Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan

Final
Joint Environmental Impact Statement
and Environmental Impact Report

SCH No. 2000011025

Volume 1

Final Addendum/Additional Information

Prepared for:

U.S. Army Corps of Engineers
and California Department of Fish and Game

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November 2010

FINAL ADDENDUM/ADDITIONAL INFORMATION

This Final Addendum/Additional Information (Addendum) identifies discrete revisions made to the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR; June 2010) in response to comments received from federal and state agencies, organizations, and individuals. The Final EIS/EIR identified the environmental consequences associated with implementation of the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan (Project) and its alternatives, as well as mitigation measures to avoid or minimize significant environmental impacts.

The Final EIS/EIR that will be considered by the U.S. Army Corps of Engineers (Corps) and California Department of Fish and Game (CDFG), the lead agencies for the proposed Project, consists of: (i) the Draft EIS/EIR (April 2009), the Final EIS/EIR (June 2010), and this Addendum; (ii) the list of agencies, organizations, and individuals that commented on the Draft EIS/EIR (April 2009) and the Final EIS/EIR (June 2010); (iii) all comments, written and oral, and responses to those comments prepared by, or at the direction of, the lead agencies; and, (iv) the appendices and studies referenced or used by the lead agencies in preparing or reviewing the environmental analysis for the proposed Project.

Consistent with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), this Addendum identifies where new information clarifies, amplifies, and/or makes insignificant modifications to the Final EIS/EIR. (See 40 C.F.R. § 1502.9; Cal. Code Regs., tit. 14, § 15088.5, subd. (b).) Based on the lead agencies evaluation of the revisions to the Final EIS/EIR, the information presented in the Addendum does not require recirculation under either NEPA or CEQA. More specifically, NEPA only requires preparation and circulation of a supplement to a final EIS where: (i) the agency makes substantial changes to the proposed project that are relevant to environmental concerns; or, (ii) there are significant new circumstances or information relevant to environmental concerns. (40 C.F.R. § 1502.9, subd. (c); see also 33 C.F.R. § 230.13, subd. (b).) Similarly, CEQA only requires EIR recirculation where significant new information reveals that: (i) a new significant environmental impact would result; (ii) a substantial increase in the severity of an environmental impact would occur; (iii) a feasible project alternative or mitigation measure considerable different from others previously analyzed would clearly lessen significant environmental impacts; or, (iv) the EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (Cal. Code Regs., tit. 14, §15088.5, subd. (a).) As reflected in the Addendum, the information incorporated into the Final EIS/EIR does not include significant new information or changes that result in new or increased environmental effects. Instead, the information simply bolsters an already thorough and adequate Final EIS/EIR and record by making discrete changes that clarify the environmental analysis.

The Addendum contains copies of the revised Final EIS/EIR pages or sections that have been modified or clarified in response to comments received on the Final EIS/EIR. More specifically, the revised Final EIS/EIR pages or sections contained in this Addendum include the following:

- Executive Summary;
- Section 4.2, Geomorphology and Riparian Resources;
- Section 4.4, Water Quality;

- Section 4.5, Biological Resources;
- Section 4.6, Jurisdictional Waters and Streams;
- Section 4.7, Air Quality;
- Section 4.10, Cultural Resources;
- Section 4.11, Paleontological Resources;
- Section 4.12, Agricultural Resources; and,
- Section 8.0, Global Climate Change.

The revised or additional text is shown in single-underline, while deleted text is shown in ~~strikeout~~. (Text shown in double-underline was included in the June 2010 Final EIS/EIR.) Revised or new figures or tables are prefaced by the addition of the following text to the figure or table title: **(Revised)** or **(New)**.

The electronic version of the entire Final EIS/EIR text, as modified to reflect the information presented in this Addendum, will be made publicly available on DVD. In addition, the entire Final EIS/EIR text, as modified, will be available in the offices of the lead agencies (see addresses below), on DVD at various libraries identified below, and on CDFG's designated website for the proposed Project: www.dfg.ca.gov/regions/5/newhall.

U.S. Army Corps of Engineers
Ventura County Field Office
Attn: Aaron O. Allen
2151 Alessandro Drive, Suite 110
Ventura, CA 93001

California Department of Fish and Game
Newhall Ranch EIS/EIR Project Comments
c/o Dennis Bedford
4949 Viewridge Avenue
San Diego, CA 92123

Library Locations	
County of Los Angeles Public Library Castaic Branch	27971 Sloan Canyon Road Castaic, CA 91384
County of Los Angeles Public Library Newhall Branch	22704 West Ninth Street Santa Clarita, CA 91321
County of Los Angeles Public Library Sylmar Branch	14561 Polk Street Sylmar, CA 91342
County of Los Angeles Public Library Valencia Branch	23743 Valencia Boulevard Santa Clarita, CA 91355
Ventura County Library H.P. Wright Library Branch	57 Day Road Ventura, CA 93003
Ventura County Library Fillmore Branch	502 Second Street Fillmore, CA 93015

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		riparian resources from associated lighting and stormwater runoff) **BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-70** (project design features, construction notes, erosion and dust control, and SWPPP BMPs to ensure protection of vegetation communities and special-status species) **BIO-71** (dust control measures to protect vegetation communities and special-status aquatic wildlife species) **BIO-72** (review of plant palettes and inspection of container plants for use within ~~100~~ 200 feet of native vegetation for pests and disease; restrictions on invasive plants and irrigation) **BIO-73** (permanent fencing along trails in the River Corridor SMA) **BIO-74** (fencing and signage around the Middle Canyon Spring) **BIO-77** (Middle Canyon Spring Habitat Management Plan (Dudek 2007C), which prescribes monitoring and management related to water quality and water quantity) **BIO-86** (pre-construction surveys and relocation of the ~~undescribed~~ spring snail ~~species~~)
Coast Horned Lizard (CSC)	Loss of Habitat Implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would result in the permanent loss of 3,283 acres	**SP-4.6-1 - SP-4.6-16** and **SP-4.6-63** (habitat restoration/enhancement in the River Corridor SMA; 1:1 riparian resource replacement)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		BIO-21 (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals Implementation of the RMDP would impact any known day roosts. However, build-out of the Specific Plan, would result in the permanent loss of the maternity site in the storage building north of Potrero Canyon. Furthermore, if a day roost site were established elsewhere in the Project area prior to construction activities, any impacts to a roost site would result in a substantial adversely affect this species. Loss of a day roost would be significant, absent mitigation. Implementation of the SCP would not directly impact this species.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect pallid bats in areas adjacent to construction zones. A maternity site in a storage building is located approximately 300 feet north of the proposed road in Potrero Canyon. Although this site would be permanently lost due to construction of Potrero Village, prior to build-out, it also could be disturbed as a result of construction of RMDP facilities in Potrero Canyon. The documented maternity site and any other day roosts (including maternity sites) that become established in proximity to construction zones could be temporarily or permanently impacted as a result of short-term construction activities, as well as the result of long-term impacts of RMDP facilities and	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas) **BIO-64** (develop an integrated pest management plan that addresses pesticide use) **BIO-68** (day roost site replacement) **BIO-71** (dust control measures to protect vegetation communities and special-status aquatic wildlife species) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		BIO-21 (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation. Implementation of the SCP would not directly impact this species.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect pocketed free-tailed bats in areas adjacent to construction zones. There is no evidence of existing day roost sites, including maternity sites, in the Project area. However, if a day roost site were established prior to construction activities in proximity to the construction zones, both short-term and long-term secondary impacts to a roost site could occur, such as human activity; noise from road and bridge traffic: lighting; pesticides; and pet, stray, and feral cats and dogs disturbing roost sites. Short-term and long-term secondary impacts would be significant, absent mitigation.	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas) **BIO-64** (develop an integrated pest management plan that addresses pesticide use) **BIO-68** (day roost site replacement) **BIO-71** (dust control measures to protect vegetation communities and special-status aquatic wildlife species) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
Townsend's Big-Eared Bat (CSC)	Loss of Habitat Implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would result in the permanent loss of 3,367 acres (29.4%) of the Townsend's big-eared bat habitat on site. A total of 118 acres would be temporarily impacted. These impacts to habitat would be significant, absent mitigation.	**SP-4.6-1 - SP-4.6-16** and **SP-4.6-63** (habitat restoration/enhancement in the River Corridor SMA; 1:1 riparian resource replacement) **SP-4.6-21 - SP-4.6-26** (open space dedication of the River Corridor SMA) **SP-4.6-26A** (riparian revegetation and oak tree replacement opportunities in the High Country SMA) **SP-4.6-27** (removal of grazing and enhancement of riparian habitat in the High Country SMA) **SP-4.6-36 - SP-4.6-42** (open space dedication of the High Country SMA) **SP-4.6-48** (restoration and enhancement of oak resources in the High Country SMA and Open Area) **BIO-1 - BIO-16** (wetlands mitigation plan and riparian restoration activities on the Project site) **BIO-19** (dedication of the Salt Creek area to the public and enhancement of existing agricultural undercrossing at SR-126) **BIO-20** (preservation of approximately 1,900 acres of coastal scrub on site) **BIO-21** (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with	**BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting

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Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
	implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation. Implementation of the SCP would not directly impact this species.	habitat for bats)
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect Townsend big-eared bats in areas adjacent to construction zones. There is no evidence of existing day roost sites, including maternity sites, in the Project area. However, if a day roost site were established prior to construction activities in proximity to the construction zones, both short-term and long-term secondary impacts to a roost site could occur, such as human activity; noise from road and bridge traffic: lighting; pesticides; and pet, stray, and feral cats and dogs disturbing roost sites. Short-term and long-term secondary impacts would be significant, absent mitigation.	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas) **BIO-64** (develop an integrated pest management plan that addresses pesticide use) **BIO-68** (day roost site replacement) **BIO-71** (dust control measures to protect vegetation communities and special-status aquatic wildlife species) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
Western Mastiff Bat (CSC)	Loss of Habitat Implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would result in the permanent loss of 3,367 acres (29.4%) of the western mastiff bat habitat on site. A total of 118 acres would be temporarily impacted. These impacts to habitat would be significant, absent mitigation.	**SP-4.6-1 - SP-4.6-16** and **SP-4.6-63** (habitat restoration/enhancement in the River Corridor SMA; 1:1 riparian resource replacement) **SP-4.6-21 - SP-4.6-26** (open space dedication of the River Corridor SMA) **SP-4.6-26A** (riparian revegetation and oak tree replacement opportunities in the High Country SMA)

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Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		SP-4.6-27 (removal of grazing and enhancement of riparian habitat in the High Country SMA) **SP-4.6-36 - SP-4.6-42** (open space dedication of the High Country SMA) **SP-4.6-48** (restoration and enhancement of oak resources in the High Country SMA and Open Area) **BIO-1 - BIO-16** (wetlands mitigation plan and riparian restoration activities on the Project site) **BIO-19** (dedication of the Salt Creek area to the public and enhancement of existing agricultural undercrossing at SR-126) **BIO-20** (preservation of approximately 1,900 acres of coastal scrub on site) **BIO-21** (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation. Implementation of the SCP would not directly impact this species.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect western mastiff bats in areas adjacent to construction zones. There is no evidence of existing day roost sites, including maternity sites, in the Project area. However, if a day roost site were established prior to construction activities in proximity to the construction zones, both short-term and long-term secondary impacts to a roost site could occur, such as human activity; noise from road and bridge traffic: lighting; pesticides; and pet, stray, and feral cats and dogs disturbing roost sites. Short-term and long-term secondary impacts would be significant, absent mitigation.	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas) **BIO-64** (develop an integrated pest management plan that addresses pesticide use) **BIO-68** (day roost site replacement) **BIO-71** (dust control measures to protect vegetation communities and special-status aquatic wildlife species) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
Western Red Bat (CSC)	Loss of Habitat Implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would result in the permanent loss of 3,367 acres (29.4% of western red bat habitat on site). A total of 118 acres would be temporarily impacted. These impacts to habitat would be significant, absent mitigation.	**SP-4.6-1 - SP-4.6-16** and **SP-4.6-63** (habitat restoration/enhancement in the River Corridor SMA; 1:1 riparian resource replacement) **SP-4.6-21 - SP-4.6-26** (open space dedication of the River Corridor SMA) **SP-4.6-26A** (riparian revegetation and oak tree replacement opportunities in the High Country SMA) **SP-4.6-27** (removal of grazing and enhancement of riparian habitat in the High Country SMA) **SP-4.6-36 - SP-4.6-42** (open space dedication of the High Country SMA) **SP-4.6-48** (restoration and enhancement of oak resources in the High Country SMA and Open Area)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		BIO-1 - BIO-16 (wetlands mitigation plan and riparian restoration activities on the Project site) **BIO-19** (dedication of the Salt Creek area to the public and enhancement of existing agricultural undercrossing at SR-126) **BIO-20** (preservation of approximately 1,900 acres of coastal scrub on site) **BIO-21** (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation. Implementation of the SCP would not directly impact this species.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect western red bats in areas adjacent to construction zones. There is no evidence of existing day roost sites, including maternity sites, in the Project area. However, if a day roost site were established prior to construction	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
	118 acres would be temporarily impacted. These impacts to habitat would be significant, absent mitigation.	**SP-4.6-26A** (riparian revegetation and oak tree replacement opportunities in the High Country SMA) **SP-4.6-27** (removal of grazing and enhancement of riparian habitat in the High Country SMA) **SP-4.6-36 - SP-4.6-42** (open space dedication of the High Country SMA) **SP-4.6-48** (restoration and enhancement of oak resources in the High Country SMA and Open Area) **BIO-1 - BIO-16** (wetlands mitigation plan and riparian restoration activities on the Project site) **BIO-19** (dedication of the Salt Creek area to the public and enhancement of existing agricultural undercrossing at SR-126) **BIO-20** (preservation of approximately 1,900 acres of coastal scrub on site) **BIO-21** (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)

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Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
	Implementation of the SCP would not directly impact this species.	
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect fringed myotis in areas adjacent to construction zones. There is no evidence of existing day roost sites, including maternity sites, in the Project area. However, if a day roost site were established prior to construction activities in proximity to the construction zones, both short-term and long-term secondary impacts to a roost site could occur, such as human activity; noise from road and bridge traffic: lighting; pesticides; and pet, stray, and feral cats and dogs disturbing roost sites. Short-term and long-term secondary impacts would be significant, absent mitigation.	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas) **BIO-64** (develop an integrated pest management plan that addresses pesticide use) **BIO-68** (day roost site replacement) **BIO-71** (dust control measures to protect vegetation communities and special-status aquatic wildlife species) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
Long-Legged Myotis (California Special Animal)	Loss of Habitat Implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would result in the permanent loss of 3,367 acres (29.4% of long-legged myotis habitat on site). A total of 118 acres would be temporarily impacted. These impacts to habitat would be significant, absent mitigation.	**SP-4.6-1 - SP-4.6-16** and **SP-4.6-63** (habitat restoration/enhancement in the River Corridor SMA; 1:1 riparian resource replacement) **SP-46-21 - SP-4.6-26** (open space dedication of the River Corridor SMA) **SP-4.6-26A** (riparian revegetation and oak tree replacement opportunities in the High Country SMA) **SP-4.6-27** (removal of grazing and enhancement of riparian habitat in the High Country SMA) **SP-4.6-36 - SP-4.6-42** (open space dedication of the High Country SMA)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		SP-4.6-48 (restoration and enhancement of oak resources in the High Country SMA and Open Area) **BIO-1 - BIO-16** (wetlands mitigation plan and riparian restoration activities on the Project site) **BIO-19** (dedication of the Salt Creek area to the public and enhancement of existing agricultural undercrossing at SR-126) **BIO-20** (preservation of approximately 1,900 acres of coastal scrub on site) **BIO-21** (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation. Implementation of the SCP would not directly impact this species.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect long-legged myotis in areas adjacent to construction zones. There is	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		BIO-20 (preservation of approximately 1,900 acres of coastal scrub on site) **BIO-21** (restoration/enhancement of coastal scrub in the High County SMA, Salt Creek area, and River Corridor SMA)
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation. Implementation of the SCP would not directly impact this species.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect western small-footed myotis in areas adjacent to construction zones. There is no evidence of existing day roost sites, including maternity sites, in the Project area. However, if a day roost site were established prior to construction activities in proximity to the construction zones, both short-term and long-term secondary impacts to a roost site could occur, such as human activity; noise from road and bridge traffic: lighting; pesticides; and pet, stray, and feral cats and dogs disturbing roost sites.	**SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas) **BIO-64** (develop an integrated pest management plan that addresses pesticide use) **BIO-68** (day roost site replacement) **BIO-71** (dust control measures to protect vegetation communities and special-status aquatic wildlife species)

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Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
	Short-term and long-term secondary impacts would be significant, absent mitigation.	**BIO-84** (culvert and bridge design to provide roosting habitat for bats)
Yuma Myotis (California Special Animal)	Loss of Habitat Implementation of the RMDP and the SCP and build-out of the Specific Plan, VCC, and Entrada planning areas would result in the permanent loss of 84 acres (11.5% of Yuma myotis habitat on site). A total of 57 acres would be temporarily impacted. Because the Yuma myotis forages in a variety of riparian-associated habitat, and because the construction activities would be phased over a long period of time, hundreds of acres of suitable riparian habitat in the River Corridor SMA and associated tributaries would be available for this species at any given time. Restoration, revegetation, and enhancement of riparian habitat in the River Corridor would ensure no net loss of acreage and function. Impacts to habitat therefore would be adverse but not significant.	None required
	Impacts to Individuals No day roosts for this species were documented in the Project area. However, if a day roost site were established prior to construction activities in the Project footprint, construction activities associated with implementation of the RMDP and build-out of the Specific Plan, VCC, and Entrada planning areas affecting a roost site would result in a substantial adverse effect on this species. Impacts to individuals would be significant absent mitigation.	**BIO-52** (pre-construction educational meetings, construction-limit staking, construction vehicle inspection and cleaning, and biological monitoring during vegetation clearing and grading activities) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-68** (day roost site replacement) **BIO-84** (culvert and bridge design to provide roosting habitat for bats)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
	Implementation of the SCP would not directly impact this species.	
	Secondary Impacts Construction activities associated with RMDP facilities and build-out of the Specific Plan, VCC, and Entrada planning areas have the potential to affect Yuma myotis in areas adjacent to construction zones. There is no evidence of existing day roost sites, including maternity sites, in the Project area. However, if a day roost site were established prior to construction activities in proximity to the construction zones, both short-term and long-term secondary impacts to a roost site could occur, such as human activity; noise from road and bridge traffic: lighting; pesticides; and pet, stray, and feral cats and dogs disturbing roost sites. Short-term and long-term secondary impacts would be significant, absent mitigation.	**SP-4.6-1 - SP-4.6-16** and **SP-4.6-63** (habitat restoration/enhancement in the River Corridor SMA; 1:1 riparian resource replacement) **SP-4.6-21 - SP-4.6-26** and **SP-4.6-36 - SP-4.6-42** (open space dedication of the River Corridor SMA and the High Country SMA) **SP-4.6-26a** (riparian revegetation and oak tree replacement opportunities in the High Country SMA) **SP-4.6-27** (removal of grazing and enhancement of riparian habitat in the High Country SMA) **SP-4.6-48** (restoration and enhancement of oak resources in the High Country SMA and Open Area) **SP-4.6-56** (downcast lighting design along the boundaries of natural areas) **BIO-1 - BIO-16** (wetlands mitigation plan and riparian restoration activities on the Project site) **BIO-19** (dedication of the Salt Creek area to the public and enhancement of existing agricultural undercrossing at SR-126) **BIO-61** (pre-construction surveys for active roosts of ~~special-status~~ bats) **BIO-63** (control of pet, stray, and feral cats and dogs in or near open space areas) **BIO-64** (develop an integrated pest management plan that addresses pesticide use) **BIO-68** (day roost site replacement)

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
RMDP and **SCP** Indirect *Specific Plan: Alts. 2-7*	Occupancy and operation of land uses on the Specific Plan site would result in significant long-term emissions of VOC, NO_x, CO, PM10 and PM2.5	The following measures would minimize project-related emissions but would not reduce impacts to a less-than-significant level. **AQ-13** Residential buildings ~~on the Specific Plan site~~ to reduce energy use 15% below Title 24 (2008) requirements. **AQ-14** Commercial and public buildings ~~on the Specific Plan site~~ to reduce energy use 15% below Title 24 (2008) requirements. **AQ-15** Single-family ~~R~~residential development to ~~provide~~ produce or ~~purchase~~ cause to be produced renewable ~~electrical~~ energy or purchase greenhouse gas emissions offsets. **AQ-16** Non-residential development to ~~provide~~ produce or ~~purchase~~ cause to be produced renewable ~~electrical~~ energy or purchase greenhouse gas emissions offsets.
SCP Indirect *Entrada: Alts. 2-7* *VCC: Alts. 2-3*	Occupancy and operation of land uses on the Entrada and VCC sites would result in significant long-term emissions of VOC, NO_x, CO, PM10 and PM2.5	Los Angeles County can and should adopt long-term emission reduction mitigation measures similar to **AQ-13** through **AQ-16** as part of their environmental review of the Entrada and VCC projects. It is unlikely, however, that those mitigation measures would reduce project-related impacts to a less-than-significant level.
RMDP and **SCP** Indirect and Secondary *Specific Plan: Alts. 2-7*	Construction activities on the Specific Plan site facilitated by the RMDP and SCP would result in emissions that exceed Localized Significance Thresholds. The PM10 and PM2.5 24-hr thresholds would be exceeded during each of the modeled years (2010, 2012, 2013 and 2015). The one-hour NO_2 threshold would be exceeded at residential receptors	The following measures would minimize construction-related emissions but would not reduce impacts to a less-than-significant level. **AQ-1** through **AQ-12a**

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
Direct *Specific Plan: Alts. 2-7*	construction equipment onto the Specific Plan site would not result in significant noise impacts.	
RMDP Direct *Specific Plan: Alts. 2-7*	Infrastructure construction operation would not result in significant impacts to nearby receptors.	None required. Specific Plan Mitigation Measures **SP-4.9-1** through **SP-4.9-4** would ensure that construction-related noise impacts remain less than significant.
SCP Direct *Specific Plan: Alts. 2-7* *VCC: Alts. 4-7*	Establishment and operation of SCP preserves on the Specific Plan and VCC sites would not result in significant noise impacts.	None required
SCP Indirect and Secondary *VCC: Alts. 2-3*	Urban development facilitated on the VCC site by the SCP preserves would result in short-term construction-related and long-term traffic noise impacts to residents along Backer Road.	Implementation of previously adopted mitigation measures identified by the VCC EIR would reduce project-related noise impacts to a less-than-significant level. No additional mitigation measures are required. **VCC Short-Term Noise.** Construction hour limitations and equipment maintenance requirements. **VCC Long-Term Noise.** Backer Rd. realignment and sound wall; and noise study requirements.
Section 4.10 Cultural Resources		
Significant Unavoidable Impacts		
None		
Impacts Reduced to a Less-Than-Significant Level		
RMDP and **SCP** Indirect *Specific Plan: Alts. 2-7*	RMDP infrastructure and SCP preserves would facilitate urban development on the Specific Plan site that have the potential to impact cultural resource sites CA-LAN-2133 and 2233	**CR-1a** CA-LAN-2233 Management Requirements **CR-1b** CA-LAN-2133 Management Requirements **CR-2** Archaeological Site Data Recovery **CR-3** Archaeological Site Monitoring Requirements **CR-4** Archaeological Site Protection Requirements

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
		CR-6 Discovery of human remains treated in accordance with Public Resources Code section 5097.98 and State CEQA Guidelines section 15064.5(e).
RMDP Direct and Indirect *Specific Plan: Alts. 2-7* *Entrada: Alts. 2-7* **SCP** Indirect *Specific Plan: Alts. 2-7* *Entrada: Alts. 2-7*	Construction of RMDP infrastructure (direct impact), and urban development facilitated by RMDP infrastructure and SCP preserves (indirect impacts) have the potential to uncover previously undetected cultural resources on the Specific Plan and Entrada sites.	The following measures are required for the Specific Plan site. **CR-5** Unanticipated Resource Discovery **CR-6** Discovery of human remains treated in accordance with Public Resources Code section 5097.98 and State CEQA Guidelines section 15064.5(e). Implementation of similar mitigation requirements should also reduce impacts to cultural resources on the Entrada site to a less-than-significant level. Los Angeles County can and should impose similar mitigation measures during the environmental review of the Entrada project.
SCP Indirect *VCC: Alts. 2-3*	SCP preserves on the Specific Plan and Entrada sites would facilitate development on the VCC that has the potential to uncover previously undetected cultural resources.	VCC EIR mitigation measures require detailed site surveys; that grading activities be discontinued if cultural resources are detected; and that the discovery be assessed and mitigated. The implementation of similar mitigation requirements (such as Mitigation Measures **CR-5** and **CR-6**) would reduce impacts to cultural resources at the VCC to a less-than-significant level. Los Angeles County can and should impose similar mitigation measures during the environmental review for the final phase of the VCC area.
Less-Than-Significant Impacts		
RMDP and **SCP**	RMDP infrastructure and SCP preserves would not	None required

(Revised) Table ES-4
Summary of Significant Impacts and Mitigation Measures

Applicable Project Component(s) Type of Impact *Affected Project Areas and Alternatives*	Impact	Summary of Mitigation Measures
Specific Plan: Alts. 2-7 *Entrada: Alts. 2-7* *VCC: Alts. 2-7*	disposal impacts would occur off-site as a result of the Project.	
Section 8.0 Global Climate Change		
Significant Unavoidable Impacts		
None		
Impacts Reduced to a Less-Than-Significant Level		
None		
Less Than Significant Impacts		
RMDP/SCP Direct/Indirect/Secondary *Project Area: Alts. 2-7*	The proposed Project and alternatives (Alternatives 3-7) would result in the emission of greenhouse gases. However, the emissions quantity would not impede achievement of the 2020 greenhouse gas emission reductions mandated in Assembly Bill 32 (Global Warming Solutions Act of 2006). The project design features of the development that would be enabled by approval of the proposed Project have been incorporated as mitigation measures to ensure that impacts remain at a less-than-significant level.	**GCC-1** Residential buildings shall be 15 percent more energy efficient than Title 24 (2008~~5~~) requires. **GCC-2** Nonresidential buildings shall be 15 percent more energy efficient than Title 24 (2008~~5~~) requires. **GCC-3** Renewable electricity or carbon offsets/credits shall be provided for single-family residences. **GCC-4** Renewable electricity or carbon offsets/credits shall be provided for nonresidential buildings. **GCC-5** Project applicant shall comply with Governor Schwarzenegger's Million Solar Roofs Plan. **GCC-6** Pools located at recreation centers shall be heated via solar power. **GCC-7** Municipal facilities (*e.g.*, fire stations) shall be designed to achieve LEED silver certification, per Los Angeles County standards.

erosion rate data are available from the Los Angeles County debris detention basins, located on the southern side of the San Gabriel Mountains. For the past 30 years, the Ventura County Watershed Protection District has published regular updates on its monitoring and maintenance of debris basins and detention dams. In a report by Stillwater Sciences (2008), ~~T~~the sediment data ~~has~~ was recently ~~been~~ used to quantify how sand retention by the dams affects the supply of sand for beach formation and maintenance. Based on sediment production data presented in the report, it has been conservatively estimated that approximately 15,988 tons per square mile per year of coarse sediment is produced in the Santa Clara watershed. According to this study, roughly 1,170 tons per square mile per year of suspended sediment originates from the area upstream of the Los Angeles County/Ventura County line[6]. Given this estimate, **Table 4.2-5** includes the approximate suspended sediment currently supplied by the tributary watersheds in the Project area. Combined, the estimated total sediment production within the Santa Clara River watershed (coarse and suspended sediment) is approximately 17,158 tons per square mile per year. The primary sediment source for beach sand at the Santa Clara River mouth is Sespe Creek, which is undammed and its sub-basin (Topa Topa) yields the highest water and sediment contribution of the entire Santa Clara River watershed. The confluence of Sespe Creek with the Santa Clara River is located approximately 15 miles downstream of the Project Area. Of the total, 4.08 million tons of suspended sediment and approximately 27.86 million tons of coarse sediment (31.94 million tons combined) delivered to the Santa Clara River mouth each year, less than one percent ~~(0.87 percent)~~ originates from the RMDP tributary watersheds (0.87 percent) and RMDP Project area (0.52 percent), which is less than significant based on the above criteria.

4.2.3.1.4 Riparian Habitat

The diversity of habitat conditions in the Santa Clara River at any one time supports a variety of aquatic invertebrates, aquatic plants, and fishes. The density, biomass, and location of vegetation in relation to the channel bottom are directly dependent upon the frequency of disturbance by flood flows. Successional mule fat scrub occupies the active channel and is disturbed annually by flows. Channel-bottom habitat also includes all aquatic features, such as pools and flowing water, as well as most of the emergent wetlands in the River Corridor because of the presence of water. In contrast, mature riparian forests are located above the active River channel and are only flooded during infrequent storm events, which allows large trees to become established between events.

Stands of vegetation are eroded by high flows, and newly vegetated areas are created where vegetation becomes established by seeds or buried stems. Often during high flows, new sandbars are formed and old ones are destroyed. High flows can also change the alignment of the low-flow channel as well as the number and location of aquatic habitats of the River. In high-flow years, wetland vegetation along the margins of the low-flow channel and pools may increase. In high-flow years, this vegetation would be removed, but would likely become re-established during the spring and summer by natural colonization processes.

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[6] Sediment delivery upstream of the Los Angeles County/Ventura County line is reduced by dams located on Castaic Creek and Bouquet Creek and is less than the sediment delivery to downstream reaches following significant sediment contributions from the unregulated Sespe Creek watershed and the lower Santa Clara River subwatershed where weak Plio-Pleistocene siltstones predominate and presumably contribute to enhanced erosion.

Table 4.2-5
Estimated Annual Suspended Sediment Supply From Tributaries Located Within the Project Area

Tributary	Tributary Drainage Area (sq. mi)*	Approximate Sediment Supply (tons/year)**
Ayers Canyon	0.23	269
Chiquito Canyon	4.85	5,980
Dead-End Canyon	0.19	222
Exxon Canyon	0.03	35
Homestead Canyon	0.12	140
Humble Canyon	0.41	480
Lion Canyon	0.84	983
Long Canyon	1.99	2,328
Magic Mountain Canyon	1.32	1,544
Middle Canyon	0.53	620
Mid-Martinez Canyon	0.16	187
Off-Haul Canyon	0.92	1,076
Potrero Canyon	4.73	5,534
Salt Creek Canyon	9.2	10,706
San Martinez Grande Canyon	3.63	4,247
Unnamed Canyon A	0.70	819
Unnamed Canyon B	0.05	59
Unnamed Canyon C	0.07	82
Unnamed Canyon D	0.04	47
Unnamed Canyon 1 (Entrada)	0.16	188
Unnamed Canyon 2 (Entrada)	0.6	705
Unnamed Canyon 3 (Entrada)	0.13	152
Hasley Creek***	89.7	104,949
Castaic Creek****	50	58,500
TOTAL	**170.6**	**199,852**

Notes:

* Tributary drainage areas from PACE 2008B.

** The suspended sediment supply from each tributary drainage was calculated by multiplying the drainage area by the suspended sediment production rate of 1,170 tons per square mile that was specified in Stillwater ~~2005~~–2008 for the Santa Clara River watershed.

*** Approximately 1.5 square miles of the Hasley Creek watershed is located in the Project area.

**** The total watershed area for Castaic Creek is approximately 203 square miles. Approximately 153 square miles of the watershed is situated upstream of Castaic Dam. Accordingly, sediment contribution from Castaic Creek is primarily limited to the 50 square miles located downstream of the dam. Approximately 0.2 square miles of the Castaic Creek watershed is located within the Project area.

50,000 AF/yr, with the year-to-year variability reflecting the influence of groundwater discharges to the river (which vary according to rainfall-induced fluctuations in the water table elevation). In summary, the future Newhall Ranch WRP discharges will be very small compared with future river flows, comprising 1 percent or less of river flow during average and dry years, and only 0.1 percent to 0.8 percent of river flows during wet years, which will not substantially lengthen the duration of seasonal flows in the Dry Gap.

The potential impacts of the Newhall Ranch WRP to the Dry Gap are considered less than significant relative to Significance Criterion 6 since they will not substantially lengthen the duration of seasonal flow in the Dry Gap. This significance finding is based on the fact that discharge from the Newhall Ranch WRP would occur in the winter and would be small relative to the overall flow in the Santa Clara River, and the existing data shows that increases in base flow due to discharges from the Valencia WRP and the Saugus WRP since the 1960s have not led to a substantial change in the duration of seasonal flow in the Dry Gap.

Significance Criterion 7: Impacts to Ventura County Beaches (Less than Significant). The effects of the Project components on beach replenishment are a function of the sediment load delivered through the Project reach. As discussed in **Subsection 4.2.3.1.3**, Beach Replenishment, above, the Santa Clara River contributes approximately 60 percent of beach sand within Ventura County. The reduction of area subject to erosion due to project components and the build-out of the proposed Specific Plan, VCC, and Entrada developments could result in a relative reduction of floodwater sediment, which could negatively impact beaches, as incrementally less sediment would be available for their replenishment.

The RMDP component of the proposed Project that would have the most effect on sediment supply in the tributaries is the conversion of tributary drainage to buried storm drain. For this analysis, it is assumed that the area converted to buried storm drain results in a net loss of sediment supplied by the affected area. As detailed in **Subsection 4.2.4.1.3**, Beach Replenishment, roughly ~~1,170 tons~~17,158 tons per square mile per year of suspended and coarse sediment originates from the area upstream of the Los Angeles County/Ventura County line. Approximately 38 acres (0.06 square miles) within the tributaries that could potentially contribute to sediment supply would be converted to buried storm drain; this could result in a net reduction of ~~70~~ 1,029 tons of sediment per year in the tributaries.

In order to estimate the impacts to sediment supply associated with the RMDP components within the Santa Clara River floodplain, it is assumed that the areas of the floodplain that are subject to velocities greater than four fps contribute to the sediment supply within the Project reach during the capital flood event (chosen to provide a conservative impact estimate since the capital flood would have the maximum reduction in area subject to velocities greater than 4 fps as a result of the proposed Project). Accordingly, the proposed Project would result in a maximum reduction of 181.7 acres (0.28 square miles) of floodplain area subject to velocities greater than four fps during the capital flood event (discharge resulting from a hypothetical four-day storm with a 50-year return period falling on a saturated watershed with debris from a wildfire) (see **Table 4.2-11**). Therefore, the proposed Project would result in a maximum net reduction of about 181.7 acres (0.28 square miles) of channel area that could potentially contribute to sediment supply. Given this estimate, the reduction of 181.7 acres (0.28 square miles) would result in a maximum direct reduction of approximately ~~330~~ 4,804 tons of sediment per year. In total, the

proposed Project could result in a reduction of approximately ~~400~~ 5,833 tons (~~70~~ 1,029 tons from tributaries and ~~330~~ 4,804 tons from Santa Clara River) of sediment per year delivered through the Project reach.

The build-out of the Specific Plan would have greater effects to the sediment supplied to the River system. The build-out of the Specific Plan area under Alternative 2 would convert approximately 5,087 acres (8.0 square miles) to non-erodible surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. Accordingly, this would result in the reduction of roughly ~~9,299~~ 137,264 tons of sediment per year (or 0.43 percent).

The drainage areas in which the VCC and Entrada sites lie would not be completely developed; therefore, storm flows from the upper reaches would contain sediment and vegetative debris. The VCC planning area is approximately 321.3 acres. The approved land uses include 177.6 acres of industrial/commercial development (including associated public facilities), and 143.6 acres of open space. The Entrada planning area consists of approximately 316.1 acres. The proposed land uses consist of approximately 129.5 acres as open space and the remaining 186.6 acres as residential, commercial, and recreational uses and public facilities. Combined, the build-out of the VCC and Entrada sites would result in approximately 364.2 acres (0.57 square miles) of non-erosive surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. The reduction of 364.2 acres (0.57 square miles) of sediment-generating area would result in a direct reduction of roughly ~~667~~ 9,780 tons of sediment per year.

As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, the Santa Clara River exports an estimated ~~4.08~~ 31.94 million tons of sediment (combined coarse and suspended) per year from its mouth into the Santa Barbara Channel. In total, the RMDP and SCP would result in the net reduction of ~~9,966~~ 147,044 tons of sediment per year, or approximately 0.46 ~~25~~ percent reaching the Santa Barbara Channel, which would be a less-than-significant impact. In order to minimize this reduction in sediment delivery to Ventura County beaches, Mitigation Measure GRR-6 specifies that sediment from upland sources, such as debris basins and other sediment retention activities, would be redistributed in permitted upland and/or riparian locations along the Santa Clara River to reintroduce sediment for beach replenishment purposes. This sediment management activity would lessen the adverse effect of debris and sediment reduction on downstream beach erosion.

Based on this analysis, the reduction of sediment delivered to Ventura County beaches due to the RMDP components and build-out of the Specific Plan, VCC and Entrada planning areas would be less than significant under Significance Criterion 7 since the decrease in average annual sediment transported to the beaches would be less than 1 percent.

4.2.5.4 Impacts of Alternative 3 (Elimination of Planned Potrero Bridge and Additional Spineflower Preserves)

Santa Clara River. Figure 3.0-12 (Section 3.0, Description of Alternatives) depicts the locations of the Alternative 3 proposed RMDP Santa Clara River features relative to river jurisdictional areas. As shown, one proposed bridge, Long Canyon Road Bridge, and one previously approved bridge, Commerce Center Drive Bridge, would be located across the main stem of the Santa Clara River, resulting in permanent

Significance Criterion 7: Impacts to Ventura County Beaches (Less than Significant). The effects of Alternative 3 components on beach replenishment are a function of the sediment load delivered through the Project reach. As discussed in **Subsection 4.2.3.1.3**, Beach Replenishment, above, the Santa Clara River contributes approximately 60 percent of beach sand within Ventura County. However, the reduction of area subject to erosion due to project components and the build-out of the Specific Plan, VCC, and Entrada areas under Alternative 3 could result in a relative reduction of floodwater sediment, which could negatively impact beaches, as incrementally less sediment would be available for their replenishment.

The RMDP component of Alternative 3 that would have the most effect on sediment supply in the tributaries is the conversion of tributary drainage to buried storm drain. For this analysis, it is assumed that the area converted to buried storm drain results in a net loss of sediment supplied by the affected area. As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, roughly ~~1,170~~ 17,158 tons per square mile per year of combined coarse and suspended sediment originates from the area upstream of the Los Angeles County/Ventura County line. Approximately 38.1 acres (0.06 square miles) within the tributaries that could potentially contribute to sediment supply would be converted to buried storm drain; this could result in a net reduction of ~~70~~ 1,029 tons of sediment per year in the tributaries.

In order to estimate the impacts to sediment supply associated with the RMDP components within the Santa Clara River floodplain, it is assumed that the floodplain areas subject to velocities greater than four fps contribute to the sediment supply within the Project reach during the capital flood event. Accordingly, Alternative 3 would result in a maximum reduction of 169.1 acres (0.26 square miles) of floodplain area subject to velocities greater than four fps during the capital flood event (see **Table 4.2-17**). Therefore, Alternative 3 would result in a maximum net reduction of about 169.1 acres (0.26 square miles) of channel area that could potentially contribute to sediment supply. Given this estimate, the reduction of 169.1 acres (0.26 square miles) would result in a maximum direct reduction of approximately ~~310~~ 4,461 tons of sediment per year delivered through the Project reach. In total, Alternative 3 could result in a reduction of ~~380~~ 5,490 tons of sediment per year delivered through the Project reach.

The build-out of the Specific Plan would have greater effects to the sediment supplied to the River system. The build-out of the Specific Plan under Alternative 3 would convert approximately 4,479 acres (7.0 square miles) to non-erodible surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. Accordingly, this would result in the reduction of roughly ~~8,130~~ 120,106 tons of sediment per year.

The drainage areas in which the VCC and Entrada sites lie would not be completely developed; therefore, storm flows from the upper reaches would contain sediment and vegetative debris. The VCC planning area is approximately 321.3 acres. The approved land uses include 177.6 acres of industrial/commercial development (including associated public facilities), and 143.6 acres of open space. The Entrada planning area consists of approximately 316.1 acres. The proposed land uses consist of approximately 176.3 acres as open space and the remaining 139.8 acres as residential, commercial, and recreational uses and public facilities. Combined, the build-out of the VCC and Entrada sites would result in approximately 317.4 acres (0.5 square miles) of non-erosive surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. The reduction of 364.2 acres (0.57 square miles) of

sediment-generating area would result in a direct reduction of roughly ~~667~~ 9,780 tons of sediment per year.

As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, the Santa Clara River exports an estimated ~~4.08~~ 31.94 million tons of sediment (combined coarse and suspended) per year from its mouth into the Santa Barbara Channel. In total, the RMDP and SCP would result in the net reduction of ~~8,797~~ 129,886 tons of sediment per year, or approximately 0.41 ~~2~~ percent reaching the Santa Barbara Channel, which would be a less-than-significant impact. In order to minimize this reduction in sediment delivery to Ventura County beaches, Mitigation Measure GRR-6 specifies that sediment from upland sources, such as debris basins and other sediment retention activities, would be redistributed in permitted upland and/or riparian locations along the Santa Clara River to reintroduce sediment for beach replenishment purposes. This sediment management activity would lessen the adverse effect of debris and sediment reduction on downstream beach erosion.

Based on this analysis, the reduction of sediment delivered to Ventura County beaches due to the RMDP components and build-out of the Specific Plan, VCC and Entrada planning areas would be less than significant relative to Significance Criterion 7 since the decrease in average annual sediment transported to the beaches would be less than 1 percent.

4.2.5.5 Impacts of Alternative 4 (Elimination of Planned Potrero Bridge and Addition of VCC Spineflower Preserve)

As described in **Section 2.0**, Project Description, of this EIS/EIR, Alternative 4 is comprised of different configurations of RMDP infrastructure and spineflower preserves within the Project area. Under Alternative 4, infrastructure would be constructed in and adjacent to the Santa Clara River and tributary drainages within the Project area. A summary of the RMDP infrastructure authorized under the RMDP component of Alternative 4 is presented in **Table 4.2-21a**. The proposed RMDP components are described and illustrated in **Section 3.0**, Description of Alternatives, and **Figure 3.0-12**, Alternatives 3 & 4 - RMDP Santa Clara River Features.

Table 4.2-21a
Alternative 4 Santa Clara River Major RMDP Infrastructure

Santa Clara River Location	Bank Stabilization (lf)	Outlets (No.)	Bridges			
			Length (lf)	Width (lf)	Piers (No.)	Vertical Clearance (ft)
Bridges						
Commerce Center Drive Bridge	-	-	1,200	100	9	22
Long Canyon Road Bridge	-	-	980	100	9	31-40
Potrero Canyon Road Bridge	-	-	-	-	-	-
Banks			-	-	-	-
North River Bank	19,119	22	-	-	-	-
South River Bank	7,632	3	-	-	-	-
Total	**26,751**	**25**	-	-	-	-

the Project reach. As discussed in **Subsection 4.2.3.1.3**, Beach Replenishment, above, the Santa Clara River contributes approximately 60 percent of beach sand within Ventura County. However, the reduction of area subject to erosion due to project components and the build-out of the Specific Plan and Entrada planning area under Alternative 4 could result in a relative reduction of floodwater sediment, which could negatively impact beaches, as incrementally less sediment would be available for their replenishment.

The RMDP component of Alternative 4 that would have the most effect on sediment supply in the tributaries is the conversion of tributary drainage to buried storm drain. For this analysis, it is assumed that the area converted to buried storm drain results in a net loss of sediment supplied by the affected area. As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, roughly ~~1,170~~ 17,158 tons per square mile per year of combined coarse suspended sediment originates from the area upstream of the Los Angeles County/Ventura County line. Approximately 38 acres (0.06 square miles) within the tributaries there could potentially contribute to sediment supply would be converted to buried storm drain; this could result in a net reduction of ~~70~~ 1,029 tons of sediments per year.

In order to estimate the impacts to sediment supply associated with the RMDP components within the Santa Clara River floodplain, it is assumed that the floodplain areas subject to velocities greater than four fps contribute to the sediment supply within the Project reach during the capital flood event. Accordingly, Alternative 4 would result in a maximum reduction of 169.1 acres (0.26 square miles) of floodplain area subject to velocities greater than four fps during the capital flood event (see **Table 4.2-22**). Therefore, Alternative 4 would result in a maximum net reduction of about 169.1 acres (0.26 square miles) of channel area in the Santa Clara River that could potentially contribute to sediment supply. Given this estimate, the reduction of 169.1 acres (0.26 square miles) would result in a maximum direct reduction of approximately ~~310~~ 4,461 tons of sediment per year from the Santa Clara River Corridor. In total, Alternative 4 could result in a reduction of ~~380~~ 5,490 tons of sediment per year delivered through the Project reach.

The build-out of the Specific Plan would have greater effects to the sediment supplied to the River system. The build-out of the Specific Plan under Alternative 4 would convert approximately 4,736.5 acres (7.4 square miles) to non-erodible surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. Accordingly, this would result in the reduction of roughly ~~8,659~~ 126,969 tons of sediment per year.

The drainage areas in which the Entrada site lies would not be completely developed; therefore, storm flows from the upper reaches would contain sediment and vegetative debris. The 177.6 acres of commercial development in the VCC planning area would not be developed under this alternative. The Entrada planning area consists of approximately 316.1 acres. Development of the Entrada site would result in approximately 184.4 acres (0.3 square miles) of non-erosive surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff which would result in a direct reduction of roughly ~~337~~ 5,147 tons of sediment per year.

As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, the Santa Clara River exports an estimated ~~4.08~~ 31.94 million tons of sediment (combined coarse and suspended) per year from its mouth into the Santa Barbara Channel. In total, the RMDP and SCP would result in the net reduction of ~~8,996~~ 132,116

tons of sediment per year, or approximately 0.41 ~~2~~ percent reaching the Santa Barbara Channel, which would be a less-than-significant impact. In order to minimize this reduction in sediment delivery to Ventura County beaches, Mitigation Measure GRR-6 specifies that sediment from upland sources, such as debris basins and other sediment retention activities, would be redistributed in permitted upland and/or riparian locations along the Santa Clara River to reintroduce sediment for beach replenishment purposes. This sediment management activity would lessen the adverse effect of debris and sediment reduction on downstream beach erosion.

Based on this analysis, the reduction of sediment delivered to Ventura County beaches due to the RMDP components and build-out of the Specific Plan, VCC and Entrada planning areas would be less than significant relative to Significance Criterion 7 since the decrease in average annual sediment transported to the beaches would be less than 1 percent.

4.2.5.6 Impacts of Alternative 5 (Widen Tributary Drainages and Addition of VCC Spineflower Preserve)

Santa Clara River. Figure 3.0-24 (Section 3.0, Description of Alternatives) depicts the locations of the Alternative 5 proposed RMDP Santa Clara River features relative to river jurisdictional areas. As shown, two proposed bridges, Potrero Canyon Road bridge and Long Canyon Road bridge, and one previously approved bridge, Commerce Center Drive Bridge, would be located across the main stem of the Santa Clara River, resulting in permanent impacts due to bridge crossings.[17] As shown, buried bank stabilization would be installed along approximately one-half of the north bank and one-third of the south bank of the Santa Clara River within the RMDP study area. Most of the bank stabilization would be constructed in upland areas. Bank stabilization would be installed upstream of Chiquito Canyon and downstream of San Martinez Grande Canyon on the north bank and between Long and Potrero Canyons on the south bank of the Santa Clara River. The WRP outfall to the Santa Clara River also would be installed as part of the approved Newhall Ranch WRP. As shown, geofabric utility corridor bank protection also is proposed on the north side of the Santa Clara River between San Martinez Grande Canyon and Chiquito Canyon. Permanent bank stabilization impact areas exist on the north and south banks of the Santa Clara River. In total, this alternative proposes to construct 26,952 lf of buried bank stabilization and three bridges in the Santa Clara River Corridor. Like Alternatives 3, and 4 this table shows 22 storm drain outlets along the north bank and three such outlets on the south bank of the Santa Clara River (25 storm drain outlets). In addition, the WRP outfall to the Santa Clara River would be constructed. A summary of the RMDP infrastructure authorized under the RMDP component of Alternative 5 is presented in **Table 4.2-26a**. The proposed RMDP components are described and illustrated in **Section 3.0**, Description of Alternatives, Alternative 5 -- RMDP Santa Clara River Features.

[17] The Commerce Center Drive Bridge was previously analyzed in the Final EIS/EIR prepared and approved by the Corps and CDFG in connection with previously adopted NRMP (SCH No. 1997061090, August 1998).

they will not substantially lengthen the duration of seasonal flow in the Dry Gap. This significance finding is based on the fact discharge from the WRP will occur in the winter and will be small relative to the overall flow in the Santa Clara River and the existing data which show that increases in base flow due to discharges from the Valencia WRP and the Saugus WRP since the 1960s have not led to a substantial change in the duration of seasonal flow in the Dry Gap.

Significance Criterion 7: Impacts to Ventura County Beaches (Less than Significant). The effects of Alternative 5 components on beach replenishment are a function of the sediment load delivered through the Project reach. As discussed in **Subsection 4.2.3.1.3**, Beach Replenishment, above, the Santa Clara River contributes approximately 60 percent of beach sand within Ventura County. However, the reduction of area subject to erosion due to project components and the build-out of the Specific Plan and Entrada Plan areas under Alternative 5 could result in a relative reduction of floodwater sediment, which could negatively impact beaches, as incrementally less sediment would be available for their replenishment.

The RMDP component of Alternative 5 that would have the most effect on sediment supply in the tributaries is the conversion of tributary drainage to buried storm drains. For this analysis, it is assumed that the area converted to buried storm drain results in a net loss of sediment supplied by the affected area. As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, roughly ~~1,170~~ 17,158 tons per square mile per year of coarse and suspended sediment originates from the area upstream of the Los Angeles County/Ventura County line. Approximately 38.7 acres (0.06 square miles) within the tributaries that could potentially contribute supply would be converted to buried storm drain; this could result in a net reduction of the ~~70~~ 1,029 tons of sediment per year.

In order to estimate the direct impacts to sediment supply associated with the RMDP components within the Santa Clara River floodplain, it is assumed that the floodplain areas subject to velocities greater than four fps contribute to the sediment supply within the Project reach during the capital flood event. Accordingly, Alternative 5 would result in a maximum reduction of 179.6 acres (0.28 square miles) of floodplain area subject to velocities greater than four fps during the capital flood event (see **Table 4.2-27**). Therefore, Alternative 5 would result in a maximum net reduction of about 179.6 acres (0.28 square miles) of channel area that could potentially contribute to sediment supply. Given this estimate, the reduction of 179.6 acres (0.28 square miles) would result in a maximum direct reduction of approximately ~~330~~ 4,804 tons of sediment per year. In total, Alternative 5 could result in the reduction of ~~400~~ 5,833 tons per year delivered through the Project reach.

The build-out of the Specific Plan would have greater effects to the sediment supplied to the River system. The build-out of the Specific Plan under Alternative 5 would convert approximately 4,720.9 acres (7.4 square miles) to non-erodible surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. Accordingly, this would result in the reduction of roughly ~~8,628~~ 126,969 tons of sediment per year.

The drainage areas in which the Entrada site lies would not be completely developed; therefore, storm flows from the upper reaches would contain sediment and vegetative debris. The VCC planning area would not be developed under this alternative. The Entrada planning area consists of approximately 316.1 acres. Development of the Entrada site would result in approximately 174.6 acres (0.3 square miles) of

non-erosive surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff which would result in a direct reduction of roughly ~~316~~ 5,147 tons of sediment per year.

As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, the Santa Clara River exports an estimated ~~4.08~~ 31.94 million tons of sediment (combined coarse and suspended) per year from its mouth into the Santa Barbara Channel. In total, the RMDP and SCP would result in the net reduction of ~~8,944~~ 132,116 tons of sediment per year, or approximately ~~0.2~~ 0.41 percent reaching the Santa Barbara Channel, which would be a less-than-significant impact. In order to minimize this reduction in sediment delivery to Ventura County beaches, Mitigation Measure GRR-6 specifies that sediment from upland sources, such as debris basins and other sediment retention activities, would be redistributed in permitted upland and/or riparian locations along the Santa Clara River to reintroduce sediment for beach replenishment purposes. This sediment management activity would lessen the adverse effect of debris and sediment reduction on downstream beach erosion.

Based on this analysis, the reduction of sediment delivered to Ventura County beaches due to the RMDP components and build-out of the Specific Plan, VCC and Entrada planning areas would be less than significant relative to Significance Criterion 7 since the decrease in average annual sediment transported to the beaches would be less than 1 percent.

4.2.5.7 Impacts of Alternative 6 (Elimination of Planned Commerce Center Drive Bridge and Maximum Spineflower Expansion/Connectivity)

Under Alternative 6, infrastructure would be constructed in and adjacent to the Santa Clara River and tributary drainages within the Project area.

Santa Clara River. Figure 3.0-31 (Section 3.0, Description of Alternatives) depicts the locations of the Alternative 6 proposed RMDP Santa Clara River features relative to river jurisdictional areas. As shown, Alternative 6 would involve construction of two bridges across the Santa Clara River; one at the mouth of Potrero Canyon (Potrero Canyon Road Bridge) and one at the mouth of Long Canyon (Long Canyon Road Bridge). The previously approved bridge at Commerce Center Drive would not be constructed under this alternative. The alternative also would involve construction of buried bank stabilization along approximately one-half of the north bank and one-third of the south bank of the Santa Clara River within the RMDP area as shown on **Figure 3.0-31 (Section 3.0**, Description of Alternatives). Most of the bank stabilization along the Santa Clara River would occur in upland areas. The WRP outfall to the Santa Clara River also would be constructed. In addition, as proposed, geofabric utility corridor bank protection is proposed on the north side of the Santa Clara River between San Martinez Grande Canyon and Chiquito Canyon. **Table 4.2-31a** summarizes the characteristics of the major RMDP infrastructure along the Santa Clara River, including north side (18,927 lf) and south side (7,149 lf), for a total of 26,076 lf of buried bank stabilization to be constructed along the Santa Clara River. Like Alternatives 3, 4, and 5 this table shows 22 storm drain outlets along the north bank and three such outlets on the south bank of the Santa Clara River (25 storm drain outlets). A summary of the RMDP infrastructure authorized under the RMDP component of Alternative 6 is presented in **Table 4.2-31a**. The proposed RMDP components within the Santa Clara River are described and illustrated in **Section 3.0**, Description of Alternatives, Alternative 6 -- RMDP Santa Clara River Features.

they will not substantially lengthen the duration of seasonal flow in the Dry Gap. This significance finding is based on the fact discharge from the WRP will occur in the winter and will be small relative to the overall flow in the Santa Clara River and the existing data which show that increases in base flow due to discharges from the Valencia WRP and the Saugus WRP since the 1960s have not led to a substantial change in the duration of seasonal flow in the Dry Gap.

Significance Criterion 7: Impacts to Ventura County Beaches (Less than Significant). The effects of Alternative 6 components on beach replenishment are a function of the sediment load delivered through the Project reach. As discussed in **Subsection 4.2.3.1.3**, Beach Replenishment, above, the Santa Clara River contributes approximately 60 percent of beach sand within Ventura County. However, the reduction of area subject to erosion due to project components and the build-out of the Specific Plan and Entrada plan areas under Alternative 6 could result in a relative reduction of floodwater sediment, which could negatively impact beaches, as incrementally less sediment would be available for their replenishment.

The RMDP component of Alternative 6 that would have the most effect on sediment supply in the tributaries is the conversion of tributary drainage to buried storm drain; the majority of the impacts to beach replenishment are related to the indirect effects of the Specific Plan build-out as discussed under the indirect impact discussion below. For this analysis, it is assumed that the area converted to buried storm drain results in a net loss of sediment supplied by the affected area. As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, roughly ~~1,170~~ 17,158 tons per square mile per year of combined coarse and suspended sediment originates from the area upstream of the Los Angeles County/Ventura county line. Approximately 25.6 acres (0.04 square miles) within the tributaries that could potentially contribute to sediment supply would be converted to buried storm drain; this could result in a net reduction of ~~47~~ 686 tons of sediment per year.

In order to estimate the direct impacts to sediment supply associated with the RMDP components within the Santa Clara River floodplain, it is assumed that the floodplain areas subject to velocities greater than four fps contribute to the sediment supply within the Project reach during the capital flood event. Accordingly, Alternative 6 would result in a maximum reduction of 171 acres (0.27 square miles) of floodplain area subject to velocities greater than four fps during the capital flood event (see **Table 4.2-32**). Therefore, Alternative 6 would result in a maximum net reduction of about 171 acres (0.27 square miles) of channel area that could potentially contribute to sediment supply. Given this estimate, the reduction of 171 acres (0.27 square miles) would result in a maximum direct reduction of approximately ~~315~~ 4,633 tons of sediment per year. In total, Alternative 6 could result in the reduction of ~~362~~ 5,319 tons of sediment per year delivered through the Project reach.

The build-out of the Specific Plan would have greater effects to the sediment supplied to the River system. The build-out of the Specific Plan under Alternative 6 would convert approximately 4,456 acres (7.0 square miles) to non-erodible surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. Accordingly, this would result in the reduction of roughly ~~8,146~~ 120,106 tons of sediment per year.

The drainage areas in which the Entrada site lies would not be completely developed; therefore, storm flows from the upper reaches would contain sediment and vegetative debris. The VCC planning area

would not be developed under this alternative. The Entrada planning area consists of approximately 316.1 acres. Development of the Entrada site would result in approximately 144.2 acres (0.23 square miles) of non-erosive surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff which would result in a direct reduction of roughly ~~264~~ 3,946 tons of sediment per year.

As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, the Santa Clara River exports an estimated ~~4.08~~ 31.94 million tons of sediment (combined coarse and suspended) per year from its mouth into the Santa Barbara Channel. In total, the RMDP and SCP would result in the net reduction of ~~8,410~~ 124,052 tons of sediment per year, or approximately ~~0.2~~ 0.39 percent reaching the Santa Barbara Channel, which would be a less-than-significant impact. In order to minimize this reduction in sediment delivery to Ventura County beaches, Mitigation Measure GRR-6 specifies that sediment from upland sources, such as debris basins and other sediment retention activities, would be redistributed in permitted upland and/or riparian locations along the Santa Clara River to reintroduce sediment for beach replenishment purposes. This sediment management activity would lessen the adverse effect of debris and sediment reduction on downstream beach erosion.

Based on this analysis, the reduction of sediment delivered to Ventura County beaches due to the RMDP components and build-out of the Specific Plan, VCC and Entrada planning areas would be less than significant relative to Significance Criterion 7 since the decrease in average annual sediment transported to the beaches would be less than 1 percent.

4.2.5.8 Impacts of Alternative 7 (Avoidance of 100-Year Floodplain, Elimination of Two Planned Bridges, and Avoidance of Spineflower)

Under Alternative 7, infrastructure would be constructed in and adjacent to the Santa Clara River and tributary drainages within the Project area.

Santa Clara River. **Figure 3.0-38** depicts the locations of the Alternative 7 proposed RMDP Santa Clara River features relative to river jurisdictional areas. Bank protection would still be required to protect Specific Plan development from flooding and erosion, and would be constructed in upland areas as shown on **Figure 3.0-38**. This alternative would involve the creation of pads for residential and commercial buildings, and would require 17,425 lf of buried bank stabilization on the north bank, and 8,089 lf of buried bank stabilization on the south bank of the Santa Clara River. One bridge (Long Canyon Road Bridge) would be constructed across the Santa Clara River at the mouth of Long Canyon. In addition, the WRP outfall to the Santa Clara River would be constructed.

Table 4.2-36a summarizes the characteristics of the major RMDP infrastructure along the Santa Clara River, including north side (17,425 lf) and south side (8,089 lf), for a total of 25,514 lf of buried bank stabilization to be constructed along the Santa Clara River. This table shows 22 storm drain outlets along the north bank and three such outlets on the south bank of the Santa Clara River (25 storm drain outlets). In addition, the table documents the length, width, and vertical clearance of the Long Canyon Road Bridge, as well as the number of piers supporting that bridge. A summary of the RMDP infrastructure authorized under the RMDP component of Alternative 7 is presented in **Table 4.2-36a**. The proposed RMDP components within the Santa Clara River are described and illustrated in **Section 3.0**, Description of Alternatives, Alternative 7 -- RMDP Santa Clara River Features.

finding is based on the fact discharge from the WRP will occur in the winter and will be small relative to the overall flow in the Santa Clara River and the existing data which show that increases in base flow due to discharges from the Valencia WRP and the Saugus WRP since the 1960s have not led to a substantial change in the duration of seasonal flow in the Dry Gap.

Significance Criterion 7: Impacts to Ventura County Beaches (Less than Significant). The effects of Alternative 7 components on beach replenishment are a function of the sediment load delivered through the Project reach. As discussed in **Subsection 4.2.3.1.3**, Beach Replenishment, above, the Santa Clara River contributes approximately 60 percent of beach sand within Ventura County. However, the reduction of area subject to erosion due to project components and the build-out of the Specific Plan and Entrada plan areas under Alternative 7 could result in a relative reduction of floodwater sediment, which could negatively impact beaches, as incrementally less sediment would be available for their replenishment.

The RMDP components of the Alternative 7 Project that would have the most effect on sediment supply in the tributaries is the conversion of tributary drainage to buried storm drains; the majority of the impacts to beach replenishment are related to the indirect effects of the Newhall Ranch Specific Plan build-out as discussed under the indirect impact discussion above. For this analysis it is assumed that the area converted to buried storm drain results in a net loss of sediment supplied by the affected area. As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, roughly ~~1,170~~ 17,158 tons per square mile per year of combined coarse and suspended sediment originates from the area upstream of the Los Angeles County/Ventura County line. Approximately 9.0 acres (0.014 square miles) within the tributaries that could potentially contribute to sediment supply would be converted to buried storm drain; this could result in a net reduction of ~~15~~ 240 tons of sediment per year.

In order to estimate the direct impacts to sediment supply associated with the RMDP components within the Santa Clara River floodplain, it is assumed that the floodplain areas subject to velocities greater than four fps contribute to the sediment supply within the Project reach during the capital flood event. Accordingly, Alternative 7 would result in a maximum reduction of 17.4 acres (0.03 square miles) of floodplain area subject to velocities greater than four fps during the capital flood event (see **Table 4.2-37**). Therefore, Alternative 7 would result in a maximum net reduction of about 17.4 acres (0.03 square miles) of channel area that could potentially contribute to sediment supply. Given this estimate, the reduction of 17.4 acres (0.03 square miles) would result in a maximum direct reduction of approximately ~~30~~ 515 tons of sediment per year. In total, Alternative 7 could result in the reduction of ~~45~~ 755 tons of sediment per year delivered through the Project reach.

The build-out of the Specific Plan would have greater effects to the sediment supplied to the River system. The build-out of the Specific Plan under Alternative 7 would convert approximately 3,708.3 acres (5.8 square miles) to non-erodible surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff. Accordingly, this would result in the reduction of roughly ~~6,750~~ 99,516 tons of sediment per year.

The drainage areas in which the Entrada site lies would not be completely developed; therefore, storm flows from the upper reaches would contain sediment and vegetative debris. The VCC planning area would not be developed under this alternative. The Entrada planning area consists of approximately 316.1

acres. Development of the Entrada site would result in approximately 176.2 acres (0.28 square miles) of non-erosive surfaces, including pavement and permanent vegetation that would reduce the sedimentation of site runoff which would result in a direct reduction of roughly ~~320~~ 4,804 tons of sediment per year.

As detailed in **Subsection 4.2.3.1.3**, Beach Replenishment, the Santa Clara River exports an estimated ~~4.08~~ 31.94 million tons of sediment (combined coarse and suspended) per year from its mouth into the Santa Barbara Channel. In total, the RMDP and SCP would result in the net reduction of ~~7,070~~ 104,320 tons of sediment per year, or approximately ~~0.2~~ 0.33 percent reaching the Santa Barbara Channel, which would be a less-than-significant impact. In order to minimize this reduction in sediment delivery to Ventura County beaches, Mitigation Measure GRR-6 specifies that sediment from upland sources, such as debris basins and other sediment retention activities, would be redistributed in permitted upland and/or riparian locations along the Santa Clara River to reintroduce sediment for beach replenishment purposes. This sediment management activity would lessen the adverse effect of debris and sediment reduction on downstream beach erosion.

Based on this analysis, the reduction of sediment delivered to Ventura County beaches due to the RMDP components and build-out of the Specific Plan, VCC and Entrada planning areas would be less than significant relative to Significance Criterion 7 since the decrease in average annual sediment transported to the beaches would be less than 1 percent.

4.2.6 MITIGATION MEASURES

The County of Los Angeles has already imposed mitigation measures in response to the Specific Plan's impacts on hydrology, erosion, and sedimentation. These mitigation measures are found in the previously certified Newhall Ranch Specific Plan Revised Draft EIR (March 1999) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The applicant has committed to implementing these Specific Plan mitigation measures to ensure that future development of the Specific Plan site would not result in significant erosion, siltation, or debris flow impacts.

For this analysis, the applicable Specific Plan mitigation measures have been reviewed and incorporated into the mitigation measures set forth below (see, parenthetical reference to the seven incorporated Specific Plan ["SP"] mitigation measures). The EIS/EIR also has developed new Project-specific mitigation to further minimize the geomorphology- and riparian-related impacts resulting from implementation of the RMDP component of the proposed Project. These measures also are listed below.

4.2.6.1 Mitigation Measures Already Required by the Adopted Newhall Ranch Specific Plan EIR

The County of Los Angeles previously adopted mitigation measures to minimize geomorphology and riparian resources-related impacts within the Specific Plan area as part of its adoption of the Newhall Ranch Specific Plan and WRP. These mitigation measures are found in the previously certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan and WRP (May 2003). In addition, these mitigation measures are set forth in full below, and preceded by "SP," which stands for Specific Plan.

of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards (with a "factor of safety" included). Once established, the TMDL allocates the loads among current and future pollutant sources for the impaired water body. The California 303(d) Listing Policy sets the rules for identifying the waters that do not meet water quality standards. The Policy distinguishes between three categories of waters that do not meet water quality standards. The categories are: (1) requiring TMDLs; (2) water quality limited segments being addressed by a TMDL that has been developed and approved by USEPA and the approved implementation plan is expected to result in full attainment of the standard within a specified time frame; and (3) water quality limited segments being addressed by an existing regulatory program that is reasonably expected to result in the attainment of the water quality standard within a reasonable, specified time frame.

The Newhall Ranch Specific Plan development projects would discharge stormwater and runoff into Santa Clara River Reach 5,[4] either directly or through one of the following four tributaries to the River: Chiquito Canyon; San Martinez Grande Canyon; Long Canyon; and Potrero Canyon. (Revised) **Table 4.4-2** lists the water quality impairments for the Santa Clara River, ~~at and down~~ including reaches upstream of the Specific Plan location, as reported in the ~~most recent~~ (2006) CWA section 303(d) List of Water Quality Limited Segments. (see **Figure 4.4-1**, Santa Clara River Reach Boundaries).

[4] The River is divided into reaches for purposes of establishing beneficial uses and water quality objectives. However, there are two reach classifications, one established by the Los Angeles Regional Water Quality Control Board (RWQCB) and one established by the USEPA. Both of these reach classifications are used by the Los Angeles RWQCB and the USEPA in various documents, which at times is a source of confusion. This section uses the Los Angeles RWQCB reach numbers. Santa Clara River Reach 5, the Specific Plan area, is bounded downstream by the Blue Cut Gauging Station and upstream by the West Pier of Highway 99 (The Old Road).

(Revised) Table 4.4-2
2006 CWA Section 303(d) Listings for the Santa Clara River Mainstem

River Reach or Tributary[1]	Geographic Description and Distance from Project to Upstream End of Reach	Pollutants	303(d) List Proposed TMDL Completion	Potential Sources
7	Bouquet Canyon Rd to above Lang Gaging Station (5 miles upstream)	Coliform Bacteria	2019	Nonpoint and Point Sources
6	West Pier Hwy 99 to Bouquet Cyn Rd (Directly upstream of Project site)	Coliform Bacteria Chlorpyrifos Diazinon Toxicity	2019 2019 2019 2019	Source Unknown Nonpoint and Point Sources Source Unknown Source Unknown
5	Blue Cut Gaging Station to West Pier Hwy 99 (Includes entire Project site)	High Coliform Count	2019	Nonpoint and Point Sources
3	Freeman diversion dam to "A" Street[1,2] (25 miles from Project site)	Total Dissolved Solids	2019	Nonpoint and Point Sources
1	Estuary to Highway 101 Bridge (30 miles from Project site)	Toxicity	2019	Source Unknown
-	Estuary (40 miles)	ChemA[2,3] Coliform Toxaphene	2019 2019 2019	Source Unknown Nonpoint Source Nonpoint Source

Notes:
~~[1] Santa Clara River reaches upstream of the Specific Plan area have not been included because they would not be affected by the Project.~~
[2] Reach 3 is downstream of the Dry Gap in Reach 4.
[3] ChemA suite of chlorinated legacy pesticides include: Aldrin, chlordane, Dieldrin, Endosulfan I/II, Endrin, gamma-BHC, heptachlor, heptachlor epoxide, and Toxaphene.
Source: Geosyntec, 2008

(Revised) **Table 4.4-3** lists the 2006 section 303(d) List of Water Quality Limited Segments addressed by USEPA approved TMDLs. States are required to submit the section 303(d) List and TMDL priorities to the USEPA for approval. The 2006 section 303(d) List was adopted by the State Water Resources Control Board (SWRCB) and approved for transmittal to the USEPA on October 25, 2006. The 2006 section 303(d) List was approved by EPA on June 28, 2007.

Reach 7 of the Santa Clara River (Bouquet Canyon Road to above Lang Gaging Station) is listed for coliform bacteria. Reach 6 (West Pier Highway 99 to Bouquet Canyon Road) is listed for coliform bacteria, chlorpyrifos, diazinon, and toxicity; ammonia and chloride are listed as "being addressed" in the reach. Reach 5 (the proposed Project location) is listed for coliform bacteria; chloride, ammonia, and nitrate and nitrite are "being addressed" in the reach. Downstream segments of the river, below the Dry

Gap Reach 4,[5] are listed for total dissolved solids (TDS), toxicity, coliform bacteria, chlorinated legacy pesticides, and Toxaphene (a banned pesticide). TDS are materials in the water that will pass through a filter, consisting mainly of inorganic salts, small amounts of organic matter, and dissolved gases. Reach 3 is also listed for ammonia and chloride as "being addressed" by an approved TMDL.

~~Reach 5 of the Santa Clara River is listed for coliform bacteria, and for chloride as "being addressed" by an approved TMDL in the reach. Downstream segments of the River, below the Dry Gap in Reach 4,[6] are listed for total dissolved solids (TDS), toxicity, coliform bacteria, chlorinated legacy pesticides, and Toxaphene (a banned pesticide). TDS are materials in the water that will pass through a filter, consisting mainly of inorganic salts, small amounts of organic matter, and dissolved gases. Reach 3 is listed for ammonia and chloride as "being addressed" by an approved TMDL.~~

(Revised) Table 4.4-3
2006 CWA Section 303(d) List of Water Quality Limited Segments Being Addressed By USEPA Approved TMDLs

Waterbody Name	Pollutants	Potential Sources	EPA Approved TMDL
Santa Clara Reach 6	Ammonia Chloride	Source Unknown Nonpoint/Point Sources	2004 2005
Santa Clara River Reach 5	Chloride	Nonpoint/Point Source	2005
Santa Clara River Reach 3	Ammonia Chloride	Nonpoint/Point Source Nonpoint/Point Source	2004 2002

Source: Geosyntec, 2008.

The SWRCB approved the 2010 Integrated Report on August 4, 2010. The 2010 Integrated Report includes changes to the 2006 Clean Water Act Section 303(d) list of impaired water bodies and Clean Water Act Section 305(b) report on the quality of waters in California. The SWRCB has submitted the 2010 Integrated Report to the USEPA for approval. The Santa Clara River impairments in the 2010 303(d) list are summarized in (New) **Table 4.4-3a** below. (New) **Table 4.4-3b** lists the 2010 Section 303(d) List of Water Quality Limited Segments Being Addressed by EPA Approved TMDLs. There are no changes in the listed impairments for Reach 1. New impairments are listed for nitrate in the estuary,

[5] Beginning about 3.5 river miles downstream of the Los Angeles County/Ventura County line and the Salt Creek tributary, the Santa Clara River flows through the Piru groundwater basin, which represents a "Dry Gap" where dry season surface flows are interrupted and streamflow is lost to groundwater. This dry ephemeral reach of the river extends beyond the mouth of Piru Creek. See **Figure 4.4-1**.

~~[6] Beginning about 3.5 river miles downstream of the Los Angeles County/Ventura County line and the Salt Creek tributary, the Santa Clara River flows through the Piru groundwater basin, which represents a "Dry Gap" where dry season surface flows are interrupted and streamflow is lost to groundwater. This dry ephemeral reach of the river extends beyond the mouth of Piru Creek. See **Figure 4.4-1**.~~

toxicity in the estuary and Reach 3, iron in Reach 5 and Reach 6, and copper in Reach 6. Ammonia has been delisted in Reach 6.

(New) Table 4.4-3a
2010 CWA Section 303(d) List of Water Quality Limited Segments – Santa Clara River

SCR Reach	Geographic Description	Pollutants	303(d) List Proposed TMDL Completion	Potential Sources
7	Bouquet Canyon Rd to above Lang Gaging Station	Coliform Bacteria	2019[1]	Nonpoint and Point Sources
6	West Pier Hwy 99 to Bouquet Cyn Rd	Chlorpyrifos	2019	Source Unknown
		Coliform Bacteria	2019[1]	Nonpoint and Point Sources
		Copper	2021	Nonpoint and Point Sources
		Diazinon	2019	Source Unknown
		Iron	2021	Source Unknown
		Toxicity	2019	Source Unknown
5	Blue Cut Gaging Station to West Pier Hwy 99	Coliform Bacteria	2019[1]	Nonpoint and Point Sources
		Iron	2021	Source Unknown
3	Freeman diversion dam to "A" street [2]	Total Dissolved Solids	2015	Source Unknown
		Toxicity	2021	Source Unknown
1	Estuary to Highway 101 Bridge	Toxicity	2019	Source Unknown
--	Estuary	ChemA[3]	2019	Source Unknown
		Coliform Bacteria	2019[1]	Nonpoint Source
		Toxaphene	2019	Nonpoint Source
		Nitrate	2021	Source Unknown
		Toxicity	2019	Source Unknown

Notes:
[1] Reach 3 is downstream of the Dry Gap in Reach 4.
[2] Indicator Bacteria TMDL adopted by LARWQCB in July 2010; not yet approved by SWRCB and US EPA.
[3] ChemA suite of chlorinated legacy pesticides include: Aldrin, chlordane, Dieldrin, Endosulfan I/II, Endrin, gamma-BHC, heptachlor, heptachlor epoxide, and Toxaphene.

(New) Table 4.4-3b
2010 CWA Section 303(d) List of Water Quality Limited Segments Being Addressed By USEPA Approved TMDLs

Waterbody Name	Pollutants	Potential Sources	EPA Approved TMDL
Santa Clara Reach 6	Ammonia	Source Unknown	2004
	Chloride	Nonpoint/Point Sources	2005
Santa Clara River Reach 5	Chloride	Nonpoint/Point Source	2005
Santa Clara River Reach 3	Ammonia	Nonpoint/Point Source	2004
	Chloride	Nonpoint/Point Source	2002

Note: an Indicator Bacteria TMDL for the Santa Clara River Estuary and Reaches 3, 5, 6, and 7 was adopted by the LARWQCB in July 2010; but has not yet been approved by the SWRCB and US EPA.

The Los Angeles RWQCB has adopted USEPA-approved TMDLs as part of the Water Quality Control Plan for the Los Angeles Region (Basin Plan). These include TMDLs for nitrogen compounds, including nitrate plus nitrite-nitrogen and ammonia, and chloride. An Indicator Bacteria TMDL for the Santa Clara River Estuary and Reaches 3, 5, 6, and 7, adopted by the Regional Board on July 8, 2010, must be submitted for review and approval to the State Water Resource Control Board (SWRCB), the State Office of Administrative Law, and the USEPA. The wasteload allocations[7] for stormwater discharges into Reach 5 of the Santa Clara River are summarized in **Table 4.4-4**. Pollutant reductions are regulated through effluent limits prescribed in Publicly Owned Treatment Works (POTW)[8] and minor point source NPDES permits, BMPs required in NPDES MS4 permits, and SWRCB management measures for nonpoint source discharges. ~~The Los Angeles RWQCB has not yet adopted a TMDL for coliform bacteria in Reach 5.~~

Table 4.4-4
TMDL Wasteload Allocations for MS4 and Stormwater Sources to Santa Clara River Reach 5

Impairing Pollutant	Numeric Water Quality Objective	Wasteload Allocation
Chloride (Resolution No. 03-008)	100 mg/L.	Wasteload allocations have been adopted for the Saugus WRP and the Valencia WRP. Other NPDES discharges contribute a minor chloride load. The wasteload allocation for these point sources is 100 mg/L. The source analysis indicates that nonpoint sources are not a major source of chloride. The load allocations for nonpoint sources is 100 mg/L.

[7] TMDLs allocate pollutant loadings among point sources (wasteload allocations) and nonpoint pollutant sources (load allocations).

[8] POTWs treat sewage, and are also known as wastewater treatment plants.

Table 4.4-4
TMDL Wasteload Allocations for MS4 and Stormwater Sources to Santa Clara River Reach 5

Impairing Pollutant	Numeric Water Quality Objective	Wasteload Allocation
Indicator Bacteria (Resolution No. R10-006)	The TMDL will have multi-part numeric targets based on the bacteria water quality objectives for marine and fresh waters designated for water contact recreation (REC-1). Both single sample and geometric mean objectives apply. **Constituent** / **SCR Reach 5 Numeric Target** E. Coli (Single Sample): 235/100 mL E. Coli (Geometric Mean): 126/100 mL	Wasteload Allocations are established in terms of allowable exceedance days. The numeric targets may not be exceeded more than the number of allowable exceedance days allotted in the table below. Allowable Exceedance Days: **Time Period** / **Santa Clara River Reach 5** Dry Weather: 5 allowable exceedance days of singe sample objectives: 0 allowable exceedances of geometric mean objectives Wet Weather: 16 allowable exceedance days of singe sample objectives; 0 allowable exceedances of geometric mean objectives

Notes:

[1] Santa Clara River Reach 5, the Specific Plan area, is bounded downstream by the Blue Cut Gauging Station and upstream by the West Pier of Highway 99 (The Old Road).

Source: Geosyntec, 2008.

Section 404 of the Clean Water Act. Section 404 of the Clean Water Act is a program that regulates the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fills for development (including physical alterations to drainages to accommodate storm drainage, stabilization, and flood control improvements), water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. The USEPA ~~and the Army Corps of Engineers (Corps) have~~ has issued section 404(b)(1) Guidelines (40 C.F.R. § 230) ~~that~~ concerning the selection and use of disposal sites ~~regulate dredge and fill activities~~, including water quality aspects of such activities. Subpart C at sections 230.20 through 230.25 contains water quality regulations applicable to dredge and fill activities. Among other topics, these guidelines address

Wet Weather Monitoring Data Summary. To facilitate interpretation, the wet weather water quality data were grouped into two categories depending on the depth of two day antecedent rainfall measured at the Newhall rain gauge:

- **0.1 - 1 inches.** Rainfall depths that would likely produce runoff volumes characteristic of more frequent, smaller storm events.

- **> 1 inch.** Rainfall depths that would likely produce runoff volumes characteristic of larger, less frequent storm events.

(Revised) **Table 4.4-7,** ~~and~~ (New) **Table 4.4-7a,** and (Revised) **Table 4.4-8** summarize the average values, water quality criteria/objectives, number of samples, and number of water quality critieria/ objective exceedences from wet weather monitoring data for the monitoring locations listed above.

Coliform Bacteria. Concentrations of total and fecal coliform bacteria in wet weather flows at all tributary monitoring stations and the County's mass emission station were very high, consistent with other stormwater data throughout the region, ranging from 87 Most Probable Number per 100 milliliters (MPN/100 mL) to 323,000 MPN/100 mL. Average bacteria concentrations at the lower stations were significantly lower, but still elevated, and more so during larger storms. In waters designated for water contact recreation (REC-1), the Basin Plan objective for fecal coliform in fresh water is: Fecal coliform density shall not exceed 200/100 ml (geometric mean) or 400/100 ml (single sample).~~a log mean of 200/100 mL (based on a minimum of not less than 10 percent of total samples during any 30-day period), nor shall more than 10 percent of the total number of samples during any 30-day period exceed 400/100 mL.~~

Dry Weather Monitoring Data Summary. Dry season base flows in the Santa Clara River through the proposed Project area are perennial. Dry season base flows may include contributions from natural groundwater flows; however, discharges from the upstream Saugus and Valencia WRPs contribute the majority of base flow. Discharges from the WRPs during dry weather conditions are a source of impairing pollutants in downstream reaches, including chloride, TDS, and nitrogen compounds. Dry weather water quality monitoring data in the Santa Clara River are available from DPW sampling at the Santa Clara River mass emission station, Newhall Ranch WRP pre-startup monitoring, and USGS water quality monitoring. **Table 4.4-9** summarizes the average values from dry weather monitoring data, water quality criteria/objectives, number of samples, and number of exceedances of water quality standards/objectives for these monitoring locations.

The dry weather monitoring data indicate the following:

TSS. Relatively high average TSS concentrations were observed, especially the historical data from USGS station, which may have included samples taken during times of higher erosion or larger dry weather flows. Average dry weather flow TSS concentrations observed by the Newhall Ranch WRP pre-startup monitoring were similar to those observed for small storms in wet weather monitoring. Average concentrations of TSS appeared higher at the upstream DPW mass emission station than at the downstream Newhall Ranch WRP pre-startup sites. Differences may be due to physical factors such as channel substrate material, local flow regime, and tributary influences.

Hardness, TDS and Chloride. The average concentrations of hardness, TDS, and chloride were more similar between the DPW mass emission station and Newhall Ranch WRP monitoring locations. However, the USGS County Line station historically recorded higher averages (approximately double) than the baseline data observed at the DPW mass emission station and Newhall Ranch WRP monitoring locations. The baseline data suggests that the water flowing in the Santa Clara River in the proposed Project area during dry weather is very hard with high levels of other dissolved salts, including chloride. The average concentrations of TDS in the baseline data ranged from 812 mg/L to 936 mg/L, below the Basin Plan objective for TDS in Santa Clara River Reach 5 (1,000 mg/L). Average chloride concentrations in dry weather flows ranged from 115 mg/L to 124 mg/L, above the Basin Plan objective of 100 mg/L.

(Revised) Table 4.4-9
Summary of Average Dry Weather Monitoring Data in the Santa Clara River

Constituent	DPW Mass Emission Station S29				Newhall Ranch WRP Pre-Startup Monitoring NR1				Newhall Ranch WRP Pre-Startup Monitoring NR3				USGS Wet Weather Monitoring 11108500			
	Water Quality Standard	No. of Samples	Average Reported Data	Exceedance	Water Quality Standard	No. of Samples	Average Reported Data	Exceedance	Water Quality Standard	No. of Samples	Average Reported Data	Exceedance	Water Quality Standard	No. of Samples	Average Reported Data	Exceedance
TSS (mg/L)	Narrative Standard [1]	10	200	-	Narrative Standard [1]	49	66	-	Narrative Standard [1]	49	128	-	Narrative Standard [1]	73	349	-
TDS (mg/L)	1000 [2]	10	812	0	1000 [2]	49	845	5	1000 [2]	49	936	12	1000 [2]	383	1541[8]	-
Hardness (mg/L)	NA	10	420	-	NA	49	388	-	NA	49	458	-	NA	220	881	-
Chloride (mg/L)	100	10	115	9	100	24	120	19	100	24	124	19	100	355	140	173
Total P (mg/L)	Narrative Standard [3]	10	0.26	-	Narrative Standard [3]	49	0.5	-	Narrative Standard [3]	48	0.5	-	Narrative Standard [3]	64	1.13	-
Nitrate-N (mg/L)	5 [4]	10	1.2	0	5 [4]	49	2.8	0	5 [4]	49	2.9	1	5 [4]	1	4	4
Nitrite-N (mg/L)		10	0.1	0		49	0.02	0		49	0.02	0		13	0.26	-
Ammonia-N (mg/L)	2.2 [5]	10	0.1	0	2.2 [5]	49	0.1	0	2.2 [5]	49	0.1	0	2.2 [5]	41	0.18	0
TKN (mg/L)	Narrative Standard [3]	10	0.6	-	Narrative Standard [3]	49	0.4	-	Narrative Standard [3]	49	0.5	-	Narrative Standard [3]	20	0.83	-
Dissolved copper (µg/L)	25 [6]	10	2.9	0	20 [6]	10	4	0	25 [6]	10	4.2	0	29 [6]	40	1.8	0
Total copper (µg/L)	26 [6]	10	15.2	1	21 [6]	21	5	0	26 [6]	21	6.5	0	31 [6]	12	20	1
Dissolved lead (µg/L)	9 [6]	10	<5.0	0	7 [6]	10	0.2	0	9 [6]	10	0.2	0	11 [6]	39	7.8	1
Total lead (µg/L)	15 [6]	10	1.8	0	11 [6]	21	0.9	0	14 [6]	21	1.4	0	19 [6]	30	ND	0
Dissolved zinc (µg/L)	325 [6]	10	6.4	0	264 [6]	10	11	0	320 [6]	10	10.7	0	382 [6]	39	15.8	0
Total zinc (µg/L)	329 [6]	10	20.7	0	267 [6]	21	15.4	0	324 [6]	21	19.5	0	388 [6]	12	45	0
Dissolved aluminum (µg/L)	NA	10	-	-	NA	4	170	-	NA	4	289	-	NA	0	-	-
Total aluminum (µg/L)	87	10	845	3	87	4	1,018	4	87	4	1,685	4	87	0	-	-
Diazinon (µg/L)	NA	10	0.01	-	NA	0	-	-	NA	0	-	-	NA	6	0.03	-
Chlorpyrifos (µg/L)	NA	10	<0.05	-	NA	0	-	-	NA	0	-	-	NA	0	-	-
Cyanide (mg/L)	22	10	<0.01	0	22	0	-	-	22	0	-	-	22	0	-	-
Fecal Coliform (MPN/100mL)	400	10	165 [7]	3	400	49	209 [7]	15	400	49	213 [7]	14	400	46	100 [7,9]	5
Total Coliform (MPN/100mL)	NA	10	3,626 [7]	-	NA	49	961 [7]	-	NA	49	1,207 [7]	-	NA	0	-	-

Notes:
[1] LA Basin Plan Water Quality Objective for TSS: Water shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.
[2] Los Angeles Basin Plan Water Quality Objective for SCR Reach 5.
[3] LA Basin Plan Water Quality Objective: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
[4] The LA Basin Plan Objective corresponds to the sum of Nitrate-N + Nitrite-N.
[5] 4-day average, ELS present, 90th percentile pH and temperature pairing observed at USGS Monitoring Station 11108500.
[6] Water Quality Standards are based on CTR chronic criteria calculated using the minimum measured hardness value at each monitoring location.
[7] Calculated from the geometric mean.
[8] Derived from specific conductance.
[9] Units are in CFU/100ml.
ND = non detected; " –" = no or insufficient data; Source: Geosyntec, 2008

considerations, the water quality impacts of Specific Plan build-out on turbidity would be reduced to less than significant under Significance Criteria 1 through 3.

Pathogens. Pathogens are viruses, bacteria, and protozoa that can cause gastrointestinal and other illnesses in humans through body contact exposure. Identifying pathogens in water is difficult as the number of pathogens is fairly small, requiring sampling and filtering large volumes of water to obtain a reliable result. Traditionally regulators have used fecal indicator bacteria (FIB), such as total and fecal coliform, enterococci, and *E. coli*, as indirect measures of the presence of pathogens, and by association, human illness risk. Early epidemiological studies (*i.e.*, studies that investigate human illness occurrence versus environmental factors such as water quality) that linked swimming-associated gastrointestinal symptoms to *E. coli* or enterococci in swimming waters for sewage-dominated receiving waters led to the development of the current recreational water quality criteria (USEPA, 1986). In contrast to receiving waters subject to sanitary discharges, only a few epidemiological studies have evaluated the health effects of exposure to water bodies subject to discharges from storm drains and these studies focused on the effects of dry weather urban flows on recreational exposure (*e.g.*, Haile *et al.*, 1999 and Colford *et al.*, 2005).

Santa Clara River Bacteria TMDL

The Los Angeles RWQCB approved a Basin Plan amendment on July 8, 2010, to incorporate a TMDL for Indicator Bacteria for the Santa Clara River Estuary and Reaches 3, 5, 6 and 7 of the Santa Clara River (Resolution No. R10-006). The TMDL provides allowable exceedance day-based WLAs for MS4 dischargers for *E. coli* in Reaches 3, 5, 6 and 7, and for Fecal coliform, Enterococcus, and Total Coliform in the Santa Clara River Estuary. These WLAs are anticipated to be incorporated into the Los Angeles County MS4 Permit once the interim and final WLAs become effective, at which point they will become an enforceable permit provision.

The TMDL WLAs applicable to Reach 5 of the Santa Clara River are listed in Table 3-3. The Indicator Bacteria TMDL MS4 WLAs are applied in the form of allowable exceedance days. The TMDL implementation schedule deadlines applicable to Reach 5 are summarized in (New) **Table 4.4-30a**.

The Regional Board indicated in the TMDL implementation schedule that the Regional Board will reconsider the TMDL if, prior to four years after the effective date of the TMDL, one of the following occurs:

1. Monitoring or any voluntary local reference system studies justify a revision, or
2. USEPA publishes revised recommended bacteria criteria (expected in December 2012), or
3. RWQCB adopts a separate Basin Plan amendment, suspending recreational uses in the Santa Clara River during high flows.

(New) Table 4.4-30a Indicator Bacteria TMDL Implementation Schedule and Tasks	
Deadline	**Task**
1 year after effective date of TMDL	Jurisdictions and agencies responsible for the MS4 WLAs must submit an in-stream bacteria water quality monitoring plan for the SCR watershed. The monitoring plan must be approved by the Executive Officer.
6 months after monitoring plan approval by Executive Officer	Monitoring of SCR Watershed must begin.
3 years after effective date of TMDL	Jurisdictions and agencies must submit a draft Implementation Plan outlining how to achieve compliance with the WLAs.
4 years after effective date of TMDL	Interim MS4 WLAs apply.
6 months after receipt of Regional Board comments on draft Implementation Plan	Jurisdictions and agencies must submit a final Implementation Plan and begin additional outfall monitoring.
11 years after effective date of TMDL	SCR Reaches 3, 5, 6 and 7 must achieve compliance with final WLAs for geometric mean objectives and allowable exceedance days for single sample objectives for dry weather.
17 years after effective date of TMDL	SCR Reaches 3, 5, 6 and 7 must achieve compliance with final WLAs for geometric mean objectives and allowable exceedance days for single sample objectives for wet weather.

Factors That Affect FIB Concentrations

There are various confounding factors that affect the reliability of FIB as pathogen indicators. One primary factor is that there are numerous natural or non-anthropogenic (or "zoonotic") sources of FIB in developed watersheds and their receiving water bodies, including birds and other wildlife, soils, and plant matter. Anthropogenic sources may include domesticated animals and pets, poorly functioning septic systems, sewer system overflows or spills, cross-connections between sewer and storm drains, and the utilization of outdoor areas or storm drains for human waste disposal by people without access to indoor sanitary facilities. All of these sources can contribute to the concentrations of FIB, but not all the sources may pose a comparable human health risk (USEPA, 2009).

A second confounding factor is that FIB can multiply in the field if the substrate, temperature, moisture, and nutrient conditions are suitable (MEC, 2004). This is one potential reason that FIB concentrations do not always correlate with pathogens. For example, in a field study conducted by Schroeder *et al.* (2002), pathogens (in the form of viruses, bacteria, or protozoa) were found to occur in 12 of 97 soil samples, but the samples that contained pathogens did not correlate with the samples containing concentrations of FIB. Numerous other researchers have reported that bacteria presence and even regrowth was observed in various substrates such as beach sands, wrack line (accumulation of kelp in the inter-tidal area of beaches), inter/sub-tidal sediments, and material deposited in storm drains (MEC, 2004). FIB monitoring in the Santa Ana River indicates that the ubiquity of sources and potential regrowth far exceed the human sources of fecal bacteria generated by the entire population in the watershed (Surbeck, *et al.*, 2008). Regrowth of bacteria downstream of a package treatment plant utilizing ultraviolet (UV) radiation to

disinfect dry weather flows in Aliso Creek was considered a prime factor in the rapid rebound of FIB concentrations downstream of the plant (Andersen, 2005). Recent research also implicates storm drain biofilms as another urban source of FIB to receiving waters (Roberts and Kolb, 2009; Skinner et al, 2010).[16]

A third confounding factor is that the persistence of FIB may differ from those of various pathogenic viruses, bacteria, and protozoa. Viruses, for instance, are small, low in number, and difficult to inactivate, while protozoa may form protective cysts that are resistant to destruction and render them dormant but capable of reactivating in the future. Therefore, while some indicator bacteria may die off in the water column due to ultraviolet disinfection or other unfavorable environmental conditions (including predation and antagonism), pathogens occasionally may persist longer (Haile, *et. al.*, 1999). So while the previously two described factors may result in indicator bacteria resulting in false positive indications of public health risk, there may also be instances when indicator bacteria result in false negative indications.

Current Research Efforts to Improve Recreational Water Quality Criteria

Given the concern about the adequacy of the current recreational water quality criteria, the USEPA is undergoing a comprehensive evaluation and revision of their current FIB-based recreational water quality criteria, with completion scheduled for December 2012. To help initiate this effort, USEPA gathered 43 experts to identify research priorities needed to refine the existing criteria and transition to new methods (USEPA, 2007). The experts identified seven topics for research, including "scientifically defensible for applications in a wide variety of geographical locations and water types" and "protective of individuals exposed to recreational waters impacted by all sorts of pathogen sources including animal feces, stormwater, and sewage" (Boehm, *et al.*, 2009).

In a similar effort focused on inland waters, the Water Environment Research Federation (WERF) convened an expert panel to recommend a research program that would also support USEPA's intended revision of the water quality criteria (WERF, 2009). These various research efforts are ongoing and the USEPA will consider all submitted data as part of their recreational water quality criteria revision process.

Epidemiological Studies

Until recently, few epidemiological studies have tested the health effects of exposure to the receiving waters of direct and recent stormwater runoff, and these studies have found it difficult to link illness with stormwater sources. For instance, the Mission Bay epidemiological study (Colford, *et al.*, 2005) found that "only skin rash and diarrhea were consistently elevated in swimmers versus non swimmers, the risk of illness was uncorrelated with levels of traditional water quality indicators, and State water quality

[16] Roberts, Gretel and Ruth Kolb, 2009. Further Understanding of the Bacterial Dynamic – Lessons from Microbial Source Tracking. Presentation at the California Stormwater Quality Association Conference November 2009. http://www.box.net/shared/i5mz9bgyjy (last accessed November 12, 2010).

Skinner, John F., Guzman, Joseph, and John Kappeler, 2010. Regrowth of Enterococci & Fecal Coliform in Biofilm. Stormwater Journal, July-August 2010. http://www.stormh2o.com/july-august-2010/regrowth-enterococci-fecalcoliform.aspx (last accessed November 12, 2010).

thresholds were not predictive of swimming-related illnesses." Various other researchers, as part of USEPA's pathogen research program, are now conducting epidemiological studies nationwide at fresh and salt water beaches that receive wastewater and/or stormwater discharges. In southern California, the Southern California Coastal Water Research Project (SCCWRP) has been conducting a multi-year study of public health risks at marine beaches, with a final report that is scheduled for late ~~2010~~ 2011. Until these various studies are completed, however, there is no reliable documentation of the health effects caused by exposure to stormwater based on epidemiological studies.

Effects of Land Use and Runoff on FIB Concentrations

Dry weather, non-storm stream flows from undeveloped watersheds tend to have lower concentrations of FIB than dry weather urban flows, although water quality standard exceedances still occur. For instance, a recent study by SCCWRP, which monitored 15 unimpaired natural southern California streams weekly during dry weather for a year, showed that about 18 percent of the samples exceeded daily and monthly bacterial indicator thresholds although concentrations from these unimpaired streams were one to two orders of magnitude lower than levels found in developed watersheds (Tiefenthaler, *et al.*, 2009). The study reported an average of the geometric means for *E. coli* in dry weather flows in each stream of 41 most probable number (MPN)/100 milliliter (mL). In comparison, the Santa Clara River Bacteria TMDL numeric target is 235 MPN/100 mL for any single sample and 126 MPN/100 mL for the geometric mean *E. coli* density. The Santa Clara River bacteria TMDL WLAs are based on this and other SCCWRP reference stream and reference beach datasets, in acknowledgement of natural sources.~~the Los Angeles REC-1 Basin Plan objective for *E. coli* density is 126 MPN/100 mL (geometric mean).~~

During wet weather, stormwater runoff can mobilize indicator bacteria from a number of watershed and instream sources and, therefore, indicator bacteria concentrations tend to increase. For example, median stormwater runoff monitoring results for the open space land use category, as summarized by Stein, *et. al.* (2007), include *E. Coli* concentrations of about 5,400 MPN/100 mL from the 2001-2005 Los Angeles River Watershed Wet Weather Study, and 7,200 MPN/100 mL from the National Stormwater Quality Database (Pitt, *et al.*, 2003). Similarly, median open space land use stormwater runoff monitoring results include *E. coli* concentrations of 5,400 MPN/100 mL from the Stein, *et al.* (2007) study based on two flow-weighted average results, and 500 MPN/100 mL for fecal coliform from a 1994-2000 Los Angeles County (2000) study based on 21 grab samples. ~~The monitoring data collected in the tributaries of the Santa Clara River showed a range of fecal coliform concentrations from 953 MPN/100 mL to greater than 81,200 MPN/100 mL (see **Table 4.4-7**).~~ The Santa Clara River Bacteria TMDL has incorporated allowable exceedance days to account for the fact that recreational criteria, strictly applied, are frequently exceeded even at natural, undeveloped streams and beaches. The interim and final allowable exceedance days for Reach 5 of the Santa Clara River for wet and dry weather are listed in Table 4.4-4.

Land use type and condition also affect runoff concentrations, and most studies show higher FIB concentrations in urban runoff than in open space runoff. Runoff from residential land uses from the Los Angeles River Watershed Wet Weather Study had a median *E. coli* concentration of about 6,300 MPN/100 mL and about 8,300 from the National Stormwater Quality Database (Table 5-2, Stein, *et. al.*, 2007). The median value of four flow-weighted average results from the Stein, *et. al.* (2007) study was about 6,100 MPN/100mL for *E. coli* for the low density residential land use site. These data represent

urban areas that in general do not have source and treatment controls and, therefore, are not indicative of runoff from the proposed Project build-out.

Runoff from agricultural watersheds involving horticulture and row cropping is known to similarly contain relatively high concentrations of FIB. Data from a stormwater drain serving an agricultural watershed with predominantly row crops in Ventura County showed median fecal coliform levels (approximately 7,000 MPN/100 mL) similar to that found for general urban runoff (Ventura County, 2005). Geometric mean concentrations of fecal and total coliform bacteria observed in wet weather flows at all tributary monitoring stations and in Santa Clara River Reach 5 ranged from 87 MPN/100 mL to 143,000 MPN/100 mL and 284 MPN/100 mL to 323,000 MPN/100 mL, respectively (see Table 4.4-7 and **Table 4.4-8**). Agricultural land and open space areas likely share some of the same wildlife sources, but livestock may be present as well. These data indicate that wildlife, livestock, plants and/or soils can be a very important source of pathogens and/or FIB. The elevated levels of fecal coliform bacteria observed in the tributaries of the Santa Clara River should be attributed to the existing agricultural and oil extraction land uses, as well as natural sources (wildlife, birds, and soil erosion). Septic systems associated with development in the Val Verde area may also lead to increased fecal indicator bacteria densities in Chiquito Canyon (Station E).

Project Design Features that Address Pathogen Indicators

The primary sources of pathogen indicators from the proposed Project development would likely be sediment, pet wastes, wildlife, and regrowth in the storm drain itself. Other sources of pathogens and pathogen indicators, such as cross connections between sanitary and storm sewers, are unlikely given modern sanitary sewer installation methods and inspection and maintenance practices.

The levels of bacteria in runoff from the proposed Project would be reduced by source controls and treatment controls. The most effective means of controlling specific bacteria sources, such as pet and other animal wastes, is through source control, specifically education of pet owners, education regarding feeding (and, therefore, attracting) of waterfowl near waterbodies, and providing products and disposal containers that encourage and facilitate cleaning up after pets. These BMPs are specified as project source controls described in Table 4.4-12.

Although there are limited data on the effectiveness of different types of stormwater treatment to manage pathogen indicators, treatment processes that help reduce pathogen indicators include sunlight (ultraviolet light) degradation, sedimentation, and filtration.

Bioretention, a stormwater treatment BMP which provides filtration through amended soils, is an example of an effective BMP for addressing FIB. ~~Bioretention facilities that incorporate an amended soil media for filtration is an example of a type of stormwater treatment effective in addressing FIB.~~ The City of Austin, Texas conducted a number of studies on the effectiveness of sedimentation/filtration treatment systems for treating stormwater runoff (City of Austin, 1990; CWP, 1996). Most of the structures were designed to treat one-half inch of runoff. Data from four sand filters indicated a range of removals from 37 percent to 83 percent for fecal coliform, and 25 percent to 81 percent for fecal streptococci. Research on the use of filtration to remove bacteria also has been conducted in Florida by the Southwest Florida Water Management District (Kurz, 1999). Significant reductions in total and fecal coliform bacteria and

the other indicators were observed between inflow and outflow samples for sand filtration. Percent reductions were measured using flow-weighted sampling techniques. Total coliform bacteria removals were less than 70 percent, and fecal coliform bacteria reduction varied from 65 percent to 100 percent.

Similarly, where soil conditions are conducive to infiltration, LID practices and stormwater treatment facilities that allow for infiltration can reduce runoff volume and treat FIB by infiltration, which in turn reduces FIB loads. In a literature summary, USEPA reported typical pathogen removal for infiltration facilities as 65 to 100 percent (USEPA, 1993). These types of BMPs are specified in **Table 4.4-13** for incorporation into the Project as determined appropriate in the proposed Project water quality technical report to meet the LID and treatment control design standards specified in the Newhall Ranch Specific Plan Subregional SWMP, which are based on achieving equivalent pollutant control and hydrologic control as specified in the LID Ordinance and ~~in~~ the MS4 Permit/SUSMP Manual requirements for treatment of volume or flow of stormwater.

In summary, stormwater discharges from the proposed Project could potentially exceed the ~~REC-1~~ Basin Plan standard for FIB and, therefore, impacts from FIB may be significant prior to mitigation, or the incorporation of FIB source and treatment control BMPs as PDFs. However, the FIB concentrations in runoff from the Project would be reduced through the implementation of source and treatment control PDFs, which are incorporated as components of the proposed Project. The proposed Project build-out will incorporate a number of source controls specific to managing FIB, including education of pet owners, education regarding feeding (and, therefore, attracting) of waterfowl near waterbodies, and providing products and disposal containers that encourage and facilitate cleaning up after pets. The proposed Project will not include septic systems and the sewer system will be designed to current standards, which minimizes the potential for leaks. The proposed Project development, consistent with the MS4 permit requirements, includes a comprehensive set of ~~source and~~ low impact/site design and treatment control PDFs, including treatment BMPs (*i.e.*, extended detention basins, bioretention, and media filtration), selected to manage pollutants of concern, including pathogen indicators. Furthermore, the proposed Project build-out will comply with all future MS4 Permit provisions incorporating the TMDL wasteload allocations and implementation plan. With these PDFs, proposed Project build-out would not result in substantial changes in pathogen or FIB concentrations in receiving waters~~levels~~, would not cause a violation of the water quality standards or waste discharge requirements, ~~would not create runoff that would provide substantial additional sources of bacteria,~~ or otherwise substantially degrade water quality in the receiving waters. Water quality impacts related to pathogens would be reduced to less than significant under Significance Criteria 1 through 3 with the implementation of proposed treatment BMPs and Mitigation Measure SP-4.2-7 (subsequent tract map development projects must comply with applicable County requirements, such as NPDES, Urban Storm Water Mitigation Plan, and a Storm Water Pollution Prevention Plan) and Mitigation Measure WQ-1 (subsequent tract map development projects must implement best management practices and project design features identified in a Standard Urban Stormwater Mitigation Plan).

~~*Pathogens.* Pathogens are viruses, bacteria, and protozoa that can cause illness in humans. Identifying pathogens in water is difficult as the number of pathogens is exceedingly small, thereby requiring sampling and filtering large volumes of water. Traditionally, water managers have relied on measuring "pathogen indicators" such as total and fecal coliform, as an indirect measure of the presence of~~

On this basis, the PDFs to be included during Specific Plan build-out would meet the MS4 permit requirements for new development.

Low Impact Development Requirements for New Development as Defined in the Los Angeles County LID Ordinance and LID Standards Manual. PDFs include low impact/site design BMPs, as summarized in **Table 4.4-13**, above. The Sub-Regional Plan and the water quality control measures specified in it will reduce stormwater runoff volume and promote groundwater infiltration in an integrated approach to protecting water quality and managing water resources in compliance with the Los Angeles County LID Ordinance and LID Standards Manual requirements.

The following hydrologic source controls, included as PDFs, will limit impervious area and disconnect imperviousness to avoid and minimize water quality and hydromodification impacts:

- Low Impact/Site Design BMPs. Low impact/site design PDFs that promote infiltration and help to reduce runoff volumes include the clustering of development into village areas, leaving large amounts of undeveloped open space within the Newhall Ranch Specific Plan subregion, routing of impervious area runoff to vegetated areas, use of permeable pavements, use of native and/or non-native/non-invasive vegetation in landscaped areas, and the use of efficient irrigation systems in common area landscaped areas.

- Treatment Controls. The project's treatment control PDFs have been selected to promote infiltration and evapotranspiration. The treatment control PDFs, including bioretention areas, vegetated swales, filter strips, and extended detention basins, will incorporate vegetation to promote pollutant removal and runoff volume reduction through infiltration and evapotranspiration. Subregional extended detention basins will also incorporate infiltration trenches and dry wells to promote infiltration of treated flows where natural soil infiltration rates do not support infiltration. Collectively, these vegetated treatment facilities are expected to provide significant reduction in wet weather runoff volume and to eliminate dry weather flows. In addition, those flows that are not infiltrated in the PDFs will flow, after treatment, to the Santa Clara River, whose channel is predominantly natural and consists of vegetation and coarse-grained sediments (rather than concrete). The porous nature of the sands and gravels forming the streambed will allow for significant infiltration to occur to the underlying groundwater.

  ~~The treatment control PDFs will be sized to infiltrate, evapotranspire, and/or capture and detain the water quality design volume in compliance with the LID Ordinance and LID Standards Manual, the MS4 permit and the SUSMP requirements.~~

  The low impact/site design BMPs and treatment control PDFs would be sized to infiltrate, store for reuse, evapotranspire, and/or capture and treat the volume of stormwater runoff that meets or exceeds the most stringent of the following performance standards in place at the time the tentative map application is deemed complete:

  1. Eighty percent of the average annual runoff volume, which is the performance standard established in the Sub-Regional Plan.

2. The volumetric requirements of the DPW LID Manual when applied to the proposed project.
3. The new development/redevelopment LID performance criteria contained in the Los Angeles County MS4 Permit when applied to the proposed project.

~~The low impact/site design BMPs and treatment control PDFs would be sized to infiltrate, evapotranspire, and/or capture and detain 80 percent of the average annual runoff volume, which is the performance standard established in the Sub-Regional Plan. This performance standard is equivalent to or exceeds the LID goals and volumetric runoff retention requirements of the DPW LID Manual when applied to the Project (Geosyntec, 2010).~~

On this basis, the PDFs to be included during Specific Plan build-out would meet the low impact development requirements for new development.

Pollutant Bioaccumulation. Certain pollutants have the potential to accumulate in treatment BMP vegetation and soils, potentially increasing the risk of exposure to wildlife and the food chain. Factors that could affect the extent of potential bioaccumulation include:

- The bioavailability of the pollutant;
- Conditions in the soils (*e.g.*, pH, acid-volatile sulfide concentration, organic content) that affect the form and bioavailability of the pollutant;
- The efficiency by which pollutants in the soils enter the plant community, the storage of these pollutants in plant tissues that are edible, and the utilization of the plants as a food source by animals;
    - The type of habitats, organisms attracted to these habitats, and their feeding habits; and
    - System design and maintenance.

The primary pollutants of concern with regard to bioaccumulation are mercury and selenium. However, as indicated by the water quality monitoring conducted by LACDPW at the Santa Clara River mass emission station S29, selenium and mercury are not naturally present at levels of concern in this watershed. Since these pollutants would not be introduced during Specific Plan build-out, bioaccumulation of selenium and mercury is not expected.

The potential for bioaccumulation impacts from the Specific Plan's project treatment control facilities, such as bioretention, vegetated swales, and extended detention basins, would be minimal. Since the tributary areas to the BMPs are largely impervious, very little coarse solids and associated pollutants are expected to be generated. The vegetation in the facilities would trap sediments and pollutants in the soils, which contain bacteria that metabolize and transform trace metals, thereby reducing the potential for these pollutants to enter the food chain. The facilities do not provide open water areas and are not likely to attract waterfowl.

Bioaccumulation of pollutants in the Santa Clara River would not be significant due to the low estimated concentrations of pollutants such as trace metals, which are predicted to be below the benchmark CTR

Detailed riparian/wetlands mitigation plans, in accordance with the CMIP, shall be submitted to, and are subject to the approval of, the Corps and CDFG as part of the sub-notification letters for individual projects. Individual project submittals shall include applicable CMIP elements, complying with the requirements outlined below. The detailed wetlands mitigation plan shall specify, at a minimum, the following: (1) the location of mitigation sites; (2) site preparation, including grading, soils preparation, irrigation installation, (2a) the quantity (seed or nursery stock) and species of plants to be planted (all species to be native to region); (3) detailed procedures for creating additional vegetation communities; (4) methods for the removal of non-native plants; (5) a schedule and action plan to maintain and monitor the enhancement/restoration area; (6) a list of criteria by which to measure success of the mitigation sites (*e.g.*, percent cover and richness of native species, percent survivorship, establishment of self-sustaining native of plantings, maximum allowable percent of non-native species); (7) measures to exclude unauthorized entry into the creation/enhancement areas; and (8) contingency measures in the event that mitigation efforts are not successful. ~~Individual project~~The detailed wetlands mitigation plans shall also classify the biological value (as "high," "moderate," or "low") of the vegetation communities to be disturbed as defined in these conditions, or may be based on an agency-approved method (*e.g.*, Hybrid Assessment of Riparian Communities (HARC)). The biological value shall be used to determine mitigation replacement ratios required under BIO-2 and BIO-10. The detailed wetlands mitigation plans shall provide for the 3:1 replacement of any southern California black walnut to be removed from the riparian corridor for individual projects. The plan shall be subject to the approval of CDFG and the Corps and approved prior to the impact to riparian resources. BIO-4 describes that the functions and values will be assessed for the riparian areas that will be removed, and BIO-2 and BIO-10 describe the replacement ratios for the habitats that will be impacted.

BIO-2 The permanent removal of existing habitats in Corps and/or CDFG jurisdictional ~~riparian habitats~~areas in the Santa Clara R~~r~~iver and tributaries shall be replaced by creating ~~riparian~~ habitats of similar functions and values/services (see Mitigation Measure BIO-4 and Mitigation Measure SW-3 of **Section 4.6** of the Final EIS/EIR) on the Project site, or as allowed under Mitigation Measure BIO-10. ~~Riparian habitat meeting success criteria (see BIO-6) in advance of the removal of riparian habitat at the construction site shall be in kind and at a 1:1 replacement ratio (except as indicated below). If replacement riparian habitat cannot meet the success criteria in advance of the Project, the ratios listed below in **Table 4.5-68** will apply.~~

a. Permanent impacts to Corps jurisdiction (which is a subset of CDFG jurisdiction) are to be mitigated by initiating mitigation site creation and/or restoration in advance of impacts, to replace the combined loss of acreage, functions, and services at a

minimum 1:1 ratio. Initiation of a Corps mitigation site is defined as: (1) completion of site preparation; (2) installation of temporary irrigation; and (3) seeding and/or planting of the mitigation site. For detailed information, please refer to the *Mitigation Plan for Impacts to Waters of the United States* included in the Draft 404(b)(1) Alternatives Analysis in **Appendix F1.0** of the Final EIS/EIR. ~~The Salt Creek creation and restoration site~~ The Potrero Canyon CAM creation and restoration site and the Mayo Crossing restoration site (*i.e.*, an existing agricultural field) are considered the initial sites to be implemented prior to Corps jurisdictional impacts by development, thereby establishing upfront mitigation credits. As individual Project components are proposed for construction, consistent with the construction notification, quantities of mitigation acreage required to offset permanent impact acreages shall be calculated and compared to pre-mitigation area credits remaining. A project would not proceed unless adequate mitigation capacity is demonstrated. Temporary impact areas shall be mitigated in place in a manner that restores impacted functions and services as described in the mitigation plan noted above. If upfront compensatory mitigation cannot be achieved, a Corps-approved method would be utilized to determine the additional compensatory mitigation to offset the temporal loss of functions and services not included in the 1:1 mitigation ratio for permanent impacts.

These measures satisfy the Corps mitigation requirements for impacts to Corps jurisdictional areas. However, impacts to jurisdictional areas (which include all areas subject to Corps and/or CDFG jurisdiction) are also subject to all of the mitigation requirements for impacts to CDFG jurisdiction, including BIO-2b.

b. For permanent and temporary impacts to CDFG jurisdiction, consistent with the sub-notification, quantities of mitigation acreage required shall be calculated in accordance with the criteria below:

- If suitable mitigation sites have met success criteria (BIO-6) prior to disturbance at the impact site, the mitigation sites shall replace the permanently impacted habitats in kind at a 1:1 ratio.

- If a suitable mitigation site has not met success criteria prior to disturbance of the impact site, habitat shall be replaced in kind (tributary for tributary impacts, river for river impacts) according to the replacement ratios specified in **Table 4.5-68**, below. These ratios provide compensatory mitigation for temporal losses of riparian function by considering the existing functional condition of the resources to be impacted, as well as time required for different vegetation types to become established and mature.

If a southwestern pond turtle nesting area would be adversely impacted by construction activities, the applicant shall avoid the nesting area. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with CDFG to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without written authorization from CDFG.

The qualified biologist shall be present during all activities immediately adjacent to or within habitat that supports populations of southwestern pond turtle. Clearance surveys for pond turtles shall be conducted within 500 feet of potential habitat by the authorized biologist prior to the initiation of construction each day. The resume of the proposed biologist will be provided to CDFG for approval prior to conducting the surveys.

BIO-51 Bridges over the Santa Clara River shall be designed to minimize impacts to natural areas and riparian resources from associated lighting and stormwater runoff. All lighting will be designed to be directed away from natural areas (pursuant to SP-4.6-56) using shielded lights, low sodium-vapor lights, bollard lights, or other available light and glare minimization methods. Bridges will be designed to minimize normal vehicular lighting from trespassing into natural areas using side walls a minimum of 24 inches high. All stormwater from the bridges will be directed to water treatment facilities for water quality treatment.

BIO-52 Prior to grading and construction activities, a qualified biologist shall be retained to conduct a Worker Environmental Awareness Program (WEAP) for all construction/contractor personnel. A list of construction personnel who have completed training prior to the start of construction shall be maintained on site and this list shall be updated as required when new personnel start work. No construction worker may work in the field for more than five days without participating in the WEAP. Night work and use of lights on equipment shall not be allowed unless CDFG approves of the night work and use of lights. Lighting shall not be used where threatened or endangered species occur. Lights shall be directed from natural areas and remain 200 feet away from natural areas unless otherwise approved by CDFG. The qualified biologist shall provide ongoing guidance to construction personnel and contractors to ensure compliance with environmental/permit regulations and mitigation measures. The qualified biologist shall perform the following:

- Provide training materials and briefings to all personnel working on site. The material shall include but not be limited to the identification and status of plant and wildlife species, significant natural plant community habitats (*e.g.*, riparian), fire protection measures, and review of mitigation requirements.

- A discussion of the federal and state Endangered Species Acts, Bald and Golden Eagle Protection Act, Migratory Bird Treaty Act, other state or federal permit requirements and the legal consequences of non-compliance with these acts;
- Attend the pre-construction meeting to ensure that timing/location of construction activities do not conflict with other mitigation requirements (*e.g.*, seasonal surveys for nesting birds, pre-construction surveys, or relocation efforts);
- Conduct meetings with the contractor and other key construction personnel describing the importance of restricting work to designated areas. Maps showing the location of special-status wildlife or populations of rare plants, exclusion areas, or other construction limitations (*e.g.*, limitations on nighttime work) will be provided to the environmental monitors and construction crews prior to ground disturbance. This applies to preconstruction activities, such as site surveying and staking, natural resources surveying or reconnaissance, establishment of water quality BMPs, and geotechnical or hydrological investigations;
- Discuss procedures for minimizing harm to or harassment of wildlife encountered during construction and provide a contact person in the event of the discovery of dead or injured wildlife;
- Review/designate the construction area in the field with the contractor in accordance with the final grading plan;
- Ensure that haul roads, access roads, and on-site staging and storage areas are sited within grading areas to minimize degradation of vegetation communities adjacent to these areas (if activities outside these limits are necessary, they shall be evaluated by the biologist to ensure that no special-status species habitats will be affected);
- Conduct a field review of the staking (to be set by the surveyor) designating the limits of all construction activity;
- Flag or temporarily fence any construction activity areas immediately adjacent to riparian areas;
- Ensure and document that required pre-construction surveys and/or relocation efforts have been implemented;
- To reduce the potential for the spread of ~~mud snails~~ exotic invasive invertebrates (e.g. New Zealand mud snails) and weeds (including weed seeds) during Project clearing and construction, all heavy equipment proposed for use on the Project site shall be verified cleaned (including wheels, tracks, undercarriages, and bumpers, as applicable) before delivery to the Project site. Equipment must be documented as ~~mud snail~~ exotic invasive invertebrate (e.g. mud snail) and weed free upon delivery to the Project site initial staging area, including: (1) vegetation

clearing equipment (skid steer loaders, loaders, dozers, backhoes, excavators, chippers, grinders, and any hauling equipment, such as off-road haul trucks, flat bed, or other vehicles); (2) earth-moving equipment (scrapers, dozers, excavators, loaders, motor-graders, compactors, backhoes, off-road water trucks, and off-road haul trucks); and (3) all Project-associated vehicles (including personal vehicles) that, upon inspection by the monitoring biologist, are deemed to present a risk for spreading ~~mud snails~~ exotic invasive invertebrates (e.g. mud snails) or weeds. Equipment shall be cleaned at existing construction yards or at a wash station. The biological monitor shall document that all construction equipment (as described above) has been cleaned prior to working within the Project work site. Any equipment/vehicles determined to not be free of ~~mud snails~~ exotic invasive invertebrates (e.g. mud snails) and weeds shall immediately be sent back to the originating construction yard for washing, or wash station where rinse water is collected and disposed of in either a sanitary sewer or other legal point of disposal. Equipment/vehicles moved from the site must be inspected, and re-washed as necessary, prior to re-engaging in construction activities in the Project work area. A written daily log shall be kept for all vehicle/equipment washing that states the date, time, location, type of equipment washed, methods used, and location of work;

- Be present during initial vegetation clearing and grading; and
- Submit to CDFG an immediate report (within 72 hours) of any conflicts or errors resulting in impacts to special-status biological resources.

BIO-53 Prior to the issuance of a grading permit for ground disturbance, construction, or site preparation activities, the applicant shall retain the services of a qualified biologist to conduct pre-construction surveys for western spadefoot toad within all portions of the Project site containing suitable breeding habitat. Surveys shall be conducted during a time of year when the species could be detected (*e.g.*, the presence of rain pools). If western spadefoot toad is identified on the Project site, the following measures will be implemented.

(1) Under the direct supervision of the qualified biologist, western spadefoot toad habitat shall be created within suitable natural sites on the Specific Plan site outside the proposed development envelope. The amount of occupied breeding habitat to be impacted by the Project shall be replaced at a 2:1 ratio. The actual relocation site design and location shall be approved by CDFG. The location shall be in suitable habitat as far away as feasible from any of the homes and roads to be built. The relocation ponds shall be designed such that they only support standing water for several weeks following seasonal rains in order that aquatic predators (*e.g.*, fish, bullfrogs, and crayfish) cannot become established.

BIO-61 No earlier than 30 days prior to the commencement of construction activities, a pre-construction survey shall be conducted by a qualified biologist to determine if active roosts of ~~special-status~~ bats are present on or within 300 feet of the Project disturbance boundaries. Should an active maternity roost be identified (in California, the breeding season of native bat species is generally from April 1 through August 31), the roost shall not be disturbed and construction within 300 feet shall be postponed or halted, until the roost is vacated and juveniles have fledged. Surveys shall include rocky outcrops, caves, structures, and large trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities). Trees and rocky outcrops shall be surveyed by a qualified bat biologist (*i.e.*, a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle bats). If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (*i.e.*, not removed) by the Project. If avoidance of the maternity roost must occur, the bat biologist shall survey (through the use of radio telemetry or other CDFG approved methods) for nearby alternative maternity colony sites. If the bat biologist determines in consultation with and with the approval of CDFG that there are alternative roost sites used by the maternity colony and young are not present then no further action is required.

If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. Large concrete walls (*e.g.*, on bridges) on south or southwestern slopes that are retrofitted with slots and cavities are an example of structures that may provide alternative potential roosting habitat appropriate for maternity colonies. Alternative roost sites must be of comparable size and proximal in location to the impacted colony. CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.

If non-breeding bat hibernacula are found in trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, under the direction of a qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (*e.g.*, installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist in consultation with CDFG shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the

darker hours, and the roost tree shall be removed or the grading shall occur the next day (*i.e.,* there shall be no less or more than one night between initial disturbance and the grading or tree removal). These actions should allow bats to leave during nighttime hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight.

If an active maternity roost is located on the Project site, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (*i.e.*, prior to March 1) or after young are flying (*i.e.*, after July 31) using the exclusion techniques described above.

BIO-62 At least 1,900 acres of Open Area within the Specific Plan area shall be offered for dedication to an NLMO in fee and/or by conservation easement. These 1,900 acres of the Open Area will be left as natural vegetation. Dedication of open areas lands shall be reported annually to CDFG.

BIO-63 Each tract map Home Owners' Association shall supply educational information to future residents regarding pets, wildlife, and open space areas. The material shall discuss the presence of native animals (*e.g.*, coyote, bobcat, and mountain lion), indicate that those native animals could prey on pets, indicate that no actions shall be taken against native animals should they prey on pets allowed outdoors, and indicate that pets must be leashed while using the designated trail system and/or in any areas within or adjacent to open space. Control of stray and feral cats and dogs will be conducted in open space areas on an as-needed basis by the NLMO(s) or the Newhall Ranch *joint powers authority* (JPA) managing the River Corridor SMA, High Country SMA, or Salt Creek area or by the HOAs managing the Open Areas. Feral cats and dogs may be trapped and deposited with the local Society for the Prevention of Cruelty to Animals or the Los Angeles County Department of Animal Control.

BIO-64 An integrated pest management (IPM) plan that addresses the use of pesticides (including rodenticides and insecticides) on site will be prepared prior to the issuance of building permits for the initial tract map. The IPM will implement appropriate Best Management Practices to avoid and minimize adverse effects on the natural environment, including vegetation communities, special-status species, species without special status, and associated habitats, including prey and food resources (*e.g.*, insects, small mammals, seeds). Potential management practices include cultural (*e.g.*, planting pest-free stock plants), mechanical (*e.g.*, weeding, trapping), and biological controls (*e.g.*, natural predators or competitors of pest species, insect growth regulators, natural pheromones, or biopesticides), and the judicious use of chemical controls, as appropriate (*e.g.*, targeted spraying versus broadcast applications). The IPM will establish management thresholds (*i.e.*, not all incidences of a pest require management);

prescribe monitoring to determine when management thresholds have been exceeded; and identify the most appropriate and efficient control method that avoids and minimizes risks to natural resources. Preparation of the CC&Rs for each tract map shall include language that prohibits the use of anticoagulant rodenticides in the Project site.

BIO-65 Pre-construction surveys for San Emigdio blue butterfly shall occur in all areas containing host plants in sufficient density to support this species. A qualified Lepidoptera biologist shall conduct focused surveys at a time of year and during weather conditions when the detection of eggs, larvae, or adults is possible. All occupied habitat shall be mapped and the locations provided to CDFG. Should the removal of quail brush or other documented host plants from occupied San Emigdio blue butterfly habitat in Potrero Canyon or other areas be required, the plants shall be removed when eggs and larvae are not present (*i.e.*, mid-September to March). Removal of quail brush plants from the documented habitat in Potrero Canyon may only be conducted from April through early September if it is determined by a qualified biologist that eggs and/or larvae are not present on the plants to be removed.

BIO-66 The removal of quail brush or other documented host plants from any occupied San Emigdio blue butterfly habitat in Potrero Canyon or other areas shall be replaced at a minimum of a 1.5:1 ratio. The replacement plants shall be planted contiguous to the existing quail brush plants associated with the San Emigdio blue butterfly habitat. The success of the replanting shall be monitored for survival and vigor consistent with survivorship requirements of Mitigation Measure BIO-6 and BIO-7.

BIO-67 Prior to any construction activities occurring within 200 feet of any occupied San Emigdio blue butterfly habitat in Potrero Canyon or other areas, the boundaries of preserved areas of the habitat shall be clearly marked with flagging. The flagging would serve to identify the boundaries of the habitat to construction personnel and to prevent the inadvertent construction-related loss of quail brush or other host plants associated with the habitat. Construction personnel working in the area shall be informed that the removal of or damage to any flagged quail brush or other host plants located outside the disturbance footprint is prohibited.

BIO-68 Any common or special-status species bat day roost sites found by a qualified biologist during pre-construction surveys conducted per BIO-61, to be directly (within project disturbance footprint) or indirectly (within 300 feet of project disturbance footprint) impacted are to be mitigated with creation of artificial roost sites. The Project applicant shall establish (an) alternative roost site(s) within suitable preserved open space located at an adequate distance from sources of human disturbance.

BIO-69 The Newhall Ranch JPA will have overall responsibility for recreation within and conservation of the High Country. The Newhall Ranch JPA and ~~Project applicant~~

~~and/or~~ NLMO shall develop and implement a conservation education and citizen awareness program for the High Country SMA informing the public of the special-status resources present within the High Country SMA and providing information on common threats posed by the presence of people and pets to those resources. The NLMO shall install trailhead and trail signage indicating the High Country SMA is a biological conservation area and ~~requesting~~ advising that people and their animals must stay on existing trails at all times and that violators may be cited. The NLMO shall provide quarterly maintenance patrols to remove litter and monitor trail expansion and fire hazards within the High Country SMA, funded by the JPA.

BIO-70 Construction plans shall include necessary design features and construction notes to ensure protection of vegetation communities and special-status plant and aquatic wildlife species adjacent to construction. In addition to applicable erosion control plans and performance under SCAQMD Rule 403d dust control (SCAQMD 2005), the Project stormwater pollution prevention plan (SWPPP) shall include the following minimum BMPs. Together, the implementation of these requirements shall ensure protection of adjacent habitats and wildlife species during construction. At a minimum, the following measures/restrictions shall be incorporated into the SWPPP, and noted on construction plans where appropriate, to avoid impacting special-status species during construction:

- Avoid planting or seeding invasive species in development areas within 200 feet of native vegetation communities.
- Provide location and details for any dust control fencing along Project boundaries (BIO-71).
- Vehicles shall not be driven or equipment operated in areas of ponded or flowing water, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the 404 Permit or 1603 Agreement.
- Silt settling basins installed during the construction process shall be located away from areas of ponded or flowing water to prevent discolored, silt-bearing water from reaching areas of ponded or flowing water during normal flow regimes.
- If a stream channel has been altered during the construction and/or maintenance operations, its low flow channel shall be returned as nearly as practical to pre-Project topographic conditions without creating a possible future bank erosion problem or a flat, wide channel or sluice-like area. The gradient of the streambed shall be returned to pre-Project grade, to the extent practical, unless it represents a wetland restoration area.

monitor the mitigation area; (6) the list of criteria and performance standards by which to measure the success of the mitigation site (below); (7) measures to exclude unauthorized entry into the mitigation areas; and (8) contingency measures such as erosion control, replanting, or weeding to implement in the event that mitigation efforts are not successful. The performance standards for the Undescribed Everlasting Mitigation and Monitoring Plan shall be the following:

a. Within four years after reintroducing the undescribed everlasting to the mitigation site, the extent of occupied acreage and the number of established, reproductive plants will be no smaller than at the site lost for project construction.

b. Non-native species cover will be no more than 5% absolute cover through the term of the restoration.

c. Giant reed (*Arundo donax*), tamarisk (*Tamarix ramosissima*), perennial pepperweed (*Lepidium latifolium*), tree of heaven (*Ailanthus altissimus*), pampas grass (*Cortaderia selloana*), and any species listed on the California State Agricultural list (CDFA 2009) or Cal-IPC list of noxious weeds (Cal-IPC 2006, 2007) will not be present on the revegetation site as of the date of completion approval.

BIO-77 A Middle Canyon Spring Habitat Management Plan will be developed that details the measures to be implemented to maintain the populations of the ~~undescribed~~ spring snail (*Pyrgulopsis castaicensis* **n. sp.**) and ~~undescribed~~ Newhall sunflower species. The plan shall be subject to the approval of CDFG and implemented by Newhall Land prior to disturbance within 100 feet of flowing water in Middle Canyon Creek and/or 200 feet of Middle Canyon Spring. The plan shall include the following elements: (1) collection of data on existing site conditions; (2) construction monitoring program and a post-development monitoring program; (3) threshold parameters that activate adaptive management measures across a series of potential future scenarios, including water quality and water quantity scenarios, including the potential use of infiltration wells, if these should become necessary to ensure water quantity; (4) measures to exclude unauthorized entry into the spring; and (5) contingency measures in the event that management efforts are not successful. Plan elements are further described below:

Pre-development data collection:

Upon approval of the proposed Project, data collection for Middle Canyon Spring and its biotic community will be initiated. Site assessments will be completed by biologists and, as needed, with surveyors, engineers, geologists, and hydrogeologists to collect the following data, subject to limitations on

disturbances: (1) inventory of plant species within and adjacent to the spring; (2) percent native and non-native plant cover and percent bare ground within and adjacent to the spring using the relevé method, a visual estimation technique to classify and map large vegetation areas in a limited amount of time (see below); (3) structural description of vegetation communities within each relevé plot; (4) GPS mapping of all trees within core spring area and adjacent 100 feet; (5) GPS mapping of special-status sunflower; (6) census special-status sunflower stem numbers; (7) description of any disturbances to the spring area; (8) establishment of permanent photo points; (9) photo documentation of seasonal changes in the spring; (10) survey and mapping of hydrologic and topographic features in the area adjacent to the spring; (11) population data on the *Pyrgulopsis castaicensis* **n. sp.** ~~undescribed snail~~, including distribution, abundance, density, size classes and seasonal activity, and microhabitat descriptions; (12) invertebrates survey; (13) amphibian survey; (14) characterization of algal and microbial components; (15) survey of spring inlet and outlets for comparison to piezometer water elevations from monitoring points P-1MS, P-2MS, and P-8B; (16) flow rates of spring outlets at a frequency to record diurnal fluctuations; (17) approximate evapotranspiration rates of the vegetation community; (18) piezometer water elevation data from P-1MS, P-2MS, and P-8B collected at a frequency suitable to determine seasonal variations in groundwater elevations; (19) continuously recorded surface water temperature and depth profile at a spring monitoring location and piezometers P-1MS and P-2MS; (20) water quality/chemistry data in the spring and the three nearby piezometers (P-1MS, P-2MS, and P-8B) (dissolved oxygen [DO, spring only], salinity, pH and alkalinity, nitrates, sulfates, relevant cations and anions [bicarbonate, calcium, chloride, magnesium, nitrate as NO_3, potassium, sodium], total dissolved solids [TDS], turbidity [spring only], and suspended solids [spring only]); (21) soil samples along the margin of the spring to determine soil classification types; and (22) as available, compilation of a record of historical photographs and aerial photographs of the spring and adjacent areas.

Vegetation data will be collected using a non-invasive monitoring method and analyzed in accordance with the California Native Plant Society (CNPS) *Relevé Protocol* (2004), which provides for a visual assessment of vegetation communities instead of the more intrusive point-intercept transect methods. This will ensure that collection of vegetation data will limit damage to the spring vegetation and limit the establishment of trails during monitoring visits.

Additionally, for two years following approval of the proposed Project, the applicant, in consultation with CDFG, shall provide for the collection of seed from the ~~undescribed~~ Newhall sunflower species by a qualified research

institution for long-term seed bank preservation or other conservation purposes. Further, to facilitate additional research of the species, applicant shall allow CDFG access to the spring complex for future conservation purposes.

Prior to establishing the post-development long-term thresholds discussed below, hydrologic and biologic data will be evaluated, and any increase or decrease greater than 10% in monitoring parameters 2, 11 through 16, and 18 through 20, described above, will serve as an interim threshold and will trigger adaptive management measures, such as those described below. Should these thresholds be triggered, CDFG will be notified within 24 hours to determine what actions, if necessary, will be implemented. Biological data collection will contribute to the establishment of habitat criteria necessary for sustaining the *Pyrgulopsis castaicensis* **n. sp.** ~~undescribed snail~~ and the ~~undescribed~~ Newhall sunflower.

Construction monitoring program and data collection

Data collection described above will continue during construction near the spring complex (Commerce Center Drive Bridge and development of Middle Canyon (Mission Village planning area)). Monitors will be on site daily when work is conducted within 100 feet of flowing water in Middle Canyon Creek and/or 200 feet of the spring complex, and weekly during mass grading of Middle Canyon, to observe and report on construction activities. Monitors will ensure that appropriate avoidance and minimization measures are implemented, such as the installation and maintenance of perimeter construction fencing and storm water controls, silt fences, and sand bags. During any period where dewatering occurs within 100 feet of flowing water in Middle Canyon Creek and/or 200 feet of the spring complex, biological and hydrologic parameters will be monitored daily. No dewatering activities shall occur in the spring complex. Discharge of any dewatering waters, nuisance irrigation flows, water quality basin, subdrain, backdrain, or toe drain flows shall be directed away from the spring.

Post-development data collection

Biological and hydrologic monitoring will continue post-development. For the first two years after build-out of Middle Canyon (Mission Village), post-construction monitoring will be as frequent as during the pre-construction period. After the two-year period, data collected and the frequency of monitoring may be adjusted, in consultation with CDFG. The post-development monitoring program will continue to collect data on trends and changes in the populations of the *Pyrgulopsis castaicensis* **n. sp.** ~~undescribed snail~~ and ~~undescribed~~ Newhall sunflower and document any shift in spring habitat composition or any changes in conditions that would potentially impact the spring system, as detailed above. Analysis and comparison of collected data will establish long-term thresholds.

These thresholds will serve to trigger adaptive management measures during the post-development period.

Adaptive management

As dictated by the thresholds discussed above, the following measures may be implemented after consultation with CDFG in the event a threshold is exceeded. These actions may include, but are not limited to: (1) the addition of supplemental water via an existing deep Saugus well in Middle Canyon; (2) removal of infiltration water by diverting flow from upstream water quality features; (3) implementing invasive species control; and (4) implementing additional controls to prevent unauthorized access to the spring complex.

Monitoring report

Annual monitoring reports will be prepared to summarize the status of the *Pyrgulopsis castaicensis* **n. sp.** ~~undescribed snail~~ and ~~undescribed~~ Newhall sunflower and hydrology within Middle Canyon Spring. These reports will be used to evaluate the significance of impacts and the efficacy of mitigation measures. Reports will include results of biological surveys, flow data, groundwater modeling results, water quality data, mapping of the spring features and biota, photo-documentation from permanent photo points, analysis of field and lab data, conclusions based on ongoing monitoring efforts, and recommendations for future management actions. Annual monitoring reports will be submitted to CDFG and Corps.

BIO-78 A cowbird trapping program shall be implemented once vegetation clearing begins and maintained throughout the construction, maintenance, and monitoring period of the riparian restoration sites. A minimum of five traps shall be utilized, with at least one trap adjacent to the project site and one or two traps located at feeding areas or other CDFG-approved location. The trapping contractor may consult with CDFG to request modification of the trap location(s). CDFG must approve any relocation of the traps. Traps will be maintained beginning each year on April 1 and concluding on/or about November 1 (may conclude earlier, depending upon weather conditions and results of capture). The trapping contractor may also consult CDFG on a modified, CDFG-approved trapping schedule modification. The applicant shall follow CDFG and USFWS protocol. In the event that trapping is terminated after the first few years, subsequent phases of the RMDP development will require initiation of trapping surveys to determine whether re-establishment of the trapping program is necessary.

BIO-79 The status of the Potrero Canyon San Emigdio blue butterfly colony shall be monitored by a qualified biologist for a period of five years after Potrero Canyon Road

construction completion/operation commencement to evaluate whether the operation of the road may be contributing to a population decline in the colony. Should it be determined that a population decline is occurring, habitat creation for the San Emigdio blue butterfly shall be implemented in suitable locations contiguous to the habitat but away from the road. A habitat creation plan will be prepared that details the location and methods for creating habitat, that specifies success criteria, and that describes measures that will be implemented in the event that the habitat creation does not stabilize the San Emigdio blue butterfly population.

BIO-80 The Project applicant will retain a qualified biologist to develop an Exotic Wildlife Species Control Plan and implement a control program for bullfrog, African clawed frog, and crayfish. The program will require the control of these species during construction within the River corridor and modified tributaries (bridges, diversions, bank stabilization, drop structures). The Plan shall include a description of the species targeted for eradication, the methods of harvest that will be employed, the disposal methods, and the measures that would be employed to avoid impacts to sensitive wildlife (*e.g.*, stickleback, arroyo toad, nesting birds) during removal activities (*i.e.*, timing, avoidance of specific areas). Annual monitoring shall occur for the first five years after construction of Project facilities. After five years, bi-annual monitoring shall occur ~~for up to 50 years~~ in perpetuity to determine if additional control is necessary. The Project applicant will fund an endowment, approved by CDFG, for monitoring in perpetuity. Monitoring will be conducted within sentinel locations along the River Corridor SMA and where the Project provides potential habitat for these species (*e.g.*, future ponds and water features). Control shall be conducted within Project facilities where monitoring results indicate that exotic species have colonized an area.

BIO-81 The installation of new, or relocation of existing, utility poles and phone and cell towers shall be coordinated with CDFG where located in the High Country SMA and Salt Creek area. The applicant or SCE shall install utility poles, phone, and cell towers in conformance with APLIC standards for collision-reducing techniques as outlined in Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006).

BIO-82 a. All surfaces on new antennae and phone/utility towers shall be designed and operated with anti-perching devices in conformance with APLIC standards to deter California condors and other raptors from perching. During construction the area shall be kept clean of debris, such as cable, trash, and construction materials. The applicant shall collect all microtrash and litter (anything shiny, such as broken glass), vehicle fluids, and food waste from the Project area on a daily basis. Workers will be trained on the issue of microtrash: what constitutes

microtrash, its potential effects on California condors, and how to avoid the deposition of microtrash.

b. The applicant shall retain a qualified biologist with knowledge of California condors to monitor construction activities within the Project area. The resumes of the proposed biologist(s) will be provided to CDFG for concurrence. This biologist(s) will be referred to as the authorized biologist hereafter. During clearing and grubbing of construction areas, the qualified biologist shall be present at all times. During mass grading, construction sites shall be monitored on a daily basis. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed. If condors are observed landing in the Project area, the applicant shall avoid further construction within 500 feet of the sighting until the animals have left the area, or as otherwise authorized by CDFG and USFWS. All condor sightings in the Project area will be reported to CDFG and USFWS within 24 hours of the sighting. Should condors be found roosting within 0.5 mile of the construction area, no construction activity shall occur between one hour before sunset to one hour after sunrise, or until the condors leave the area, or as otherwise directed by USFWS. Should condors be found nesting within 1.5 miles of the construction area, no construction activity will occur until further authorization occurs from CDFG and USFWS.

c. To further protect California condor potentially foraging in the Project area over the long term from negative interactions with humans and/or artificial structures, the applicant or the JPA or the NLMO shall remove dead cattle that are found or reported within 1,000 feet of a residential or commercial development boundary. Dead cattle shall be relocated to a predetermined location within the High Country SMA or Salt Creek area. The locations where carcasses shall be placed shall be a minimum of 1,000 feet from a development area boundary. Appropriate locations for transfer of carcasses include open grasslands and oak/grassland areas where condors can readily detect carcasses and easily land and take off without encountering physical obstacles such as powerlines and other utility structures. The proposed locations would be selected and approved by the CDFG and USFWS. Pursuant to this measure, a telephone number for reporting dead cattle shall be provided and actively maintained. Any cattle carcasses transferred to the relocation areas shall be reported to the USFWS Condor group.

BIO-83 Thirty days prior to construction activities, a qualified biologist shall conduct a preconstruction survey for ringtail. The survey area shall include suitable riparian and woodland habitat (southern coast live oak riparian forest, southern cottonwood–willow riparian forest, southern willow scrub, coast live oak woodland, valley oak woodland,

and mixed oak woodland) within the construction disturbance zone and a 300-foot buffer around the construction site. Should the ringtail be observed in the breeding and rearing period of February 1 through August 31, no construction-related activities shall occur within 300 feet of the occupied area for the period of February 1 through August 31 or until the ringtail has been determined by a qualified biologist (in consultation with CDFG) to no longer occupy areas within 300 feet of the construction zone and/or that construction activities would not adversely affect the successful rearing of young. If the ringtail is observed within the construction disturbance zone or in the 300-foot buffer around the construction site in the nonbreeding/rearing period of September 1 through January 31, and avoidance is not possible, denning ringtail shall be safely evicted under the direction of a qualified biologist (as determined by a Memorandum of Understanding with CDFG). All activities that involve the ringtail shall be documented and reported to CDFG.

BIO-84 Bridge and culvert designs, where practicable, shall provide roosting habitat for bats. A qualified biologist shall work with the Project engineer in identifying and incorporating structures into the design that provide suitable roosting habitat for bat species occurring in the Project area. The final design of the roosting structures would be chosen in consultation with CDFG.

BIO-85 To preclude the invasion of Argentine ants into the spineflower preserves and their associated buffers, controls will be implemented using an integrated pest management (IPM) approach in accordance with the approved SCP. The controls include the following.

(1) ~~p~~Providing "dry zones" between urban development and spineflower ~~preserves~~populations~~, including the buffers~~, where typical soil moistures are maintained at levels below about 10% soil saturation, which will deter the establishment of nesting colonies of ants; and providing dry zone buffers of sufficient width to reduce the potential for Argentine ant activity within core habitat areas.~~;~~

(2) Where feasible, and/or appropriate, dry areas such as parking lots and roadways shall be built next to preserve boundaries. These will be designed to slope away from the preserve to avoid runoff entering the preserve.

(3) Pedestrian pathways placed next to preserves shall consist of decomposed granite or other gravel to minimize the holding of moisture, thereby preventing establishment of suitable habitat for Argentine ant colonies.

(4) e~~E~~nsuring that landscape container plants installed within 200 feet of spineflower preserves are ant free prior to installation~~;~~, to reduce the chance of colonies establishing in areas close to the preserves.

(~~3~~5) M~~m~~aintaining natural hydrological conditions in the spineflower preserves, including the buffers, through project design features~~; and~~ for roadways, French drains, irrigation systems, underground utilities, drainage pipes and fencing, storm drains, and any other BMP measures that apply to surface water entering the preserve areas.

(~~6~~4) U~~u~~sing drought-resistant plants in FMZs and minimizing irrigation to the extent feasible.

BIO-86 Requires focused surveys for the ~~undescribed~~ spring snail ~~species~~ (*Pyrgulopsis castaicensis* **n. sp.**) by a qualified biologist prior to the commencement of grading/construction activities in any drainage area supporting perennial flow. Any individuals of the *Pyrgulopsis castaicensis* **n. sp.**~~undescribed snail species~~ found within the Middle Canyon drainage shall be relocated to appropriate habitat within Middle Canyon Spring. If ~~undescribed~~ *Pyrgulopsis castaicensis* **n. sp.** ~~snails~~ are discovered during aquatic and semi-aquatic pre-construction surveys in any other perennial flowing water, the applicant shall consult with CDFG prior to initiating disturbance of the area. A report documenting the number of *Pyrgulopsis castaicensis* **n. sp.** ~~snails~~ located, the conditions of the area, and where the species has been relocated to, if applicable, shall be submitted to CDFG within 60 days following the relocation.

BIO-87 Upon initiating landscaping within~~Following the completion and occupancy of~~ a development area, quarterly monitoring shall be initiated for Argentine ants along the urban–open space interface at sentinel locations where invasions could occur (*e.g.*, where moist microhabitats that attract Argentine ants may be created). A qualified biologist shall determine the monitoring locations. Ant pitfall traps will be placed in these sentinel locations and operated on a quarterly basis to detect invasion by Argentine ants. If Argentine ants are detected during monitoring, direct control measures will be implemented immediately to help prevent the invasion from worsening. These direct controls may include but are not limited to nest/mound insecticide treatment, or available natural control methods being developed. A general reconnaissance of the infested area would also be conducted to identify and correct the possible source of the invasion, such as uncontrolled urban runoff, leaking pipes, or collected water. Monitoring and control of Argentine ants would occur ~~for a 50-year period~~in perpetuity. The Project applicant will fund an endowment, approved by CDFG, for monitoring in perpetuity.

BIO-88 Any southern California black walnut and mainland cherry trees or shrubs outside riparian areas greater than one inch dbh shall be replaced in the ratio of at least 2:1. Multi-trunk trees/shrub dbh shall be calculated based on combined trunk dbh. Mitigation shall be deemed complete when each replacement tree attains at least one inch in diameter one foot above the base.

location of mitigation required, will be recalculated and included in the Construction Notification and Sub-Notification Agreement.

SW-6 To the extent that on-site mitigation for impacts to jurisdictional tributary drainages is insufficient to meet the mitigation ratios required by revised Mitigation Measure BIO-2, then the remaining mitigation obligation shall be met at off-site properties within the Santa Clara River watershed, via use of one or more of the following mitigation approaches (at applicant's option): (a) creation of additional jurisdictional acreage in tributaries to the Santa Clara River occurring off site such that the mitigation site has an equal or greater value than the impacted site; (b) preservation of property containing jurisdictional tributaries to the Santa Clara River having an equal or greater value than the impacted site via a conservation easement or analogous method; or (c) habitat enhancement activities in jurisdictional tributaries for the necessary acreage (*e.g.*, exotic species removal under the terms and conditions specified in Mitigation Measures BIO-9 and BIO-10).

SW-7 To the extent that on-site mitigation for impacts to the Santa Clara River mainstem is insufficient to meet the mitigation ratios required by revised Mitigation Measure BIO-2, then the remaining mitigation obligation shall be met at off-site locations within the Santa Clara River mainstem, via use of one or more of the following mitigation approaches (at applicant's option): (a) creation of additional jurisdictional acreage in the Santa Clara River mainstem outside the Project area such that the mitigation site has an equal or greater value than the impacted site; (b) preservation of property containing a reach of the Santa Clara River mainstem having an equal or greater value than the impacted site via a conservation easement or analogous method; or (c) habitat enhancement activities within the river mainstem for the necessary acreage (*e.g.*, exotic species removal under the terms and conditions specified in Mitigation Measures BIO-9 and BIO-10).

Although revised Mitigation Measure BIO-2 is included in the Biological Resources section, the measure is referenced in this section and is reproduced below for convenience.

BIO-2 The permanent removal of existing habitats in Corps and/or CDFG jurisdictional areas in the Santa Clara River and tributaries, shall be replaced by creating habitats of similar functions and values/services (see Mitigation Measure BIO-4 and Mitigation Measure SW-3 of Section 4.6 of the Final EIS/EIR) on the Project site, or as allowed under Mitigation Measure BIO-10.

a. Permanent impacts to Corps jurisdiction (which is a subset of CDFG jurisdiction) are to be mitigated by initiating mitigation site creation and/or restoration in advance of impacts, to replace the combined loss of acreage, functions and services at a minimum 1:1 ratio. Initiation of a Corps mitigation site is defined as: 1) completion of site preparation; 2) installation of temporary irrigation; and 3) seeding and/or planting of the mitigation site. For detailed information please refer to the Mitigation Plan for Impacts to Waters of the United States included in the Draft 404(b)(1) Alternatives Analysis in Appendix F1.0 of the Final EIS/EIR. ~~The Salt Creek creation and restoration site~~ The Potrero Canyon CAM creation and restoration site and the Mayo

Crossing restoration site (i.e., an existing agricultural field) are considered the initial sites to be implemented prior to Corps jurisdictional impacts by development, thereby establishing upfront mitigation credits. As individual Project components are proposed for construction, consistent with the construction notification, quantities of mitigation acreage required to offset permanent impact acreages shall be calculated and compared to surplus pre-mitigation area remaining. A project would not proceed unless adequate mitigation capacity (area suitable for Corps mitigation) is demonstrated. Temporary impact areas shall be mitigated in place in a manner that restores impacted functions and services as described in the mitigation plan noted above. If upfront compensatory mitigation cannot be achieved, a Corps-approved method would be utilized to determine the additional compensatory mitigation to offset the temporal loss of functions and services not included in the 1:1 mitigation ratio for permanent impacts.

These measures satisfy the Corps mitigation requirements for impacts to Corps jurisdictional areas. However, impacts to jurisdictional areas (which include all areas subject to Corps and/or CDFG jurisdiction) are also subject to all of the mitigation requirements for impacts to CDFG jurisdiction, including BIO-2b.

b. For permanent and temporary impacts to CDFG jurisdiction, consistent with the sub-notification, quantities of mitigation acreage required shall be calculated in accordance with the criteria below:

- If suitable mitigation sites have met success criteria (BIO-6) prior to disturbance at the impact site, the mitigation sites shall replace the permanently impacted habitats in kind at a 1:1 ratio.
- If a suitable mitigation site has not met success criteria prior to disturbance of the impact site, habitat shall be replaced in kind (tributary for tributary impacts, river for river impacts) according to the replacement ratios specified in **Table 4.5-68**, below. These ratios provide compensatory mitigation for temporal losses of riparian function by considering the existing functional condition of the resources to be impacted, as well as time required for different vegetation types to become established and mature.
- If a suitable mitigation site has not been initiated within two years following disturbance of the impact site, but is initiated within five years following such disturbance, the permanently impacted habitats shall be replaced in kind at a replacement ratio equal to the ratio required by **Table 4.5-68**, below, plus 0.5:1. (For example, if mitigation for impacts to high-quality mulefat scrub were initiated three years after disturbance, the required replacement ratio would be 2.5:1.)
- If a suitable mitigation site has not been initiated within five years following disturbance of the impact site, the permanently impacted habitats shall be replaced in kind at a replacement ratio equal to the ratio required by **Table 4.5-68**, below, plus 1:1. (For example, if mitigation for impacts to high-quality mulefat scrub were initiated six years after disturbance, the required replacement ratio would be 3:1.)

Where temporary impacts to CDFG-jurisdictional areas are proposed, the mitigation acreage required shall be determined based upon the duration of the proposed construction disturbance and the type of vegetation to be impacted. As individual Project components are proposed for construction, consistent with the sub-notification process, the quantities of mitigation acreage required for temporary impacts to CDFG jurisdictional areas shall be calculated according to the following criteria:

- If suitable mitigation sites have met success criteria prior to temporary disturbance at the impact site, the mitigation sites shall replace the temporarily impacted habitats in kind at a 1:1 ratio regardless of the duration of the temporary disturbance.
- If the duration of temporary disturbance is less than two years, and no suitable mitigation sites have met success criteria prior to the disturbance, temporarily impacted habitats shall be replaced in kind at a 1:1 ratio, except for southern cottonwood/willow riparian forest and oak woodland habitats, which shall be replaced in kind at a ratio of 1:1 if low quality, 1.5:1 if medium quality, and 2:1 if high quality.
- If the duration of temporary disturbance is between two and five years, and no suitable mitigation sites have met success criteria prior to the disturbance, temporarily impacted habitats shall be replaced in kind at a 1.5:1 ratio, except for southern cottonwood/willow riparian forest and oak woodland habitats, which shall be replaced in kind at a ratio of 1:1 if low quality, 1.5:1 if medium quality, and 2:1 if high quality.
- If the duration of temporary disturbance exceeds five years, and no suitable mitigation sites have met success criteria prior to the disturbance, temporarily impacted habitats shall be replaced in kind at a 2:1 ratio, except for southern cottonwood/willow riparian forest and oak woodland habitats, which shall be replaced in kind at a ratio of 1:1 if low quality, 1.5:1 if medium quality, and 2:1 if high quality.

In lieu of the habitat replacement described above and subject to CDFG approval, removal of invasive, exotic plant species from existing CDFG jurisdictional areas, followed by restoration/revegetation, may also be used to offset impacts. If this method is employed, mitigation shall be credited at an acreage equivalent to the percentage of exotic vegetation present at the restoration site. For example, if a 10-acre jurisdictional area is occupied by 10% exotic species, restoration shall be credited for 1 acre of impact. If appropriate, as authorized by CDFG, reduced percentage credits may be applied for invasive removal with passive restoration (weeding and documentation of natural recruitment only).

which the pollutant is known to cause adverse health effects. **Table 4.7-3** below presents the state and National Ambient Air Quality Standards.

Table 4.7-3
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards[2]	
		Concentration[3]	Primary[3,4]	Secondary[3,6]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	--	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	
Respirable Particulate Matter (PM10)	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m^3	--	
Fine Particulate Matter (PM2.5)	24 Hour	--	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)[6]	Annual Arithmetic Mean	0.030 ppm (56 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1 Hour	0.18 ppm (338 µg/m^3)	--	
Lead (Pb)[7]	30 days average	1.5 µg/m^3	--	--
	Rolling 3 Month Average	--	0.15 µg/m^3	
	Calendar Quarter	--	1.5 µg/m^3	Same as Primary Standard
Sulfur Dioxide (SO_2)	~~Annual Arithmetic Mean~~	--	~~0.030 ppm (80 µg/m^3)~~	--
	24 Hour	0.04 ppm (105 µg/m^3)	~~*0.14 ppm (365 µg/m^3)*~~ --	--
	3 Hour	--	--	0.5 ppm (1300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm--	--
Visibility-Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles of more - due to particles when the relative humidity is less than 70 percent.	NO FEDERAL STANDARDS	
Sulfates (SO_4^{-2})	24 Hour	25 µg/m^3	NO FEDERAL STANDARDS	
Vinyl Chloride[6]	24 Hour	0.01 ppm (26 µg/m^3)	NO FEDERAL STANDARDS	
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m^3)	NO FEDERAL STANDARDS	

Notes:
[1] California standards for O_3, CO, SO_2 (1 and 24 hour), NO_2, PM10, PM2.5, and visibility-reducing particles are

Table 4.7-3
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards[2]	
		Concentration[3]	Primary[3,4]	Secondary[3,6]

values that are not to be exceeded. All others are not to be equaled or exceeded.

[2] National standards (other than O_3, PM10, PM2.5 and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-our standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[5] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[6] On February 22, 2007, CARB revised the 1-hour standard for NO_2 (0.18 ppm) and adopted a new annual NO_2 standard (0.030 ppm). The regulations implementing these standards were approved by the Office of Administrative Law on February 19, 2008 and became effective March 20, 2008.

[7] CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: California Air Resources Board.

Federal Attainment Status. A nonattainment designation indicates that the air quality violates an ambient air quality standard. An attainment designation indicates that the air quality does not violate the established standard. An unclassifiable designation indicates that there is insufficient data for determining attainment or nonattainment.

The Project site is located in Los Angeles County, and within the South Coast Air Basin. The South Coast Air Basin includes the southern two-thirds of Los Angeles County, all of Orange County, and the western urbanized portions of Riverside and San Bernardino counties. The South Coast Air Quality Management District (SCAQMD or District) is the governing air pollution control agency for the South Coast Air Basin.

Effective June 4, 2010, ~~T~~the South Coast Air Basin is now designated as "extreme" nonattainment for 8-hour ozone and has until 2024 to achieve the national standard. ~~currently is designated as "severe-17" nonattainment for ozone, and currently has until 2021 to achieve the national standard. However, as part of the 2007 AQMP, the SCAQMD is requesteding USEPA's approval of a "bump-up" to the "extreme"~~

~~nonattainment classification for the Basin.[2] USEPA approved the reclassification in April 2010, and the reclassification will be effective by June 2010. The proposed pending "bump up" willwould extend the attainment date for the 8-hour, ozone NAAQS to 2024 and allow for the attainment demonstration to rely on emission reductions from measures that anticipate the development of new technologies or improvement of existing control technologies.~~ For PM10, the South Coast Air Basin is designated "serious" nonattainment and was required to meet the national standard by 2006, which it has achieved at all monitoring stations except for western Riverside County. Localized programs outlined in the 2007 AQMP are intended to ensure compliance with the standard.[3] The South Coast Air Basin also is in nonattainment for PM2.5 and currently has until 2010 to achieve the national standard; but the SCAQMD will be filing a five-year extension to April 2015. The South Coast Air Basin is in attainment/maintenance for NO_2. The USEPA redesignated the South Coast Air Basin as attainment for CO effective June 11, 2007.[4] The status of the South Coast Air Basin with respect to attainment with the NAAQS is summarized in **(Revised) Table 4.7-4**.

(Revised) Table 4.7-4
National Ambient Air Quality Standards and Status
South Coast Air Basin

Pollutant	Averaging Time	Designation/Classification
O_3	8 Hour	Nonattainment/Extreme ~~Severe 17 (Pending Extreme)~~
CO	1 Hour, 8 Hour	Attainment/Maintenance
NO_2	Annual Arithmetic Mean	Attainment/Maintenance ~~Unclassifiable~~
SO_2	24 Hour, Annual Arithmetic Mean	Attainment
PM10	24 Hour	Nonattainment/Serious
PM2.5	24 Hour, Annual Arithmetic Mean	Nonattainment
Pb	Calendar Quarter	Attainment

Source: *Region 9: Air Programs, Air Quality Maps*, United States Environmental Protections Agency, available online at http://www.epa.gov/region09/air/maps/maps_top.html (last visited April 1, 2009).

Federal Conformity Analysis. Section 176(c)(1) of the Clean Air Act (42 U.S.C. § 7506(c)) is known as the General Conformity Rule. It prohibits the federal government from "engag[ing] in, support[ing] in any way, or provid[ing] financial assistance for, licens[ing] or permit[ing] or approv[ing] any activity" that does not conform to a State Implementation Plan (SIP) approved by the ~~U.S. Environmental Protection Agency (~~USEPA~~)~~. The conformity rule was designed to ensure that federal actions do not impede local efforts to control air pollution, and requires federal agencies to demonstrate that their actions

[2] South Coast Air Quality Management District, *Final 2007 Air Quality Management Plan*, (2007) p. ES-10.

[3] *Id.* at p. ES-4.

[4] United States Environmental Protection Agency, *Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: California; Final Rule*, 72 Fed.Reg. 26718-26721 (May 11, 2007).

Tables 4.7-17, 4.7-21, 4.7-25, 4.7-29, 4.7-33, and **4.7-37** reflect mitigated operational emissions after incorporation of the following mitigation measures. It should be noted that these mitigation measures are recommended to be applied to the VCC or Entrada planning areas as these developments are under the jurisdiction of another public agency (*i.e.*, Los Angeles County). The following mitigation measures are also presented in **Subsection 8.6.2**, Global Climate Change, of the EIS/EIR.

AQ-13 All residential buildings on the applicant's land holdings that are facilitated by approval of the proposed Project shall be designed to provide improved insulation and ducting, low E glass, high efficiency air conditioning units, and radiant barriers in attic spaces, as needed, or equivalent to ensure that all residential buildings operate at levels fifteen percent (15%) better than the standards ~~presently~~ required by the 2008 version of Title 24 ~~(2008)~~. Notwithstanding this measure, all residential buildings shall be designed to comply with the then-operative Title 24 standards applicable at the time building permit applications are filed. For example, if new standards are adopted that supersede the 2008 Title 24 standards, the residential buildings shall be designed to comply with those newer standards and, if necessary, exceed those standards by an increment that is equivalent to a 15 percent exceedance of the 2008 Title 24 standards.

AQ-14 All commercial and public buildings on the applicant's land holdings that are facilitated by approval of the proposed Project shall be designed to provide improved insulation and ducting, low E glass, high efficiency HVAC equipment, and energy efficient lighting design with occupancy sensors or equivalent to ensure that all commercial and public buildings operate at levels fifteen percent (15%) better than the standards ~~presently~~ required by the 2008 version of Title 24 ~~(2008)~~. Notwithstanding this measure, all nonresidential buildings shall be designed to comply with the then-operative Title 24 standards applicable at the time building permit applications are filed. For example, if new standards are adopted that supersede the 2008 Title 24 standards, the nonresidential buildings shall be designed to comply with those newer standards and, if necessary, exceed those standards by an increment that is equivalent to a 15 percent exceedance of the 2008 Title 24 standards.

AQ-15 The applicant shall produce or cause to be produced ~~or purchase~~ renewable electricity, or secure greenhouse gas offsets or credits from a public agency (*e.g.*, CARB; SCAQMD) endorsed market, equivalent to the installation of ~~2.0 kW~~ one photovoltaic (*i.e.*, solar) power systems~~s~~ no smaller than 2.0 kilowatts, when undertaking the design and construction of each single-family detached residential unit on the Project site. ~~on all single-family detached residential units in the Specific Plan and Entrada planning areas that are facilitated by approval of the proposed Project. 2.0 kW is roughly equivalent to the amount of electricity used annually by a single-family home. In lieu of this requirement and at the applicant's option, prior to the start of construction of any new phase of any individual subdivision on the Specific Plan or Entrada planning areas, the applicant shall secure CO_2 equivalent offsets or credits, similar to the CO_2 equivalent reduction that would be provided by the use the renewable electricity sources described above, from either: a) the Climate Action Reserve (CAR) or the California Climate~~

~~Action Registry, or b) the Chicago Climate Exchange (CCX). Alternatively, and at the applicant's option, the applicant may pay the equivalent amount of funds that would be due to buy credits from the CAR or the CCX to the SCAQMD for greenhouse gas emission mitigation purposes. In addition to the implementation of one of the electricity generation/greenhouse gas emission reduction measures described above, the use of individual photovoltaic systems shall be considered when undertaking the design and construction of all single family detached residential units.~~

AQ-16 The applicant shall produce or cause to be produced ~~or purchase~~ renewable electricity, or secure greenhouse gas offsets or credits from a public agency (*e.g.*, CARB; SCAQMD) endorsed market, equivalent to the installation of one photovoltaic systems no smaller than 2.0 kilowatts, on each 1,600 square feet of nonresidential roof area provided on the Project site. ~~on non-residential buildings on the Project site capable of producing 1,920 kW of electricity. In lieu of this requirement and at the applicant's option, prior to the start of construction of any phase of any individual subdivision on the Project site that contains non-residential land uses, the applicant shall secure CO_2 equivalent offsets or credits, similar to the CO_2 equivalent reduction that would be provided by the use the renewable electricity sources described above, from either: a) the Climate Action Reserve (CAR) or the California Climate Action Registry, or b) the Chicago Climate Exchange (CCX). Alternatively, and at the applicant's option, the applicant may pay the equivalent amount of funds that would be due to buy credits from the CAR or the CCX to the SCAQMD for greenhouse gas emission mitigation purposes. In addition to the implementation of one of the electricity generation/greenhouse gas emission reduction measures described above, the installation of individual photovoltaic systems shall be considered when undertaking the design and construction of non-residential buildings on the Project site.~~

4.7.11 SUMMARY OF SIGNIFICANCE FINDINGS

Using the significance criteria identified in this section, it has been determined that the proposed Project and alternatives would result in significant and unavoidable air quality impacts as shown on **Table 4.7-52**. This table presents a summary of the significance criteria relating to each of the Project alternatives, and the reduced level of impact that would be achieved for each alternative by applying the above mitigation measures.

construction activities shall avoid the resource site and buffer area. If avoidance of the site and buffer is not feasible, Mitigation Measure CR-2 shall apply. The applicant shall include this mitigation measure as a note on a separate information sheet to be recorded with the final map. The location of the archaeological site shall not be identified on the informational sheet to protect the site from vandalism.

CR-2 In the event that any portion of archaeological sites CA-LAN-2133 and -2233 cannot be avoided by planned construction, a Phase III data recovery mitigation program consistent with federal, state, and county guidelines and funded by the applicant will be conducted. This will include consultation with the Tataviam community pursuant to the requirements of the Tataviam Agreement; hand excavation of a statistically valid sample of the impacted site area by qualified professional archaeologists; and processing, analysis, and curation of the recovered artifact assemblage.

CR-3 Pursuant to the requirements of the Tataviam Agreement, a qualified archaeologist and a Native American monitor shall monitor all earth disturbances, including scarification and placement of fill, within 300 feet of any known archaeological site. If archaeological discoveries are made, earth disturbing activities will be diverted to other locales while the archaeological resources are exposed, mapped, evaluated, and recovered, as appropriate.

CR-4 During any earth disturbance within 300 feet of any known archaeological site, the area of the site and a 50-foot buffer shall be temporarily fenced with chain link flagged with color to ensure construction avoidance.

CR-5 In the event that ~~archaeological remains or sites~~cultural resources are encountered during grading anywhere in the Project area, work shall be stopped immediately or redirected until a qualified archaeologist and Native American representative pursuant to the requirements of the Tataviam Agreement are retained by the applicant to evaluate the ~~significance~~ eligibility of the ~~find~~resources pursuant to CRHR and NRHP criteria. If the remains are found to be significant, they shall be subject to a Phase III data recovery mitigation program consistent with federal~~Corps~~, state, and county guidelines and funded by the applicant to the extent allowed by law (see, Pub. Resources Code § 21083.2).

CR-6 If, during any phase of Project construction, there is the discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps, which are based on Public Resources Code section 5097.98 and State CEQA Guidelines section 15064.5(e), shall be taken:

1. There will be no further excavation or disturbance of the site or any nearby area reasonably susceptible to overlying adjacent human remains until:

a. The Los Angeles County Coroner is contacted to determine that no investigation of the cause of death is required; and

b. If the Coroner determines the remains to be Native American:

(i) The Coroner shall contact the Native American Heritage Commission within 24 hours;

(ii) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendant from the deceased Native American; and

(iii) The most likely descendent may make recommendations to the Project applicant for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or,

2. Where the following conditions occur, the Project applicant, or its designee, shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance:

a. The Native American Heritage Commission is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 24 hours after being notified by the Commission;

b. The descendant identified fails to make a recommendation; or

c. The Project applicant, or its designee, rejects the recommendation of the descendant, and mediation by the Native American Heritage Commission fails to provide measures acceptable to the Project applicant.

4.10.7.5 Other Measures to Protect Cultural Resources

In addition to the mitigation measures described above, the Corps and applicant have taken the following actions to protect cultural resources within the Specific Plan area.

4.10.7.5.1 ~~Historic Properties Treatment Plan~~Programmatic Agreement

The Corps has consulted with the SHPO, applicant (Newhall Land), the Fernandeño Tataviam Band of Mission Indians ("Fernandeño Tataviam Band"), the San Fernando Band of Mission Indians, the Los Angeles City/County Native American Indian Community, Charles Cooke, Randy Guzman-Folkes, and Beverly Salazar Folkes, and the California Department of Transportation ("Caltrans").

A draft programmatic agreement (PA) has been developed for the Corps' undertaking. The PA contains the methods and terms by which the Corps will comply with Section 106 of the NHPA, as amended. Signatories to this agreement include the SHPO and the Corps. Consulting parties to this agreement include the applicant, Caltrans, the Fernandeño Tataviam Band, San Fernando Band of Mission Indians, the Los Angeles City/County Native American Indian Community, Charles Cooke, Randy Guzman-Folkes, and Beverly Salazar Folkes. Compliance with the PA will be a special condition of any Department of the Army permit that is issued to the applicant.

~~Guidance provided by the ACHP addresses mitigation to reduce an adverse effect on a historic property, and "treatment," which is the act of mitigating those effects, or how one goes about implementing the mitigation measure(s) agreed upon in consultation.[3] Pursuant to the ACHP guidance, and in accordance~~

~~[3] See *Section 106 Archaeology Guidance*, Advisory Council on Historic Preservation, available online at http://nepa.fhwa.dot.gov/ReNEPA/ReNepa.nsf/All+Documents/7197D28277C93274852573090061C2CB/$FILE/Arch%20guidance%20in%20pdf.pdf (last visited March 31, 2009).~~

4.11.3.3 Local

The Los Angeles County General Plan contains provisions for the protection of paleontological resources. These regulations generally provide additional assistance for the assessment and treatment measures of projects subject to CEQA compliance. Los Angeles County mitigation requirements include: (1) notification of appropriate scientific/museum personnel that grading is to begin; (2) presence of an on-site monitor at all times of original cutting of undisturbed fossil bearing rock units; (3) diversion of grading activities to allow for salvage; (4) collection of appropriate materials; and (5) donation to a public, nonprofit educational institution.

4.11.4 EXISTING CONDITIONS

The Project area consists of approximately 13,000 acres of hilly terrain. A series of east to west trending ridges and valleys, which become progressively more rugged in the southern portion of the Project area, cross the site. Several large, flat terraces are present along the southern boundary of the Santa Clara River. Hillsides, terraces, and valley floors are covered by grassland and chaparral.

4.11.4.1 Stratigraphy

Five distinct strata are found within the boundaries of the Project area: (1) the Towsley Formation; (2) the Pico Formation; (3) the Saugus Formation; (4) Pleistocene older dissected surficial sediments; and (5) Holocene surficial sediments. (See **Section 4.13**, **Figures 4.13-1a**, **1b** and **1c**, Geology Overview Maps of Project Area.) Portions of the following descriptions of the geologic units (in ascending order) that are found within the Project area were provided by Seward (1994:3-5). Descriptions and other data also were obtained from geologic maps of the region. (Dibblee, 1992, 1993, 1996.)

The two sediment strata and three geologic formations found on the Project site range from low to high potential to contain paleontological resources. Impacts to paleontological resources are directly related to the potential for the discovery of fossils within a geologic formation and the amount of development proposed to occur within areas containing that formation. The potential for fossil production of the individual formations within the Project area are provided by Seward (1994) and are discussed below.

Towsley Formation. Exposures of the Towsley Formation are located in Salt Canyon and High Country areas in the southern portion of the Project area. The Towsley Formation is a late Miocene to early Pliocene (eight to four million years ago) marine deposit. The shales, sandstones, and conglomerates of the Towsley Formation were deposited in a gradually shallowing marine basin. Portions of this unit were deposited as submarine sediment flows, bringing sand and rocks (some as large as boulders) into the deep seas. Fossil marine vertebrates and invertebrates are known from exposures of this formation east of the Project area, along State Route 14. At these locations, the remains of fossil whales, sea cows (manatees), a distant relative of the ~~walrus~~ elephant that looks like a walrus, and numerous invertebrates have been collected. These fossils occur in locally abundant concentrations or horizons. Although this unit has been examined in only a few locations, it appears that fossils occur throughout the deposit. Therefore, this formation is assigned a high paleontological potential.

Pico Formation. The Pico Formation is exposed along Potrero Canyon, Salt Canyon, Graves Canyon, Chiquito Canyon, and portions of San Martinez Grande Canyon. The Pico Formation was deposited in a shallowing marine basin. The base of the Pico Formation was deposited in deep waters, while the top of the formation was deposited in shallow marine or lagoonal waters. The top of the Pico Formation and the overlying Saugus Formation ~~intermingle~~ interfinger. The siltstones, sandstones, and conglomerates of this formation span the period from the early to the late Pliocene (four to two million years ago). This unit contains the remains of numerous invertebrates and occasional vertebrates. Extensive invertebrate fauna and at least one vertebrate have been recorded immediately adjacent to the Project area. Within the Project area, numerous invertebrates have been recovered from locations within Potrero Canyon, Long Canyon, and Chiquito Canyon. A fragmentary fossilized bone was discovered in the transition zone between the Pico Formation and the Saugus Formation, near the mouth of Long Canyon. Therefore, this formation is assigned a high paleontological potential.

Saugus Formation. The Saugus Formation is exposed on the western side of Chiquito Canyon, portions of Long Canyon and Lion Canyon, and east to Six Flags Magic Mountain Amusement Park. Oil field operations have created extensive exposures, allowing for the examination of a large part of this unit. The Saugus Formation was deposited in the region from the late Pliocene (two million years ago) to the early Pleistocene (1.6 million years ago to 200,000 years ago). The age of the Saugus Formation has been debated due to the lack of age diagnostic fossils, especially in the upper portion of the formation. Within the Project area, the Saugus Formation ~~intermingles~~ interfingers with the underlying Pico Formation and contains some marine or brackish water deposits in the lower portion of the unit, before becoming exclusively non-marine in the upper portion of the formation. The marine deposits have also been referred to as the Pico Formation.

The Saugus Formation records the last withdrawal of the sea from the Santa Clarita Valley approximately two million years ago. This gradual shallowing of the sea that had covered the region since the Miocene (approximately 15 million years ago) resulted from the rise of the Santa Susana Mountains and Simi Hills. Marine invertebrates are well known from these deposits in the Moorpark and Simi Valley areas. A diverse assemblage of marine and non-marine vertebrates, including extinct horses, large cats, dogs, elephants, turtles, peccaries, deer, and sharks, are known from other exposures of the Saugus Formation in Simi Valley. Other fossil remains that have been recovered from this formation include rodents, rabbits, and lizards. The Saugus Formation is assigned a high paleontological potential.

Pleistocene Older Dissected Surficial Sediments. Elevated deposits of older surficial sediments are scattered throughout the Project area. They are found mainly along the edges of the Santa Clara River Valley, and specifically at the mouth of Potrero Canyon and portions of Humble Canyon, Lion Canyon, and San Martinez Grande Canyon. These deposits probably represent older valley alluvium deposits that are now elevated above the existing valley floor.

The Pleistocene older dissected surficial sediments are assigned a moderate paleontological potential, based upon their connection to terrace deposits, which have a record of fossil production throughout the region. These units are underlain by older highly fossiliferous deposits and have the potential to reveal those deposits during the course of extensive grading for the Project.

important agricultural soils is not feasible because the spineflower preserves can only be established where spineflower plants occur.

Based on the analysis provided above, mitigation measures to avoid areas on the Project site that contain soils designated as prime, unique, or of statewide importance are not considered to be feasible.

4.12.7.4.2 Land Use Consistency Zone Change

The Entrada planning area is zoned for agricultural activities, and the applicant leases portions of the Entrada planning area for agricultural uses. Establishment of the Entrada spineflower preserve would result in a significant agricultural resource impact because the preserve would permanently prohibit agricultural activities on an area zoned for agricultural use.

This impact would likely be temporary because development applications have been filed with Los Angeles County to change the zoning of the Entrada planning area. The proposed zone change would eliminate the agricultural zoning designation and replace it with an "Open Space" or similar designation, which would be consistent with the proposed spineflower preserve use. A mitigation measure to avoid the zoning conflict with the existing agricultural zoning by not establishing the Entrada preserve until the County approves the requested zone change is not an appropriate measure because if the zone change is not approved, the preserve could not be established, which would be inconsistent with the resource protection objectives of the proposed Project. The applicant already has requested the approval of a zone change to eliminate the zoning conflict. Therefore, no additional mitigation is feasible or required. However, approval of the requested zone change is beyond the control of the applicant. If the zone change for the preserve site is not approved, the zoning conflict between the proposed preserve and the site's agricultural zoning would not be reduced to a less-than-significant level.

4.12.7.4.3 Interim Use of Designated Agricultural Land

Approximately 1,026 acres of the Project area contain prime, unique, or soils of statewide importance, and approximately 1,877 acres of the Specific Plan site are cultivated. An interim use mitigation measure would require Newhall Land ~~to enter into a Memorandum of Understanding (MOU) with CDFG (the lead agency for this EIS/EIR)~~ to develop a phasing plan for the discontinuation of existing agricultural operations located on the Specific Plan site. The purpose of the phasing plan would be to keep areas with prime, unique, or soils of statewide importance in agricultural production as long as the agricultural operations do not compromise the ability of the applicant to implement the approved Specific Plan.

The length of time that individual areas on the Specific Plan site would remain in agricultural production under a phasing plan ~~agreement~~ would vary depending on the location of the farming area on the Specific Plan site and build-out timing of the Specific Plan. For example, farming operations in areas of the Specific Plan that are scheduled for development in the near future may only continue to operate for several years. However, agricultural areas located on other portions of the Specific Plan site may continue to operate for 10 years or more. A phasing plan ~~agreement~~ would maintain the viability of existing Project site farming operations to the extent feasible, and would minimize potential regional economic impacts that could result if all farming operations on the Specific Plan site were to be terminated at a single time. The phasing plan could be implemented with the use of a map depicting the

location of the farmed areas, the areas to be phased out of agricultural operations, and the estimated timing of the phase out. Therefore, the following mitigation measure is recommended:

AG-1 In order to minimize the premature conversion of agricultural lands and to track that conversion, prior to issuance of the first grading permit in the Project area where agricultural soils are designated as prime farmland, unique farmland, and/or farmland of statewide importance exist (Pub. Resources Code section 21060.1), the applicant or its designee shall prepare a phasing map to document the phased discontinuation of existing agricultural activities located within the Project area over the course of its development. ~~Newhall Land shall enter into a Memorandum of Understanding with the California Department of Fish and Game to develop a phasing plan for the discontinuation of existing agricultural operations located throughout the Specific Plan site.~~

A phasing plan ~~agreement~~ is a feasible mitigation measure that would minimize potential agricultural resource impacts of the proposed Project. The County of Los Angeles will be the monitoring local land use agency. Such a mitigation measure, however, would not reduce impacts to agricultural resources to a less-than-significant level.

4.12.7.4.4 Place Agricultural Conservation Easements on Agricultural Land

Another possible mitigation measure for farmland conversion impacts is the preservation of off-site farmland resources. This may be accomplished by methods such as dedicating farmland to a land conservation organization, or establishing a conservation easement on existing farm operations. Establishing an agricultural conservation easement generally involves purchasing permanent deed restrictions on agricultural land that preclude its use for development or nonagricultural purposes. Conservation easements, however, do not directly result in the replacement of converted agricultural land. The ability of a conservation easement mitigation measure to reduce agricultural resource impacts is evaluated in additional detail below.

Figure 4.12-3 shows the location of the agricultural conservation easement proposed by this Project. This easement area consists of the Salt Creek corridor conservation area, including agricultural lands in Ventura County adjacent to the western boundary of the Specific Plan site and the Santa Clara River, and this area contains 88 acres of prime, unique, and/or soils of statewide importance. The area is owned by Newhall Land and is to be preserved as foraging habitat for animal species, such as white tailed kite. In addition to preserving the area for its habitat value, it would be feasible to place an agricultural conservation easement over the area to preserve its existing agricultural soil resources.

In the vicinity of the Salt Creek corridor conservation area, there are approximately 50 additional acres in active agricultural production that are owned by Newhall Land (**Figure 4.12-3**) that also contain prime agricultural soils. Due to their proximity to the proposed Salt Creek corridor conservation area, it would be feasible to include these additional agricultural lands in the agricultural conservation easement described above. In total, placing an agricultural conservation easement over the Salt Creek corridor conservation area (88 acres of cultivated land) and on the adjacent agricultural lands would preserve approximately 138 acres of agricultural land located adjacent to the Specific Plan area.

8.6 MITIGATION MEASURES

8.6.1 Mitigation Measures Already Required by the Adopted Specific Plan and VCC Project Approvals

The County of Los Angeles previously adopted mitigation measures that will minimize global climate change impacts and promote sustainable development in connection with its approval of the Newhall Ranch Specific Plan Program EIR. These measures are specified by the certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The previously approved mitigation measures are summarized in **Table 8.0-1**, above. In addition, the County adopted mitigation measures as part of its approval of the VCC project that will minimize global climate change and promote sustainable development. These measures are summarized in **Table 8.0-2**, above. The County has not yet prepared a draft EIR for the proposed development within the portion of the Entrada planning area that would be facilitated by approval of the SCP component of the proposed Project. As a result, there are no previously adopted mitigation measures for the Entrada planning area. However, it is reasonably expected that the County of Los Angeles would adopt global climate change mitigation measures associated with the approval of subsequent development in the Entrada planning area.

8.6.2 Additional Project-Specific Mitigation Measures Proposed by this EIS/EIR

As identified and described in the inventory of GHG emissions that would result from the proposed Project, build-out on the Specific Plan site and the VCC and Entrada planning areas would be subject to numerous project design features that ensure that the proposed Project does not impede compliance with AB 32. In order to ensure that these project design features are implemented, they are recommended here as mitigation measures. Therefore, if approved, these project design features/mitigation measures would become part of the legally enforceable mitigation monitoring and reporting program, required by CEQA, for the proposed Project.

These mitigation measures are in addition to those adopted in the previously certified Newhall Ranch Specific Plan Program EIR and the VCC EIR. To indicate that the measures relate specifically to the proposed Project, each measure is preceded by "GCC," which stands for "Global Climate Change."

GCC-1 All residential buildings on the Project applicant's land holdings that are facilitated by approval of the proposed Project shall be designed to provide improved insulation and ducting, low E glass, high efficiency air conditioning units, and radiant barriers in attic spaces, as needed, or equivalent to ensure that all residential buildings operate at levels fifteen percent (15%) better than the standards ~~presently~~ required by the 2008 version of Title 24. ~~(2005) applicable at the time the building permit applications are filed~~. Notwithstanding this measure, all residential buildings shall be designed to comply with the then-operative Title 24 standards applicable at the time building permit applications are filed. For example, if new standards are adopted that supersede the 2008 Title 24 standards, the residential buildings shall be designed to comply with those newer standards and, if necessary, exceed those standards by an increment that is equivalent to a 15 percent exceedance of the 2008 Title 24 standards.

GCC-2 All commercial and public buildings on the Proposed applicant's land holdings that are facilitated by approval of the proposed Project shall be designed to provide improved insulation and ducting, low E glass, high efficiency HVAC equipment, and energy efficient lighting design with occupancy sensors or equivalent to ensure that all commercial and public buildings operate at levels fifteen percent (15%) better than the standards ~~presently~~ required by the 2008 version of Title 24. ~~(2005) applicable at the time the building permit applications are filed.~~ Notwithstanding this measure, all nonresidential buildings shall be designed to comply with the then-operative Title 24 standards applicable at the time building permit applications are filed. For example, if new standards are adopted that supersede the 2008 Title 24 standards, the nonresidential buildings shall be designed to comply with those newer standards and, if necessary, exceed those standards by an increment that is equivalent to a 15 percent exceedance of the 2008 Title 24 standards.

GCC-3 The Project applicant or designee shall produce or cause to be produced ~~or purchase~~ renewable electricity, or secure greenhouse gas offsets or credits from a public agency (*e.g.*, CARB; SCAQMD) endorsed market, equivalent to the installation of one ~~2.0 kilowatt~~ photovoltaic (*i.e.*, solar) power system no smaller than 2.0 kilowatts, when undertaking the design and construction of each single-family detached residential unit on the Project site. ~~on its land holdings that is facilitated by approval of the proposed Project; or, at the applicant's option, prior to commencing construction of any new phase of any individual subdivision, the applicant shall secure offsets or credits for carbon dioxide equivalents from either the Climate Action Reserve of the California Climate Action Registry, the Chicago Climate Exchange, or similar reserve/exchange; or, alternatively, at the applicant's option, the applicant may pay to the South Coast Air Quality Management District (District) the equivalent amount of funds that would be due to buy credits from the Climate Action Reserve, Chicago Climate Exchange, or similar reserve/exchange for greenhouse gas emission mitigation purposes. In any case, installation of individual photovoltaic systems shall be considered when undertaking the design and construction of residential buildings on the Project site.~~

GCC-4 The Project applicant or designee shall produce or cause to be produced ~~or purchase~~ renewable electricity, or secure greenhouse gas offsets or credits from a public agency (*e.g.*, CARB; SCAQMD) endorsed market, equivalent to the installation of one ~~2.0 kilowatt~~ photovoltaic system no smaller than 2.0 kilowatts, on each 1,600 square feet of nonresidential roof area provided on the Project site.~~; or, at the applicant's option, prior to commencing construction of any new phase of any individual subdivision, the applicant shall secure offsets or credits for carbon dioxide equivalents from either the Climate Action Reserve of the California Climate Action Registry, the Chicago Climate Exchange, or similar reserve/exchange; or, alternatively, at the applicant's option, the applicant may pay to the South Coast Air Quality Management District (District) the equivalent amount of funds that would be due to buy credits from the Climate Action Reserve, Chicago Climate Exchange, or similar reserve/exchange for greenhouse gas emission mitigation purposes. In any case, installation of individual photovoltaic systems shall be considered when undertaking the design and construction of nonresidential buildings on the Project site.~~