
SECTION 5.0: MITIGATION MONITORING AND COMPLIANCE PROGRAM

5.1 Introduction

This Mitigation Monitoring and Compliance Program (MMCP) has been prepared pursuant to Public Resources Code Section 21081.6, which requires adoption of a MMCP for projects in which the Lead Agency has required changes or adopted mitigation to avoid significant environmental effects. The City is the lead agency for the proposed Rio Santiago Specific Plan project and is, therefore, responsible for administering and implementing the MMCP. The decision-makers must define specific reporting and/or monitoring requirements to be enforced during project implementation prior to final approval of the proposed project. The primary purpose of the MMCP is to ensure that the mitigation measures identified in the EIR are implemented thereby minimizing identified environmental effects.

The MMCP for the project as approved will be in place through all phases of the project, including design (preconstruction), construction, and operation (both prior to and post-occupancy). The City shall be responsible for administering the MMCP activities to staff, consultants, or contractors. The City will also ensure that monitoring is documented through periodic reports and deficiencies are promptly corrected. The designated environmental monitor will track and document compliance with mitigation measures, note any problems that may result, and take appropriate action to remedy problems.

The MMCP includes Project Design Features (PDFs). These specific design features do not constitute mitigation measures to reduce or eliminate significant effects identified by this EIR. Rather PDFs represent the project applicant's response to CEQA's encouragement to incorporate changes or alterations into the project as part of the Project Description to avoid or reduce significant effects on the environment. The PDFs are listed in the MMCP so that their incorporation into the project can be verified because without them, significant impacts could result.

Each mitigation measure and project design feature is categorized under an impact area, with an accompanying identification of the phase of the project during which the measure should be monitored:

- Preconstruction
- Construction
- Prior to occupancy
- Post-occupancy
- The enforcement agency; and,
- The monitoring agency.

5.2 Mitigation Monitoring & Compliance Program

The MMCP is provided as Table 5-1, *Mitigation Monitoring and Compliance Program*.

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Aesthetics					
PDF AES-1: The applicant of each individual planning area project shall include an integrated and coordinated architectural theme throughout the site buildings for the residential and non-residential structures styles consistent with the Design Guidelines and Development Standards of the Rio Santiago Specific Plan, subject to the approval of the Design Review Committee and/or Planning Commission.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF AES-2: Building form and mass shall be well detailed and articulated. The buildings shall incorporate building forms, masses, roof design, and authentic details and accent features that are consistent with the building architectural style.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF AES-3: Building materials shall be consistent with the building architectural style.	Submittal of site plan and elevations to the Community Development Department for final Design Review	Prior to building permit issuance.	Community Development Department		

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	Committee approval.				
PDF AES-4: A variety of roof forms, ridge heights, and gable direction are utilized that reduces building massing from on- and off-site views.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF AES-5: The three-story age-qualified residential building is located in the center of Planning Area C and is surrounded by two-story buildings that reduce the building massing from on- and off-site views.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF AES-6: Windows on prominent locations shall be designed and articulated in a manner that is consistent with the building architectural style.	Submittal of site plan and elevations to the Community Development Department for final Design Review	Prior to building permit issuance.	Community Development Department		

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	Committee approval.				
PDF AES-7: The Specific Plan requires exterior lighting that is designed to minimize glare and “light trespass” to adjacent on-site buildings, off-site properties, and adjacent roadways. These features include lighting fixtures that are programmable, shielded, and hooded. Walkway lighting is placed low to the ground. Grouped mailbox enclosures would integrate lighting.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF AES-8: Plans submitted during building plan check shall show that mechanical equipment (e.g., air conditioning unit) will not be mounted on sloped roofs unless they are screened by a parapet/ roof walls at least as tall as the mechanical equipment and setback as much as possible from view.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF AES-9: Plan check mechanical equipment (e.g., air conditioning unit) mounted on the ground shall be screened by walls a minimum of six inches higher than the mechanical equipment and located away from pedestrian paths.	Submittal of site plan and elevations to the Community Development Department for final Design Review	Prior to building permit issuance.	Community Development Department		

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	Committee approval.				
PDF AES-10: Satellite dishes and other antennae shall be screened from public view to the maximum extent practicable.	Field inspection by Community Development.	Prior to building inspector final inspection on each permit.	Community Development		
PDF AES-11: A wall and fence plan for each Planning Area shall be subject to approval of Design Review Committee and/or Planning Commission. The plan shall include all walls and fences that are visible from adjacent roadways, open space areas, and public spaces and shall be constructed with materials, color and design that are compatible with adjacent architectural elements. Subsequent to approval, all walls and fences shall be reviewed by the Community Development Director for compliance. The fences shall be constructed prior to final inspection of their associative structures.	Submittal of wall and fence plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF AES-12: Plans shall show existing chain link fencing between The Reserve residential subdivision on the eastern boundary of the project site shall be replaced with a tubular steel fence and vegetation subject to approval of Design Review Committee and/or Planning Commission. The fence shall be constructed in accord with the plan prior to issuance of any building permits for project associated structures.	Submittal of wall and fence plan for each Planning Area to the Community Development Department for final	Prior to the issuance of a building permit.	Community Development Department		

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	Design Review Committee approval.				
PDF AES-13: Plans shall show trees and large shrubs shall be planted along the western project site boundary adjacent to the closed landfill to provide a visual buffer subject to approval of Design Review Committee and/or Planning Commission.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF AES-14: The existing native vegetation presently associated with Santiago Creek will be avoided by the proposed project and would provide a visual buffer to off-site properties in the Mabury Ranch residential subdivision.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF AES-15: Landscape planting shall be consistent with the Rio Santiago Specific Plan plant palette, street tree requirements contained	Submittal of a Landscape Plan to the	Prior to the issuance of a	Community Development		

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Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
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in Chapter 12.28 of the Orange Municipal Code, landscape requirements contained in Chapter 16.50 of the Orange Municipal Code, and the City of Orange Recreational Trails Master Plan subject to approval of Design Review Committee and/or Planning Commission.	Community Development Department for review.	building permit.	Department		
PDF AES-16: Landscape planting shall be consistent with the Rio Santiago Specific Plan plant palette, street tree requirements contained in Chapter 12.28 of the Orange Municipal Code, landscape requirements contained in Chapter 16.50 of the Orange Municipal Code, and the City’s Recreational Trails Master Plan.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF AES-17: The Landscape Plan establishes Zone 1 plant materials to blend in with the Santiago Creek edge and provide a seamless transition between the undisturbed vegetation and the proposed planting. This zone falls within the Fuel Modification zone and plants adhere to the City’s Fire Department Fuel Modification Zone Plant List.	Submittal of Landscape Plan for each Planning Area to the Fire Department and Community Development Department.	Prior to the issuance of a building permit.	Fire Department and Community Development Department		
PDF AES-18: The Landscape Plan establishes Zone 2 plant materials to	Submittal of	Prior to the	Fire Department		

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initiate the character for the community with some native species and provide a transition with surrounding context.	Landscape Plan for each Planning Area to the Fire Department and Community Development Department.	issuance of a building permit.	and Community Development Department		
PDF AES-19: The Landscape Plan establishes Zone 3 plant materials for their ability to maintain an evergreen foliage color and its ability to provide proper screening when applicable.	Submittal of Landscape Plan for each Planning Area to the Fire Department and Community Development Department.	Prior to the issuance of a building permit.	Fire Department and Community Development Department		
PDF AES-20: The proposed project shall include a 30 foot setback from East Santiago Canyon Road as designated within the Specific Plan in conjunction with submittal of plans for Design Review Committee, Planning Commission, and/or building plan permits.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review	Prior to the issuance of a building permit.	Community Development Department		

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	Committee approval.				
PDF AES-21: The proposed project shall include a minimum 50 foot setback line for three-story structures from all edges of Planning Area C as designated within the Specific Plan in conjunction with submittal of plans for Design Review Committee, Planning Commission, and/or building plan permits for this planning area.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF AES-22: The proposed project shall include an enhanced raised median along East Santiago Canyon Road project frontage. The enhanced raised median will include both hardscape and planted materials. The final design will be reviewed and approved by the City’s Public Works Director in coordination with the Community Development Director, or their designees prior to the issuance of the first building permit. Improvements shall be completed to the satisfaction of The City Public Works Director in coordination with the Community Development Director, or their designees no later than the issuance of the first certificate of occupancy for any structure in Planning Areas C or D.	Submittal of Landscape Plan to the Community Development Department and Public Works Department.	Prior to the issuance of a building permit.	Community Development Department and Public Works Department		

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<p>PDF AES-23: The proposed project shall install street lights along East Santiago Canyon Road project frontage per the City standards and lighting design policy. The final design will be reviewed and approved by the City’s Public Works Director in coordination with the Community Development Director, or their designees prior to the issuance of the first building permit. Improvements shall be completed to the satisfaction of The City Public Works Director in coordination with the Community Development Director, or their designees no later than the issuance of the first certificate of occupancy for any structure in Planning Areas C or D.</p>	<p>Submittal of Final Tract Map Community Development Department and Public Works Department.</p>	<p>Prior to the issuance of a building permit.</p>	<p>Community Development Department and Public Works Department</p>		
<p>PDF AES-24: The proposed project shall install street lighting for the proposed project’s private internal streets that best fits their community; however, the lighting shall meet the City’s standards. The final design will be reviewed and approved by the City’s Public Works Director in coordination with the Community Development Director, or their designees prior to the issuance of the first building permit within individual Planning Areas. Improvements shall be completed to the satisfaction of The City Public Works Director in coordination with the Community Development Director, or their designees no later than the issuance of the first certificate of occupancy for any structure in individual Planning Areas.</p>	<p>Submittal of Landscape Plan to the Community Development Department and Public Works Department.</p>	<p>Prior to the issuance of a building permit.</p>	<p>Community Development Department and Public Works Department</p>		

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Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>MM AES-1: Prior to issuance of grading permits for the proposed project, the project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee that the perimeter of the project site, where grading activities occur within 50 feet of any off-site residence, shall be temporally fenced. The fence shall consist of a screening material (opaque) that is low porous material and shall be maintained throughout the duration of construction for the proposed project.</p>	<p>Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.</p>	<p>Prior to issuance of a grading permit.</p>	<p>Public Works Department</p>		
<p>MM AES-2: Prior to issuance of grading permit, the project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee that the perimeter of the project site along East Santiago Canyon Road shall be temporally fenced. The fence shall consist of a screening material that is low porous material and shall be maintained throughout the duration of construction for the proposed project.</p>	<p>Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.</p>	<p>Prior to issuance of a grading permit.</p>	<p>Public Works Department</p>		
<p>MM AES-3: Prior to the issuance of building permits for Planning Areas B, C, and D, the proposed project would be required to submit detailed graphics and illustrations for approval by the Design Review Committee with enhanced details for the proposed solid wall (sound wall NOI PDF-1) locations.</p>	<p>Submittal of wall and fence plan for each Planning Area to the Community Development Department for final</p>	<p>Prior to the issuance of a building permit.</p>	<p>Community Development Department.</p>		

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	Design Review Committee approval.				
MM AES-4: The project shall be designed to minimize exterior night lighting while remaining compliant with City of Orange ordinances related to street lighting. Any necessary lighting, both during construction and after the development has been completed, will be shielded or directed away from Santiago Creek and are not to exceed 0.5 foot-candles (Also part of MM BIO-1) from the edge of the PCR delineated – potential least Bell’s vireo occupied habitat on Figure 5.4-6, Sensitive Wildlife Species.	Submittal of Landscape Plan to the Community Development Department and Public Works Department.	Prior to the issuance of a building permit.	Community Development Department and Public Works Department		
MM AES-5: The project developer shall use Musco lights or similar products that are specifically designed to reduce spillage, including shields and louvers. This lighting shall be detailed on building permits for Planning Area B.	Submittal of Landscape Plan for Planning Area B to the Community Development Department and Public Works Department.	Prior to the issuance of a building permit.	Community Development Department and Public Works Department		
MM AES-6: Prior to the issuance of any building permit and as specified in the Specific Plan, the project applicant shall submit a	Submittal of photometric analysis	Prior to the issuance of a	Community Development		

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photometric analysis of Planning Area C and D for review and approval by the City of Orange Community Development Department and the City of Orange Police Department. The photometric analysis shall provide evidence that the lighting design is consistent with the City of Orange Municipal Code Ordinance 17.12.030 and has been designed to provide for lighting that is directed, controlled, screened, and/or shaded such that light and glare would not result in direct illumination on the surrounding properties or roadways.	to the Community Development Department	building permit.	Department		
Air Quality					
PDF AQ-1: The proposed project will provide recreational and open space land uses in close proximity to age-qualified and single-family residence. The land use mix will provide compatible land use in close proximity to reduce the length of and need for vehicular trips.	Submittal of site plan and elevations to the Community Development Department.	Prior to building permit issuance.	Community Development Department		
PDF AQ-2: The proposed project will provide Independent Age-qualified Living and Assisted Living/Skilled Nursing units for seniors that include, dining and kitchen uses, administrative services, activity rooms, living rooms, library/reading rooms, ancillary support services, exercise rooms, and service and maintenance areas within the age-qualified neighborhood. These land uses and services will reduce	Submittal of site plan and elevations to the Community Development Department.	Prior to building permit issuance.	Community Development Department		

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vehicular trips.					
PDF AQ-3: The proposed project will provide transportation shuttle services within the age-qualified neighborhood. This service will reduce vehicular trips.	Submittal of transportation program for each age-qualified neighborhood in Planning Area C.	Prior to the issuance of the first certificate of occupancy within an age-qualified neighborhood.	Community Development Department		
PDF AQ-4: The proposed project trails will reduce discretionary automobile trips by establishing the opportunities to walk or bicycle to recreational open space destinations.	Submittal of wall and fence plan, including trails for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
MM AQ-1: The project applicant shall require that the grading contractor limit the operation of each Tier 1 or Tier 0 grading equipment to an hour or less per day. The grading contractor shall keep a log book on-site at all times that records daily hours of operation of	Submittal and approval of written documentation satisfactory to the	Prior to the issuance of a grading permit.	Public Works Department		

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each Tier 0 and Tier 1 grading equipment. At any time that other construction phases occur concurrently with grading operations, the grading contractor shall not allow any Tier 0 and Tier 1 grading equipment onto the project site.	Director of the Public Works Department.				
MM AQ-2: The project applicant shall require the grading contractor to be below the off-road fleet minimum NOx emissions requirements as stated in Sections 2449, 2449.1, and 2449.2 of the California Code of Regulations for the grading equipment utilized on-site.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-3: The project applicant shall require that all on-road trucks utilized for the import of material to the project site shall not exceed year 2007 or latter emissions standards.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-4A: The project applicant shall require that the construction contractor limit the architectural coatings used on the project site to 45 grams of VOC per liter or less. On days that architectural coatings are being applied, the project applicant shall restrict the concurrent	Submittal and approval of written documentation satisfactory to the	Prior to the issuance of a grading permit.	Public Works Department		

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operation of diesel powered equipment on the project site that is not directly associated with the application of architectural coating.	Director of the Public Works Department.				
MM AQ-4B: Prior to implementation of grading activities, the grading contractor shall require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the lead agency shall use trucks that meet EPA 2007 model year NOx emissions requirements.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
<p>MM AQ-4C: Prior to implementation of grading activities, the grading contractor shall require all on-site construction equipment to meet EPA Tier 3 or higher emissions standards according to the following:</p> <ul style="list-style-type: none"> If the proposed project shall start prior to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized 	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		

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<p>engine as defined by CARB regulations.</p> <ul style="list-style-type: none"> • If the proposed project shall start post January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. • A copy of each unit’s certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. • The proposed applicant shall encourage construction contractors to apply for SCAQMD “SOON” funds. Incentives could be provided for those construction contractors who apply for SCAQMD “SOON” funds. The “SOON” program provides funds to accelerate clean up of off-road diesel vehicles, such as heavy duty construction equipment. More information on this 					

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<p>program can be found at the following website: http://www.aqmd.gov/tao/Implementation/SOONProgram.htm</p>					
<p>MM AQ-5: The project applicant shall require that the grading contractor adhere to all Control Measures listed in Tables 1, 2, and 3 of SCAQMD’s Rule 403.</p>	<p>Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.</p>	<p>Prior to the issuance of a grading permit.</p>	<p>Public Works Department</p>		
<p>MM AQ-6:The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that water or a dust palliative will be applied to backfill material prior to moving and following backfilling, require that the loader drop height is minimized during the grading phases of the proposed project and, require that bottom dumping haul trucks use bedliners. The project applicant shall ensure that the written documentation is conducted within site grading activities.</p>	<p>Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.</p>	<p>Prior to the issuance of a grading permit.</p>	<p>Public Works Department</p>		
<p>MM AQ-7: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that surface soils</p>	<p>Submittal and approval of written documentation</p>	<p>Prior to the issuance of a</p>	<p>Public Works Department</p>		

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shall be pre-wetted and allowed to penetrate prior to the commencement of clearing, grubbing, and cut and fill activities and areas without continuing construction shall be covered with vegetation or a dust palliative during the grading phases of the proposed project. The project applicant shall ensure that the written documentation is conducted within site grading activities.	satisfactory to the Director of the Public Works Department.	grading permit.			
MM AQ-8: Prior to issuance of any building permit, the building contractor shall submit written documentation to the Director of Public Works or designee that concrete forms shall be cleaned through the use of water and/or sweeping, and the use of high-pressurized air for cleaning forms shall be restricted during the building construction phase of the proposed project. The project applicant shall ensure that the written documentation is conducted within site grading activities.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-9: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that the perimeter of the project site where grading activities occurs within 250 feet of any off-site residence shall be fenced. The fence shall consist of a low porous material in order to prevent access and to provide a wind barrier and shall be maintained throughout the duration of construction for the proposed project. The project applicant shall ensure that the written	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		

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documentation is conducted within site grading activities.					
MM AQ-10: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that the staging area will be limited in size to the smallest practical area for staging, that the area where equipment operate will be watered a three times per day, all vehicles speeds will be limited to 15 mph or less and that the number of ingress points be limited to the minimum practical. The stockpiles shall be watered three times per day and at any time after material has been removed or added to the stockpiles, any material buildup of silt on the downward side shall be removed daily, the stockpiles shall be constructed without any steep sides or faces, and upon removal of the stockpile the area shall be stabilized through the use of vegetation or a dust palliative. The project applicant shall ensure that the written documentation is conducted within site grading activities.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-11: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that all driveways onto the project site shall be paved for a minimum of 100 feet from East Santiago Canyon Road and at the conclusion of the pavement either gravel pads, wheel shakers or wheel washers shall be installed. The	Submittal and approval of written documentation satisfactory to the Director of the Public	Prior to the issuance of a grading permit.	Public Works Department		

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project applicant shall ensure that the written documentation is conducted within site grading activities.	Works Department.				
MM AQ-12: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee on the grading plan that upon completion of grading, non-toxic chemical stabilizers, such as lime, or ground cover shall be placed on areas where the construction phase will begin more than 60 days after grading phase ends. The project applicant shall ensure that the written documentation is conducted within site grading activities.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-13: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that a publicly visible sign with the telephone number and person to contact regarding dust complaints shall be posted at the entrance to the project site. This person shall respond and take corrective action within 24 hours. The project applicant shall ensure that the written documentation is conducted within site grading activities.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-14: Prior to issuance of certificate of a occupancy, the applicant shall submit written and photographic documentation that demonstrates that all ground surfaces are covered or treated sufficiently	Submittal and approval of written documentation	Prior to the issuance of a	Public Works Department		

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to minimize fugitive dust emissions.	satisfactory to the Director of the Public Works Department.	grading permit.			
MM AQ-15: The project applicant shall submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that all roadways, driveways, sidewalks, etc., will be rough paved prior to the issuance of any building permits for the associated planning area. The project applicant shall ensure that the written documentation is conducted within site grading activities.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-16: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that all grading activities will cease during periods of high wind (over 15 mph). The project applicant shall ensure that the written documentation is conducted within site grading activities.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-17: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee prior to issuance of grading permit that the permanent dust control measures in revegetation and landscape areas will be implemented upon completion of any soil disturbing activities.	Submittal and approval of written documentation satisfactory to the Director of the Public	Prior to the issuance of a grading permit.	Public Works Department		

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				Initials	Date
The project applicant shall ensure that the written documentation is conducted within site grading activities.	Works Department.				
MM AQ-18: The project applicant shall require that the grading contractor submit written documentation to the Director of Public Works or designee that all air quality mitigation measures shall be included, as a dust control plan on a separate informational sheet to be recorded with map. In addition, all air quality mitigation measures shall be shown on grading and building plans. The project applicant shall ensure that the written documentation is conducted within site grading activities.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-19: For all existing residential structures that are located within 82 feet (25 meters) of the area disturbed during the proposed project’s grading activities, the applicant shall make available a bi-monthly cleaning of their air filter on their existing forced air unit(s) by a certified technician. If an existing residential structure does not have an existing forced air unit then the applicant shall provide an industrial strength portable air cleaner for their use.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
MM AQ-20: The proposed project shall be consistent with Table 4 of SCAQMD Rule 4032 to require unpaved roads (e.g. scraper roads) to	Submittal and approval of written documentation	Prior to the issuance of a	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
comply with conservation management practices (4b) and (4c).	satisfactory to the Director of the Public Works Department.	grading permit.			
MM AQ-21: The proposed project shall be require frequent street sweeping surrounding the project site to minimize fugitive dust emissions from track-out. All street sweeping shall use alternatively fueled sweepers that are equivalent to those specified in SCAQMD Rules 1186 and 1186.1.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department.	Prior to the issuance of a grading permit.	Public Works Department		
Biological Resources					
PDF BIO-1: The proposed project will permanently retain approximately 50 gross acres of open space located on both sides of Santiago Creek and bordered on the north by Mabury Avenue.	Submittal of site plan and elevations to the Community Development Department.	Prior to building permit issuance.	Community Development Department		
PDF BIO-2: T The majority of the southern cottonwood-willow riparian forest within the project site will be avoided (i.e., 13.8 acres). The project will also avoid of temporary impact resulting from the installation of storm drain outlets, the proposed project will avoid	Evidence of submittal and approval of any forms required by the Army Corps of	Subsequent to the issuance of a Streambed Alternation	Army Corps of Engineers, Regional Water Quality Control		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
development within jurisdictional waters supporting 3.03 acres of U.S. Army Corps of Engineers/Regional Water Quality Control Board (ACOE/RWQCB) “waters of the U.S./State,” including 1.19 acre of wetland, and 13.62 acres of California Department of Fish and Game (CDFG) streambed and associated riparian habitat. Impacts will be limited to 0.05 acre of permanent impact and 0.71 acre of temporary impact resulting from the installation of storm drain outlets, 0.29 acre of off-site permanent impact for geotechnical slope stabilization which will be replanted with predominantly native plant species, and 0.84 acre of off-site fuel modification where periodic thinning would occur. It should be noted that on-site permanent and temporary impacts associated with the installation of the storm drain outlets will avoid wetland areas by exclusion fencing during construction.	Engineers, Regional Water Quality Control Board, and California Department of Fish and Game pursuant to Section 404 and 401 of the Clean Water Act and Section 1602 of the California Fish and Game Code.	Agreement and prior to the issuance of any grading permit.	Board, California Department of Fish and Game and City of Orange Community Development Permit		
PDF BIO-3: Approximately 37.8 acres of the proposed project site will be avoided from the development footprint as defined by Technical Appendix C, <i>Biological Resource Assessment</i> . The proposed project will avoid the majority of Santiago Creek and its associated riparian habitat (13.8 acres of southern cottonwood-willow riparian forest and 1.4 acres of undifferentiated open woodland) as well as upland habitat (2.4 acres of coastal sage scrub). This includes approximately 16.2 acres of sensitive natural communities, including 2.4 acres of coastal sage scrub and 13.8 acres of southern cottonwood-willow riparian forest	Submittal of site plan and elevations to the Community Development Department.	Prior to building permit issuance.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
within and/or adjacent to Santiago Creek.					
PDF BIO-4: The proposed project will provide a 100-foot limited use (e.g., landscaping and fuel modification) time sensitive (i.e., breeding season March 15 through September 15) setback area adjacent to the southern extent of the southern cottonwood-willow riparian forest within and/or adjacent to Santiago Creek, which provides habitat for the least Bell’s vireo and willow flycatcher as defined on Figure 5.4-6, <i>Sensitive Wildlife Species</i> .	Submittal of site plan and elevations to the Community Development Department.	Prior to building permit issuance.	Community Development Department		
PDF BIO-5: The proposed project will provide select landscaping, including native species, within the 100-foot limited use setback area (to the south of Santiago Creek) that is compatible with the adjacent open space area, its habitat, and is considerate of the fire protection (fuel modification) zone as shown on Figure 5.4-7, <i>Impacts to Sensitive Plant Species</i> .	Submittal of Landscape Plan to the Community Development Department.	Prior to the issuance of a building permit.	Community Development Department		
PDF BIO-6: The proposed project establishes development standards in the Specific Plan to reduce sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals) to the adjacent open space area supporting sensitive biological resources (i.e., least Bell’s vireo and sensitive natural communities), as demonstrated in	Submittal of Landscape Plan to the Community Development Department.	Prior to the issuance of a building permit.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Table 5.4-8, <i>Biological Development Standards</i> , related to lighting, noise, exotic plant and animal infestations, educational materials, and trail locations.					
PDF BIO-7: Prior to building permit issuance, the proposed project will remove the existing fence on Orange County Flood Control District (OCFCD) property, modify the vegetation, and re-vegetate in the fuel modification zone to the southeast of the project site with appropriate landscape materials.	Submittal of wall and fence plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF BIO-8: The proposed project will restrict grading and/or construction activities within the 100-foot limited use setback area during the least Bell’s vireo and willow flycatcher breeding season (as shown on Figure 5.4-7, <i>Impacts to Sensitive Plant Species</i>).	Submittal of grading plan for each Planning Area to the Community Development Department.	Prior to issuance of a grading permit.	Community Development Department		
PDF BIO-9: The proposed project will limit uses within the 100-foot limited use setback area to those passive uses identified in the Rio	Submittal of grading plan for each Planning Area to the	Prior to issuance of a grading	Community Development		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Santiago Specific Plan related to permitted uses in Planning Area A.	Community Development Department.	permit.	Department		
PDF BIO-10: Approximately 48,417 southern tarplant (<i>Centromadia parryi</i> ssp. <i>australis</i>) individuals were observed within disturbed habitat within the central portion of the project site and disturbed habitat within the southern portion of the project site during the focused sensitive plant surveys conducted in 2010. Due to current operations associated with activities on-site (e.g., operation of heavy equipment, etc.) that are not a part of the proposed project, the southern tarplant populations on-site were going to be impacted by on-going backfilling activities. Prior to the implementation of the proposed project, the southern tarplant populations on-site that potentially could have been impacted by current on-site activities were preserved by the project applicant(i.e., seed was collected, then processed and stored at Rancho Santa Ana Botanic Gardens). As a conservation measure to preserve the southern tarplant on-site, the project applicant directed the salvage of the southern tarplant seed. The southern tarplant seed will be relocated and transplanted on- and/or off-site within the open space areas to be avoided and preserved. Seed will be dispersed during fall of 2014 or earlier.	Submittal of grading plan for each Planning Area to the Community Development Department.	Prior to issuance of a grading permit.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>PDF BIO-11: Prior to the implementation of the proposed project, the project applicant required the existing project site lessee to comply with and implement all Standard Conditions related to biological resources and water quality standards. The leases require adherence to the adopted Federal, State, Regional, and City requirements.</p>	<p>Submittal and approval of written documentation satisfactory to the Director of the Community Development Department.</p>	<p>Prior to the issuance of a grading permit.</p>	<p>Community Development Department</p>		
<p>PDF BIO-12: Prior to the issuance of any grading permit within CDFW jurisdiction, the project applicant will comply with Section 1602 of the California Fish and Game Code. This section requires any entity (e.g., person, State or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, must first notify the CDFW of the proposed project. In the course of this notification process, the CDFW will review the proposed project as it affects streambed habitats within the project area. The CDFW may then place conditions on the Section 1602 clearance to avoid, minimize, and mitigate the potentially significant adverse effects within CDFW</p>	<p>Submittal of grading plan for each Planning Area within CDFW jurisdiction to the Community Development Department.</p>	<p>Prior to issuance of a grading permit within CDFW jurisdiction.</p>	<p>Community Development Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
jurisdictional limits.					
PDF BIO-13: Prior to the issuance of any grading permit within USACE jurisdiction, the project applicant will comply with Section 404 of the Federal Clean Water Act (CWA). This section regulates the discharge of dredged material, placement of fill material, or excavation within “waters of the U.S.” and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The permit review process entails an assessment of potential adverse effects to USACE jurisdictional “waters of the U.S.” and wetlands.	Submittal of grading plan for each Planning Area within USACE jurisdiction to the Community Development Department.	Prior to issuance of a grading permit within USACE jurisdiction.	Community Development Department		
PDF BIO-14: Prior to the issuance of any grading permit within RWQCB jurisdiction, the project applicant will comply with Section 401 of the CWA that requires: “any applicant for a Federal permit for activities that involve a discharge to waters of the State, shall provide the Federal permitting	Submittal of grading plan for each Planning Area within RWQCB jurisdiction to the Community Development	Prior to issuance of a grading permit within RWQCB jurisdiction.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.”</p> <p>Before the USACE will issue a Section 404 permit, the project applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan that addresses the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction.</p> <p>Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of State discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the than under the Federal CWA.</p>	Department.				
<p>PDF BIO-15: The project site is within the central subregion of the Orange County Natural Community Conservation Act and Habitat Conservation Plan (i.e., NCCP/HCP). Prior to the issuance of any</p>	Submittal of grading plan for each Planning Area to the	Prior to issuance of a grading	Community Development		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
grading permit, the proposed project will comply with all of the provisions of the NCCP/HCP including the requirements to satisfy any conditions of coverage.	Community Development Department.	permit.	Department		
MM BIO-1A: Prior to the issuance of any grading permit for areas supporting least Bell’s vireo habitat (e.g., southern cottonwood-willow riparian forest, the project applicant shall obtain Federal and State takes authorizations via regulatory permits (i.e., a CWA Section 404 permit issued by the USACE, discussed in further detail in MM BIO-3 below) which will require that the USFWS be consulted as provided for by Section 7 of the FESA ((i.e. for the Federally-listed least Bell’s vireo). The Federal regulatory permits (i.e., CWA Section 404 permit issued by the USACE) provides a “federal nexus” by which Section 7 consultation can occur. This statute imposes the obligation on Federal agencies to ensure that their actions (such as issuing federal CWA permits for this project) are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its designated critical habitat. This obligation is enforced through the procedural requirement that agencies, such as the USACE, initiate consultation with USFWS on any actions that may affect a threatened or endangered species. During the FESA Section 7 consultation anticipated for this project, USFWS will gather all relevant information concerning the proposed project and the potential project-related	Submittal of grading plan for each Planning Area near Least Bell’s vireo habitat to the Community Development Department.	Prior to issuance of a grading permit within Least Bell’s vireo habitat areas.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>impacts on the least Bell’s vireo (i.e., the project applicant will submit a species-specific Biological Assessment), prepare its opinion with respect to whether the project is likely to jeopardize the continued existence of the species (i.e., the USFWS will issue a Biological Opinion), and recommend mitigation/conservation measures where appropriate. Additionally, the need for State regulatory permits (i.e., Fish and Game Code Section 1602 Streambed Alteration Agreement issued by the CDFW) will require a Consistency Determination from the CDFG for the State-listed least Bell’s vireo under CESA:</p> <p>In addition, the following best management practices (BMPs) will ensure that indirect impacts will not occur to the least Bell’s vireo within 300 feet of occupied habitat as monitored by a certified biologist:</p> <ol style="list-style-type: none"> 1. Construction limits in and around least Bell’s vireo potential habitat shall be delineated with flags and fencing prior to the initiation of any grading or construction activities. 2. Prior to grading and construction a training program shall be developed and implemented to inform all workers on the project about listed species, sensitive habitats, and the importance of complying with avoidance and minimization measures. 					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>3. All construction work shall occur during the daylight hours. The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours determined by the City.</p> <p>4. During all excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers’ standards to reduce construction equipment noise to the maximum extent possible. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors (i.e., least Bell’s vireo territory within Santiago Creek) nearest the project site.</p> <p>5. The construction contractor shall stage equipment in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.</p> <p>6. Noise from construction activities shall be limited to the extent possible through the maximum use of technology available to reduce construction equipment noise. Project-generated noise, both during construction and after the development has been</p>					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>completed, shall be in compliance with the requirements outlined in the City of Orange General Plan Noise Element to ensure that noise levels that the riparian area is exposed to do not exceed noise standards for residential areas.</p> <p>7. The project shall be designed to minimize exterior night lighting while remaining compliant with City of Orange ordinances related to street lighting. Any necessary lighting (e.g., to light up equipment for security measures), both during construction and after the development has been completed, will be shielded or directed away from Santiago Creek and are not to exceed 1.5 foot-candles. Monitoring by a qualified lighting engineer (attained by the project applicant and subject to spot check by City Staff) shall be conducted as needed to verify light levels are below 0.5 foot-candles required within identified, occupied least Bell’s vireo territories, both during construction and at the onset of operations. If the 0.5 foot-candles requirement is exceeded, the lighting engineer shall make operational changes and/or install a barrier to alleviate light levels during the breeding season.</p> <p>Two brown-headed cowbird traps shall be installed and maintained within the general vicinity of the habitat for five years.</p>					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>MM BIO-1B: The following shall be incorporated into the Biological Assessment as proposed mitigation for potential impacts to least Bell’s vireo, subject to USFWS and CDFW approval:</p> <ol style="list-style-type: none"> 1. On- and/or off-site replacement and/or enhancement of least Bell’s vireo habitat at a ratio no less than 3:1 for permanent grading impacts, and at a ratio no less than 2:1 for thinning impacts for Fuel Modification Zones C and D. Requirements of the Fuel Modification Program will be written into the Fuel Management Plan and CC&Rs to ensure the proper long-term management of Fuel Modification Zones C and D so that thinning areas are not reduced greater than 50% and can still maintain habitat values and functions. Off-site replacement may include the purchase of mitigation credits at an agency-approved off-site mitigation bank supporting least Bell’s vireo. 	Submittal of grading plan for each Planning Area near Least Bell’s vireo habitat to the Community Development Department.	Prior to issuance of a grading permit within Least Bell’s vireo habitat area.	Community Development Department		
<p>MM BIO-1C: All construction, grading, and fuel modification activities (i.e., thinning) will take place outside of the least Bell’s vireo breeding season (March 15 to September 15) to the greatest extent feasible. If any construction, grading, and fuel modification activities are required during the breeding season, and pre-construction surveys determine least Bell’s vireo are present, activities may continue in the presence of a biological monitor who will confirm the continued</p>	Submittal of grading plan for each Planning Area near Least Bell’s vireo habitat to the Community Development Department.	Prior to issuance of a grading permit within Least Bell’s vireo habitat area.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>absence of these species and stop work if the species return.</p> <p>Additional measures to be taken for all construction activities within 300 feet of potential least Bell’s vireo habitat during the breeding season (March 15 to September 15):</p> <ol style="list-style-type: none"> 1. Pre-construction surveys shall be conducted within one week prior to initiation of construction activities and all results forwarded to the USFWS and CDFW. Focused surveys shall be conducted for least Bell’s vireo during construction activities. 2. If at any time least Bell’s vireo are found to occur within 300 feet of construction areas, the monitoring biologist shall inform the appropriate construction supervisor to cease such work and should consult with the USFWS and CDFW to determine if work shall commence or proceed during the breeding season; and, if work may proceed, what specific measures shall be taken to ensure least Bell’s vireos are not affected. 3. Monitoring by a qualified acoustician shall be conducted as needed to verify noise levels are below 60 dBA required within identified, occupied least Bell’s vireo territories. If the 60 dBA level is exceeded, the acoustician shall make operational changes and/or 	Department.				

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>install a barrier to alleviate noise levels during the breeding season.</p> <p>Installation of any noise barriers and any other corrective actions taken to mitigate noise during the construction period shall be communicated to the USFWS and CDFW.</p>					
<p>MM BIO-2:Pursuant to CDFW Section 1602, prior to the issuance of any grading permit in the areas designated as sensitive riparian communities (e.g., southern cottonwood - willow riparian forest or black willow scrub/ruderal on Figure 5.4-10, <i>Impacts to Sensitive Natural Communities</i>), the project applicant shall demonstration to the satisfaction of the City that either of the following have been or will be accomplished:</p> <p>1. On- and/or off-site replacement, restoration, or enhancement of sensitive riparian communities (e.g., southern cottonwood-willow riparian forest) at a ratio no less than 1:1 for permanent impacts, and at a ratio no less than 0.5:1 for thinning impacts for Fuel Modification Zones C and D. Temporary impacts will be restored to pre-project conditions (i.e., pre-project contours and revegetate with native species, where appropriate). Off-site replacement at a ratio no less than 1:1 may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu</p>	<p>Submittal of grading plan for each Planning Area near sensitive riparian communities to the Community Development Department.</p>	<p>Prior to issuance of a grading permit within sensitive riparian communities.</p>	<p>Community Development Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>fee program [e.g., Santa Ana Watershed Association (SAWA)]</p> <p>2. On- and/or off-site replacement, restoration, or enhancement of sensitive riparian communities (e.g., black willow scrub/ruderal) at a ratio no less than 0.5:1 for permanent impacts.¹ Off-site replacement at a ratio no less than 0.5:1 may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program (e.g., SAWA).</p> <p>If mitigation is to occur on-site and/or off-site (i.e., not an in-lieu fee program) a mitigation and monitoring plan shall be prepared by a qualified biologist and the Community Development Director or designated representative shall review and approve the content. The plan shall focus on the creation of equivalent habitats within disturbed habitat areas of the project site and/or off-site. In addition, the plan shall provide details as to the implementation of the plan, maintenance, and future monitoring. Mitigation for impacts to sensitive riparian communities shall be accomplished by on- or off-site replacement, restoration, or enhancement (e.g., transplantation, seeding, and/or planting/staking of sensitive riparian species; salvage/dispersal of duff</p>					

¹ A minimum 0.5:1 mitigation ratio is proposed for permanent impacts due to the ruderal, isolated nature of this disturbed sensitive riparian community.

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
and seed bank; removal of large stands of giant reed within riparian areas).					
<p>MM BIO-3: Prior to the issuance of any grading permit for permanent impacts in the areas designated as jurisdictional features on Figure 5.4-11, <i>Impacts to Jurisdictional Features</i>, the project applicant shall obtain a CWA Section 404 permit from the ACOE, a CWA Section 401 permit from the RWQCB, and Streambed Alteration Agreement permit under Section 1602 of the California Fish and Game Code from the CDFW. The following would be incorporated into the permitting, subject to approval by the regulatory agencies:</p> <ol style="list-style-type: none"> 1. On- and/or off-site replacement of USACE/RWQCB jurisdictional “waters of the U.S.”/“waters of the State” at a ratio no less than 2:1 for permanent impacts, and for temporary impacts, restore impact area to pre-project conditions (i.e., pre-project contours and revegetate with native species, where appropriate). Off-site replacement at a ratio no less than 2:1 may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program (e.g. SAWA). 1. On- and/or off-site replacement of CDFW jurisdictional streambed and associated riparian habitat at a ratio no less than 2:1 for 	Submittal of grading plan for each Planning Area permanent impacts in the areas designated as jurisdictional features to the Community Development Department.	Prior to issuance of a grading permit within permanent impacts in the areas designated as jurisdictional features.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>permanent impacts, and for temporary impacts, restore impact area to pre-project conditions (i.e., pre-project contours and revegetate with native species, where appropriate). Off-site replacement at a ratio no less than 2:1 may include the purchase of mitigation credits at an agency-approved off-site mitigation bank or in-lieu fee program (e.g. SAWA).</p>					
<p>MM BIO-4: Prior to the issuance of any grading permit that would remove habitat containing raptor and songbird nests, the project applicant shall demonstrate to the satisfaction of the City that either of the following have been or will be accomplished.</p> <p>2. Vegetation removal activities shall be scheduled outside the nesting season (September 1 to February 14 for songbirds; September 1 to January 14 for raptors) to avoid potential impacts to nesting birds.</p> <p>Any construction activities that occur during the nesting season (February 15 to August 31 for songbirds; January 15 to August 31 for raptors) will require that all suitable habitat be thoroughly surveyed for the presence of nesting birds by a qualified biologist before commencement of clearing. If any active nests are detected, a buffer of at least 300 feet (500 feet for raptors) will be delineated, flagged, and</p>	<p>Submittal of grading plan for each Planning Area near habitat containing raptor and songbird nests to the Community Development Department.</p>	<p>Prior to issuance of a grading permit within permanent impacts in the areas near habitat containing raptor and songbird nests.</p>	<p>Community Development Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
avoided until the nesting cycle, or is complete as determined appropriate by the biological monitor to minimize impacts.					
MM BIO-5: Prior to the issuance of any permits, the project applicant shall provide written documentation to the satisfaction of the Community Development Director or designee on the schedule for replacing 254 trees (Figure 5.4-12, <i>Impacts to Regulated Trees</i>) on-site at a minimum 1:1 ratio.. Replacement of regulated trees to be removed will be accomplished on-site and/or on public off-site lands at the discretion of the City.	Submittal and approval of written documentation satisfactory to the Director of the Community Development Department.	Prior to the issuance of any permits.	Community Development Department		
Cultural Resources					
MM CR-1: Prior to the issuance of a grading or grubbing permit the project developer shall have an archaeological resources mitigation-monitoring program, commencing with a site visit and consultation with California Cultural Resource Preservation Alliance, Inc. This site visit would allow the retained, qualified archaeologist to examine the project area sediments in relation to the parameters of the grading/excavation program as detailed in Mitigation Measures CR-2, CR-3, and CR-4. All documentation shall be reviewed by the Community Development Director (CDD) and grading permit issuance may not occur unless the	Submittal and approval of written documentation satisfactory to the Director of the Community Development Department.	Prior to issuance of any permits.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
CDD approves the documentation.					
MM CR-2: During all grading activities, full-time archaeological monitoring shall be conducted throughout the entire project area, with the exception of the portions that have been subject to historic-era surface mining operations. Full-time monitoring shall continue until the project archaeologist determines that the overall sensitivity of the project area has been reduced from high to low, as a result of mitigation monitoring. Should the monitor determine that there are no cultural resources within the impacted areas, or should the sensitivity be reduced to low during monitoring, all monitoring may cease at the discretion of the Community Development Director.	Submittal and approval of written documentation satisfactory to the Director of the Community Development Department.	Prior to issuance of any permits.	Community Development Department		
MM CR-3: Specifically, prior to issuance of the first preliminary or precise grading permit, and for any subsequent permit involving excavation to increased depth, the landowner or subsequent Project Developer shall provide the City with evidence that a qualified archaeologist has been retained by the landowner or subsequent Project Developer, and that the consultant(s) will be present during all grading and other significant ground disturbing activities.	Submittal and approval of written documentation satisfactory to the Director of the Community Development Department.	Prior to issuance of any permits.	Community Development Department		
MM CR-4: If any archeological artifacts are collected during	Submittal and	Prior to issuance	Community		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>construction monitoring, they shall be identified, photographed, measured, and temporarily housed as appropriate under the supervision of the project archaeologist at a laboratory or facility maintained by the firm or group represented by the project archaeologist, and as approved by the City. Any artifacts recovered shall be described for the technical report to fully exhaust the artifact’s data potential as it relates to significance of the greater resource or site with which the artifact is associated, per CEQA Guideline Section 15064.5. All collected artifacts shall be inventoried and catalogued per curation requirements consistent with those of an established, accredited museum repository. The project archaeologist must have a written repository agreement in hand prior to the initiation of mitigation activities.</p>	<p>approval of written documentation satisfactory to the Director of the Community Development Department.</p>	<p>of any permits.</p>	<p>Development Department</p>		
<p>MM CR-5: Prior to issuance of a grading permit the project applicant shall demonstrate to the satisfaction of the City that monitoring of excavation in areas identified as likely to contain paleontological resources by a qualified paleontological monitor, and based upon the results of a preliminary site assessment shall be conducted by qualified paleontologist. As monitoring is occurring, areas of concern include undisturbed older Quaternary terrace deposits and any and all exposures of the Sespe/ Vaqueros Formations. Paleontological monitors shall be equipped to salvage fossils, as they are unearthed, to avoid construction delays, and to remove samples of sediments likely to contain the</p>	<p>Submittal and approval of written documentation satisfactory to the Director of the Community Development Department.</p>	<p>Prior to issuance of any permits.</p>	<p>Community Development Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
remains of small fossil invertebrates and vertebrates. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Monitoring may be reduced or eliminated, at the discretion of the Community Development Director, if the potentially fossiliferous units described herein are determined upon exposure and examination by qualified paleontologist to have low potential to contain fossil resources, or if the parameters of the proposed project will not impact potentially fossiliferous units. This decision is at the discretion of the qualified paleontological monitor. If the monitoring program results in positive findings, then refer to Mitigation Measure CR-6 to CR-8.					
MM CR-6: If the monitoring program results in positive findings, the preparation of recovered specimens to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates shall occur by qualified paleontologist. Preparation and stabilization of all recovered fossils are essential in order to fully mitigate adverse impacts to the resources.	Orange County Certified Paleontologist or Archaeologist submittal to and approval by the Community Development Department of the report of findings.	After completion of grading operations.	Orange County Certified Paleontologist or Archaeologist and the Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>MM CR-7: If the monitoring program results in positive findings, identification and curation of specimens into an established, accredited museum repository with permanent retrievable paleontologic storage shall occur by qualified paleontologist. These procedures are also essential steps in effective paleontological mitigation and CEQA compliance. The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontological resources is not complete until such curation into an established museum repository has been fully completed and documented.</p>	<p>Orange County Certified Paleontologist or Archaeologist submittal to and approval by the Community Development Department of the report of findings.</p>	<p>After completion of grading operations.</p>	<p>Orange County Certified Paleontologist or Archaeologist and the Community Development Department</p>		
<p>MM CR-8: If the monitoring program results in positive findings, preparation of a report of findings with an appended itemized inventory of specimens shall occur by qualified paleontologist. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts to paleontological resources.</p>	<p>Orange County Certified Paleontologist or Archaeologist submittal to and approval by the Community Development Department of the report of findings.</p>	<p>After completion of grading operations.</p>	<p>Orange County Certified Paleontologist or Archaeologist and the Community Development Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>MM CR-9: If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner shall notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendent (MLD) and at the same time provide notification to the Community Development Director or designee. If the remains are deemed non-historic, the Coroner shall notify the Sheriff’s Department for investigation. As required by Section 5097.98 of the Public Resources Code, with the granting of permission by the landowner or his/her authorized representative, the descendent may inspect the site of the discovery; however, the MLD is not prohibited from discussing and conferring with other descendants of the human remains as allowed by Public Resources Code Section 5097.98. The descendent shall complete the inspection within 48 hours of notification by the NAHC consistent with Public Resources Code Section 5097.98. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. The MLD will determine the ultimate disposition of the remains and provide written documentation to the Community</p>	<p>Written notification by an Orange County Certified Paleontologist to the Community Development Department.</p>	<p>City staff inspections during construction.</p>	<p>Orange County Certified Paleontologist or Archaeologist and the Community Development Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Development Director or designee of the ultimate disposition of the remains.					
Geology and Soils					
PDF GEO-1: Prior to the issuance of a building permit, the proposed project will provide a rip-rap slope wall along the southerly side of Santiago Creek in Planning Area A, adjacent to Planning Areas C and D, and a portion of Planning Area B. The rip-rap slope wall will be buried and setback clear of the Santiago Creek’s southerly bank. The rip-rap slope wall will not impact the existing bed and bank of Santiago Creek.	Submittal of a Grading Plan to the Public Works Department for review.	Prior to the issuance of a building permit.	Public Works Department		
PDF GEO-2: Prior to the issuance of a building permit, the proposed project will provide a rip-rap slope wall along the easterly side of Planning Area D. The rip-rap slope wall will be buried and located within the adjacent Santiago Oaks Regional Park site. The rip-rap slope wall will protect Planning Area D from the affects of erosive forces acting on the southerly bank of Santiago Creek.	Submittal of a Grading Plan to the Public Works Department for review.	Prior to the issuance of a building permit.	Public Works Department		
PDF GEO-3: Planning Area A will be designated as OS, Natural Open Space. Buried rip-rap slope protection is not provided on the north side of Santiago Creek as habitable structures are not proposed. The	Submittal of a Grading Plan to the Public Works	Prior to the issuance of a building permit.	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
northerly Santiago Creek will be preserved in its natural condition. Erosion of the northerly Santiago Creek bank will be permitted. The property owner may elect to restore the eroded Creek bank as part of a long-term maintenance program. Or, at his discretion, the property owner may elect to leave the Santiago Creek bank in an eroded condition.	Department for review.				
PDF GEO-4: Planning Area B will be designated as OS-P, Open Space-Park. The southerly Santiago Creek bank will be preserved in its existing condition. Erosion of the southerly Santiago Creek bank will be permitted. The property owner of Planning Area A would be responsible for the restoration of the multi-purpose trail adjacent to Planning Area B (in Planning Area A).	General Plan and Zoning approvals by the City.	Prior to the issuance of a building permit.			
PDF GEO-5: Planning Area C will be designated as MDR, Medium Density Residential. Buried rip-rap slope wall is required because habitable structures are proposed therein. The southerly Santiago Creek bank will be preserved in its natural condition. Erosion of the southerly Santiago Creek bank will be permitted and allowed to advance until it is arrested by the presence of the buried rip-rap slope wall. The property owner may elect to restore the eroded Santiago Creek bank as part of a long-term maintenance program. Or, at his discretion, the property owner may elect to leave the Santiago Creek bank in an eroded	Submittal of a Grading Plan to the Public Works Department for review.	Prior to the issuance of a building permit.	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
condition. The buried rip-rap slope wall will protect the planned improvements.					
PDF GEO-6: Planning Area D will be designated as LDR, Low Density Residential. Buried rip-rap slope wall is required because habitable structures are proposed therein. The southerly Santiago Creek bank will be preserved in its natural condition. Erosion of the southerly Santiago Creek bank will be permitted and allowed to advance until it is arrested by the presence of the buried rip-rap slope wall. The property owner may elect to restore the eroded Santiago Creek bank as part of a long-term maintenance program. Or, at his discretion, the property owner may elect to leave the Santiago Creek bank in an eroded condition. The buried rip-rap slope wall will protect the planned improvements.	Submittal of a Grading Plan to the Public Works Department for review.	Prior to the issuance of a building permit.	Public Works Department		
PDF GEO-7: The proposed project will remove site pond deposits on-site and provide replacement with compacted fill approved by a certified State of California Engineering Geologist or Geotechnical Engineer.	Submittal of a Grading Plan to the Public Works Department for review.	Prior to the issuance of a grading permit.	Public Works Department		
PDF GEO-8: The proposed project will provide remedial grading in areas of near surface alluvial deposits.	Submittal of a Grading Plan to the	Prior to the issuance of a	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program					
Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
	Public Works Department for review.	grading permit.			
MM GEO-1: Prior to the approval of the first grading plans or issuance of the first grading or building permit, the project applicant shall incorporate into the grading and project design the mitigation provided on Table 5.6-2, <i>Geotechnical Mitigation</i> , consistent with Appendix G, <i>Geological Investigation</i> for review and accepted as adequate by the Community Development and Public Works Departments.	Submittal of a Grading Plan to the Public Works Department for review.	Prior to the issuance of a grading permit.	Public Works Department		
Greenhouse Gas					
PDF GHG-1: The proposed project will only allow natural gas only fireplaces in single-family residences and no fireplaces in individual age-qualified housing.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF GHG-2: The proposed project will apply a minimum of 5 percent increase in energy efficiency baseline over year 2008 Title 24 Part 6 requirements per the Rio Santiago Specific Plan. If at time of permitting	Submittal of site plan and elevations to the Community	Prior to building permit issuance.	Community Development		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
updated Title 24 Part 6 requirements have been adopted, the proposed project will meet these standards. This will be shown on the Title 24 Report for each structure.	Development Department for final Design Review Committee approval.		Department		
PDF GHG-3 The proposed project requires the planting of trees and vegetation near structures to shade buildings and reduce energy requirements for heating/cooling, as well as reduce overall project pavement areas.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF GHG-4: The proposed project will provide electrical conduit from the main panel to an electrical box in each garage in order to provide for a future hookup for charging electric vehicles.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
Hazards and Hazardous Materials					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
PDF HAZ-1: All new construction in the high fire hazard zone will need to comply with Chapter 47 and 7A of the California Fire and Building Codes for local agency very high fire hazard severity zones unless otherwise approved by the City of Orange Fire Department.	Submittal of site plan and elevations to the Fire Department.	Prior to building permit issuance.	Fire Department		
PDF HAZ-2: Fuel modification zones are to be designed, installed, and maintained to meet the Orange City Fire Department’s requirements as adopted in the Orange Municipal Code and set forth in the California Fire Code and Orange City Fire Department’s guideline.	Submittal of Fuel Modification Plan for each Planning Area to the Fire Department.	Prior to the issuance of a building permit.	Fire Department		
PDF HAZ-3: The proposed project Specific Plan establishes a fuel modification zone that adheres to the City Fire Department Fuel Modification Zone Plant List.	Submittal of Fuel Modification Plan for each Planning Area to the Fire Department.	Prior to the issuance of a building permit.	Fire Department		
PDF HAZ-4: The proposed project landscaping will consist of plants from the approved fuel modification planting list contained in the Specific Plan.	Submittal of Landscape Plan for each Planning Area to the Fire Department.	Prior to the issuance of a building permit.	Fire Department		
PDF HAZ-5: Figure 5.8-1, Fuel Modification Plan for the proposed project has been approved by the Fire Department and will be subject to review of sublevel detailed plans for each planning area prior to	Submittal of Fuel Modification Plan for each Planning Area to	Prior to the issuance of a building permit.	Fire Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
issuance of building permits.	the Fire Department.				
PDF HAZ-6: Prior to the issuance of any building permit the project applicant shall submit to the City Fire Chief or designee and Community Development Director or Designee, a Construction Phase Emergency Fire Access Plan and an Operational Phase Fire Master Plan for review and approval. At this time, City Fire staff will review the design and will require emergency vehicle access, per City of Orange Fire Department standards, to the Santiago Creek area.	Submittal of Construction Phase Emergency Fire Access Plan and an Operational Phase Fire Master Plan for each Planning Area to the Community Development Department and Fire Department.	Prior to the issuance of a building permit.	Community Development Department and Fire Department		
PDF HAZ-7: Prior to the issuance of a grading permit a water infrastructure plan for firefighter purposes based on building permit plans submitted to the City will also be required for each Planning Area. A grading permit may only be obtained if the plan is approved by the designated City Fire Department representative.	Submittal of water infrastructure plan for each Planning Area to the Community Development Department and Fire Department.	Prior to the issuance of a grading permit.	Community Development Department and Fire Department		
PDF HAZ-8: Individualized Emergency Evacuation Plans (EEP) shall	Submittal of	Prior to the	Community		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
be prepared for each planning area by the project applicant to the satisfaction of City Emergency Responder Department reviewing Staff. The EEP shall be based on initial anticipated occupancy of the planning area. The EEP shall be review and revised every five years or when a significant change in structure use occurs within a planning area. The EEP shall be reviewed by the Directors of Community Development and Public Works and approved by the Police and Fire Departments prior to the occupancy of the first structure in each individual Planning Area.	Individualized Emergency Evacuation Plans (EEP) for each Planning Area to the Community Development Department. Police Department and Fire Department.	issuance of a grading permit.	Development Department, Police Department, and Fire Department		
PDF-HAZ-9: Prior to the issuance of any grading permit in Planning Area B the project applicant shall demonstrate to the satisfaction of the Directors of Public Works and Community Development that remedial actions, in accordance with adopted State standards, have been taken on-site or that buildings will include vapor barriers or passive/active venting systems.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department and Community Development Department.	Prior to issuance of a grading permit in Planning Area B.	Public Works Department and Community Development Department		
PDF-HAZ-10: Prior to the issuance of any grading permit in Planning Area B the project applicant shall demonstrate to the satisfaction of the	Submittal and approval of written	Prior to issuance of a grading	Public Works Department and		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Directors of Public Works and Community Development that three on-site LFG monitoring probes on the north and east perimeter of the former Villa Park Landfill site will be protected.	documentation satisfactory to the Director of the Public Works Department and Community Development Department.	permit in Planning Area B.	Community Development Department		
PDF-HAZ-11: Prior to the issuance of any grading permit in Planning Area B the project applicant shall demonstrate to the satisfaction of the Directors of Public Works and Community Development that utilities that trench immediately adjacent to the former Villa Park Landfill, will include vapor barriers.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department and Community Development Department.	Prior to issuance of a grading permit in Planning Area B.	Public Works Department and Community Development Department		
PDF-HAZ-12 Prior to the issuance of any residential building permit, the project applicant shall demonstrate to the satisfaction of the Director of Public Works and Community Development that methane monitors will be installed.	Submittal and approval of written documentation satisfactory to the Director of the Public	Prior to issuance of a grading permit in Planning Area B.	Public Works Department and Community Development		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
	Works Department and Community Development Department.		Department		
MM HAZ-1: Prior to the issuance of any grading permits, the project applicant shall demonstrate to the satisfaction of the Directors of Public Works and Community Development that remedial actions in accordance with adopted State standards have been taken on-site, or that the excavation and off-site disposal has occurred.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department and Community Development Department.	Prior to issuance of a grading permit.	Public Works Department and Community Development Department		
MM HAZ-2: Prior to the issuance of any grading permit the project applicant shall demonstrate to the satisfaction of the Directors of Public Works and Community Development that remedial actions, in accordance with adopted State standards, have been taken on-site or that buildings will include vapor barriers or passive/active venting systems.	Submittal and approval of written documentation satisfactory to the Director of the Public Works Department and Community Development Department.	Prior to issuance of a grading permit.	Public Works Department and Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
	Department.				
Hydrology and Water Quality					
PDF-HWQ-1: The proposed project will provide drainage collection (inlets) and drainage conveyance (storm drain pipe or street flow) to collect the run-off and convey it in a safe manor to Santiago Creek.	To be shown on City approved tract, site, grading, and landscape plans.	Prior to approval of plans submitted into plan check.	Public Works Department		
PDF-HWQ-2: The proposed project drainage features will be sized in a manner to meet City of Orange and County of Orange requirements for flow conveyance and flood protection.	To be shown on City approved tract, site, grading, and landscape plans.	Prior to approval of plans submitted into plan check.	Public Works Department		
PDF-HWQ-3: The proposed project will provide two storm drain system (Lines 'A' and 'B') consistent with storm drain routing alignments established in the hydrologic analysis.	To be shown on City approved tract, site, grading, and landscape plans.	Prior to approval of plans submitted into plan check.	Public Works Department		
PDF-HWQ-4: The proposed project will provide a storage facility in the downstream areas of Planning Area B to provide controls of 2-year run-off volumes in excess of the existing 2-year condition. The type of storage facility will be determined during final design and will be either a surface (basin) facility or an underground vault facility or combination	To be shown on City approved tract, site, grading, and landscape plans.	Prior to approval of plans submitted into plan check.	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
thereof. The proposed facility will be sized to detain a minimum of 0.75-acre-feet of storm run-off and either infiltrate the volume or include an outlet to drain the facility within 48-hours after a rain event has ended or a combination thereof.					
PDF-HWQ-5: The proposed project will reduce Planning Area B/C peak flow rates to a level consistent with existing conditions. The proposed project will provide a mainline storm drain split flow device utilized to extract storm water to the volume control storage facility. The facility will be sized and configured to reduce mainline run-off rates to pre-project levels downstream of the split flow structure. Final type selection and detailing of the split flow structure will occur during final design stages of the proposed project.	To be shown on City approved tract, site, grading, and landscape plans.	Prior to approval of plans submitted into plan check.	Public Works Department		
PDF-HWQ-6: The proposed project will delay Times of Concentration's at the Planning Area D outlet to Santiago Creek and will arrive slightly sooner at the Planning Area B/C outlet to Santiago Creek.	To be shown on City approved tract, site, grading, and landscape plans.	Prior to approval of plans submitted into plan check.	Public Works Department		
PDF-HWQ-7: The proposed project Lines "A" and "B" of the project storm drain system outlets will be located in the same general vicinity as existing surface flow outlets into Santiago Creek. Because confined flows in a drainage conduit outletting into a natural area tend to have	To be shown on City approved tract, site, grading, and	Prior to approval of plans submitted into	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
erosive potential velocities and energy, scour reduction facilities or energy dissipation facilities or both will be provided at each outlet location in order to reduce local erosion potential to non-impactful levels.	landscape plans.	plan check.			
PDF-HWQ-8: The proposed project will collect, route, and outlet project site tributary flows directly to Santiago Creek. The existing Orange County Flood Control District (OCFCD) Handy Creek Storm Channel traverses the project site and currently accepts 28.13-acres of project site watershed tributary via two sets of on-site inlets is a “deficient flood control facility and is not capable of conveying run-off from the 100-year storm event.”	To be shown on City approved tract, site, grading, and landscape plans.	Prior to approval of plans submitted into plan check.	Public Works Department		
PDF-HWQ-9: The proposed project will prepare a Storm Water Prevention Pollution Plan (SWPPP) to include erosion and sediment control Best Management Practices (BMPs) that would meet or exceed measures required by the Construction General Permit, as well as BMPs that control other potential construction-related pollutants. The SWPPP would be prepared and implemented at the project site and revised as necessary as administrative or physical conditions change, as required by, and in compliance with, the General Construction Permit.	Submittal and approval of a Storm Water Prevention Pollution Plan (SWPPP) to the Public Works Department.	Prior to issuance of grading permit or building permit (whichever comes first).	Public Works Department		
PDF-HWQ-10: The proposed project will prepare a Water Quality	Submittal and	Prior to issuance	Public Works		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Management Plan consistent with the 2011 County-wide Model WQMP and accompanying Technical Guidance Document (TGD) which includes the LID hierarchy and implementation criteria, site design, source control and treatment control BMPs.	approval of a long-term post-construction Water Quality Management Plan (WQMP) consistent with the requirements of the DAMP to the Public Works Department.	of grading permit or building permit (whichever comes first).	Department		
MM HWQ-1: In compliance with the California Natural Hazards Disclosure Act (California Civil Code § 1103), prior to the occupancy of any on-site uses a disclosure shall be provided to the future purchasers or occupants of the property. Additionally, it will be the purchasers/owners responsibility to notify any and all subsequent users, occupants, and/or tenants of said disclosure. The disclosure shall state that the project lies within the inundation zone, and that emergency response plans are in place and if needed would be implemented as provided in MM HWQ-2. The notification shall be made through escrow instructions at the time of purchase or sooner as needed.	Submittal of CCR &Rs to City to shown MM HWQ-1 has been incorporated to Community Development Department.	Prior to recordation of CC&Rs (whichever comes first).	Community Development Department		
MM HWQ-2 Prior to the issuance of any building permit in Planning Areas C and D, the project applicant shall provide an Emergency	Submittal of the Emergency	Prior to the issuance of any	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>Evacuation Plan to the City for review and approval, incorporating the following recommendations:</p> <p>Evacuation Elements. The Emergency Management Program shall include the following evacuation elements:</p> <ol style="list-style-type: none"> Finalized specific City Fire Department access routes shall be defined in accordance with the City Fire Department standards and CBC and CFC requirements. Each route shall be clearly identified to assist the City Fire Department with site access strategies. Finalized specific City Fire Department staging areas shall be defined. Each staging area shall be established to assist the City Fire Department with coordinate site access/response strategies. The structural integrity and performance of the age-qualified units against flooding shall be established in the Operations and Management Program. <p>Operations and Management Program. The Emergency Management Program shall be developed to coordinate response efforts and evacuation strategies in the event of an emergency affecting a portion or entire Rio Santiago development. The Emergency Management</p>	<p>Evacuation Plan for Planning Area C or D to the Public Works Department.</p>	<p>building permit.</p>			

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>Program shall include the following elements:</p> <ol style="list-style-type: none"> <i>Emergency Management Team Structure:</i> The Team structure will identify emergency response resources that are available to respond to the incident, how they can be accessed, and how they can be utilized during an incident. The emergency response team may include, but not be limited to, facility owners, facility operators, facility occupants, law enforcement, public fire services, rescue and medical response teams, and environmental and utility departments or agencies. <i>Emergency Management Response Protocols:</i> Such protocols shall include, but not be limited to, crisis communication and public information dissemination, protective actions for life safety, and resource management. <i>Emergency Media Program:</i> An emergency media program shall include, but not be limited to, plans and procedures to disseminate and respond to requests for pre-incident, incident, and post-incident information to and from internal audiences such as employees or external audiences including the media and special needs populations. <i>Emergency Evacuation Response Protocols and Information:</i> Such protocols shall include, but not be limited to, relocation of occupants to specific areas of the site, complete and immediate 					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>evacuation of all occupants from the site, or phased evacuation of the site.</p> <p>5. <i>Local Authority Coordination Protocols:</i> Such protocols shall include, but not be limited to, staging locations, site access points, direct and alternate routes to the site, and emergency communications.</p> <p>6. <i>Emergency Management Program Documents/Forms:</i> Such documents and forms shall include, but not be limited to, a pre-incident plan, building information, and emergency management team contact information.</p> <p>Flooding Program. The Flooding Program shall be developed to coordinate preparation and response steps to be taken in the event of a flooding from a dam failure emergency is reported and/or is predicted due to weather or other conditions. The Flood Program shall consider and incorporate the existing protocols for dam monitoring and emergency response procedures utilized by both dam operators, as described earlier in this report. The City shall review and approve the Flooding Program prior to issuance of any building permit in Planning Areas C and D. The Flood Program shall include the following elements:</p> <p>1. <i>Flood Response Procedures and Strategies:</i> Such procedures</p>					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>and strategies shall include, but not be limited to, staging and coordination areas, strategies for evacuation or relocation of facility occupants, and staff responsibilities.</p> <p>2. <i>Flood Barriers and Location Information:</i> This information will identify the location and description of flood barriers that should be considered during any flood incident which may impact the onset time of dangerous conditions.</p> <p>3. <i>Shelter-In Place/Phased Evacuation Strategies:</i> The flood program will identify strategies for either relocation of occupants within the site to designated areas or evacuation of the project site, depending on the conditions of the incident.</p> <p>4. <i>Local Authority Coordination Strategies:</i> Such protocols shall include, but not be limited to, staging locations, site access points, direct and alternate routes to the site, hazardous conditions on site, and emergency communications.</p> <p>5. <i>Flood Inundation Communication Protocols (Residents and Responders):</i> Such protocols shall include, but not be limited to, emergency communication between responders, residents, and staff. The protocols shall identify the message content that needs to be sent, requested, and received between levels and functions of the residents and responders and identify the communication mechanisms to execute</p>					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>such communication (human, systems, tools, networks).</p> <p>6. Mutual Aid Agreements—For coordination of age qualified units that may need assistance: Such agreements may include, but not be limited to, cooperative assistance agreements with private organizations or government bodies, adjacent developments, and local organizations as a means for one entity to provide resources, services, and other required support to another entity during an incident.</p> <p>Access/Egress Routes. The City shall be included in the overall review and development of the access/egress routes, staging areas, etc. to assist in the coordination of response efforts upon their arrival to the development.</p> <p>Emergency Management Training Program. Emergency Management Training Program shall be developed prior to the occupancy of the development and be presented to the defined Emergency Management Team responsible for coordination of emergency response and evacuation steps. The Emergency Management Training Program shall include:</p> <ol style="list-style-type: none"> 1. Emergency Management Classroom Training Program—Staff 2. Emergency Management Table-Top Exercises—Staff 					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>3. Emergency Management Full-Scale Exercise—Staff and Residents</p> <p>Resident Emergency Management Guide. A Resident Emergency Management Guide shall be developed and provided to all residents of the development to identify information the residents should understand in the event of an emergency. This guide should serve as a basic outline for residents to use in the event of a flood from a dam failure emergency and what they should do and/or expect from the management and the City.</p>					
Land Use and Planning					
<p>PDF LUP-1: The proposed project provides the potential opportunity to link separated existing neighborhoods which when implemented would provide a comprehensive circulation system, including pedestrian and equestrian trails. The proposed project will establish compatible land uses with adjacent established residential communities including: open space in Planning Area A adjacent to the existing Mabury neighborhood residences and trails; open space - park facilities within Planning Area B adjacent to existing open space and across East Santiago Canyon Road single-family residential; and, single-family detached residences in Planning Area D adjacent to the existing single-family detached</p>	<p>Submittal of wall and fence plan, including trails for each Planning Area to the Community Development Department for final Design Review Committee approval.</p>	<p>Prior to the issuance of a building permit.</p>	<p>Community Development Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
residences in the Reserve and open space uses in Santiago Oaks Regional Park.					
PDF LUP-2: The proposed project will establish architectural requirements consistent with historical styles and character of the City. The proposed project establishes Craftsman, Monterey, Andalusian, Spanish, Cottage, American Revival, and Ranch architectural styles. Further, it will establish design requirements to situate the scale and massing of development consistent with surrounding neighborhoods, such as setbacks that require compatible scale next to adjacent residences.	Submittal of site plan and elevations to the Community Development Department for final Design Review Committee approval.	Prior to building permit issuance.	Community Development Department		
PDF LUP-3: Open space and recreational uses will link portions of the existing community presently divided by fenced private land. The landscape plan will provide seamless edges between residential and open space uses.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF LUP-4: The proposed project would amend the City's General Plan by removing the project site the East Orange (EO) General Plan	General Plan and Zoning approvals by	Prior to the issuance of a			

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
and the Orange Park Acres Plan. The proposed project would establish new designations for the project site on the City’s General Plan. These changes eliminate potential conflicts with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	the City.	building permit.			
PDF LUP-5: The proposed project will replace trees at a minimum 1 to 1 ratio.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF LUP-6: The proposed project has been designed so as to not impact remaining plant communities that are considered to be coastal sage scrub habitat regulated under the NCCP/HCP. The proposed project has been designed to support the least Bell’s vireo, a conditionally covered species under the NCCP/HCP as the implementation of the PDF’s and project mitigation measure address least Bell’s vireo by contributing to the long term conservation of the	Submittal of grading plan for each Planning Area to the Community Development Department.	Prior to issuance of a grading permit.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
species and its habitat.					
Noise					
PDF NOI-1: The proposed project will provide 6-foot high solid walls as shown in Figure 3-17, Wall and Fence Plan.	Submittal of wall and fence plan, including trails for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF NOI-2: The proposed project will limit the outdoor activities in Planning Area B to between 7 a.m and 10 p.m.	Submittal of program management plan prior to occupancy of outdoor activities in Planning Area B.	Prior to building permit issuance	Community Development Department		
MM NOI-1: Upon completion of the architectural plans, a detailed acoustical study shall be prepared by a qualified noise analyst that analyzes the interior noise levels of the proposed residential units and provides design features to reduce the interior noise levels to within the	Submittal of site plan and elevations to the Community Development	Prior to building permit issuance.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
45 dBA CNEL standard.	Department for final Design Review Committee approval.				
Public Services					
PDF PS-1: Prior to the issuance of any building permit all residential structures will include fire sprinklers. The City requires compliance with the Uniform Building Code, the City Fire Code (Orange Municipal Code Chapter 15.32), and the California Building Code Article 9, Appendix III-A and Appendix III-B as interpreted by the City Fire Department related to fire access, fire flow requirements, the number, placement, and spacing of hydrants, and automatic fire extinguishing systems.	Submittal of fire sprinkler plan to the Fire Department .	Prior to building permit issuance.	Fire Department		
PDF PS-2: Prior to the issuance of any building permit the project applicant shall submit to the City Fire Chief or designee and Community Development Director or Designee a Construction Phase Emergency Fire Access Plan and an Operational Phase Fire Master Plan for review and approval.	Submittal of Construction Phase Emergency Fire Access Plan and an Operational Phase Fire Master Plan for each Planning Area to the Community	Prior to building permit issuance.	City Fire Chief or designee and Community Development Director or Designee		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
	Development Department and Fire Department..				
PDF PS-3: Prior to the issuance of any building permit the project applicant shall pay applicable fees consistent with the Fire and Police Facility Development Fees (Orange Municipal Code 3.38, Fire Protection Fee and Orange Municipal Code 3.13, Police Facility Development Fee).	Submittal of fees to the Police Department and Fire Department.	Prior to building permit issuance.	Police Department and Fire Department		
PDF PS-4: Prior to the issuance of the grading or building permit, the project applicant shall submit to the Police Chief or designee and Community Development Director or designee a Construction Phase Emergency Access Plan.	Submittal of Construction Phase Emergency Access Plan for each Planning Area to the Community Development Department and Police Department.	Prior to building permit issuance.	Community Development Department and Police Department		
PDF PS-5: Prior to the approval of the grading plan or issuance of the first grading or building permit, the project applicant shall submit to the Police Chief or designee and Community Development Director or	Submittal of Operations Emergency Access	Prior to building permit issuance.	Community Development Department and		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
designee an Operations Emergency Access Plan for on-going proposed project operations showing all proposed means of emergency access for both police and other emergency personnel into and around the proposed project.	Plan for each Planning Area to the Community Development Department and Police Department.		Police Department		
PDF PS-6: Prior to the issuance of any building permit the project applicant shall pay mandatory obligations of Government Code Section 65995 to offset demands for educational facilities.	Submittal of fees to the City of Orange	Prior to building permit issuance	Public Works Department		
PDF PS-7: Prior to the issuance of any building permit the project applicant shall pay applicable development fees to off-set any increase demand for other governmental facilities.	Submittal of fees to the City of Orange.	Prior to building permit issuance.	Public Works Department		
PDF PS-8: The project applicant, as requested by the Police Department shall perform speed surveys along East Santiago Road adjacent to the project site, after development of each Planning Area (B, C, D) separately.	Submittal of speed surveys after development of each Planning Area (B, C, D) separately.	After developed of each Planning Area (B, C, D) separately.	Police Department		
Recreation					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
PDF REC-1: The proposed project will include recreational and open space opportunities within Planning Area A. This will include multi-purpose recreational trails, a Class I Bikeways, Santiago Creek, and passive open space and natural open space. The recreational and open space areas in Planning Area A will be maintained by Owner until and if donated to the County or other public agency.	General Plan and Zoning approvals by the City.	Prior to the issuance of a building permit.			
PDF REC-2: The proposed project will include a linear park area located between Planning Areas C and D open to the public. This linear park will include activity areas for the residential neighborhoods of Rio Santiago and surrounding community. The linear park will be provided prior to the issuance of 50% of Certificates of Occupancy in Planning Area D.	Community Development department site verification.	Prior to the issuance of 50% of Certificates of Occupancy in Planning.	Community Development Department		
PDF REC-3: The proposed project will include privately owned pay for use recreational facilities open to the public within Planning Area B that may include a YMCA type building, swimming pool, baseball/softball field, soccer field, support areas, and other similar uses. The project applicant has not established the timing of the implementation of these recreational facilities.	General Plan and Zoning approvals by the City.	Prior to the issuance of a building permit.	Community Development Department		
PDF REC-4: The proposed project will include private recreational amenities within Planning Area C. This will include central gathering	Community Development	Prior to occupancy of	Community Development		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
areas, spa, water gardens, fire pits, connectivity walkways, arrival court, community garden, and other similar age qualified recreational opportunities. Prior to occupancy the private recreational amenities associated with each component of the age-qualified residences will be completed.	department site verification.	Planning Area B the private recreational amenities.	Department		
PDF REC-5: The proposed project will include private recreational amenities for the single family residents within Planning Area D. This will include pocket parks, a paseo trail system, and linkages to the regional trails. The private recreational amenities associated with the single-family residences will be completed prior to occupancy before construction ends.	Community Development department site verification.	Prior to occupancy of Planning Area B the private recreational amenities.	Community Development Department		
PDF REC-6: The proposed project will include approximately 1.3 miles of on-site regional and riding and hiking trails and a Class I Bikeway, multi-purpose public trails. The bikeway and trails will provide connectivity between the project site and the adjacent community. The proposed on-site regional trails will have the potential to be accessed from existing and proposed off-site public trails. The Class I recreational Bikeway and separate recreational trails will be provided as stated below: <ul style="list-style-type: none"> The proposed perimeter regional (paved bikeway and DG trail) 	Community Development department site verification.	Prior to the issuance of 50% of Certificates of Occupancy in Planning for temporary trail of either Planning Area C or D. Final trail	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>trail along Santiago Creek will implement a portion of the proposed City and County Master Plan of Trails. This temporary trail along Planning Area A shall be constructed at issuance of 50% of Certificates of Occupancy of either Planning Area C or D, whichever occurs first, for the entire length of this trail on the project site. The ultimate (permanent) multi-purpose recreational trail along Santiago Creek shall be constructed at issuance of 50% of Certificates of Occupancy of the adjacent land use as development occurs (e.g., ultimate multi-purpose recreational trail adjacent to Planning Area D would be built as development occurs in this area). The ultimate (permanent) Planning Area B adjacent trail segment shall be constructed prior to development on Planning Area B.</p> <ul style="list-style-type: none"> • A meandering multi-purpose recreation decompose granite trail will connect the proposed trail along East Santiago Canyon Road to the trail south of Santiago Creek. This ultimate (permanent) trail shall be constructed at issuance of 50% of Certificates of Occupancy of Planning Area D. • A meandering multi-purpose recreation decomposed granite trail will be provided along East Santiago Canyon Road. A temporary trail will be provided along East Santiago Canyon Road shall be constructed at issuance of 50% of Certificates of 		adjacent to Planning Area at issuance of 50% of Certificates of Occupancy of the adjacent land use as development occurs.			

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Occupancy of either Planning Area C or D, whichever occurs first, for the entire length of this trail on the project site. The ultimate (permanent) multi-purpose recreational trail along East Santiago Canyon Road shall be constructed at issuance of 50% of Certificates of Occupancy of the adjacent land use as development occurs (e.g., ultimate multi-purpose recreational trail adjacent to Planning Area D would be built as development occurs in this area). The ultimate (permanent) Planning Area B adjacent trail segment shall be constructed prior to development on Planning Area B.					
PDF REC-7: The proposed project will include on-site walking paths and paseos. These internal trails will provide connectivity between Planning Areas and on-site regional and multi-purpose trails. Prior to occupancy the internal trails associated with each Planning Area will be completed.					
Transportation and Traffic					
PDF TRA-1: The proposed project will dedicate the right-of-way to Santiago Canyon Road at recordation of Final Map.	Submittal of Final Map to the Public Works Department.	Prior to issuance of Final Map.	Public Works Department		
PDF TRA-2: The proposed project will not provide vehicle access to	Submittal of Final Map to the Public	Prior to issuance	Public Works		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
Cannon Street.	Works Department.	of Final Map.	Department		
PDF TRA-3: The proposed project will not provide vehicle access to Mabury Avenue.	Submittal of Final Map to the Public Works Department.	Prior to issuance of Final Map.	Public Works Department		
PDF TRA-4: The proposed project will dedicate right-of-way to Cannon Street at recordation of Final Map.	Submittal of Final Map to the Public Works Department.	Prior to issuance of Final Map.	Public Works Department		
PDF TRA-5: The proposed project will direct all access to signalized intersections with Santiago Canyon Road.	Review by the Public Works Department.	On-going within each Planning Area.	Public Works Department		
PDF TRA-6: The proposed project will provide two signalized primary vehicle access points to Santiago Canyon road from the project site. The signals will be provided prior to occupancy of the adjacent Planning Areas.	Review by the Public Works Department.	On-going within each Planning Area.	Public Works Department		
PDF TRA-7: Prior to construction the proposed project will provide two emergency vehicle access point to Santiago Canyon road from Planning Area C & D.	Review by the Public Works Department.	On-going within each Planning Area.	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program					
Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
PDF TRA-8: The proposed project established private streets to meet City Standards.	Review by the Public Works Department.	On-going within each Planning Area.	Public Works Department		
PDF TRA-9: The proposed project will establish parking standards to meet the needs of all uses on the project site.	Review by the Public Works Department.	On-going within each Planning Area.	Public Works Department		
PDF TRA-10: In conjunction with the development of individual Planning Area phases, the proposed project will establish an internal pedestrian system that will include both on-street sidewalks and off-street paths.	Review by the Public Works Department.	On-going within each Planning Area.	Public Works Department		
PDF TRA-11: As Planning Areas C and D are developed, on-site vehicular connectivity will be provided to allow easier access to the signalized intersection / primary access point.	Review by the Public Works Department.	On-going within each Planning Area.	Public Works Department		
PDF TRA-12: The proposed project will provide for Santiago Creek to be maintained from the multi-purpose trail system by the ultimate owner of Planning Area A.	Review by the Public Works Department.	Prior to transfer of ownership of Planning Area A.	Public Works Department		
PDF TRA-13: The proposed project will locate active recreational facilities (i.e., baseball, softball, basketball, soccer, bocce ball, etc.)	Submittal of Final Map to the Public	Prior to issuance of building	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
away from potential conflicts with major roadways.	Works Department.	permit.			
PDF TRA-14: The proposed project will provide bicycle, and pedestrian facilities that meet or exceed all City standards.	Submittal of Final Map to the Public Works Department.	Prior to issuance of building permit.	Public Works Department		
PDF TRA-15: The proposed project will include a signalized trail crossing at the main entrance to the project site on East Santiago Canyon Road. The signalized trail crossing will provided connectivity for to/from recreational trails and the Mara Bradman Arena by facilitating a street crossing.	Submittal of Final Map to the Public Works Department.	Prior to issuance of building permit.	Public Works Department		
PDF TRA-16: In conjunction with the development of adjacent land uses in Planning Areas B, C and D, the proposed project will provide a landscaped raised median in accordance with City Standards on East Santiago Canyon Road. The raised landscaped median will be implemented no later than the issuance of the last Certificate of Occupancy for Planning Area C or D.	Review by the Public Works Department.	In conjunction with the development of adjacent land uses in Planning Areas B, C and D.	Public Works Department		
MM TRA-1: Prior to obtaining a Certificate of Occupancy for any structure, the project applicant shall pay their TSIP fee pursuant to Chapter 15.41 of the Municipal Code.	Submittal of Fees to Public Works Department.	Prior to obtaining a Certificate of Occupancy.	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>MM TRA-2: Prior to the issuance of the first building permit, payment for the project’s fair-share will be submitted to the City. These funds will be held by the City until the remaining funding for the improvement becomes available. At that time, the identified mitigation measure will be constructed. The City Public Works Director in coordination with the Community Development Director, or their designees, shall be responsible for verification of compliance with this requirement. Calculation sheets are provided in Appendix N, <i>Traffic Impact Analysis</i>, within Appendix H.</p> <p>Katella Avenue, Handy Street to Santiago Boulevard</p> <ul style="list-style-type: none"> Prohibit on-street parking on either side of the street, and stripe a third eastbound or westbound through lane. With implementation of this improvement, the roadway segment would operate at LOS D with a V/C ratio of 0.827. The proposed project’s fair-share percent is 100.0 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. 	Submittal of Fees to Public Works Department.	Prior to the issuance of the first building permit.	Public Works Department		
<p>MM TRA-3: Prior to the issuance of the first building permit, payment for the project’s fair-share will be submitted to the City. These</p>	Submittal of Fees to Public Works	Prior to the issuance of the	Public Works		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>funds will be held by the City until the remaining funding for the improvement becomes available. At that time, the identified mitigation measure will be constructed. The City Public Works Director in coordination with the Community Development Director, or their designees, shall be responsible for verification of compliance with this requirement. Calculation sheets are provided in Appendix N, <i>Traffic Impact Analysis</i>, within Appendix H.</p> <p>Wanda Road/Katella Avenue – Villa Park Road</p> <ul style="list-style-type: none"> • Re-stripe dedicated southbound right turn lane to a shared through plus right turn lane. Also, restripe the southbound return lanes to have two receiving lanes, tapering back to one lane. There is sufficient pavement width to accommodate this improvement. • With implementation of this improvement, the intersection would operate at LOS E with a project contribution of -0.025 ICU. • The proposed project’s fair-share percent is 15.1 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. <p>Cannon Street/Villa Park Road – Santiago Canyon Road</p>	Department.	first building permit.	Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<ul style="list-style-type: none"> Widen the eastbound approach and provide a third through lane. There are already three eastbound receiving lanes which taper back to two lanes. With implementation of this improvement, the intersection would operate at LOS D with a project contribution of -0.048 ICU. The proposed project’s fair-share percent is 17.7 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. <p>Orange Park Boulevard/Santiago Canyon Road</p> <ul style="list-style-type: none"> Construct minor widening, and restripe the eastbound approach to add a third through lane starting approximately 150 feet before the intersection. Also, construct minor widening and restripe the eastbound return lanes approximately 150 feet after the intersection to have three receiving lanes, tapering back to two lanes. On-street parking will have to be removed to accommodate a third receiving lane. Based on field measurement, the existing curb-to-curb width is 85 feet on Santiago Canyon Road, on both sides of Orange Park Boulevard. A minimum curb-to-curb width of 90 feet is required 					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>to have the following lanes:</p> <ol style="list-style-type: none"> 1. 5 foot wide bike lanes on both sides 2. 12 foot wide outside travel lanes on both sides 3. 11 foot wide inside travel lanes on both sides 4. 12 foot wide left-turn lanes and painted median <ul style="list-style-type: none"> • With implementation of this improvement, the intersection would operate at LOS C with a project contribution of -0.256 ICU. • The proposed project’s fair-share percent is 10.3 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. <p>Newport Boulevard/Santiago Canyon Road</p> <ul style="list-style-type: none"> • Restripe the eastbound approach approximately 150 feet before the intersection and add a third through lane. There is sufficient pavement width to accommodate this improvement. Also, restripe the eastbound return lanes approximately 150 feet after the intersection to have three receiving lanes, tapering back to two 					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>lanes. Removal of the existing raised median will be required. Based on field measurement, the existing curb-to-curb width is 96 feet on Santiago Canyon Road, on both sides of Newport Boulevard. A following lanes can be accommodated within the curb-to-curb width of 96 feet:</p> <ol style="list-style-type: none"> 1. 5 foot wide bike lanes on both sides 2. 14 foot wide outside travel lanes on both sides 3. 12 foot wide inside travel lanes on both sides 4. 11 foot wide left-turn lanes (dual westbound left turn lane required in 2030 plus Project condition) <ul style="list-style-type: none"> • With implementation of this improvement, the intersection would operate at LOS C with a project contribution of -0.227 ICU. • The proposed project’s fair-share percent is 8.8 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. <p>Jamboree Road/Chapman Avenue – Santiago Canyon Road</p>					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<ul style="list-style-type: none"> • Restripe the northbound approach and convert the No. 1 dedicated right turn lane (one of two right turn lanes) to a through lane. Also, restripe the northbound return lanes to have three receiving lanes. There is sufficient pavement width to accommodate this improvement. • With implementation of this improvement, the intersection would operate at LOS D with a project contribution of -0.106 ICU. • The proposed project’s fair-share percent is 6.2 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. 					
<p>MM TRA-4: Prior to the issuance of the first building permit, payment for the project’s fair-share will be submitted to the City. These funds will be held by the City until the remaining funding for the improvement becomes available. At that time, the identified mitigation measure will be constructed. The City Public Works Director in coordination with the Community Development Director, or their designees, shall be responsible for verification of compliance with this requirement. Calculation sheets are provided in Appendix N, <i>Traffic Impact Analysis</i>, within Appendix H.</p>	Submittal of Fees to Public Works Department.	Prior to the issuance of the first building permit.	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>Katella Avenue, SR 55 northbound ramps to Handy Street</p> <ul style="list-style-type: none"> Prohibit on-street parking on the south side of the street and stripe a third eastbound lane. With implementation of this improvement, the roadway segment would operate at LOS C with a V/C ratio of 0.795. The proposed project’s fair-share percent is 14.5 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. <p>Katella Avenue, Handy Street to Santiago Boulevard</p> <ul style="list-style-type: none"> Prohibit on-street parking on both sides of the street and stripe a third eastbound and westbound lane. With implementation of this improvement, the roadway segment would operate at LOS C with a V/C ratio of 0.754. The proposed project’s fair-share percent is 14.8 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. 					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>Cannon Street, Taft Avenue to Santiago Canyon Road</p> <ul style="list-style-type: none"> Widen either the northbound or southbound approach and provide a third through lane. The bridge over Santiago Creek may have to be widened to accommodate one additional through lane. With implementation of this improvement, the roadway segment would operate at LOS C with a V/C ratio of 0.803. The proposed project’s fair-share percent is 9.0 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. 					
<p>MM TRA-5: Prior to the issuance of the first building permit, payment for the project’s fair-share will be submitted to the City. These funds will be held by the City until the remaining funding for the improvement becomes available. At that time, the identified mitigation measure will be constructed. The City Public Works Director in coordination with the Community Development Director, or their designees, shall be responsible for verification of compliance with this requirement. Calculation sheets are provided in Appendix N, <i>Traffic Impact Analysis</i>, within Appendix H.</p>	<p>Submittal of Fees to Public Works Department.</p>	<p>Prior to the issuance of the first building permit.</p>	<p>Public Works Department</p>		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>Wanda Road – Santiago Boulevard/Meats Avenue</p> <ul style="list-style-type: none"> • Convert (re-stripe) eastbound through lane to a dedicated right turn lane. • With the new eastbound right turn lane, install right turn overlap phasing for the northbound left turn movement. • With implementation of this improvement, the intersection would operate at LOS D with a project contribution of -0.222 ICU. • The proposed project’s fair-share percent is 3.4 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. <p>Newport Boulevard/Santiago Canyon Road</p> <ul style="list-style-type: none"> • Minor construction (i.e., removal of existing raised median) and restriping of the westbound approach would be required to add a second (dual) left turn lane. To accommodate the dual left turn lane within the existing curb-to-curb width, the lanes will have to be the minimum required 11 foot wide lanes each. Removal of the existing raised median will be required. 					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<ul style="list-style-type: none"> With implementation of this improvement, the intersection would operate at LOS C with a project contribution of -0.362 ICU in the a.m. peak hour; and, LOS B with a project contribution of -0.229 ICU in the p.m. peak hour. The proposed project’s fair-share percent is 3.2 percent (higher in p.m. peak hour). Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. <p>Newport Boulevard/Chapman Avenue</p> <ul style="list-style-type: none"> Install overlap phasing for westbound right turn lane. With implementation of this improvement, the intersection would operate at LOS D with a project contribution of -0.223 ICU. The proposed project’s fair-share percent is 0.9 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. 					
<p>MM TRA-6: Prior to the issuance of the first building permit, payment for the project’s fair-share will be submitted to the City. These funds will be held by the City until the remaining funding for the</p>	Submittal of Fees to Public Works Department.	Prior to the issuance of the first building permit.	Public Works Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
<p>improvement becomes available. At that time, the identified mitigation measure will be constructed. The City Public Works Director in coordination with the Community Development Director, or their designees, shall be responsible for verification of compliance with this requirement. Calculation sheets are provided in Appendix N, <i>Traffic Impact Analysis</i>, within Appendix H.</p> <p>Santiago Canyon Road, Cannon Street to Orange Park Boulevard</p> <ul style="list-style-type: none"> • Within the ultimate right-of-way of this segment (120 foot width), construct a fourth westbound travel lane that would turn into the free westbound right turn lane at the intersection of Canon Street/Santiago Canyon Road. • With implementation of this improvement, the roadway segment would operate at LOS D with a V/C ratio of 0.833. • The proposed project’s fair-share percent is 12.7 percent. Fair-Share Improvements shall include indirect and direct improvement costs including engineering, right-of-way, and construction. 					
Utilities and Service Systems					

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
PDF USS-1: The plant palette includes drought-tolerant species that reduce the demand for domestic water supply.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF USS-2: Low growing vegetation is used in parkways rather than turf that reduce the demand for domestic water supply.	Submittal of Landscape Plan for each Planning Area to the Community Development Department for final Design Review Committee approval.	Prior to the issuance of a building permit.	Community Development Department		
PDF USS-3: High-efficiency, low-flow drip irrigation system is used to reduce the demand for domestic water supply.	Submittal of Landscape Plan for each Planning Area to the Community Development	Prior to the issuance of a building permit.	Community Development Department		

Table 5-1: Mitigation Monitoring and Compliance Program

Mitigation Measures and Project Design Features (PDFs)	Method of Verification	Timing of Verification	Responsible Party	Verification of Completion	
				Initials	Date
	Department for final Design Review Committee approval.				