).

Table 5.1-F – Unmitigated Construction Equipment GHG Emissions, summarizes the CalEEMod output results and presents the GHG emissions estimates for the Moreno MDP's representative project in metric tonnes per year (MT/yr) for CO_2, CH_4, N_2O, and CO_2E.[8]

[8] CO_2E is the sum of CO_2 emissions estimated plus the sum of CH_4 and N_2O emissions estimated multiplied by their respective GWP.

Table 5.1-F – Unmitigated Construction Equipment GHG Emissions

Phase	Metric Tons per year (MT/yr)			
	CO_2	CH_4	N_20	Total CO_2E
2014				
Basin	1,760.81	0.06	0.00	1,761.94
Trapezoidal Channel	411.94	0.02	0.00	412.35
Storm Drain	52.66	0.00	0.00	52.74
2015				
Trapezoidal Channel	4.33	0.00	0.00	4.33
Total	**2,229.74**	**0.08**	**0.00**	**2,231.36**
			Amortized Total	**74.38**

Notes: GHG emissions were modeled using the representative project, which is the maximum reasonably foreseeable air quality impacts, or worst-case scenario associated with implementation of the Moreno MDP.

Evaluation of the table above indicates that an estimated 2,231.36 $MTCO_2E$ will occur from the representative project's construction equipment over the course of the estimated construction period. The Moreno MDP and its Facilities do not fit into the typical categories provided (industrial, commercial, and residential) in the draft thresholds from CARB and SCAQMD. However, the total GHG emissions from the construction of the MDP's representative project is below the lowest SCAQMD recommended screening level of 3,000 $MTCO_2E$/yr for commercial projects. Further, the draft SCAQMD GHG threshold Guidance document released in October 2008 (SCAQMD 2008b, p. 3-8) recommends that construction emissions be amortized for a project lifetime of 30 years to ensure that GHG reduction measures address construction GHG emissions as part of the operational reduction strategies. Due to the lack of adopted emissions thresholds, the estimated amount of emissions from construction of the MDP's representative project, and negligible operational emissions from infrequent maintenance vehicles that will not result in additional sources of emissions when compared to existing maintenance routines, implementation of the Moreno MDP will not generate a significant amount of GHG emissions and the **impact is considered to be less than significant**.

Threshold E: *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

There are no applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions (i.e., Climate Action Plan) for a linear flood control project such as this. Additionally, implementation of the Moreno MDP will not generate GHG that will cause a significant impact on the environment. Further, the Moreno MDP will not obstruct implementation of any plan, policy, or regulation adopted for the purpose of reducing GHG emissions and will be subject to future applicable regulations once adopted. Therefore, **impacts are considered less than significant**.

5.1.6 Proposed Mitigation Measures

An EIR is required to describe feasible mitigation measures which could minimize significant adverse impacts (*CEQA Guidelines*, Section 15126.4). Mitigation measures were evaluated for their ability to reduce or eliminate impacts.

For construction of MDP storm drain facilities, no mitigation over and above adherence to SCAQMD regulations and the District's standard regulatory procedures is required.

In order to reduce VOC, NO_X, and PM-10 emissions from construction of Moreno MDP Facilities, the following mitigation measures shall be implemented for MDP Facilities related to channel construction or basin excavation activities:

MM Air 1: For channel and basin Facilities, during construction, ozone precursor emissions from all vehicles and construction equipment shall be controlled by maintaining equipment engines in good condition, in proper tune per manufacturers' specifications. Equipment maintenance records and equipment design specification data sheets shall be kept on site during construction. Compliance with this measure shall be subject to periodic inspections by the Lead Agency or by means of another form of documentation as approved by the Lead Agency (i.e., Moreno Valley, Riverside County, or District).

MM Air 2: For channel and basin Facilities, to reduce construction vehicle (truck) idling while waiting to enter/exit the site, prior to issuance of grading permits, the contractor shall submit a traffic control plan that will describe in detail, safe detours to prevent traffic congestion to the best of the project's ability, and provide temporary traffic control measures during construction activities that will ensure smooth traffic flows. Pursuant to CCR Title 13 §2449(d)(3), construction equipment and truck idling times shall be prohibited in excess of five minutes on site. To reduce traffic congestion, and therefore NO_X, the plan shall include, as necessary, appropriate, and practicable, the following: dedicated turn lanes for movement of construction trucks and equipment on and off site, scheduling of construction activities that affect traffic flow on the arterial system to off-peak hours, rerouting of construction trucks away from congested streets or sensitive receptors, and/or signal synchronization to improve traffic flow. This measure applies to all projects, unless the Lead Agency determines that a traffic control plan is not warranted or feasible due to no impact on local roadways.

MM Air 3: For channel and basin Facilities, to minimize impacts related to particulate matter (PM-10 and PM2.5) generation from construction activities, consistent with SCAQMD Rule 403, it is required that fugitive dust generated by grading and construction activities be kept to a minimum with a goal of retaining dust on the site. The contractor shall be required to comply with the applicable provisions of SCAQMD Rule 403 and implement appropriate fugitive dust control measures that may include watering, stabilized construction access to reduce tracking of mud or dirt onto public roads, covering trucks hauling loose materials off-site[9], and street sweeping.

MM Air 4: For channel and basin Facilities, to reduce construction vehicle emissions contractor specification packages for Facility construction phases shall require construction equipment to meet EPA standards according to the following, unless a Facility (or Facilities)-specific air quality analysis is conducted at the time are actually designed and proposed for construction that determines impacts would be less than significant by adhering to the most current federal, state and local (e.g., (SCAQMD) regulations, and the District's standard regulatory practices:

- The contracting company's fleet of off-road diesel-powered construction equipment greater than 100 horsepower shall meet Tier 3 off-road emissions standards or better.
- Any emissions control device used by the contractor shall achieve Level 3 emissions reductions of no less than 85 percent for particulate matter, as specified by CARB regulations.
- A copy of the fleet's tier compliance documentation, and CARB or AQMD operating permit shall be available to the Lead Agency for such Facility (i.e., Moreno Valley, Riverside County, or District) at the time of mobilization of each applicable unit of equipment.

5.1.7 Environmental Effects after Mitigation Measures are Implemented

Although implementation of mitigation measures **MM Air 1** and **MM Air 2** will reduce MDP Facility-generated emissions of VOC, NO_X, and PM-10, there are no distinct SCAQMD established quantitative reductions associated with them; therefore, to be conservative, it is assumed that there is no change in the estimated emissions of the Project from those mitigation measures. To mitigate fugitive dust (PM-10) emissions from the hauling of large quantities of soil from the construction of a basin or the construction of a channel that requires substantial excavation; **MM Air 3** will reduce fugitive PM-10 emissions from soil hauling during the grading phase by approximately 91 percent. **MM Air 4** will reduce NO_X and VOC emissions from off-road equipment by at least six percent for activities related to basin grading and channel grading. The results are shown in **Table 5.1-G**, below.

[9] Covering trucks hauling loose materials achieves a 91 percent reduction in PM-10 per SCAQMD Mitigation Measures and Control Efficiencies for Fugitive Dust – Table XI-A: Construction & Demolition, available at http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/MM_fugitive.html.

Table 5.1-G – Mitigated Estimated Maximum Daily Construction Emissions

Activity/Year	Peak Daily Emissions (lb/day)					
	VOC	NO_X	CO	SO_2	PM-10	PM-2.5
SCAQMD Daily Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Basin Grading	65.72	740.37	385.18	1.23	125.71	36.54
Trapezoidal Channel Grading	12.81	123.88	80.55	0.22	27.34	8.93
Maximum	**65.72**	**740.37**	**385.18**	**1.23**	**125.71**	**36.54**
Exceeds Threshold?	**No**	**YES**	**No**	**No**	**No**	**No**

Note: The PM-10 emissions shown above represent a 91% reduction in fugitive dust from soil hauling, not from total PM-10 emissions. Because unmitigated emissions from storm drain construction do not exceed SCAQMD thresholds, mitigated emissions estimates for storm drains are not included in this table. Emissions were modeled using the representative project, which is the maximum reasonably foreseeable air quality impacts, or worst-case scenario associated with implementation of the Moreno MDP.

The evaluation presented above demonstrates that even with mitigation, projected short-term emissions from construction of the Moreno MDP, as analyzed by the representative project, are above applicable SCAQMD regional thresholds for NO_X. The emissions generated by storm drain installation remain below applicable thresholds without implementation of mitigation measures. As shown in **Table 5.1-G**, emissions of PM-10 will be mitigated below the SCAQMD thresholds. Emissions of VOC are below the threshold when activities occur sequentially. If the two activities that generate the most emissions (basin grading and channel grading) occur at the same time, the VOC emissions could be as high as 79 pounds per day (**Table 5.1-G**), which would also exceed the SCAQMD threshold and result in significant VOC impacts. **Therefore, construction impacts after implementation of mitigation remain significant and unavoidable due to NO_X emissions.**

The Moreno MDP is considered to have a cumulatively considerable net increase on ozone precursors (VOC and NO_X) after implementation of mitigation, which are non-attainment in the region under both state and federal standards. **Therefore, the impact is considered potentially significant after mitigation**.

The Moreno MDP will not generate GHG, either directly or indirectly, that will cause a significant impact on the environment nor will it conflict with or obstruct implementation of any future plan, policy, or regulation adopted for the purpose of reducing GHG emissions. **Therefore, GHG emissions are considered less than significant and mitigation is not required**.

5.1.8 Cumulative Environmental Effects after Mitigation Measures are Implemented

Criteria Pollutants

Due to the defining geographic and meteorological characteristics of the Basin, the cumulative area for air quality impacts is the Basin itself. As previously stated in Section 5.1.2 (Related Regulations, Criteria Air Pollutants), the portion of the Basin within which the Moreno MDP is located is designated as a non-

attainment area for NO_2 under state standards, and for ozone, PM-10 and PM-2.5 under both state and federal standards.

Project emissions within the context of SCAQMD's regional emissions thresholds provide an indicator of potential cumulative impacts within the Basin. Cumulative localized impacts for pollutants are also considered, and reflect air pollutant emissions in the context of ambient conditions in the Moreno MDP vicinity.

As discussed in Section 5.1.5 (Environmental Impacts before Mitigation), Section 5.1.7 (Environmental Effects after Mitigation Measures are Implemented), and Appendix B (the Moreno MDP's AQIA), the Moreno MDP short-term emissions are above regional thresholds before and after mitigation during construction.

Since the short-term emissions exceed SCAQMD thresholds after implementation of mitigation, the Moreno MDP's incremental contribution to criteria pollutant emissions is potentially cumulatively considerable.

GHG Emissions

Greenhouse gases (GHG) are those gases that will contribute to global climate change; therefore, the cumulative impact area for GHG emissions is the earth's atmosphere. Implementation of the proposed Moreno MDP along with the cumulative development projects will contribute GHG emissions to the atmosphere.

The annual GHG emissions from the Moreno MDP's representative project are below the draft GHG screening threshold developed by SCAQMD for commercial projects, and do not generate a significant amount of GHG emissions. **Considering the Moreno MDP's representative project results in a small contribution to GHG emissions, implementation of the Moreno MDP does not incrementally contribute to a cumulatively significant effect and cumulative impacts related to GHG emissions are considered less than significant**.

5.1.9 References

In addition to other documents, the following references were used in the preparation of this section of the Draft PEIR:

- Albert A. Webb Associates, *Air Quality and Greenhouse Gas Impact Analysis for the Moreno Master Drainage Plan Revision*, April 2014. (Appendix B) [Cited as AQIA]
- California Air Pollution Control Officer's Association, *CEQA and Climate Change*, January 2008. (Available at http://www.capcoa.org/documents/, accessed April 9, 2012.) [Cited as CAPCOA.]
- California Air Resources Board, *Assembly Bill 32 Global Warming Solutions Act* webpage. (Available at http://www.arb.ca.gov/cc/ab32/ab32.htm, accessed April 9, 2012.) [Cited as AB 32]

- California Air Resources Board, *Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emission Limit*, November 16, 2007. (Available at http://www.arb.ca.gov/cc/ccei.htm, accessed April 9, 2012.) [Cited as CARB 2007]
- California Air Resources Board, *Preliminary Draft Staff Proposal, Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*, October 24, 2008. (Available at http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/prelimdraftproposal102408.pdf, accessed April 9, 2012.) [Cited as CARB 2008a]
- California Air Resources Board, *Climate Change Proposed Scoping Plan,* October, 2008. (Available at http://www.arb.ca.gov/cc/scopingplan/document/psp.pdf, accessed April 9, 2012.) [Cited as CARB 2008b]
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5.2 Biological Resources

The following discussion addresses potential impacts related to:

- Having a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Having a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or
- Conflicting with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The following discussion of biological resources within the Moreno MDP Boundary is based on the *General Biological Report*, prepared by Glenn Lukos Associates (GLA). This report provides a programmatic level of assessment of the proposed MDP Facilities, the relationship of the Moreno MDP to the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), the California Environmental Quality Act (CEQA), and state and federal regulations such as the Endangered Species Act (ESA), Clean Water Act (CWA), and the California Fish and Game Code. This report is contained in its entirety as Appendix C of this document.

As discussed below, the Project's potential to have a substantial adverse effect, either directly or indirectly to biological resources is considered to be **less than significant with mitigation incorporated**.

5.2.1 Setting

The proposed Project traverses both undeveloped and developed areas. Nearly all of the proposed MDP Facilities occur in developed areas, or in existing/former agricultural areas. A smaller number of the proposed MDP Facilities occurs within areas supporting non-native grassland and ruderal vegetation. Many of the proposed MDP Facilities occur within existing paved roads, with others occurring within open fields. Some of the proposed MDP Facilities, specifically the proposed open channels, coincide with existing drainage courses. The majority of the Moreno MDP area is disturbed and does not support native habitats (GLA, p. 5).

Vegetation

Botanical resources within the Moreno MDP Watershed were generally assessed, including the potential for special-status plants to occur within the footprints of the proposed MDP Facilities. The MSHCP identifies eight general vegetation types that occur within the Moreno MDP Boundary including: Field Croplands (Agriculture), Grove/Orchard (Agriculture), Residential/Urban/Exotic (Disturbed/Developed), Non-Native Grassland (Grassland), Riversidean Sage Scrub (Scrub), Oak Woodland (Woodland or Forest), Riparian Scrub (Wetlands), and Disturbed Alluvial (Scrub). Nearly all of the proposed MDP Facilities coincide with the Field Cropland or Residential/Urban Exotic vegetation associations. **Table 5.2-A – MSHCP Vegetation Mapping for the Moreno MDP Watershed** summarizes the MSHCP vegetation mapping for each vegetation type, followed by MSHCP descriptions of each vegetation type (GLA, p. 23). **Figure 5.2-1a** and **Figure 5.2-1b – Vegetation Maps** depicts the general vegetation types documented by the MSHCP for northern and southern portions the Moreno Valley area, respectively, though the MSHCP mapping is outdated relative to areas that have been developed since the MSHCP baseline data was collected. For example, many areas where mapped as "agriculture" that have since been developed (GLA, p. 9).

Table 5.2-A – MSHCP Vegetation Mapping for the Moreno MDP Watershed

Vegetation Type	Proposed MDP Facilities
Field Croplands & Grove/Orchard (shown as Cropland, Orchard – Vineyard on **Figures 5.2-1a and 5.2-1b**)	A, A-1, A-2, A-3, A-6, A-7, A-8 B, B-1, B-3 C D-1, D-2, D-3, D-4, D-5, D-7, D-8 E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-10 F, F-2, F-13, F-15, F-16, F-17 G-1, G-2, G-3, G-4, G-7, G-8, G-9, G-10 H, H-1, H-1a, H-2, H-3, H-4, H-5, H-6, H-7, H-11 J, J-1, J-7, J-8, J-9 K, K-1, K-2, K-4 Quincy Basin, Reche Canyon Debris Basin, Sinclair Basin
Residential/Urban/Exotic (shown as Urban on **Figures 5.2-1a and 5.2-1b**)	A, A-1, A-2, A-3, A-6, A-7, A-8 B, B-2, B-4 C D-1, D-2, D-3, D-4, D-5, D-7, D-8, D-9 E-3, E-7 F, F-2, F-13, F-15, F-16, F-17, F-18, F-19 G, G-2, G-3, G-4, G-7, G-8, G-9, G-10, G-11 H, H-1, H-1a, H-2, H-3, H-7 J, J-1, J-7, J-8 K, K-1, K-4 Cactus Basin, Quincy Basin

Vegetation Type	Proposed MDP Facilities
Non-Native Grassland (shown as Annual Grassland on **Figure 5.2-1a**)	B, B-1 C G, G-7 K Reche Canyon Debris Basin Ironwood Debris Basin
Riversidean Sage Scrub & Riparian Scrub (shown as Coastal Scrub on **Figure 5.2-1a**)	A, A-1, C, K G, G-2, G-4, G-7 K, K-1, K-4 Ironwood Debris Basin Reche Canyon Debris Basin
Oak Woodland (shown as Valley Foothill Riparian on **Figure 5.2-1a**)	B
Valley Foothill Riparian (**Figures 5.2-1a** and **5.2-1b**)	G, G-7, G-8
Disturbed Alluvial Scrub (shown as Urban on **Figure 5.2-1b**)	F
Mixed Chaparral (**Figures 5.2-1a**)	Ironwood Debris Basin

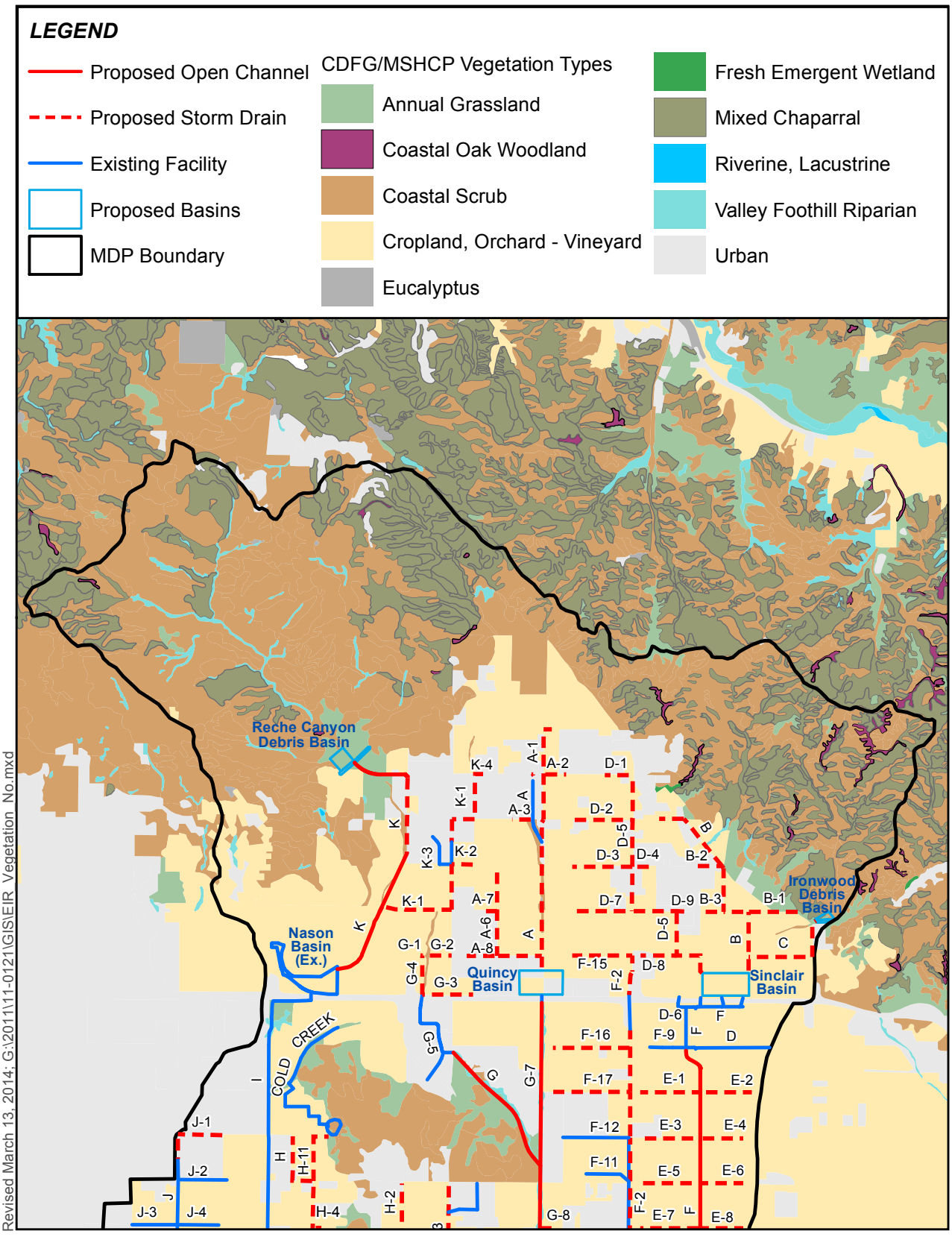
[a] Source: Glenn Lukos Associates, Inc., *General Biological Report for the Moreno Master Drainage Plan,* February 27, 2012 (Appendix C), Table 4.1 and **Figures 5.2-1a and 5.2-1b – Vegetation Maps**.

Special-Status Plants

Plant species of special status include those classified as endangered or threatened, proposed for listing as endangered or threatened, candidate species for listing by a federal (U.S. Fish and Wildlife Service) or state (California Department of Fish and Game) resource agency, or considered federal Species of Concern. In addition, plants included on Lists 1, 2, 3, or 4 of the California Native Plant Society (CNPS) Inventory are also considered special status.

The proposed Moreno MDP Facilities do not occur within the Narrow Endemic Plant Species Survey Areas (NEPSSA) or Criteria Area Species Survey Areas (CAPSSA). As such, habitat assessments (and focused surveys) are not required for plants pursuant to the MSHCP. However, portions of the Moreno MDP Watershed may have the potential to support special-status plants. Therefore, special-status plants were analyzed in the general context of CEQA (GLA, p. 9).

Special-status plants are not expected to occur within the conceptual location of the majority of the proposed Moreno MDP Facilities due to a lack of suitable habitat, even though several special-status plants have a potential to occur within the Moreno MDP Boundary. However, none of these species have any MSHCP survey/conservation requirements applicable to the Project, because the Moreno MDP Watershed does not occur within the NEPSSA or CAPSSA.

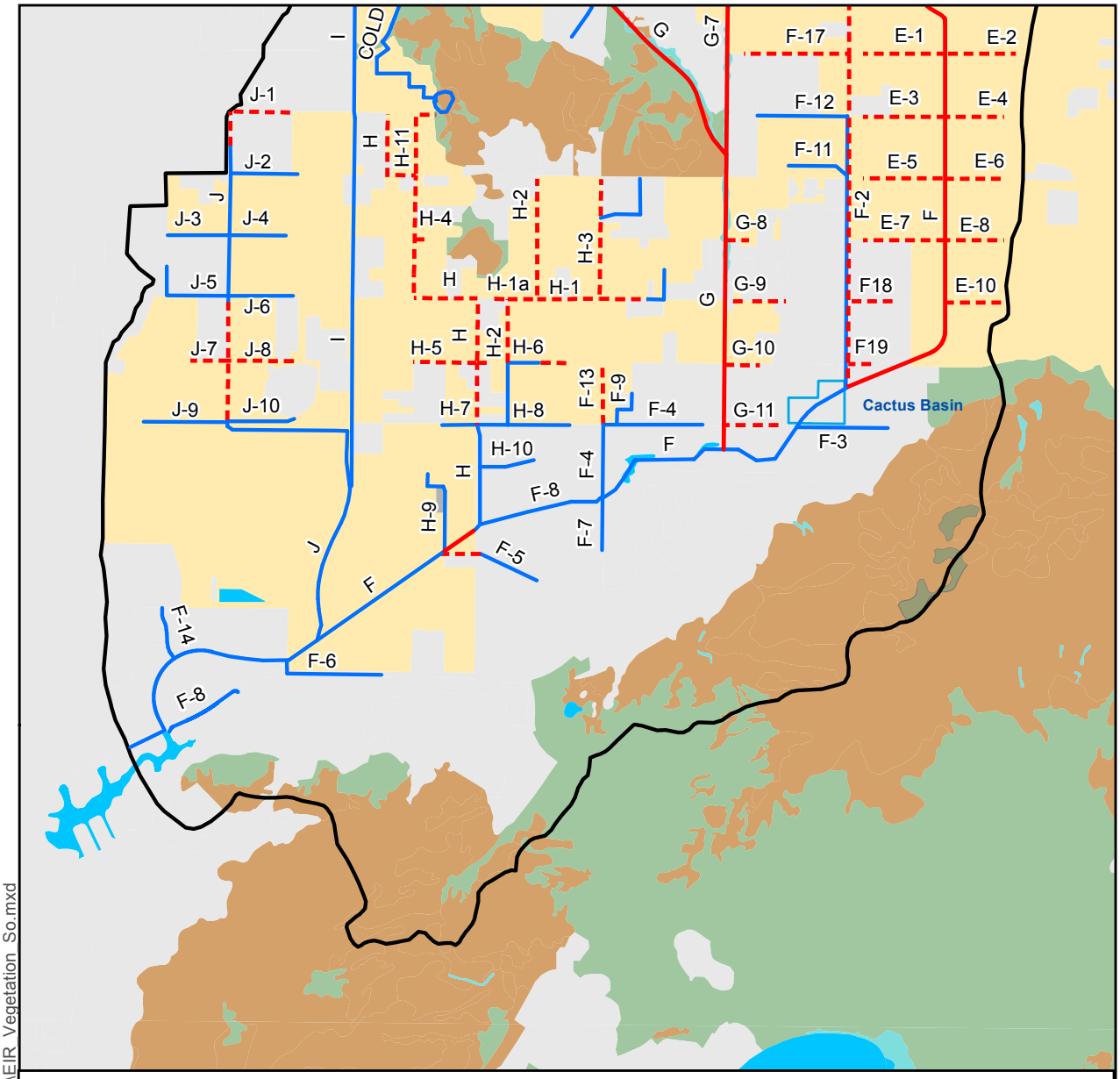


Source: County of Riverside GIS, 2013.

Figure 5.2-1a. Vegetation Map - North

Moreno Master Drainage Plan Revision

0 2,000 4,000 6,000 Feet



LEGEND

- Proposed Open Channel
- Proposed Storm Drain
- Existing Facility
- Proposed Basins
- MDP Boundary

CDFG/MSHCP Vegetation Types

- Annual Grassland
- Coastal Oak Woodland
- Coastal Scrub
- Cropland, Orchard - Vineyard
- Eucalyptus
- Fresh Emergent Wetland
- Mixed Chaparral
- Riverine, Lacustrine
- Valley Foothill Riparian
- Urban

Revised March 28, 2014: G:\2011\11-0121\GIS\EIR_Vegetation_So.mxd

Source: County of Riverside GIS, 2013; RCFC&WCD, 2014.

Figure 5.2-1b. Vegetation Map - South

Moreno Master Drainage Plan Revision

0 2,000 4,000 6,000 Feet

Table 5.2-B – Special-Status Plants Evaluated for the Moreno MDP Watershed provides a list of special-status plants evaluated for the Moreno MDP Revision. Plant species were considered based on a number of factors, including: 1) species identified by the California Natural Diversity Database (CNDDB) as occurring (either currently or historically) on or in the vicinity of MDP Watershed, and 2) any other special-status plants that are known to occur within the vicinity of the Project area, or for which potentially suitable habitat occurs on site (GLA, p. 29).

Table 5.2-B – Special-Status Plants Evaluated for the Moreno MDP Watershed

Species Name	Status	Habitat Requirements	Potential to Occur On Site
Chaparral sand verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: List 1B.1	Sandy soils in chaparral, coastal sage scrub.	Low potential to occur within the Project area.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CNPS: List 1B.1	Playas, vernal pools, marshes and swamps (coastal salt).	Not expected to occur within the Project area due to a lack of suitable habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CNPS: List 1B	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Not expected to occur within the Project area due to a lack of suitable habitat.
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	Federal: None State: None CNPS: List 1B.2	Clay soils in chaparral, coastal sage scrub, meadows and seeps, and valley and foothill grasslands	Low potential to occur within the Project area.
Mesa horkelia *Horkelia cuneata* ssp. *puberula*	Federal: None State: None CNPS: List 1B.1	Sandy or gravelly soils in chaparral (maritime), cismontane woodland, and coastal scrub.	Not expected to occur within the Project area due to a lack of suitable habitat.
Mud nama *Nama stenocarpum*	Federal: None State: None CNPS: List 2	Marshes and swamps	Not expected to occur within the Project area due to a lack of suitable habitat.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: List 4.2	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Low potential to occur within the Project area.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CNPS: List 1B	Chenopod scrub, playas, vernal pools.	Not expected to occur within the Project area due to a lack of suitable habitat.
Parish's desert-thorn *Lycium parishii*	Federal: None State: None CNPS: List 2.3	Coastal sage scrub, Sonoran desert scrub	Not expected to occur within the Project area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential to Occur On Site
Parry's spineflower *Chorizanthe parryi* var. *parryi*	Federal: None State: None CNPS: List 1B.1	Sandy or rocky soils in open habitats of chaparral and coastal sage scrub.	Low potential to occur within the Project area.
Payson's jewelflower *Caulanthus simulans*	Federal: None State: None CNPS: List 4.2	Sandy or granitic soils in chaparral and coastal scrub.	Low potential to occur within the Project area.
Plummer's mariposa lily *Calochortus plummerae*	Federal: None State: None CNPS: List 1B.2	Granitic, rock soils within chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley and foothill grassland.	Low potential to occur within the Project area.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: List 1B.2	Chaparral, coastal sage scrub	Low potential to occur within the Project area.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: List 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Not expected to occur within the Project area due to a lack of suitable habitat.
San Diego ambrosia *Ambrosia pumila*	Federal: FE State: None CNPS: List 1B.1	Chaparral, coastal sage scrub, valley and foothill grassland, vernal pools. Often in disturbed habitats.	Not expected to occur within the Project area due to a lack of suitable habitat.
Santa Ana River woolly star *Eriastrum densifolium* ssp. *sanctorum*	Federal: FE State: SE CNPS: List 1B.1	Alluvial fan sage scrub, chaparral. Occurring on sandy or rocky soils.	Not expected to occur within the Project area due to a lack of suitable habitat.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: List 1B.1	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Not expected to occur within the Project area due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential to Occur On Site
Smooth tarplant *Centromadia pungens* ssp. *laevis*	Federal: None State: None CNPS: List 1B.1	Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands, disturbed habitats.	Low potential to occur within the Project area.
Spreading navarretia *Navarretia fossalis*	Federal: FT State: None CNPS: List 1B	Vernal pools, playas, chenopod scrub, marshes and swamps (assorted shallow freshwater).	Not expected to occur within the Project area due to a lack of suitable habitat.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: List 1B.1	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Not expected to occur within the Project area due to a lack of suitable habitat.

Notes:

Federal
FE – Federally Endangered
FT – Federally Threatened

State
SE – State Endangered
ST – State Threatened

CNPS
List 1B – Plants rare, threatened, or endangered in California and elsewhere.
List 2 – Plants rare, threatened, or endangered in California, but more common elsewhere.
List 3 – Plants about which more information is needed.
List 4 – Plants of limited distribution (a watch list).

CNPS Threat Code Extensions
1 – Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
2 – Fairly endangered in California (20-80% occurrences threatened)
3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Source: Glenn Lukos Associates, Inc., *General Biological Report for the Moreno Master Drainage Plan,* February 27, 2012 (Appendix C), Table 4.2.

Special-Status Communities/Habitats

Special-status habitat types are those vegetation communities that support rare, threatened, or endangered plant or wildlife species or are diminishing and are of special concern to resource agencies. Sensitive and/or protected habitat types within the Moreno MDP Watershed include Riversidean sage scrub (RSS) and riparian habitats. The MSHCP provides protection for sensitive vegetation communities and wildlife habitat.

The MSHCP recognizes a number of different riparian categories, including riparian forest, riparian scrub, southern willow scrub, mule fat scrub, southern cottonwood/willow riparian, and southern sycamore/alder riparian. Other riparian categories are represented by a substantial component of invasive species, including giant reed (*Arundo donax*) and tamarisk (*Tamarix* spp.). Several of these categories appear to be represented within the MDP Watershed, including some within the existing channel associated with the lowermost portion of proposed Line F. The drainage feature associated with proposed Line K contains a substantial amount of giant reed. (GLA, p. 27)

Portions of several proposed MDP Facilities are associated with a few small habitat patches mapped by the MSHCP as Riversidean sage scrub (RSS) and riparian scrub, including (all or a portion of): Lines A, A-1, C, and K (GLA, pp. 27 and 28), G, G-2, G-4, G-7, K, K-1, K-4, and portions of the Ironwood Debris Basin and the Reche Canyon debris Basin. Refer to **Figures 5.2-1a and 5.2-1b – Vegetation Maps**, for these habitat locations.

Wildlife

Wildlife resources within the Moreno MDP Watershed were generally assessed, including the potential for special-status animals to occur within the footprint of the proposed MDP Facilities.

Special-Status Animals

Special-status or sensitive wildlife species include those that are state or federally listed as threatened or endangered, are proposed for listing as threatened or endangered, have been designated as state or federal candidates for listing, state or federal species of concern, or California Fully Protected.

The proposed MDP Facilities were evaluated for the potential to impact special-status animals, although the MSHCP requires habitat assessments and focused surveys for only a small number of species. The majority of the proposed MDP Facilities occur within the MSHCP survey area for the western burrowing owl (*Athene cunicularia*), with a very small portion occurring within the survey area for the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*). The Moreno MDP Watershed does not occur within the MSHCP Amphibian Survey Area. The MSHCP also requires habitat assessments for certain species associated with riparian/riverine areas and vernal pools (GLA, p. 10).

Special-status animals that have the potential to occur within the Moreno MDP Watershed include, but are not limited to: the western burrowing owl, Stephens' kangaroo rat (*Dipodomys stephensi*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), California horned lark (*Eremophila alpestris actia*), coast horned lizard

(*Phrynosoma blainvillii*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), orangethroat whiptail (*Aspidoscelis hyperythra*), and red-diamond rattlesnake (*Crotalus ruber*), and numerous raptor species. (GLA, p. 30)

Table 5.2-C – Special Status Animals Evaluated for the Moreno MDP Watershed provides a list of special-status animals, including MSHCP Covered Species with additional survey requirements, the habitat requirements for these species, and the species' potential for occurrence within the MSHCP Watershed. Species were evaluated based on a number of factors, including: 1) species identified by the CNDDB as occurring (either currently or historically) within or in the vicinity of the MDP Facilities, and 2) any other special-status plants that are known to occur within the vicinity of the MDP Facilities, or for which potentially suitable habitat occurs within the MDP Watershed.

Table 5.2-C – Special-Status Animals Evaluated for the Moreno MDP Watershed

Species Name	Status	Habitat Requirements	Potential for Occurrence
Invertebrates			
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Vernal pool fairy shrimp *Branchinecta lynchi*	Federal: FT State: None	Seasonal vernal pools	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Amphibians			
Western spadefoot *Scaphiopus hammondii*	Federal: None State: None CDFG: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Not expected to occur within the MDP Facilities due to a lack of suitable habitat.
Reptiles			
Coast horned lizard *Phrynosoma blainvillii*	Federal: None State: None CDFG: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Low potential for occurrence within portions of the MDP Facilities.
Coastal whiptail *Aspidoscelis tigris*	Federal: None State: None	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Low potential for occurrence within portions of the MDP Facilities.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Orangethroat whiptail *Aspidoscelis hyperythra*	Federal: None State: None CDFG: SSC	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Low potential for occurrence within portions of the MDP Facilities.
Red-diamond rattlesnake *Crotalus exsul*	Federal: None State: None CDFG: SSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Low potential for occurrence within portions of the MDP Facilities.
Birds			
Bell's sage sparrow *Amphispiza belli belli*	Federal: FSC State: None CDFG: SSC	Chaparral and coastal sage scrub along the coastal lowlands, inland valleys, and in the lower foothills of local mountains.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Burrowing owl *Athene cunicularia*	Federal: None State: None CDFG: SSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Moderate to high potential for occurrence within portions of the MDP Facilities.
California horned lark *Eremophila alpestris actia*	Federal: None State: None	Occupies a variety of open habitats, usually where trees and large shrubs are absent.	Moderate to high potential for occurrence within portions of the MDP Facilities.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: None CDFG: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Cooper's hawk (Nesting) *Accipiter cooperi*	Federal: None State: None	Primarily occurs in riparian areas and oak woodlands, most commonly in montane canyons. Known to use urban areas, occupying trees among residential and commercial.	Moderate to high potential for occurrence within the MDP Watershed for foraging, though not expected to nest within the footprint of the MDP Project Facilities.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Ferruginous hawk (wintering) *Buteo regalis*	Federal: FSC State: None CDFG: SSC	Open, dry country, perching on trees, posts, and mounds. In California, wintering habitat consists of open terrain and grasslands of the plains and foothills.	Moderate to high potential for occurrence within the MDP Watershed for winter foraging. Does not nest in California.
Golden eagle *Aquila chrysaetos*	Federal: None State: None CDFG: SSC	In southern California, occupies grasslands, brushlands, deserts, oak savannas, open coniferous forests, and montane valleys. Nests on rock outcrops and ledges.	Low potential for occurrence within the MDP Watershed for foraging, though does not nest within the footprint of the MDP Project Facilities.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Low potential to occur within limited riparian habitat associated with proposed MDP Facilities.
Loggerhead shrike *Lanius ludovicianus*	Federal: None State: None CDFG: SSC	Forages over open ground within areas of short vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, riparian areas, open woodland, agricultural fields, desert washes, desert scrub, grassland, broken chaparral and beach with scattered shrubs.	Low to moderate potential for occurrence within portions of the MDP Facilities.
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: None CDFG: SSC	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Low to moderate potential for occurrence within the MDP Watershed for foraging, though does not nest within the footprint of the MDP Project Facilities.
Peregrine falcon (nesting) *Falco peregrinus anatum*	Federal: FSC State: SE CDFG: CFP	Although part of its historic breeding range, this species does not breed in southern California. In the west, breeding habitat consists of high cliffs along the coast.	Low to moderate potential for occurrence within the MDP Watershed for foraging, though does not nest within the footprint of the MDP Project Facilities.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Prairie falcon (nesting) *Falco mexicanus*	Federal: None State: None CDFG: SSC	Breeds in mountainous regions and shortgrass prairies, nesting on cliff ledges.	Low to moderate potential for occurrence within the MDP Watershed for foraging, though does not nest within the footprint of the MDP Project Facilities.
Sharp-shinned hawk (nesting) *Accipiter striatus*	Federal: None State: None CDFG: SSC	Breeds in young coniferous forests with high canopy associations. Habitats that they are documented to use include ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine.	Low to moderate potential for occurrence within the MDP Watershed for foraging, though does not nest within the footprint of the MDP Project Facilities.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: None	Grass covered hillsides, coastal sage scrub, and chaparral.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE	Riparian woodlands along streams and rivers with mature dense thickets of trees and shrubs.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Tricolored blackbird *Agelaius tricolor*	Federal: FSC State: None CDFG: SSC	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Federal: FC State: SE	Dense, wide riparian woodlands with well-developed understories.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: None CDFG: CFP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Low to moderate potential for occurrence within the MDP Watershed for foraging, though does not nest within the footprint of the MDP Facilities.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Yellow-breasted chat *Icteria virens*	Federal: None State: None CDFG: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Yellow warbler *Setophaga petechia*	Federal: None State: None CDFG: SSC	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Not expected to occur within the MDP Facilities due to a lack of suitable habtitat.
Mammals			
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: None CDFG: SSC	Fine, sandy soils in coastal sage scrub and grasslands.	Low potential for occurrence within portions of the MDP Facilities.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: None CDFG: SSC	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Moderate to high potential for occurrence within portions of the MDP Facilities.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	Federal: None State: None CDFG: SSC	Occupies a variety of habitats, but is most common among shortgrass habitats. Also occurs in sage scrub, but needs open habitats.	Moderate to high potential for occurrence within portions of the MDP Facilities.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: None CDFG: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Not expected to occur within the MDP Facilities due to a lack of suitable habitat.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Stephens' kangaroo rat *Dipodomys stephensi*	Federal: FE State: ST	Open grasslands or sparse shrublands with less than 50% vegetation cover during the summer.	Moderate to high potential for occurrence within portions of the MDP Facilities.

Federal (FESA)	State (CESA)	CDFW
FE - Federally Endangered	SE - State Endangered	SSC - California Species of Special Concern
FT - Federally Threatened	ST - State Threatened	CFP - Fully Protected
FSC - Federal Species of Concern		WL – Watch List
BCC – Birds of Conservation Concern		

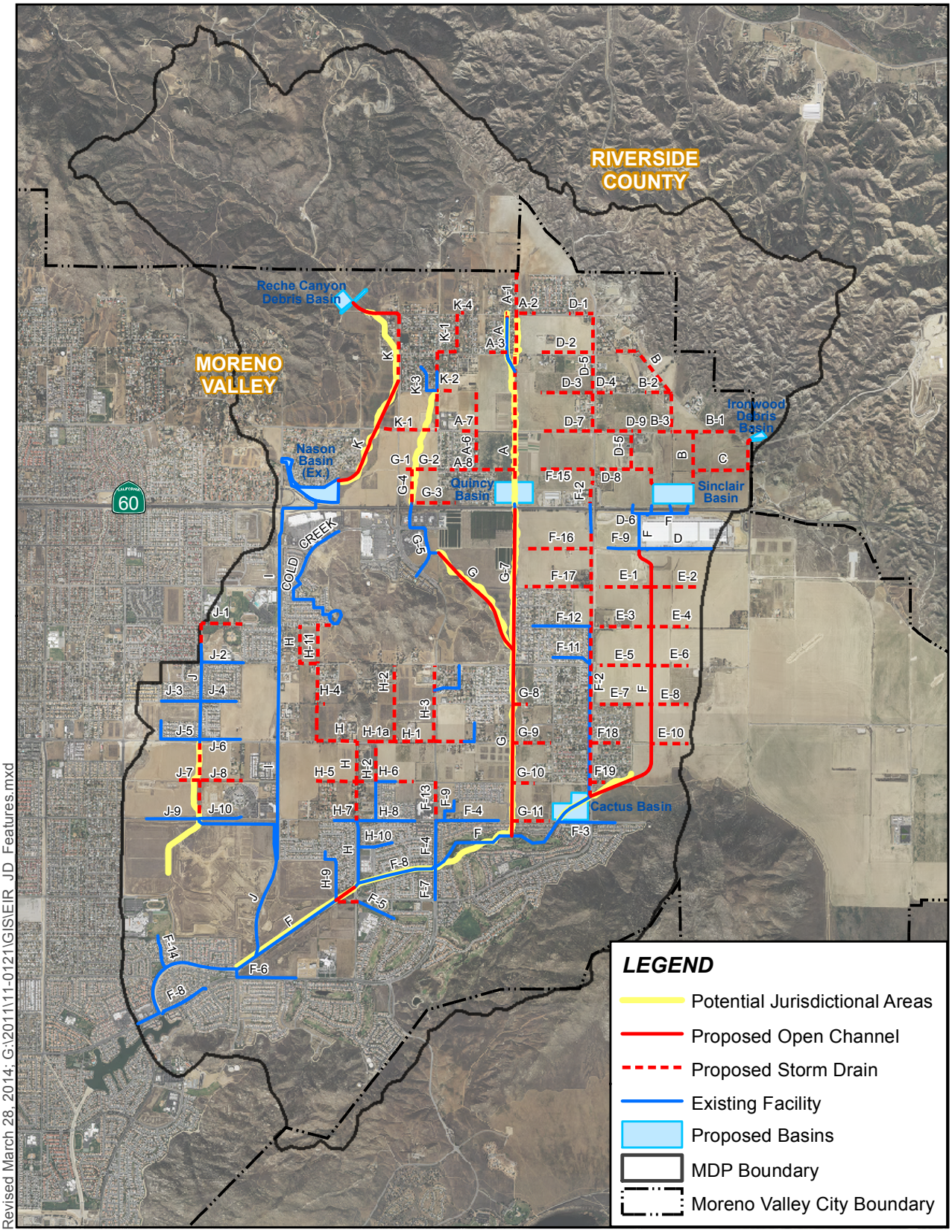
Source: Glenn Lukos Associates, Inc., *General Biological Report for the Moreno Master Drainage Plan,* February 27, 2012 (Appendix C), Table 4.3

Jurisdictional Resources

Drainages, streambeds, wetlands, and creeks considered "waters of the U.S." fall under the jurisdiction of the U.S. Army Corps of Engineers (ACOE). Under Section 404 of the federal Clean Water Act, the ACOE regulates fill or dredged material discharged into "waters of the United States," including wetlands. Waters of the U.S., as defined by the ordinary high water mark, typically include streams, rivers, lakes, and tributaries thereof. However, isolated waters are usually not regulated under Section 404. Drainages, streambeds, creeks, and associated riparian vegetation fall under the jurisdiction of the California Department of Fish and Wildlife (CDFW).[1] Under Section 1602 of the Fish and Game Code, the CDFW is authorized to issue conditions for substantial impacts to fish and wildlife resources. The Regional Water Quality Control Board (RWQCB) regulates waters of the United States through Section 401 of the federal Clean Water Act. The RWQCB can also regulate the discharge of waste to waters of the State through the state's Porter-Cologne Water Quality Control Act.

Based on a review of aerial imagery and roadside observations, the Moreno MDP Watershed contains several drainage features that would be considered waters of United States subject to the jurisdiction of the ACOE and RWQCB, and waters of the State subject to the jurisdiction of CDFW. In addition, there are at least several other areas with the potential to support jurisdictional waters, but that are likely maintained by agricultural activities (GLA, p. 38). **Figure 5.2-2 – Potential Jurisdictional Features Map** identifies the locations of drainage features potentially under the jurisdiction of the resource agencies. The Moreno MDP Watershed also contains numerous roadside ditches, some of which may be regulated by one or more of the resource agencies, such as segments of roadside ditches along Redlands Boulevard north and south of State Route 60. (GLA, p. 38)

[1] Effective January 1, 2013, the California Department of Fish and Game (CDFG) changed its name to the California Department of Fish and Wildlife (CDFW), although its services and purpose has not changed. This document includes several references to CDFG and the Fish and Game Code, all of which coincide with the services, purpose and mission of the CDFW. Because applicable statues have not yet been updated, this document and related technical reports refers, in some instances, to the CDFW as the CDFG.



Revised March 28, 2014; G:\2011\11-0121\GIS\EIR_JD_Features.mxd

Sources: Glenn Lukos Associates, April, 2012; RCFC&WCD, 2014; Eagle Aerial, April 2012.

Figure 5.2-2. Potential Jurisdictional Features Map

Moreno Master Drainage Plan Revision

0 0.5 1 1.5 Miles

5.2.2 Related Regulations

Federal

Federal Endangered Species Act of 1973

The Federal Endangered Species Act of 1973 (ESA) (16 U.S.C. 1531–1543) and subsequent amendments provide for the conservation of endangered and threatened species and the habitats on which they depend. A federally endangered species is one that is facing extinction throughout all or a significant portion of its geographical range. A federally threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally threatened or endangered species on a site generally imposes severe constraints on development; particularly if development would result in a "take" of the species or its habitat. The federal term "take" is defined in Section 3(18) of the ESA as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. Harm in this sense can include any disturbance to habitats used by the species during any portion of its life history.

Implementation of the proposed Moreno MDP Revision is not expected to result in "take" of a listed species.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503, 3503.5, and 3800 prohibit the take, possession, or destruction of any birds, their nests or eggs. Although no native habitat communities are present and the Project site is located in a predominately developed environment, certain common bird species may utilize the landscaped areas, especially the existing parking lot trees for breeding and/or seasonal foraging.

The proposed Moreno MDP Revision will comply with the MTBA and California Fish and Game Code by limiting the period in which construction will take place or through the implementation of mitigation measures identified in Section 5.2.6 – Proposed Mitigation Measures, below.

State

California Endangered Species Act

The California Endangered Species Act (Fish and Game Code 2050, *et seq.*) (CESA) establishes that it is the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects which would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. CESA requires state lead agencies to consult with the CDFW during the CEQA process to avoid jeopardy to threatened or endangered species. CESA prohibits any person from taking or attempting to take a species listed as endangered or threatened (Fish and Game Code Section 2080). The state term "take" is defined in Section 86 of the Fish and Game Code as to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. Section 2080 provides the permitting structure for CESA. The "take" of a state-listed Endangered or Threatened species or Candidate species will require incidental take permits as authorized by the CDFW. The proposed Project

however, is not expected to require such authorizations as it is not expected to result in "take" of a listed species.

Regional

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of 146 species and their associated habitats in Western Riverside County. The MSHCP will enhance and maintain biological diversity and ecosystem processes while allowing future growth. The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973, as amended, as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001. The MSHCP will result in an MSHCP Conservation Area in excess of 500,000 acres. On June 17, 2003 the Riverside County Board of Supervisors approved the MSHCP, certified the EIR/EIS for the Plan, and authorized the Chairman to sign the Implementing Agreement. The District, Moreno Valley, and Riverside County, are signatories to the Implementing Agreement (IA) and Permittees, and as such are required to comply with all applicable policies and requirements of the MSHCP. (GLA, p. 5; MSHCP vol I, p. Def/Acr-xi)

The Moreno MDP Watershed is located within the MSHCP. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each ungrouped, independent Cell and Cell Group has designated "criteria" for the purpose of targeting additional conservation lands for acquisition. Projects meeting the definition of a "Covered Activity" are not required to set aside land pursuant to the Cell Criteria. All projects within the Criteria Area must go through the Joint Project Review (JPR) process, where the project is reviewed to ensure overall compliance/consistency with the biological requirements of the MSHCP. (GLA, p. 5) Flood Control facilities (improvements and new construction) undertaken by a Permittee are Covered Activities; thus, any MDP Facility that is located within a Criteria Cell is subject to the JPR process. As shown on **Figure 5.2-3 – MSHCP Map**, there are several Criteria Cells within the Moreno MDP Watershed; however, no proposed MDP Facility traverses across a Criteria Cell. Proposed Lines B-1 and B-3 are adjacent to Criteria Cell 841.

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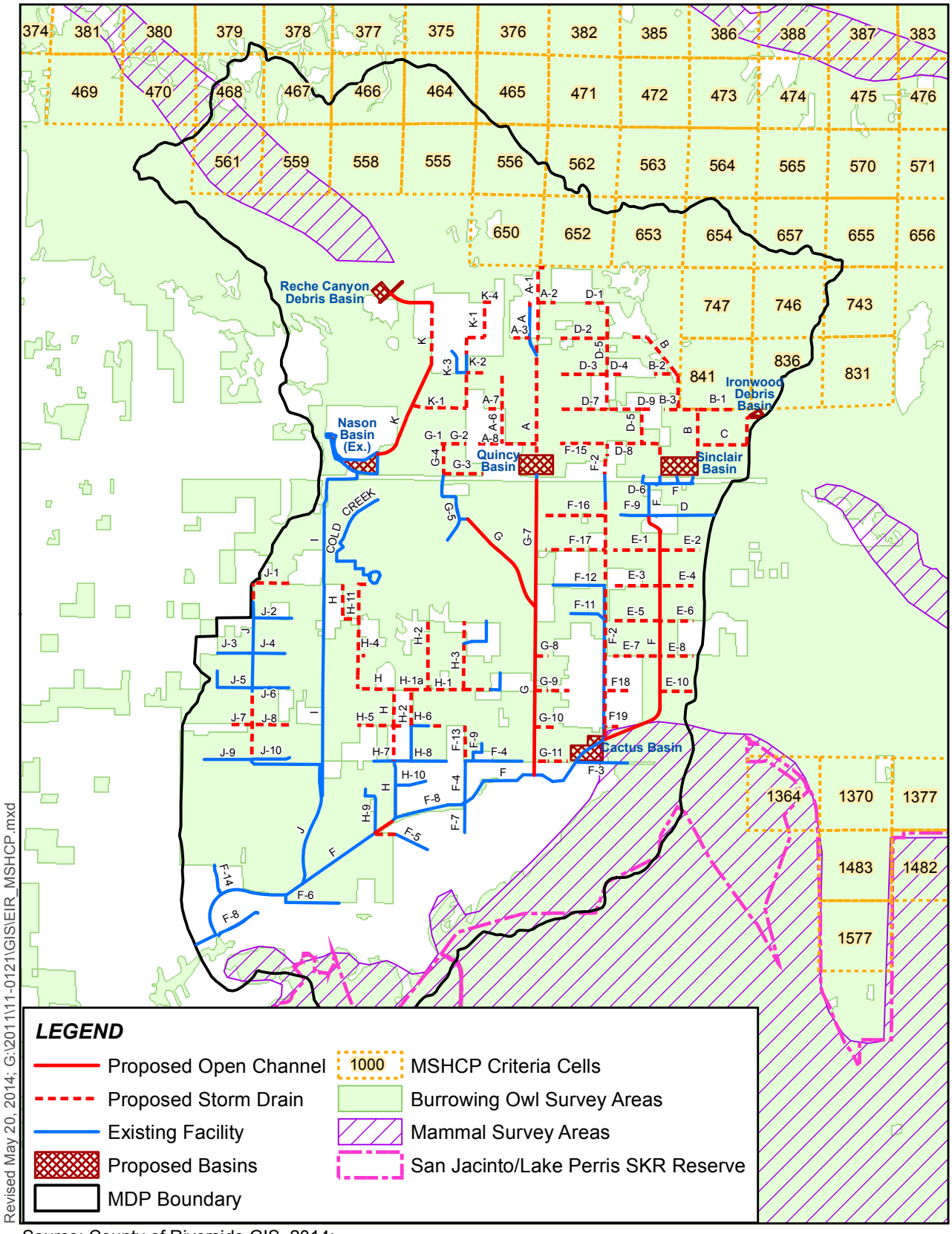

Source: County of Riverside GIS, 2014; RCFC&WCD, 2014.

Figure 5.2-3. MSHCP Map

Moreno Master Drainage Plan Revision

As outlined in MSHCP Section 6.1.6 Mitigation Responsibilities, the District, Moreno Valley, and Riverside County have the obligations identified in the following table under the MSHCP and the IA:[2]

Table 5.2-D –MSHCP Section 6.1.6 Mitigation Responsibilities

MSHCP Obligation	Local Permittees		
	District	Moreno Valley	Riverside County
Adopt and maintain resolutions as necessary to implement the requirements and to fulfill the purposes of the Permits, the MSHCP and the IA for its Covered Activities. Such requirements include: (1) compliance with the policies of the Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools as set forth in Section 6.1.2 of the MSHCP; (2) compliance with the policies of the protection of Narrow Endemic Plant Species as set forth in Section 6.1.3 of the MSHCP; (3) conduct surveys as set forth in 6.3.2 of the MSHCP; (4) compliance with all requirements of Section 7.3.7 of the MSHCP; (5) compliance with Urban/Wildlands Interface Guidelines as set forth in Section 6.1.4 of the MSHCP; and (6) compliance with the Best Management Practices and the siting requirements and design criteria as set forth in Section 7.0 and Appendix C of the MSHCP. (MSHCP Vol I, Section 6.1.6, p. 6-51)	X		
Adopt and maintain ordinances or resolutions as necessary, and amend their General Plans as appropriate, to implement the requirements and to fulfill the purposes of the Permits, the MSHCP and the IA for private and public development3 projects. Such requirements include: (1) the collection of Local Development Mitigation Fees and other relevant fees as set forth in Section 8.5 of the MSHCP; (2) compliance with the HANS process or equivalent process to ensure application of the Criteria and thus, satisfaction of the local acquisition obligation; (3) compliance with the policies for the Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, set forth in Section 6.1.2 of the MSHCP; (4) compliance with the policies for the Protection of Narrow Endemic Plant Species set forth in Section 6.1.3 of the MSHCP; (5) compliance with survey requirements as set forth in Section 6.3.2 of the MSHCP; (6) require Urban/Wildlands Interface Guidelines compliance as set forth in Section 6.1.4 the MSHCP; and (7) compliance with the Best Management Practices and the siting and design criteria as set forth in Section 7.0 and Appendix C of the MSHCP. (MSHCP Vol I, Section 6.1.6, pp. 6-48-6-49)		X	X
Contribute mitigation through payment of three (3) percent of total capital costs for a Covered Activity to Western Riverside County Regional Conservation Authority (WRC-RCA). Such payment may be offset through acquisition of replacement Habitat or creation of new Habitat for the benefit of Covered Species, as appropriate. Such	X		

[2] Uppercase terms, except District and Project, are as defined by the MSHCP.

[3] Development as defined by the MSHCP includes buildings, structures, infrastructure, and all alterations of the land. (MSHCP Vol I, p. Def/Acr-v)

MSHCP Obligation	Local Permittees		
	District	Moreno Valley	Riverside County
mitigation shall be implemented prior to impacts to Covered Species and their Habitats. (MSHCP Vol I, Section 6.1.6, p. 6-51)			
Transmit any collected Local Development Mitigation Fees, other appropriate fees and associated interest as described in Section 8.5 of the MSHCP to the RCA at least quarterly. (MSHCP Vol I, Section 6.1.6, p. 6-49)		X	X
Contribute to implementation of the MSHCP and Reserve Assembly as determined appropriate by the affected Permittee for County and City public projects, including but not limited to any one or any combination of the following: 1) acquisition of replacement Habitat at a 1:1 ratio that is Biologically Equivalent or Superior to the property being disturbed; or 2) payment of the Local Development Mitigation Fees as established for commercial and industrial Development. Such contribution shall occur prior to impacts to Covered Species and their Habitats. (MSHCP Vol I, Section 6.1.6, p. 6-49)		X	X
Take all necessary and appropriate actions, following applicable land use permit enforcement procedures and practices, to enforce the terms of project approvals for public and private projects, including compliance with the MSHCP, the Permits and the IA. (MSHCP Vol I, Section 6.1.6, p. 6-49)		X	X
Manage land owned or leased within the MSHCP Conservation Area that has been set aside for Conservation purposes pursuant to a management agreement to be executed between the District and CDFW. (MSHCP Vol I, p. 6-52)	X		
Manage MSHCP Conservation Area property or conservation easements owned or leased by Moreno Valley or Riverside County pursuant to Sections 5.0 and 8.0 of the MSHCP. (MSHCP Vol I, Section 6.1.6, p. 6-50)		X	X
Carry out all other applicable requirements of the MSHCP, the IA and Permits. Notwithstanding the foregoing, nothing in the IA shall be construed to require the District. Moreno Valley, or Riverside County to provide funding, or any other form of compensation, beyond the fees collected, dedicated lands required pursuant to the Permits, the IA and the MSHCP, or other mitigation agreed to by the appropriate Parties, consistent with the terms and conditions of the MSHCP. (MSHCP Vol I, Section 6.1.6, pp. 6-49-6-50 and 6-52)	X	X	X
Participate as a member of the Reserve Management Oversight Committee as set forth in Section 6.6.4 of the MSHCP. (MSHCP Vol I, Section 6.1.6, pp. 6-50 and 6-52)	X	X	X

Source: County of Riverside Transportation and Land Management Agency, *Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) – Volume I – The Plan,* approved June 17, 2003, compiled from Section 6.1.6.

Stephens' Kangaroo Rat Habitat Conservation Plan

The Moreno MDP is located within the boundary of the adopted HCP for the endangered Stephens' kangaroo rat (SKR) implemented by the Riverside County Habitat Conservation Agency (RCHCA). The SKR HCP mitigates impacts from development on the SKR by establishing a network of preserves and a system for managing and monitoring them. The SKR HCP initially established Core Reserves for the conservation of key SKR populations. Outside of the Core Reserves, the HCP established a fee assessment area by which individual projects are granted coverage under the HCP by payment of SKR fees. The MSHCP, through its goals for SKR, reaffirms the conservation goals of the SKR HCP, while expanding the coverage area outside of the original coverage boundaries of the SKR HCP. Neither the SKR HCP nor MSHCP requires project-specific SKR surveys for sites located outside of the existing Core Reserves. Instead, payments of SKR fees are sufficient to obtain take authorization for SKR, unless specific lands are targeted for conservation by SKR HCP or MSHCP. (SKR HCP)

Although all of the Moreno MDP Boundary Watershed, except for a small area in the southern portion of the watershed (see **Figure 5.2-3 – MSHCP Map**)is located outside of the existing SKR reserves and areas additionally targeted for SKR conversation, the MDP Watershed is located within the SKR fee assessment area (SKR HCP, Figure 3). If an MDP Facility or portion of an MDP Facility is constructed by a public agency, it would be considered a "public works project" and as such would be exempt from payment of the SKR HCP mitigation fee. (GLA, p. 37) However, if any MDP Facility or portion of an MDP Facility is constructed as part of a private development project, the proponent of such a project would be required to pay the SKR HCP mitigation fee. (SKR HCP)

Local

City of Moreno Valley General Plan

The *Moreno Valley General Plan* (MVGP) contains the following policies regarding biological resources that are applicable to the Moreno MDP Revision:

Conservation Element:

- **Policy 7.4.3:** Preserve natural drainage courses in their natural state and the natural hydrology, unless the protection of life and property necessitate improvement as concrete channels (MVGP, p. 9-37).
- **Policy 7.4.5:** The City shall fulfill its obligations set forth within any agreement(s) and permit(s) that the City may enter into for the purpose of implementing the Western Riverside County Multispecies Habitat Conservation Plan (MVGP, p. 9-37).
- **Program 7-2:** Advocate for natural drainage channels to the Riverside County Flood Control and Water Conservation District, in order to assure the maximum recovery of local water, and to protect riparian habitats and wildlife (MVGP, p. 9-38).

The Project complies with Policy 7.4.3 and Program 7-2 through the incorporation of unlined channels where feasible. Moreno Valley will comply with Policy 7.4.5 for any MDP Facility constructed as part of a city public works project and for any MDP Facility constructed as part of a private development project.

City of Moreno Valley Municipal Code

Moreno Valley regulates conservation through the Moreno Valley Municipal Code. The following are existing regulations and standard conditions on development projects that may include MDP Facilities, regulated through the Moreno Valley Municipal Code:

- **Chapter 3.48:** Establishes the Western Riverside Multi-Species Habitat Conservation Plan Fee Program Ordinance into the City's Municipal Code.
- **Chapter 8.60:** Establishes the implementation measures of the SKR HCP, including the impact and mitigation fee as part of the City's Municipal Code.
- **Chapter 9.17.010 Section B.3:** Encourage the preservation of existing mature trees and shrubs, native plants significant rock outcroppings, and natural drainage courses and riparian vegetation.
- **Chapter 9.01.080 Section C.1:** Administration of the General Plan – Investigate and make recommendations to the Moreno Valley City Council regarding reasonable and practical means for implementing the General Plan or any element thereof, so that it will serve as an effective guide for orderly growth and development, preservation and conservation of open space and natural resources, and for the efficient and effective expenditure of public funds relating to the subjects addressed in the general plan.

5.2.3 Significance Thresholds Criteria

The Initial Study Environmental Checklist form found in Appendix G of the CEQA Guidelines defines thresholds of significance for Biological Resources. The Notice of Preparation for the PEIR included the Initial Study Environmental Checklist to show the areas being analyzed in the PEIR; refer to Appendix A of this PEIR. Accordingly and based on the IS, the Project may be considered to have a significant impact on Biological Resources in the following areas if the Project would:

- (Threshold A) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- (Threshold B) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- (Threshold C) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- (Threshold D) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- (Threshold E) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2.4 Project Design Considerations

No specific design measures would be implemented that would avoid or reduce potentially significant impacts to biological resources. However, most of the proposed MDP Facilities are located within existing roads and other disturbed areas that lack significant biological resources.

5.2.5 Environmental Impacts before Mitigation

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

Biological resources were evaluated at a programmatic level for the proposed Moreno MDP Revision. Therefore, in order to determine Facility-specific impacts, pursuant to mitigation measure **MM BIO 1,** prior to construction of any individual MDP Facility, a general biological resources assessment shall be conducted. The assessments shall include recommendations for subsequent surveys and mitigation measures, if needed. Facility-specific assessments may be included as part of larger development projects, however the analysis is subject to approval by Moreno Valley and the District.

Special-status plants listed in the MSHCP, NEPSSA and/or CAPSSA do not occur within the Moreno MDP Watershed; therefore focused plant surveys will not be required pursuant to the MSHCP for individual projects. However, if a future Facility-specific general biological resources assessment identifies any special-status plant species to be impacted by an individual development project or MDP Facility, Facility-specific impacts to special-status plants may be individually and cumulatively significant prior to mitigation. However, since any special-status plant species detected would be covered without additional conservation requirements, participation in (and compliance with) the MSHCP would reduce any impacts to special-status plants to less than significant and additional mitigation would not be required (GLA, p. 44).

Therefore, the following is a discussion of special-status wildlife species with recommended measures for individual MDP Facilities within the Moreno MDP Watershed, including in some cases, survey/conservation requirements pursuant to the MSHCP.

Burrowing Owl

The MSHCP requires that burrowing owl habitat assessments be conducted for properties occurring within the Burrowing Owl Survey Area. Habitat assessments are to follow the MSHCP Burrowing Owl Survey Instructions, in order to determine the presence of suitable habitat for the burrowing owl. The Survey Instructions identify burrowing owl habitat as including, but not limited to, native and non-native

grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf-courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial (adapted for burrowing or digging) mammals, such as ground squirrels or badgers in addition to man-made structures, such as earthen berms; cement culverts; asphalt, rock, or wood debris piles; or openings beneath cement or asphalt pavement. Thus, they are often found within, under, or in close proximity to these types of man-made structures (GLA, p. 9).

As shown on **Figure 5.2-3 – MSHCP Map**, all or portions of the following proposed MDP Facilities are located within the burrowing owl survey area: Lines A, A-1, A-2, A-3, A-6, B, B-1, B-2, B-3, C, D-1, D-2, D-3, D-5, D-7, D-8, E-1 through E-8, E-10, F, F-2, F-13, F-15, F-16, F-17, G, G-1 through G-4, G-6 through G-11, H, H-1a, H-3 through H-6, H-11, J, J-1, J-7, J-8, K, K-1, K-2, the northwest portion of the Cactus Basin, and all of the Ironwood Debris Basin, Quincy Basin, Reche Canyon Debris Basin, and Sinclair Basin. Therefore, habitat assessments, including focused burrow surveys (if suitable habitat is present), may be required. Subsequent to designation of the MSHCP burrowing owl survey area, portions of the survey area have been developed and, habitat assessments can generally exclude developed areas (GLA, p. 9). Moreover, many of the proposed Moreno MDP Facilities occur within existing paved roads that do not provide habitat for burrowing owls (GLA, p. 5).

However, because many of the proposed Moreno MDP Facilities are conceptually located within agricultural areas and grasslands, which have some potential to support burrowing owls (GLA, p. 36), impacts to burrowing owls, including the loss of burrowing owl habitat, would be potentially significant. Therefore, to comply with the MSHCP and reduce potential impacts to burrowing owls, Facility-specific habitat assessments for proposed MDP Facilities located within the burrowing owl habitat area, habitat assessments (if suitable habitat is present), and pre-construction surveys will be required. Mitigation measure **MM BIO 2** requires habitat assessments, including focused burrow surveys if suitable habitat is present for Moreno MDP Facilities. Mitigation measure **MM BIO 3** requires pre-construction surveys prior to ground disturbance associated with MDP Facilities and avoidance of active nests. **Therefore, potential impacts to burrowing owls are less than significant with mitigation.**

Riparian Birds

For MDP Facilities impacting riparian habitat, the MSHCP requires habitat assessments and focused surveys (within suitable habitat) for least Bell's vireo (LBV) (*Vireo bellii pusillus*), southwestern willow flycatcher (SWWF) (*Empidonax traillii extimus*), and western yellow-billed cuckoo (WYBC) (*Coccyzus americanus occidentalis*). The SWWF and WYBC do not occur within the Moreno MDP Watershed due to a lack of suitable habitat. The LBV is generally not expected to occur within the Moreno MDP Watershed; however, limited riparian habitat may exist in portions of a few alignments, such as Line F and K (GLA, pp. 35 and 43).

The MSHCP vegetation mapping identifies riparian scrub habitat in association with a drainage feature corresponding to proposed MDP Lines A-1 and A-4. However, the extent of riparian habitat is inadequately mapped within the Moreno MDP Watershed. Riparian vegetation is associated with other

drainage features within the Project area, including existing drainages associated with the following proposed MDP Lines F, G, and K. Therefore, the full extent of riparian habitat within the Moreno MDP Watershed must be determined through individual Facility-specific studies (GLA, p. 28). A more-detailed discussion of riparian habitat in the context of jurisdictional waters and MSHCP Riparian/ Riverine areas is provided in response to Threshold B.

Impacts to LBV, including the loss of LBV habitat, would be potentially significant prior to mitigation. However, implementation of mitigation measures **MM BIO 4,** which requires Facility-specific riparian/ riverine surveys, and mitigation measure **MM BIO 5**, which requires individual projects within areas of suitable riparian habitat to conduct protocol presence/absence surveys for the least Bell's vireo and require additional measures for positive surveys, will reduce potential impacts to less than significant. **Therefore, potential impacts to riparian birds, including SWWF, WYBC and LBV are less than significant with mitigation**.

Listed Fairy Shrimp

Based on a general biological review of the Moreno MDP Watershed, suitable habitat to support listed fairy shrimp (i.e., Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), and Santa Rosa fairy shrimp (*Linderiella santarosae*) is not expected (GLA, p. 43). Depending on the species, suitable habitat may include vernal pools, ephemeral ponds, stock ponds, and other features that may support fairy shrimp (GLA, p. 35).

Impacts to listed fairy shrimp would be potentially significant if habitat containing listed fairy shrimp is disturbed. However, implementation of mitigation measure **MM BIO 6**, which requires Facility-specific surveys within potentially suitable habitat and additional measures for positive surveys, will reduce potential impacts to listed fairy shrimp to less than significant. **Therefore, potential impacts to listed fairy shrimp are less than significant with mitigation.**

Los Angeles Pocket Mouse

Section 6.3.2 of the MSHCP requires habitat assessments and focused surveys (within suitable habitat) for specific small mammals when a project occurs within a designated MSHCP mammal survey area. A portion of proposed MDP Line F, prior to its connection with the proposed Cactus Basin (immediately east of Redlands Boulevard) is located within the MSHCP mammal survey area for the Los Angeles pocket mouse (LAPM) (*Perognathus longimembris brevinasus)*. (GLA, p. 36)

LAPM habitat is generally defined as fine, sandy soils in coastal sage scrub and grasslands. The vegetation associated with the LAPM includes: non-native grassland, Riversidean sage scrub, Riversidean alluvial fan sage scrub, chaparral and redshank chaparral. The portion of Line F within the LAPM Survey Area is mapped by the MSHCP as non-native grassland. This area appears to be regularly disturbed through disking, but likely contains soils with a potential to support LAPM. Although the area has been subject to past disturbance, there is some potential for the Los Angeles pocket mouse to be present (GLA, pp. 38, 39, and 47).

Impacts to the LAPM would be potentially significant if occupied LAPM habitat is disturbed. However, implementation of mitigation measure **MM BIO 7**, which requires habitat assessments and (if necessary) additional measures for positive surveys for proposed MDP Facilities, will reduce impacts to less than significant. **Therefore, potential impacts to LAPM are less than significant with mitigation**.

Stephens' Kangaroo Rat

Stephens' kangaroo rat (SKR) (*Dipodomys stephensi*) is federally listed as endangered and state listed as threatened. Within western Riverside County, SKR is a Covered Species pursuant to the SKR HCP and the MSHCP. SKR is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50 percent during the summer. Soil type is also an important habitat factor for SKR occupation. As a burrowing animal, the SKR typically is found in sandy and sandy loam soils with low clay to gravel content. SKR may be found on rocky soils, but population densities generally are much lower. (GLA. pp. 39 and 40)

Portions of the Moreno MDP Watershed contain habitat suitable to support SKR, including the grassland areas, and to some extent the agricultural areas. Therefore, implementation of the Moreno MDP will result in the potential loss of habitat for SKR. The Moreno MDP Watershed is within the SKR fee assessment area; however, none of the MDP Facilities are within or in proximity to any SKR Core Reserves or areas additionally targeted for SKR conservation (see **Figure 5.2-3**). (GLA, p. 40)

The SKR is a covered species in the MSHCP and is specifically identified as a "Covered Species Adequately Conserved" (Table 2-2 of the MSHCP). Project Facilities, or portions of the Project Facilities, that are constructed by a public agency, such as Moreno Valley or the District are considered public works projects and must contribute mitigation via the MSHCP. Mitigation for District Projects is accomplished by payment of three percent of total capital costs of a project to WRC-RCA; however, such payment may be offset through acquisition of replacement habitat or creation of new habitat for the benefit of covered species. (MSHCP Vol I, p. 6-51) Mitigation for Moreno Valley and Riverside County public works projects is accomplished one or any combination of the following: 1) acquisition of replacement Habitat at a 1:1 ratio that is Biologically Equivalent or Superior to the property being disturbed or 2) payment of the Local Development Mitigation Fees at the rate in effect for commercial and industrial property. (MSHCP Vol I, p. 6-49) Moreno MDP Facilities, or portions of the Moreno MDP Facilities, that are constructed as part of private development will be required to pay the SKR HCP and MSHCP mitigation fees in order to receive coverage for SKR impacts (GLA, pp. 39, 40, and 47).

Because the SKR is a covered species in the MSHCP and public works projects contribute to the MSHCP and private development projects pay the SKR HCP and MSHCP fees, impacts to SKR will be less than significant.

Raptor Foraging Habitat

Special-status and common raptors known or with a potential to forage within the MDP Watershed include, but are not limited to: red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsonii*), northern harrier (*Circus*