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Final
ENVIRONMENTAL IMPACT REPORT
for the
MORISOLI-AMARAL (FORMERLY TAVERNETTI)
RESIDENTIAL SUBDIVISION

SCH #: 97041029
County File #: SH 92-01, SH 92-01

December 2004

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1. INTRODUCTION

This document, in conjunction with the Draft Environmental Impact Report (DEIR) dated September 2001, constitutes the Final Environmental Impact Report (FEIR) for the Morisoli-Amaral (formerly Tavernetti) Residential Subdivision (hereafter in this EIR referred to as the "Morisoli-Amaral Residential Subdivision" or "Morisoli-Amaral Subdivision"). The Draft EIR was available for review and comment by agencies and the public for 45 days between October 17, 2001 and December 3, 2001. The Draft EIR was also submitted to the State Clearinghouse for distribution to State agencies. Letters of comment were received from the following:

FEDERAL AGENCIES

1. United States Department of the Interior, Fish and Wildlife Service [November 23, 2001]

STATE AGENCIES

2. State of California, Governor's Office of Planning and Research State Clearinghouse (OPR) [December 4, 2001]
3. State of California, OPR [December 10, 2001]
4. State of California Department of Fish and Game [November 26, 2001]]

REGIONAL AGENCIES

5. California Regional Water Quality Control Board [November 27, 2001]
6. Monterey Bay Unified Air Pollution Control District [November 14, 2001]
7. Association of Monterey Bay Area Governments [November 15, 2001]
8. Monterey County Department of Health [December 2, 2001]
9. Monterey County Department of Public Works [January 14, 2002]

PRIVATE PARTIES

10. Miller Brown & Dannis [December 3, 2001]

This document contains four primary sections: this INTRODUCTION, a REVISED SUMMARY, a CHANGES TO DRAFT EIR section, and a PUBLIC COMMENTS AND RESPONSES. The Revised Summary includes a brief project summary, the final version of each significant environmental impact and its mitigation, and a summary of alternatives considered. The CHANGES TO DRAFT EIR section includes all changes made to clarify impacts and clarify or expand mitigation measures during preparation of the Final EIR, in addition to changes made to the Draft EIR as a result of public comments and responses and changes to the project description and plans. This section shows text deletions in ~~strikethrough~~ and text insertions in <u>underline</u>. The PUBLIC COMMENTS AND RESPONSES section contains public comments and responses. Each comment received is numbered and responses are provided immediately following the comment letter.

PUBLIC PARTICIPATION

This section outlines the process employed by the County of Monterey (the County) to provide public and agency review and solicit public and agency input related to the EIR. It is the intent of the County to include this document in the official public record related to the certification of the

EIR and the project approval. Based on the information contained in the public record, decision-makers will be provided with an accurate and complete record of all information related to the environmental consequences of the project. The County used several methods to solicit public and agency input during the preparation of this EIR. The following is a list of the actions taken during the preparation, distribution, and review of the Draft EIR.

- In November 1992, the applicant originally submitted a County application for the development of 409 residential units. The County determined the need to prepare an EIR as a result of preliminary evaluation of the possible significant impacts of project construction and operation (see Appendix A of the Draft EIR, which contains the Initial Study dated December 1992).

- In April 1997, the County filed a Notice of Preparation (NOP) to interested agencies and organizations. NOP comments were received from the agencies and public on or before May 9, 1997.

- In April 1999, the applicant prepared and submitted a revised site plan. A re-scoping process was initiated and the results of that process are also presented in the Draft EIR dated September 11, 2001.

- The Draft EIR was distributed to interested responsible and trustee agencies, interested groups, organizations, and individuals on October 17, 2001 for a 45-day public review period which ended on December 3, 2001. Ten comment letters were received by the County within the public review period.

- Subsequently, this Final EIR has been prepared. This document includes a revised Summary and Project Description, a Changes to the Draft section, a copy of each comment received during the review period, and a response to each comment as required by CEQA section 21091(d)(2), 21092.5, and CEQA guidelines section 15088.

- Public hearings will be held before the Subdivision Committee, the Planning Commission and the Board of Supervisors prior to certification of the EIR and project consideration.

2. REVISED SUMMARY

INTRODUCTION

All impacts and alternatives identified during the course of this environmental analysis are summarized in this section. This summary groups impacts of similar ranking together beginning with significant unavoidable impacts, followed by significant impacts that can be mitigated. Therefore, the mitigation measures may not appear in consecutive order as presented in the Draft EIR text. It is the applicant's responsibility to implement the mitigation measures. This summary should be used in conjunction with a thorough reading of the EIR, as it is intended as an overview; the report serves as the basis for this summary.

PROPOSED PROJECT

The project under consideration is a proposed residential development located west of King City and north of Pine Canyon Road in central Monterey County. The project consists of a 319-lot residential subdivision on 402 acres, with 15% or 48 of the units proposed as "affordable housing". A full description of all components and phasing of the proposed project is provided in the Revised Project Description within the Changes to the Draft EIR section of this EIR. Also included are the following project objectives and purposes:

- To provide additional housing units in the King City area of Monterey County for a variety of socio-economic groups (including senior housing, inclusionary housing, rural, low density and medium density residential),
- To provide on-site recreational opportunities, including open space and developed parkland, and
- Increase economic value of the land both in terms of land value and tax revenue for the County.

SIGNIFICANT UNAVOIDABLE PROJECT-SPECIFIC IMPACTS

A significant and unavoidable adverse impact is one that could or would cause a substantial adverse change in the environment and cannot be avoided if the project is implemented. While in some cases, mitigation measures have been recommended, implementation of those mitigation measures would not reduce the impact to a less-than-significant level. The following unavoidable adverse project-specific impacts have been identified.

Biological Resources

Impact B-3: Project grading, clearing, and construction activities will result in the loss of approximately 730 trees, out of about 89,000 existing. Although, the proposed tree removal equates to less than 1 percent of the tree population on site, the trees to be removed include various oak species within blue oak woodlands, a sensitive habitat under the provisions of Title 16, Chapter 16.60, Monterey County Code. *This is a significant impact that can be reduced with the following required measures, but not to a less-than-significant level due to the existing habitat quality of the site, and the unknown ability to find appropriate locations for, and to maintain, the replacement trees. Therefore, this is a significant, unavoidable adverse impact.*

Mitigation

B-3.1 Prior to approval of the Final Map, lots shall be configured, building envelopes placed, and roads and other facilities sited to minimize removal of oak trees or areas of blue oak woodland. Encroachment by construction activities or alteration to blue oak woodland habitat shall be prohibited by deed restrictions. These deed restrictions shall specifically identify the following: 1) the prohibition of oak tree removal outside prescribed building/driveway envelopes and 2) the prohibition of irrigation beneath on-site oak trees.

B-3.2 Prior to issuance of a grading permit, a qualified arborist or forester shall be retained to monitor tree removal and trimming during grading activities.

B-3.3 As required by County Ordinance, the applicant shall provide a detailed Forest Management Plan subject to the review and approval of the County of Monterey Planning Department for the tree impacts of the project prior to approval of the 1st phase for the Final Subdivision Map. The Forest Management Plan shall include the following guidelines:

- Avoidance is the primary measure to preserve and protect landmark trees; only the trees that are a safety hazard or cannot be avoided should be removed. Require tree removal permits and tree replacement for removal of any oaks that occur as part of future project construction. Due to the number of trees to be removed on the site and the dry climate of the project site, tree replacement and replanting of oak trees less than 24-inches and greater than 2-inches in diameter shall be based on a 3:1 (replacement:removal) ratio in areas of suitable habitat. Tree replacement and replanting shall be based on a 5:1 ratio for all Landmark Trees. Require use of oaks grown from seeds collected in locations bordering the tree clusters from which the trees were removed. Replanting should avoid open spaces where trees are not now found unless there is evidence of soil deep enough and of sufficient quality to support the plantings.

- Road and driveway alignments shall be adjusted when possible to avoid landmark trees and all trees while minimizing the need for additional grading and limiting new erosion potential.

- Prior to construction, enclosure fencing shall be installed around the perimeter of the tree's drip line.

- Construction activities and equipment shall not encroach into the tree's drip line.

- Grading standards shall be set regarding proper drainage and aeration around the base of trees.

- Tree trimming specifications as well as crown thinning guidelines shall be prepared.

- Homeowner guidelines shall be prepared identifying proper maintenance while living among the oaks.

B-3.4 Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all storm runoff is diverted away from areas of blue oak woodland

during construction. Berms or other erosion control measures shall be employed to prevent such diversion.

B-3.5 Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all developed facilities, including culverts and other drainage improvements, are designed so that storm runoff is not directed into areas supporting oak trees or blue oak woodland.

B-3.6 Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all developed irrigation systems located near areas of blue oak woodland are designed so that irrigation runoff is not directed into the woodland areas.

B-3.7 Prior to approval of the Final Map for each phase, the applicant shall submit conservation easements to the County PBID for review and approval that shall be applicable to all areas designated as open space on the Vesting Tentative Map. Additional vegetation removal, grazing, and ground disturbance shall be prohibited within those areas with the exception of any fire protection measures prescribed by the CDF.

Impact B-5: Although San Joaquin kit fox presence on the site has not been established, suitable habitat for it was found to be present on the project site within non-native grassland and blue oak woodland (Early Evaluation Report prepared by Bryan Mori Biological Consulting Services, October 2000) to the USFWS. The San Joaquin kit fox is a federal Endangered and state threatened species and the majority of the project site is proposed in areas defined as suitable habitat. *For these reasons, the project is assumed to have a significant impact on the San Joaquin kit fox. This impact may be reduced by implementation of the following mitigation as well as Mitigation Measure B-6.1, however, the impact will not be reduced to a less-than-significant level. Therefore, this impact is considered significant and unavoidable*

Mitigation

B-5.1 The applicants shall confer with the USFWS and CDFG regarding the potential for take of the San Joaquin kit fox. The results of the kit fox study (Appendix C.6) and the "San Joaquin Kit Fox Habitat Evaluation Form" shall be submitted to these agencies for review and comment. The applicants shall provide evidence of their compliance with applicable requirements of the federal Endangered Species Act and California Endangered Species Act prior to the issuance of building permits and the commencement of ground disturbance for those areas within the identified habitat area, as outlined below:

Based on the San Joaquin Kit Fox Survey Protocol established by the USFWS (June 1999), the project applicant must submit the early evaluation report (prepared by Bryan Mori Biological Consulting Services, October 2000) to the USFWS. The USFWS will evaluate the report as to whether or not the project site represents kit fox habitat, the quality of the habitat, and the value of the habitat to the recovery of the kit fox. If it is determined by the USFWS that the project will not result in take, the applicant will provide evidence of this prior to the issuance of building permits. If the project discussions with the USFWS determine the potential for take, the project applicants shall present modifications to protect kit fox, including avoidance that would serve to eliminate the potential take. If the USFWS determines take will occur and project

modifications cannot avoid take, the applicants shall provide evidence of their compliance with applicable requirements of the federal Endangered Species Act and California Endangered Species Act prior to the issuance of building permits for those areas within the identified habitat. The project applicant shall be required to implement the mitigation measures outlined in the incidental take permits. Implementation of the permit requirements shall be monitored by a qualified biologist and verified by the County Planning and Building Inspection Department.

B-5.2 Regardless of the outcome of the above recommendation, pre-construction surveys for kit fox dens shall be required for all development phases of the future project in the study area. Pre-construction surveys shall be conducted by a qualified biologist no less than 14 days and no more than 30 days prior to the start of any ground disturbing activities to locate active kit fox den sites. In addition to pre-construction surveys, a qualified biologist, meeting the required qualifications described in the *U.S. Fish and Wildlife Service Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to Ground Disturbance*, June 1999, shall be on-site to monitor construction activities for the San Joaquin kit fox. In the event that an active kit fox den is found, then the standard mitigation actions outlined in the *U.S. Fish and Wildlife Service Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to Ground Disturbance* June 1999, are recommended to avoid possible take of kit fox during future construction activities. These actions are general in nature, therefore, site-specific strategies for the project site shall be based upon consultation with CDFG and USFWS, as described in **B-5.1**. To ensure compliance with this mitigation measure, prior to issuance of any grading permits, the Planning and Building Inspection Department (PBID) shall be furnished with written correspondence from a qualified wildlife biologist documenting that no active kit fox den sites nor kit fox individuals were found on the site. If active kit fox den sites or kit fox individuals were found on the site during the survey, the applicant will be required to comply with all mitigation actions required by CDFG and USFWS and the County PBID shall monitor implementation of those actions.

Impact B-6: Project development would fragment (i.e., divide and disrupt) existing habitat on and near the site, including grassland, blue oak woodland, scrub, and chaparral, due to the distribution of the homes and roads, and would adversely impact free roaming wildlife such as deer, coyote, fox, and raptors. In addition, the introduction of human disturbance including off-road vehicle use, roaming dogs and cats, illegal shooting, and road kill would further impact wildlife in the area. *This fragmentation of habitat is considered a significant impact that can be partially reduced by implementation of the required mitigation below; however, cannot be fully mitigated without project redesign (i.e., clustering of all development on the east side). Therefore, the fragmentation of habitat is considered a significant, unavoidable impact.*

Mitigation

B-6.1 Prior to approval of each final map, the applicant shall prepare and submit draft Covenant, Conditions, and Restrictions (CC&Rs) applicable to that phase that shall include the following in addition to the requirements in Mitigation Measure HW-1.2: 1) restrict installation fencing to the immediate vicinity of residences, and where fencing is placed adjacent to open space areas and areas of natural, undisturbed habitat, fences shall be installed such that a six inch space is left between the bottom of the fence and the surface of the ground; 2) prohibit off-road vehicle use; 3) prohibit illegal discharge of firearms; 4) require cats and dogs be fenced or leashed at all times; and 5) prohibit the installation of road medians throughout the development. These CC&Rs shall be

reviewed and approved by the Planning and Building Inspection Department prior to approval of each final map.

Aesthetics / Viewshed

Impact AV-1: Even though the visibility of the project has been reduced from previous proposal, development of the project would result in a change in views of the project site within the public viewshed resulting from changes in topography due to grading, construction of a 319-lot subdivision and associated structures, the removal of vegetation, and the generation of new light sources on the site. This would significantly impact the existing visual character of the site, by transforming a predominantly natural hillside partially into urban development. *This is a significant impact that can be reduced by the following mitigation; however, it cannot be reduced to a less-than-significant level. Therefore, this is a significant, unavoidable adverse impact.*

Mitigation

AV-1.1 Prior to issuance of a grading permit, the applicants shall demonstrate that residential development on hillsides is designed to fit the topography of the lot, using stepped foundations or other techniques, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.2 Prior to issuance of a grading permit, the applicants shall demonstrate that all grading on residential lots has been limited to minimize visual impacts, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.3 Prior to approval of the final map for a specific phase, the applicant shall submit a Landscape Plan corresponding to that phase of the final map that provides landscape screening appropriate to the surrounding area, to integrate the project into the site, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.4 Prior to approval of the final map for a specific phase, the applicant shall submit a Lighting Plan corresponding to that phase of the final map that demonstrates the use of only non-reflective materials, subdued colors, and lighting that does not create off-site glare in all phases of project development, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.5 The applicant shall provide all Grading, Landscape, and Lighting Plans for that phase and the Forest Management Plan for the entire site to the Monterey County Planning and Building Inspection Department for review for consistency with applicable standards prior to approval of the final map.

AV-1.6 On the Landscape Plans for the relevant project phase, the applicant shall demonstrate to the Planning and Building Inspection Department that all new water tanks are adequately screened with vegetation and painted in earthtones prior to approval of the final map for that phase.

SIGNIFICANT IMPACTS THAT CAN BE MITIGATED

GEOLOGY AND SOILS

Impact GS-1: The project could be subject to at least one moderate to severe earthquake (with a mean peak horizontal acceleration as high as 0.64g) within the 50 years following construction. Strong ground shaking on the site has the potential to result in damage to proposed structures and injury to people. *This is a significant impact which can be mitigated to a less-than-significant level with the following measure.*

Mitigation

GS-1.1 Project design and engineering shall assume peak horizontal accelerations of 0.57 to 0.64g, or repeatable high ground accelerations of 0.38 to 0.43g for project design, subject to the review and approval of the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures. Structural design shall conform to UBC Zone 4 guidelines, at a minimum. All specified setbacks identified in the geological suitability map must be field-verified by a qualified geologist prior to issuance of a grading permit.

Impact GS-2: There is a low to moderate hazard associated with potential slope instability. The probability of debris flows occurring in steep terrain in the next 50 to 100 years is moderate. This hazard only affects sites located on, or in close proximity to, steep slopes. The probability of the existing large landslides reactivating catastrophically as a whole mass in the next 50 to 100 years is low based on their inferred age of formation and the lack of any geomorphic features suggestive of recent activity. The potential for secondary landsliding forming on steep slopes within existing landslides is low to moderate. *This is a significant impact that can be mitigated to a less-than significant level with the following measures.*

Mitigation

GS-2.1 No building intended for human habitation shall be sited on any recognized landslide unless the landslide is demonstrated to be stable. In addition, no building intended for human habitation shall be sited within 100 feet of the toe of landslide Qls-a or within 50 feet of the toes of landslides Qls-b or Qls-c unless site specific slope stability analyses demonstrate that smaller setbacks are warranted by site conditions. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.

GS-2.2 No buildings intended for human habitation should be sited on or within 50 feet of the toe of a slope over 50% gradient, or within 75 feet of the toe of a slope of gradient 60% or greater unless site specific geotechnical investigations determine that such mitigation is unnecessary. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.

Impact GS-3: The proposed site improvements will require the construction of earth embankments some of which are underlain by low density, alluvial sediments. Such sediments can settle under the loads induced by earth embankments and there is the potential for failure of the embankments. *This is a potentially significant impact; however, the following mitigation*

measures will ensure that the proposed embankments will not result in any adverse geologic impacts.

Mitigation

GS-3.1 A qualified geotechnical consultant shall be present at the site to observe excavations and evaluate all earth embankment locations for settlement potential and make appropriate mitigation recommendations as subsurface conditions warrant. The project shall be constructed in conformance with all recommendations of the geotechnical consultant. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.

GS-3.2 Site preparation shall consist of reworking the supporting soil prior to placement of berms or other new fills, in accordance with all applicable recommendations of previous geotechnical and geologic studies of the site, including those by Weber, Hayes and Associates (May 1994), Steven Raas & Associates, Inc. (August 1994), Tharp & Associates (July 1994, July 1997, and March 1999). These measures include overexcavation and recompaction of the soils supporting earthen berms, combined with protection of all pond side slopes with stabilization fills, subject to review and approval by the project geologist prior to approval of the grading plans and during grading. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.

GS-3.3 All previous geotechnical and geologic studies of the site shall be provided to the attention of the architect, engineer(s) and general contractor for the project, and all applicable recommendations made in the report shall be incorporated into the plans and specifications, and carried out in the field. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures prior to issuance of each grading and building permit for the project.

Impact GS-4: Project construction would result in erosion and sedimentation due to grading and construction, exposing top soils and colluvium. *This is a significant impact that can be mitigated to a less- than significant level with the following measures.*

Mitigation

GS-4.1 The applicant shall submit a Drainage Plan for each phase of project improvements prepared by a registered civil engineer to the County Public Works, Water Resources Agency, and Planning and Building Inspection Department for review and approval prior to approval of the Final Map for that phase. The Drainage Plan shall include at a minimum, the following:

- Collection of all drainage from improved surfaces such as walkways, patios, roofs and driveways, roads, etc. in impermeable gutters or pipes and conveyance to neighborhood storm sewers or natural drainages.
- Absence of any concentrated discharge or other water flowing directly onto the ground adjacent to a proposed building site or onto steep slopes, or towards an existing or proposed building site.
- Installation of energy dissipaters at storm water outfall locations.

- The requirements contained within Mitigation Measures HW-1.1 and HW-1.2.

GS-4.2 The applicant shall prepare and implement an Erosion Control Plan for the entire project or for each area included on an individual grading permit consistent with the policies and requirements of the Erosion Control Ordinance (Monterey County Code Chapter 16.12) and the Storm Water Pollution Prevention Plan for the project subject to the approval of the Monterey County Public Works and Planning and Building Inspection Departments prior to issuance of that grading permit. Measures include, but are not limited to: stockpiling of soils during construction to prevent deposition into drainages or watercourses; minimizing areas of exposed soil; temporary detention of runoff; and short and long term re-vegetation.

GS-4.3 For necessary grading operations, the smallest practicable area of land shall be exposed at any one time during development and the length of exposure shall be kept to the shortest practicable amount of time. Grading, clearing and all construction activities shall conform to the Monterey County grading ordinance. This mitigation measure shall be monitored throughout grading activities by the County Grading Inspector (Planning and Building Inspection Department).

Impact GS-5: The ability of the soils to provide adequate percolation for the proposed septic systems at particular sites has been demonstrated for 14 (i.e., half) of the proposed 28 residential lots in Phase A and B. To date, testing of the other 14 lots has been completed or backhoe trenching has been conducted to verify their ability to comply with applicable septic system requirements. However, the Monterey County Health Department has commented that redesign of the lots may be necessary to remove proposed septic areas from within a Pacific Gas & Electric easement. This redesign may require additional soils testing to prove adequate percolation in other areas of the proposed lots. *This is a potentially significant impact that can be mitigated to a less-than significant level with the following measures.*

Mitigation

- **GS-5.1** Prior to approval of any phase of a final map that includes lots that propose to utilize on site septic systems, the applicant shall identify lot-specific locations and submit detailed engineering plans for each septic system to the Monterey County Health Department (MCDH) for review and approval. For those lots, the applicant shall demonstrate to MCDH that connection to a sanitary sewer system is not feasible and that the lot does not abut any roads containing proposed sanitary sewer lines. Each design shall be stamped and signed by a registered engineer and shall meet the regulations in Chapter 15.20 of the Monterey County Code (Sewage Disposal Ordinance) and in the Prohibitions of the Basin Plan by the Regional Water Quality Control Board. If it has not already been completed (i.e., in the October 2001 Percolation Study), the applicant shall perform percolation testing for each proposed septic system consistent with the policies and requirements of the Monterey County Code Chapter 15.20, Sewage Disposal Ordinance.

  Per the MCDH, if a proposed individual septic system site does not meet the policies and requirements of the Monterey County Code Chapter 15.20, Sewage Disposal Ordinance, the lot shall be eliminated as a residential site.

SURFACE HYDROLOGY AND WATER QUALITY

Impact HW-1: The project will increase storm water flows from pre-development levels due to construction and the increase in impervious surfaces, such as roadways, buildings, patios, and parking areas. However, with the incorporation of on-site detention basins as proposed in the revised project plans (August 2004), the post- development 10-year and 100-year storm event flows for the project area drainage basin will not exceed pre- development flows. Therefore, downstream properties along Pine Canyon Creek should not experience increase runoff during peak flow conditions as compared with the existing conditions as long as the final design details of the detention facilities conform with the proposed plans and the basins are properly maintained. Detailed construction plans and maintenance plans for the detention basins have not yet been prepared. *This is a potentially significant impact that can be mitigated to a less-than significant level with the following measures.*

Mitigation

HW-1.1 Prior to issuance of building or grading permits, the applicant shall prepare final design and construction drawings, including hydraulic calculations for the detention basin outlet structures. The final design shall be subject to review and approval by the Monterey County Public Works Department and Water Resources Agency.

HW-1.2 Prior to issuance of any grading or building permits and during construction, the applicant shall conduct regular maintenance and cleaning of on-site drainage and detention facilities to ensure ongoing provision of adequate capacity. This requirement shall be included in the Erosion Control and Drainage Plan required by Mitigation Measures GS-4.1 and GS-4.2 and shall be monitored by the Monterey County Water Resources Agency (WRA) during construction. Prior to approval of each final map, the applicant shall prepare and submit Covenant, Conditions, and Restrictions (CC&Rs) to the WRA applicable to that phase that shall include the following, in addition to the requirements in Mitigation Measure B-6.1 and HW-2.2: regular ongoing maintenance and cleaning upon full occupancy of the system as a responsibility of the appropriate community services district or homeowner's association and ensured in perpetuity. These CC&Rs shall be reviewed and approved by the WRA prior to approval of each final map.

Impact HW-2: Development of the project will introduce urban pollutants into surface runoff, which could drain into and contaminate Pine Canyon Creek and the Salinas River., a listed 303(d) impaired water body. The potential impact will be partially mitigated by the stormwater drainage design, which includes oil and grease traps plus onsite detention basins for attenuation of runoff and associated pollutants from 98.5% of the site. *This is a significant impact that can be mitigated to a less-than significant level with implementation of Mitigation Measures GS-3.1 through GS- 3.3 in* ***Geology and Soils Hazards*** *and the following measures.*

Mitigation

HW-2.1 Prior to issuance of the first grading permit for the project, the project will be required to obtain a NPDES permit and prepare a SWPPP, in accordance with the regulations of the RWQCB. The project shall implement Storm Water Best Management Practices as specified on the SWPPP both during and after construction to prevent the release of nonpoint source water contaminants. This shall include conformance with the following construction planning measures: (1) construction work involving work on a cleared site should be conducted during the dry season,

typically April 15 – October 15; (2) where construction during the wet season can't be avoided, the erosion and sedimentation control BMPs shall be in place throughout the rainy season; (3) during the dry season erosion control materials shall be available for employment in case of an un-seasonal rain event; (4) the construction shall be phased as much as possible to limit the amount of cleared, grubbed and disturbed areas at any time during the rainy season; and (5) the construction phasing, including the timing and areal extent of soil disturbance by phase, shall be addressed in the SWPPP. Compliance with this mitigation measure shall be confirmed by the Planning and Building Inspection Department prior to issuance of a grading permit and on a regular basis, specifically, every two weeks during the wet weather season (October 15th through April 15th) and every four weeks during the dry season (April 16th through October 14th).

HW-2.2 The project Drainage and Erosion Control Plans and SWPPP required by Mitigation Measures GS-4.1, GS-4.2 and HW-2.2, respectively, shall include the following measures ("Best Management Practices") to minimize nonpoint source pollution: 1) the use of porous pavement or "grass-phalt" wherever possible, 2) appropriate landscaping practices to minimize runoff of fertilizers, herbicides, and pesticides, 3) regular street sweeping, 4) installation of structural storm water treatment controls such as swales, vegetated filter strips, detention basins, cisterns for storm water storage, and sediment/grease/oil traps (with regular maintenance programs). Sediment and oil traps shall be designed to capture first flush oil and sediment and inspection and maintenance of the traps shall occur at a minimum once per year in the late summer. The applicant shall also review and incorporate, as appropriate, additional Best Management Practices for surface water runoff and erosion control, including those recommended by the Regional Water Quality Control Board and listed on Attachment 1 of their letter (Letter 4). Regular maintenance shall be the responsibility of the appropriate community services district or homeowner's association and ensured in perpetuity through the legally binding Covenants, Conditions and Restrictions described in Mitigation Measure HW-1.2 that shall be reviewed and approved by Water Resources Agency prior to approval of each final map for the project.

Biological Resources

Impact B-1: Development of the proposed subdivision and ancillary facilities will have considerable direct and indirect impacts to the vegetation of the study area. Substantial amounts of native vegetation and wildlife habitat will be removed or greatly altered by placement of homes, outbuildings, roads, driveways, and other facilities, and by placement of lawns and other landscaped areas. *This is a significant impact that can be mitigated to a less-than-significant level with the following measures.*

Mitigation

B-1.2 Subject to approval by the Monterey County Water Resources Agency and Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans that demonstrate that all culverts and other drainage improvements are designed such that erosion and sedimentation from storm runoff do not occur in areas of undisturbed native vegetation. This mitigation measure shall be confirmed prior to approval of the project improvement plans.

B-1.3 Prior to approval of the final map for a specific phase, the applicant shall submit a Landscape Plan (see Mitigation Measure AV-1.3, AV-1.5 and AV-1.6) corresponding to that phase of the final map that includes only drought-tolerant native species from local sources, or drought-tolerant non-natives that are known to be non-invasive. The species selected must be included on Monterey County's current list of drought resistant plants and must not be classified as invasive (List A or B) by the Exotic Pest Plants of Greatest Ecological Concern in California (CalEPPC, October, 1999).

B-1.4 The applicant shall not use species in landscaping that are known to be invasive, as determined by a qualified botanist or landscape architect. The species used shall not be classified as invasive (List A or B) by the Exotic Pest Plants of Greatest Ecological Concern in California (CalEPPC, October, 1999).

B-1.5 Landscape plans shall include all irrigation systems for community areas of the project. All irrigation systems shall be designed to minimize runoff of irrigation water into adjacent areas of native vegetation and to minimize overspray onto streets and sidewalks subject to the approval of the Monterey County Planning and Building Inspection Department and Monterey County Water Resources Agency .

B-1.6 CC&Rs prepared for the project (as required by Mitigation Measure B-6.1) shall indicate that rodenticide or herbicide shall not be used in the project area. These CC&Rs shall be reviewed and approved by the Planning and Building Inspection Department prior to approval of each final map.

Impact B-4: Construction impacts on wildlife could include inadvertent mortality during construction activities, mortality due to road kills, malicious or inadvertent harassment during construction, and disturbance from noise or ground vibrations in areas adjacent to construction sites. Other impacts on wildlife include loss of foraging habitat and nest/den sites of pocket mouse or nesting raptors. *This is a significant impact that can be mitigated to a less-than-significant level with the following measures.*

Mitigation

B-4.1 During construction, vehicle traffic shall be restricted to designated access roads and the immediate vicinity of construction sites. Vehicle speeds shall not be allowed to exceed 20 mph in most areas. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

B-4.2 During construction, no pets or firearms shall be permitted on construction sites so as to avoid harassment or killing of wildlife. Construction workers shall leave the construction area each night to minimize disturbance to actively foraging animals. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

B-4.3 Construction excavations deeper than three feet shall be either fenced, covered, or filled at the end of each working day, or have escape ramps provided to prevent entrapment of wildlife. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

B-4.4 During construction, all food-related trash shall be deposited in closed containers and regularly removed from work sites. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

B-4.5 Prior to issuance of a grading permit, the Planning and Building Inspection Department shall require that the applicant submit evidence that demonstrates that a biological monitor will be on-site during initial construction activities (lot clearing, grading, tree removal) to monitor for San Joaquin pocket mouse and nesting raptors. Prior to issuance of a grading permit the applicant shall submit evidence to the Planning and Building Inspection Department that demonstrates a permitted biologist should consult with the appropriate agencies to establish an agreed-upon plan of action in the event that these species are found on-site during construction.

B-4.6 If raptor nests are located during the pre-construction surveys identified in Mitigation Measure B-4.5, a 500-foot buffer within which no construction is allowed shall be established by a qualified biologist around each nest during breeding season to prevent nest harassment and brood mortality. Every effort shall be made to avoid removal or impact to known raptor nests within project boundaries. Maximize avoidance of these areas. If trees known to support raptor nests cannot be avoided, removal of these trees may only occur during the non-breeding season. Compliance with this measure shall be confirmed prior to issuance of a grading permit and monitored throughout construction by the Planning and Building Inspection Department.

Cultural Resources

Impact C-1: Based on the background research and surface reconnaissance, the project area does not contain evidence of any potentially significant cultural resources. *However, due to the possibility that unidentified (e.g., buried) cultural resources may be found during construction, this is a potentially significant impact that can be reduced to a less-than-significant level by implementing the following mitigation.*

Mitigation

C-1.1 If archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 150 feet of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, appropriate mitigation measures shall be developed and implemented according to Section 15064.5 of CEQA. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

Aesthetics / Visual

Impact AV-2: Development of the site would result in an increase in external lighting. Night lighting for security and street lighting could be perceived as intrusive to surrounding residential development because the site has not had intrusive night lighting in the past. *This is a significant impact that can be mitigated to a less-than-significant level by the following measure.*

Mitigation

AV-2.1 The applicant shall provide a Public Space Lighting Plan subject to the review and approval of the Monterey County Planning and Building Inspection Department prior to approval of the Final Map for each phase. The type, height, and spacing of street lights

shall conform to County guidelines. In particular, street lights shall be directed downward and be of minimum intensity necessary for proper intersection lighting.

Traffic And Circulation

Impact T-1: Jolon Road currently operates at LOS C in the afternoon peak hour. The addition of project traffic is projected to change the level of service along Jolon Road, north of Pine Canyon Road, to LOS D in the morning and afternoon peak hours. This deterioration of level of service warrants the widening of Jolon Road to a three-lane collector between the Highway 101 southbound ramps and Pine Canyon Road. This improvement will allow Jolon Road to operate at LOS A during both peak hours. *This is a significant impact that can be mitigated to a less-than-significant level with the following measures.*

Mitigation

T-1.1 The applicant shall widen Jolon Road to three travel lanes between Pine Canyon Road and the Highway 101 southbound ramps to provide two southbound lanes and one northbound lane. The widening shall be consistent with and incremented toward proposed future intersection and roadway configurations of Jolon Road and Pine Canyon Road that includes four travel lanes between Pine Canyon Road and Highway 101 and left turn channelization at Pine Canyon Road (see cumulative mitigation). The widening of Jolon Road to three lanes will also benefit other developments along Pine Canyon Road and south of Pine Canyon Road along Jolon Road. The project applicant may be eligible for reimbursements from future development. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.

Indirect impacts of implementation of Mitigation Measure T-1.1 The widening of Jolon Road is not expected to create any new significant environmental impacts provided that mitigation measures recommended in this EIR for the project specific impacts are also implemented in conjunction with, and as applicable to, the improvements to Jolon Road.

Impact T-2: Pettitt Road between the project site and Pine Canyon Road is proposed as access to the project site and is currently unpaved and narrow. The existing condition of this access is not adequate for the level of traffic generated by this project. *This is a significant impact that can be mitigated to a less-than- significant level with the following measure.*

Mitigation

T-2.1 The applicant shall improve the segment of Pettitt Road connecting Pine Canyon Road to the project site by adding pavement, striping, and appropriate signage, such as speed limit signs subject to the approval of the Monterey County Public Works Department. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.

Impact T-3: The project proposes to provide sidewalks and bicycle lanes on-site as required by the County. There are presently no pedestrian or bicycle facilities along Jolon Road or Pine Canyon Road. This could present potential traffic hazards to future residents traveling to/from the site on foot or bicycle. *This is a significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

T-3.1 The project shall provide sidewalks along one side of Pine Canyon Road from the project entrance to Jolon Road, and all future roadway widening shall include sidewalks and bicycle lanes on both sides of the road in accordance with County requirements. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.

Cumulative Traffic

Impact C-1: Cumulative traffic in combination with traffic generated by the proposed project would result in a level of service of D during morning and afternoon peak hours on Jolon Road between Pine Canyon Road and the Highway 101 southbound ramps, and on Pine Canyon Road between Pettitt Road and Jolon Road. *This is a significant cumulative impact that can be mitigated to a less-than-significant level with implementation of the following measures.*

Mitigation

C-1.1 Widen Jolon Road to four travel lanes (two northbound and two southbound) between Pine Canyon Road and Highway 101 southbound ramps. The Jolon Road northbound approach to Pine Canyon Road shall include a left-turn lane and a shared through/right-turn lane. The Jolon Road southbound approach to Pine Canyon Road shall include a left-turn lane, a through lane, and a free (unrestricted) right turn lane. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.

C-1.2 Widen Pine Canyon Road to four travel lanes with left turn channelization between Pettitt Road and Jolon Road. The eastbound Pine Canyon Road approach to Jolon Road shall include two left-turn lanes and a shared through/right-turn lane. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.

Impact C-2: Cumulative traffic in combination with traffic generated by the proposed project would result in a level of service of F at the Pine Canyon Road and Jolon Road intersection during the morning peak hour. *This is a significant cumulative impact that can be mitigated to a less-than-significant level with implementation of measures C-1.1 and C-1.2 above, in addition to the following measure.*

Mitigation

C-2.1 Install a traffic signal at the Jolon Road/Pine Canyon Road intersection. In addition to the lane configurations discussed in mitigation measures C-1.1 and C-1.2, an acceleration lane shall be constructed on Pine Canyon Road to the west of the intersection, and the single-lane westbound Pine Canyon Road approach shall serve as a shared left/through/right lane.[1] All traffic improvement plans shall be subject to the approval of

[1]According to the County of Monterey Public Works Department, the County has been collecting a traffic impact fee from development in the Pine Canyon area for the past 16 years. The purpose of these fees is to fund improvements to the Pine Canyon/Jolon Road intersection. The applicant may be able to pay into the fund as an alternative to constructing the cumulative mitigation themselves, and according to CEQA case

the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.

Noise

Impact N-1: Existing residences in the project area, and future residences on the project site (occupied prior to completion of the subdivision) would be exposed to short-term noise impacts during construction. *This is a significant impact that can be mitigated to a less-than-significant level with the following measures.*

Mitigation

N-1.1 Construction activities shall be restricted to the hours of 8:00 AM to 7:00 PM Monday through Saturday. Equipment maintenance and servicing shall be confined to the same hours. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

N-1.2 All construction equipment utilizing internal combustion engines shall be required to have mufflers which are in good condition. Stationary noise sources shall be located at least 300 feet from occupied dwelling units unless noise reducing engine housing enclosures or noise screens are provided by the contractor. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

N-1.3 Equipment mobilization areas, water tanks, and equipment storage areas shall be placed in a central location as far from existing residences as feasible. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

Impact N-2: Proposed residential uses adjacent to agricultural activities would be exposed to intermittent noise during tilling, harvesting, fertilizer and pesticide applications, and other farming activities. *This is a significant impact that can be mitigated to a less-than-significant level with the following measures.*

Mitigation

N-2.1 The applicant shall design lot boundaries adjacent to existing agricultural operations so that a physical separation, such as a row of trees, wall or fence will be installed between new residences and existing agricultural uses, subject to the review and approval by the Monterey County Planning and Building Inspection Department through review of the project Landscape Plans (see Mitigation Measure AV-1.3, AV-1.5, AV-1.6, B-1.3 and B-1.5).

N-2.2 The applicant shall record documents for lots adjacent to existing agricultural operations and shall disclose that the transferred property may be subject to normal effects of agricultural operations such as dust, noise, pesticide use, and possible odors subject to the review and approval by the Monterey County Planning and Building Inspection Department.

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law, payment of fees to a program established to implement a required mitigation is adequate to reduce the associated project=s contribution to the cumulative impact to a less-than- significant level. (Bryce Hori, personal communications, August 2004).

Air Quality

Impact AQ-1: The project will result in short-term and intermittent localized increase in dust and exhaust emissions while clearing and grading operations occur. Because the schedule for construction and grading is not known, it is assumed that the threshold of 82 lbs per day of PM10 emissions may be exceeded on one or more days of construction activity. *This is a significant impact that can be mitigated to a less-than- significant level with the following measures.*

Mitigation

AQ-1.1 No more than 2.2 acres of grading or excavation and no more than 8.1 acres of earthmoving shall occur in one day. Dust control measures, as recommended by the Monterey Bay Unified Air Pollution Control District and required by State law, shall be implemented by the project applicant to ensure PM_{10} emissions do not exceed thresholds. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department. These include:

- Provide equipment and manpower for watering all exposed or disturbed earth surfaces at least twice daily. Increased watering frequency should be required whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.

- Cover stockpiles of debris, soil, sand or other materials that can be blown by the wind. As required by State law, trucks transporting fill material to and from the project site shall be covered.

- Sweep mud and dust from construction areas and streets daily or as needed.

- Minimize the area of land disturbed at any time. After clearing, grading or excavation is completed, landscape or cover those portions of the site immediately.

Water Supply

Impact WS-1: Without approval from the Monterey County Health Department that the project applicant has identified and legally secured adequate reclaimed water disposal locations, the project would increase water demand in the local area by 118,095 gallons per day. Technically, ~~T~~this increased water use will be partially offset by the percolation of treated water (approximately 73,000 gpd) through the proposed Rapid Infiltration Basins. However, ~~this~~ no "recharge credit" can be recognized for this percolation, since the treated wastewater will not meet Department of Health Services Draft Groundwater Recharge Regulations. The project will ~~still~~ result in a net increase in water use for the local area, which is in conflict with Monterey County water resource conservation objectives. *Only with proof of identification of a location and method of reclaimed water disposal and agreement with nearby property owners for use of a minimum of 118,095 gallons per day of the reclaimed water, would the project result in a less-than-significant impact upon water supply. This is a significant impact that can be reduced to a less-than-significant level with the following mitigation measures.*

Mitigation

WS-1.1 Subject to approval by the Monterey County Health Department, the project applicant shall pursue and secure commitments to utilize a minimum of 118,095 gallons per day

of the tertiary treated wastewater as a substitute for existing groundwater-supplied agricultural irrigation water, landscape irrigation or other appropriate recycled water uses. This will also require a change in the Waste Discharge Requirements for the Little Bear Wastewater System to formally recognize it as a water recycling facility. It will also require review by the State Department of Health Services.

WS-1.2 Design of the proposed storm water detention ponds shall include provisions to increase infiltration rates for runoff such that detention ponds function partially as percolation ponds, subject to the review of the Monterey County Health Department and Water Resources Agency.

WS-1.3 The proposed effluent disposal system shall be operated to maximize infiltration of treated effluent, until such time as commitments are secured to divert the treated water for appropriate reuse for agricultural irrigation, landscape irrigation, or other approved water recycling uses.

WS-1.4 Design of the proposed residential portion of the project shall maximize the use of drought-tolerant, native, and fire resistant landscaping and each residence shall use low-flow fixtures, per the requirements of County Code 3539, as amended.

Wastewater and Groundwater Quality

Note: the Impacts and Mitigation Measure Numbering in this section has been changed in comparison to the Draft EIR. See Changes to the Draft EIR.

Impact: The project wastewater flow rate in combination with the flows from the Little Bear service area would be about 25 to 30% below the proposed ultimate design capacity of the treatment plant. This flow meets the RWQCB requirement of 20-30% excess treatment capacity in new facilities to allow for future increases in treatment demand. *This is a less-than-significant impact and no mitigation is necessary.*

Impact WW-1: Construction of the tanks for the SBR treatment system upgrade to the Little Bear wastewater system will involve excavation into the outward embankment of one of the existing wastewater treatment ponds. Damage to the pond could result in interruption of the treatment operations. *This is a potentially significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-1.1 A design-level geotechnical investigation shall be performed to determine the subsurface conditions at the proposed sheet pile and tank locations. The investigation shall include a minimum of two to three boreholes drilled to a minimum of twenty-five feet below existing ground surface. Soils will be logged in accordance with the Unified Soil Classification System and samples will be collected at least every five feet and at changes in composition for logging and laboratory testing. Results of the field and laboratory investigation shall be used to provide geotechnical design recommendations for sheet pile construction, excavation stability during tank construction, shoring, excavation safety, bearing capacity for tank foundations, lateral pressures for tank sidewalls and sheet piles, required depth of embedment for sheet piles, and any other measures required to preserve the structural integrity of the adjacent wastewater ponds and facilities.

Methods to control groundwater, if present, shall also be provided. Recommendations derived from this investigation shall be implemented during planning and construction of the wastewater system improvements.

Impact WW-2: Upgrading and expanding the Little Bear Wastewater Treatment Plant to a tertiary facility will require a greater need for vehicle access for routine maintenance and emergency response. There is presently no secured road easement for access to the treatment plant. *This is a potentially significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-2.1 Prior to approval of the planned upgrade and expansion of the Little Bear wastewater treatment plant, a legal (recorded) easement shall be obtained in favor of the Little Bear Water Company which provides for the construction and maintenance of an all-weather access road from Royal Drive to the treatment plant.

Impact WW-3*:* The proposed use of rapid infiltration basins for disposal of treated wastewater generated by the project is feasible if limited to hydraulic loading rates of no greater than 2.0 gpd per square foot of infiltration surface area. Increasing the amount of discharge to a higher rate has been suggested by the applicant as a future possibility. However, the long-term capacity to operate the proposed RIBs safely at a rate in excess of 2.0 gpd/square feet has not been demonstrated. *This is a potentially significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-3.1 As a condition of approval, the applicant shall implement a soil-groundwater and disposal field-performance monitoring program for the RIBs. The purpose of the monitoring program will be to provide an on-going accounting of the actual amount of treated water applied to the RIBs, along with observations of the response of the soils and groundwater over time. The results of the monitoring will provide the basis for evaluating the demonstrated infiltration and deep percolation of the disposal field area, for use in determining the feasibility of increasing the rated discharge capacity. The details of the proposed monitoring program and evaluation of results shall be subject to review and approval by the RWQCB and the Monterey County Health Department. Until such time as sufficient monitoring data have been collected and the capacity evaluation reviewed and accepted, the discharge to the 1.6-acre RIBs disposal field shall be limited to a rate of 2.0 gpd per square foot (weekly average).

Impact WW-4: The project has a suitable long-term wastewater disposal plan utilizing the existing LBWC Pine Canyon percolation-disposal fields in combination with new 1.6 acres of RIBs on the project site. However, commitments to reuse the water for local irrigation needs, which is a long-term goal of the project, have not been secured. For this to occur in the future would include agreement from Monterey County Health Department and identification of specific sites for the disposal of the reclaimed water, as well as review and approval by the State Department of Health Services and the Regional Water Quality Control Board. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measures.*

Mitigation

WW-4.1 The proposed wastewater treatment plans satisfy State Health Department Title 22 criteria for unrestricted crop and landscape irrigation, including irrigation of edible food crops where water comes in contact with edible portions of the crop. Locations and users of the treated wastewater must be identified and long-term agreements with the growers that will use the reclaimed water must be secured. Monterey County Health Department has more stringent requirements regarding irrigation of edible food crops with disinfected tertiary recycled water (per CC, Title 22, Section 60301.230). To satisfy Monterey County Health Department, the following measures would need to be completed in order to irrigate edible food crops with disinfected tertiary recycled water:

1. Potential locations and users of the treated wastewater must be identified and long-term agreements with the growers or land owners that will use the reclaimed water must be secured.

2. The amount of area(s) available for recycling uses should be determined. This information is required for review and approval by the Regional Water Quality Control Board per the Monterey County Health Department.

3. A pathogen monitoring program similar to that conducted by the Monterey Regional Water Pollution Control Agency at the Monterey Regional Treatment Plant in Marina, California must be implemented. The monitoring program shall be developed under consultation with Monterey County Health Department, and may include monitoring of cyclospora, cryptosporidium, giardia, and E. coli 0157-H7. Alternatively, subject to County approval, monitoring may be required only of the indicator organism Clostridium. The County currently only requires the Monterey Regional Water Pollution Control Agency to monitor for Clostridium perfringens spores, in addition to fecal and total coliform at the Monterey Regional Treatment Plant in Marina.

4. A less extensive monitoring program may be approved if the reclaimed water is applied via subsurface irrigation. Under these circumstances an irrigation design plan must be submitted for review and approval by the Regional Water Quality Control Board per the Monterey County Health Department.

5. To avoid the stringent requirements (and high cost) of pathogen monitoring and/or subsurface irrigation, areas for irrigation of non-food crops could be identified. However, if non-food crop sites are identified, secure agreements will need to be secured and the disposal area will need to be approved by Monterey County Health Department.

Impact WW-5: The proposed SBR treatment plant provides for a sludge digestion/thickening tank but does not contain any further provision for sludge handling or ultimate disposal. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-5.1 As a condition of approval, the design, construction, and operation of the proposed wastewater collection, treatment, and disposal facilities will be conducted in accordance with all applicable state and county requirements, including appropriate sludge handling and disposal. If the sludge produced by the Little Bear Treatment Plant is sent to a landfill, it shall be disposed of at Marina Regional Landfill[3], or another approved facility that handles sludge materials.

Impact: The possibility of overflows from wastewater storage ponds or the rapid infiltration basins is negligible, even in years of extremely high rainfall. *This is a less-than-significant impact and no mitigation is required.*

Impact WW-6: The existing wastewater storage ponds which are part of the Little Bear wastewater facility are in fenced areas and located away from the public; this will not change as a result of the project. Because the rapid infiltration basins are located adjacent to residential lots within the proposed subdivision and are readily accessible to the general public, they could pose an attractive nuisance to children and a potential drowning or public health hazard. This hazard is somewhat reduced by the design of the basins ~~ponds~~ which will have gentle bank slopes of 3:1, and the fact that the basins will be operated intermittently and will have very shallow water ponding depths. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-6.1 Fencing shall be installed around the rapid infiltration basins and screening vegetation planted to provide a physical barrier. The area~~s~~ shall include signage indicating that the basins contain treated wastewater and access is prohibited.

Impact WW-7: The visual aspects of the existing wastewater storage ponds in the Little Bear system will not change as a result of the project. Due to the proximity of the rapid infiltration basins to the planned residential lots, the development of the basins at lower elevations than the surrounding lots, and the general shape of the basins, the visual aesthetics of the area may be degraded. *This is a significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-7.1 Vegetative planting shall be used to screen the rapid infiltration basins and reduce their visual impacts upon adjacent residential lots.

Impact: The rapid infiltration basins will not pond water for more than a day at a time, which is not long-enough to support the production of mosquitoes. The existing Little Bear wastewater storage ponds have the potential to be a breeding site for mosquitoes, which are a nuisance and public health concern. However, during warm months of the year when mosquito reproduction is greatest, the water is circulated through the ponds with a portion removed each day for disposal. This movement of water and the changing water levels will interfere with the mosquito breeding

[3] *This landfill has a minimum solids content of 20% for primary sludge and 15% for secondary treatment sludge (Shedden, personal communication, 1997).*

cycle, thereby limiting their reproduction. Also, the storage pond at the existing Little Bear percolation-spray disposal site is in a very remote area. *This is a less-than-significant impact.*

Odor Concerns

Impact WW-8: The proposed SBR plant will be fully enclosed within a structure. Odors generated at the plant will generally be contained within the structure, reducing existing odor impacts upon nearby residences resulting from the plant. However, proposed sludge drying operations at the plant could impact downwind receptors. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-8.1 Design and operation of the proposed wastewater facilities will be conducted in accordance with all applicable state and county requirements, including appropriate sludge handling and disposal to minimize odor.

Impact WW-9: Disposal of treated wastewater may have negative impacts on the receiving groundwater by increasing nitrogen concentrations. The primary drinking water standard for nitrate as nitrogen is 10 mg/l. Monterey County requires that nitrate-nitrogen levels in land-applied wastewater not result in a net impact on the groundwater that would exceed 6 mg/l. Also, the Regional Board's Basin Plan has a nitrate-nitrogen water quality objective of 5.0 mg/L for the groundwaters in the project area. Monitoring of groundwater down-gradient of the Little Bear disposal fields has shown conformance with these objectives. Also, the applicant's consultants assert that the nitrate removal rates of the proposed treatment and disposal facilities will be adequate to meet these objectives; however, there is no specific control process to assure total nitrogen removal in SBRs or in the proposed rapid infiltration basins. Further, the treatment performance, relative to nitrogen removal, of the proposed SBR and the disposal facilities is not known. Therefore, the potential exists that the proposed SBR may not meet the required County's nitrate-nitrogen impact requirement of 6.0 mg/l, or the Basin Plan groundwater quality objective of 5 mg/L. *This is a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following measure.*

Mitigation

WW-9.1 Though there is no specific control process to ensure total nitrogen removal in SBRs, these systems can be designed to augment nitrification and denitrification. Therefore, the proposed SBR should be designed to promote nitrification and denitrification in order to adequately decrease nitrogen concentrations in the effluent. Per the recommendation of the applicant's engineer, the operation of the RIBs should be planned to maximize nitrogen removal through adjustment of wetting and drying cycles. Monthly monitoring of the reclaimed wastewater should be performed for total Kjeldahl nitrogen and nitrate-nitrogen. In addition, quarterly groundwater monitoring in the immediate vicinity of the irrigation sites should be performed. Operation of the RIBs for nitrogen removal should be checked and adjusted with the use of suction lysimeters or other comparable methods to determine nitrogen levels in the unsaturated zone immediately beneath the RIBs. The monitoring data should be submitted to the RWQCB and County Environmental Health Department for review as part of the self-monitoring reports prepared by the treatment plant. Finally, the applicant and the LBWC should continue to pursue and secure commitments from land owners for

future irrigation-reuse of the treated water as an additional means of reducing the amount of nitrogen loading to the groundwater basin.

Impact WW-10: The location of the proposed RIBs adjacent to the northeasterly property line of the project will restrict the ability to install a water well in nearby areas on the adjoining property. *This is a significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-10.1 As a condition of approval, the applicant shall acquire an easement or other suitable legal instrument from the neighboring property(ies) providing a buffer area around (down-gradient of) the RIBs which would preclude the installation of new water wells that could be affected by the wastewater disposal system. The down-gradient distance from the RIBs shall be equal to the estimated 2-yr groundwater travel time from the point of discharge which is estimated to be about 565 feet."

Public Services

Impact PS-1: The project site is located in a "very high fire hazard" area and will result in an increase in the number of calls for fire protection and emergency response services. *This is a significant impact that can be mitigated to a less-than-significant level with implementation of the following measure.*

Mitigation

PS-1.1 The project tentative map shall be subject to the review and approval of the California Department of Forestry and Fire Protection and South Monterey County Fire Protection District in order to insure that all established standards regarding access, water supply, fuel break areas, and other required fire protection design features are included. Require the project to fund its fair share of costs for additional fire apparatus to maintain existing levels of service.

Impact PS-2: The proposed project will result in an increase in the number of calls for police protection and emergency response. According to the County Sheriff's Department, the addition of 319 homes in Pine Canyon will significantly impact the ability of the daytime and swing shift beat deputies to provide adequate coverage to the non-Pine Canyon areas of Beat 11. *This represents a significant impact that can be reduced to a less-than-significant level with mitigation identified below.*

Mitigation

PS-2.1 Prior to approval of the Final Map for any phase, the Lighting Plans shall be reviewed and approved by the County Sheriff to confirm that adequate security lighting, although muted to conform to the rural residential setting, is incorporated appropriately into the project design to facilitate patrol performance.

PS-2.2 Prior to approval of the Final Map for any phase, the Landscaping Plans shall be reviewed and approved by the County Sheriff to confirm that the proposed landscaping does not unacceptably limit visibility of homes for patrol purposes and residential security.

PS-2.3 Numbering of homes shall be consistent and shall be at least four inches in size and provide a light-on-dark or dark-on-light contrast for visibility. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.

PS-2.4 Doors surrounded by glass should be equipped with double deadbolts. Single-cylinder deadbolts should be placed on all other doors. Sliding glass doors should have auxiliary locks and window construction should also incorporate a secondary auxiliary locking device. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.

PS-2.5 Residents who intend to incorporate alarm systems into their homes shall, from the outset, be advised of Sheriff's Department and Communication Department policies and ask to consult with the representatives of these two departments prior to installation. According to County ordinance, alarm systems must be registered with the Sheriff's Department prior to installation. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.

PS-2.6 The applicant shall pay a fair share development fees to the County Sheriff's office prior to approval of the Final Map for each phase that will be used toward the cost of an additional deputies and equipment to serve the area.

Impact PS-3: The King City Union and King City Join Union High School Districts have indicated that the project could have a significant adverse impact upon both Districts. The Districts have recommended that the applicant meet with representatives of the Districts to discuss effects of the project upon school services and appropriate mitigation measures. *This is a potentially significant impact that can be mitigated to a less- than-significant level by the following measures.*

Mitigation

PS-3.1 Prior to issuance of the first building permit for the project, the project applicant shall mitigate the potential school impact of proposed residential development by paying the King City Union Elementary School and the King City Joint Union High School Districts' adopted fees in effect at the time of development and an additional fair share development, if applicable, to fund its fair share of school improvements that are not already paid for by the adopted fees for residential development.

Impact: Project buildout will result in an increase of 1,273 tons of solid waste per year, or 3.5 tons per day. This represents about 7% of the current average daily volume of solid waste hauled to the Jolon Road Landfill. *This is a less-than-significant impact. No mitigation beyond County requirements for solid waste reduction is recommended.*

SIGNIFICANT AND UNAVOIDABLE CUMULATIVE IMPACTS

In addition to the project-specific impacts, the project would contribute considerably to significant and unavoidable cumulative impacts on biological resources, including local and

regional impacts on oak woodland habitat and special status species, and on long-term provisions of energy supplies.[2]

SUMMARY OF ALTERNATIVES

The discussion describes alternatives to the proposed Morisoli-Amaral Subdivision project as required by CEQA. CEQA Guidelines Section 15126(d) require the consideration of a range of reasonable alternatives to the proposed plan which could feasiblely attain the basic objectives of the project. The Guidelines further require that the discussion focus on alternatives capable of eliminating significant adverse impacts of the project, or reducing them to a less than significant level, even if these alternatives would not fully attain the project objectives or be more costly. The discussion should also identify any significant effects that may result from a given alternative.

The alternatives selected for consideration in this EIR focus on avoidance of the unavoidable adverse impacts described above. Alternatives considered which may satisfy the minimum project objectives are as follows:

1) No Project;
2) Reduced Density Project;
3) Modified Design to Reduce Visual Impacts Alternative; and
4) Alternate Site, and
5) Alternative Wastewater System (added in this Final EIR).

These alternatives, and their comparative merits, are described in the **Project Alternatives** section.

[2] Mitigation for this impact may be considered out of the control of the applicant and the County.

3. CHANGES TO THE DRAFT EIR

The following are the changes to the Draft EIR that resulted from project application and plan changes, comments on the Draft EIR and responses to those comments, and other changes since the Draft EIR was published (September 2001). Text deletions are shown in ~~strikethrough~~ and text insertions are shown in underline.

DRAFT EIR SECTION "2.0 SUMMARY"

A new summary was provided as Section 2.0 of this Final EIR.

DRAFT EIR SECTION "3.0 PROJECT DESCRIPTION"

The entire section is amended as follows:

> **"SITE LOCATION AND CHARACTERISTICS**
>
> The ~~411~~ 402-acre project site is located in the Pine Canyon area of the Salinas Valley approximately two miles west of King City. The site is located in unincorporated Monterey County, and lies primarily in Sections 13 and 24 of Township 20 South, Range 7 East, of the Mount Diablo Meridian. Figures 1 and 2 in the DEIR illustrate the regional and vicinity locations of the project, respectively.
>
> The irregularly shaped project site is situated on gently to steeply sloping terrain in the easterly foothills of the Santa Lucia Range on the west side of the Salinas Valley. The topography of the area is characterized by rolling hills closest to the Salinas Valley which rise to form steep ridges and canyons farther west. The site varies in elevation from 385 feet to ~~920~~ 1150 feet above mean sea level. Predominant vegetation consists of grasslands, chaparral, and oak woodlands.
>
> Access to the site is currently provided from Pine Canyon Road via a paved private road, Via Canada, and an unpaved county road, Pettitt Road. Several single-family residences on large lots and the 20-lot Canada de la Paz Subdivision are also served by Via Canada. Existing development on site includes two residences, a corral, and a barn. The largely undeveloped property is traversed by paved and unpaved roads. Improvements also include fencing, water storage tanks and water wells used for existing grazing operations. The property has historically been used for grazing. The project site is surrounded to the north and west by lands of similar slope and vegetation, also used primarily for cattle grazing.
>
> Lands on the Salinas River benchlands to the east of the property are currently in agricultural production with row crops. The Pine Canyon area lies to the south of the project site. Lands surrounding Pine Canyon Road are designated for low and medium density residential development in the Central Salinas Valley Area Plan, and in the Monterey County General Plan. Low density single-family residential development is

generally located north of Pine Canyon Road and higher density single-family residential units and a 123-space mobile home park are located south of Pine Canyon Road.

PROJECT OBJECTIVES

The following project objectives and purposes have been identified:

- To provide additional housing units in the King City area of Monterey County for a variety of socio-economic groups (including senior housing, inclusionary housing, rural, low density and medium density residential),
- To provide on-site recreational opportunities, including open space and developed parkland, and
- Increase economic value of the land both in terms of land value and tax revenue for the County.

PROJECT HISTORY

The applicant for the ~~Tavernetti~~ Morisoli-Amaral (formerly Tavernetti) Residential Subdivision project originally submitted a County application in November of 1992 for the development of 409 residential units. The County determined the need to prepare an EIR as a result of a preliminary evaluation of the possible significant impacts of project construction and operation (see Appendix A of the Draft EIR, which contains the Initial Study dated December 1992). An Administrative Draft EIR was prepared in September of 1994 and found that the project would cause significant and unavoidable impacts in the areas of biology, aesthetics, and land use density.

The County prepared and circulated a Notice of Preparation (NOP) in April 1997 to interested agencies and organizations. The NOP stated that potentially significant impacts to the environment could occur as a result of project, and that an EIR would be prepared. NOP comments were received from the agencies and public on or before May 9, 1997. The purpose of the NOP was to solicit comments from public agencies with jurisdiction over resources affected by the project and inform the public of the scope and nature of the proposal. These comments were used to focus the analysis in the EIR.

In April 1999, in order to address the environmental concerns raised in the NOP comments, the applicants prepared and submitted the presently proposed reduced density plan shown in **Figure 3** of the Draft EIR (proposing 319 units). Due to the time delay and associated changes in the environmental setting and regulatory requirements, the County was required to revise earlier environmental analysis to reflect current conditions. A rescoping process was initiated to evaluate the new plans and update critical environmental analysis to address the development of 319 units on the project site in its current configuration. The results of that analysis ~~are~~ were presented in the Draft EIR dated September 11, 2001. Ten (10) comment letters were received on the Draft EIR during the public review period and responses to those comments are provided within the Final EIR contained herein. In addition, this document contains text revisions and revised graphics reflecting updated site plans submitted to the County in August 2004.

PROJECT CHARACTERISTICS

The proposed project is located on ~~411~~ 402 acres and will include 319 ~~residential lots~~ dwelling units, ~~106.3~~ 206 acres of open space, and ~~3.6~~ 5.5 acres of improved parkland.[1] Most of the lots will be located on the easterly, low-lying portion of the site. In addition, portions of the site will be improved for sewage treatment facilities, water service, and roadway infrastructure. Approximately 15% (48) of the lots are proposed for low and moderate income residential units (including 34 units of senior housing). Conservation easements are proposed on lands with slopes greater than 30%, generally on the westerly portion of the site. At buildout, the proposed subdivision would house approximately 1,020 persons based on an average household size of 3.199 persons per occupied unit.[2] **Figure ~~3~~ A** shows the proposed project as submitted to the County in August 2004. ~~Figures 4 through 7~~ Sheets 6 through 9 of the August 2004 Vesting Tentative Map show the topography and proposed phases of the subdivision in greater detail; large scale versions of these plans are available for review at the Monterey County Planning and Building Inspection Department, 2620 First Avenue, Marina, CA 93933. A detailed description of proposed project components is provided below.

Residential Development

The proposed project will result in 319 residential lots on ~~411~~ 402 acres for an overall density of ~~.78~~ 0.79 units per acre. Revised Table 1 shows information about the proposed zoning, densities, and inclusionary residential component by phase as shown in **Figure ~~3~~ A**. The existing agricultural land use designations for the site are "Rural Grazing, 20 acres minimum," "Rural Grazing, 40 acres minimum," and "Permanent Grazing, 40 acres minimum." The project requires a general plan amendment and rezoning to be changed to residential, low and medium density. Lot sizes vary between 2,100 square feet and 21 ~~26~~ acres. Most of the lots are less than one-quarter acre. The higher density lots will connect to the Little Bear Water Company's wastewater treatment plant, to be upgraded by the project in order to accommodate flows from the residential subdivision. Lots larger than one acre will use septic systems and leach fields to dispose of wastewater. As shown on **Figure ~~3~~ A,** the highest density development is proposed on the rolling hills adjacent to the Salinas Valley and along the moderately sloping, east-west trending ridges. The plans show proposed locations of development envelopes on lots larger than one acre.

Open Space

~~The project proposes 106.3 210.8 acres of open space scenic easements.~~ The total open space proposed including improved parklands (5.5 acres) and scenic easements, is 212 acres. The applicant has proposed scenic easements totalling 155.7 acres in Phases A & B (per VTM Sheet 4, dated July 2004). The proposed open space and scenic easement areas are shown on **Figure ~~3~~ A**. Generally, the scenic easements correspond with slopes greater than 30%, and ridgelines and knolls clearly within the Highway 101 viewshed.

[1] As stated in the previous section, the original application to the County included a larger scale project that consisted of 409 units. The project was subsequently reduced in scale (from 409 to 319 residential units) to reduce significant impacts identified in preliminary environmental review, including land use density, biology, and aesthetics.

[2] State of California Department of Finance. City/County Population and Housing Estimates, 1991-2000, with 1990 Census County. May, 2000.

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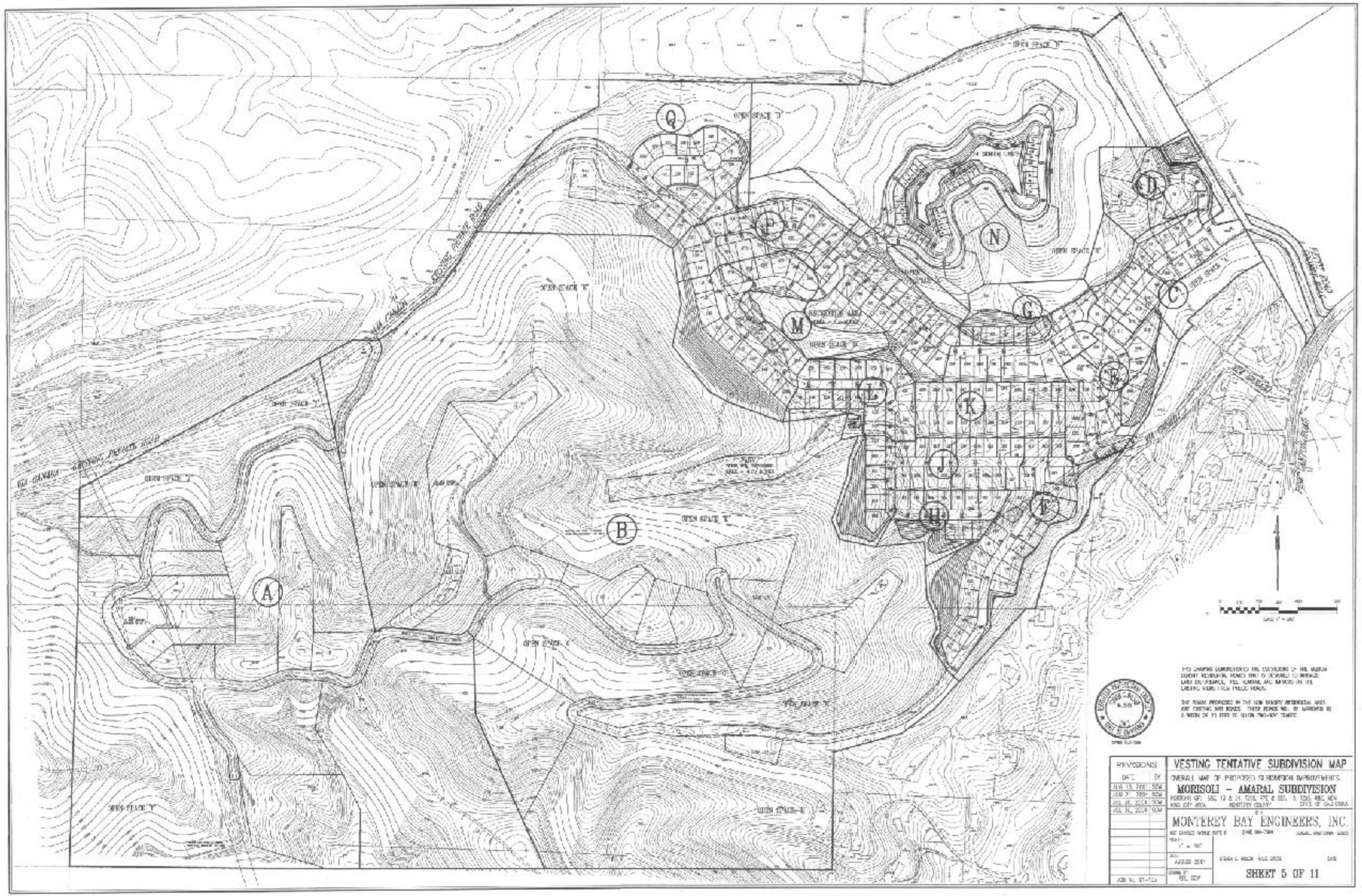

N

Revised Site Plan

Figure
A

REVISED TABLE 1
PROJECT DATA

Phase	Total Area (acres)	Total Lots	Inclusionary Lots	Units/Acre (lots/acre)	Proposed Zoning
A	~~109.8~~ 95.438	~~17~~ 16		0.~~15~~ 0.16	L.D.R. ~~& RC~~
B	~~39.6~~ 152.863	~~11~~ 12		0.~~28~~ 0.08	L.D.R. ~~& RC~~
C	~~12.3~~ 9.498	17	1	~~1.38~~ 1.79	M.D.R.
D	~~5.5~~ 4.623	6		~~1.09~~ 1.30	M.D.R.
E	~~6.7~~ 6.871	19	1	~~2.84~~ 2.76	M.D.R.
F	~~11.7~~ 11.566	27	2	~~2.31~~ 2.33	M.D.R.
G	~~10.9~~ 7.786	23	1	~~2.11~~ 2.95	M.D.R.
H	~~4.2~~ 3.710	11		~~2.62~~ 2.96	M.D.R.
J	~~7.2~~ 7.183	24	2	~~3.33~~ 3.34	M.D.R.
K	~~2.5~~ 5.038	~~9~~ 22		~~3.60~~ 4.37	M.D.R.
L	~~5~~ 5.336	~~22~~ 18	1	~~4.40~~ 3.37	M.D.R.
M	~~23.2~~ 20.082	~~51~~ 42	4	~~2.20~~ 2.09	M.D.R.
N	~~39.1~~ 39.902	40	34*	~~1.02~~ 1.00	M.D.R.
P	~~5~~ 6.817	20	1	~~4.00~~ 2.93	M.D.R.
Q	~~18.2~~ 19.148	22	1	~~1.21~~ 1.15	M.D.R.
~~***Improved Parkland Open Space***~~	~~3.6 Ac~~	--	--	--	--
~~***Open Space***~~ ***Infiltration area, water tank lots***	~~106.3 Ac~~ 6.252	--	--	--	--
Total	**~~410.8~~ 402.113 Ac**	**319**	**48**	**~~0.78 du/ac~~**	

~~Du = dwelling unit; ac= acre; Incl. = inclusionary~~
M.D.R. = Medium Density Residential = 291 lots on ~~151.5~~ 147.9 ac (~~1.92~~ 1.96 lots ~~du~~/ac)
L.D.R. = Low Density Residential = 28 lots on ~~149.4~~ 250.6 ac (~~0.19~~ 0.11 lots ~~du~~/ac)
~~R.C. = Resource Conservation~~
Within Phases A and B, all areas that exceed 30% slope will be granted as "scenic easement" ~~(and zoned RC)~~
* In phase N, all lots are intended to be senior inclusionary housing.

Parkland

A total of ~~3.6~~ 5.55 acres of developed parkland is proposed by the project. One park site (called "recreation area" on the project plans) is 1.2 acres located in Phase M adjacent to lots 279 through 284 and abutting an open space area. The other park site, which would include picnic tables, barbeques, and a playground, is 2.4 acres within the large open space area between Phases M, K, J, and B. Access to this park will be ~~appears to be~~ provided via a pedestrian access way between lots 154 and 155.

Grading

The applicant proposes extensive grading to make the site more level. The proposed grading is necessary to allow the clustering of lots within a broad valley behind the easternmost foothills so that the majority of ~~buildings~~ the homes would be hidden from public viewing areas along Highway 101, Jolon Road, and Pine Canyon Road. This area is shown on **Figure ~~3~~ A** as the area with the most intense development (Phases C, D, E, F, G, H, J, K, L, M, N, P, and Q). Minor grading is also proposed for streets, excavation of ponds, and other structures in the areas not proposed for extensive development (Phase A and B). Proposed cut and fill will involve approximately 700,000 cubic yards of cut, and 630,000 cubic yards of fill (assuming a 10% shrinkage of the soil by compaction). All soil excavated on the site will be used as fill to provide level areas for building pads.

All grading on the site will balance upon completion of the project and no import or export of fill is proposed or expected to be required.

Street System

The project proposes a private road system to serve the residential development. Access to the site is proposed via an existing, unpaved county road called Pettitt Road off Pine Canyon Road. The internal road system consists of a series of loop roads and cul-de-sacs, as shown on **Figure ~~3~~ A**. The roads will meet county road standards and have a maximum grade of 15%. An additional gated emergency access to/from the site will be provided off Pine Canyon Road via a private paved road located south of the primary access road. Emergency access to/from the site will also be provided by existing graded roads extending throughout the property and Pine Canyon area (refer to **Figure ~~3~~ A**). These dirt roads will be maintained in order to be accessible by two-wheel drive vehicles.

Services and Utilities

~~Figures 4 through 7~~ Sheets 6 through 9 of the August 2004 Vesting Tentative Map depict the location of proposed utilities; large scale versions of these plans are available for review at the Monterey County Planning and Building Inspection Department, 2620 First Avenue, Marina, CA 93933. A brief description of the service and utility improvements proposed by the project is provided below. Please refer to the appropriate sections of the EIR for a full discussion of proposed services and utilities.

Wastewater Treatment

The project site has been annexed into the Little Bear Water Company's service area. Wastewater treatment for 291 of the proposed residential lots will be provided through connection to the Little Bear wastewater collection system. The remaining 28 lots (one acre and larger) are proposed to be served by individual septic systems and leachfields. The project is estimated to generate an average daily wastewater flow of approximately ~~72,750~~ 79,750 gallons per day (gpd), with 72,750 going to the treatment plant and the remaining 7,000 gpd being treated and disposed through the 28 onsite septic systems. These estimates of wastewater~~,~~ flows are based on 250 gpd per residence ~~service connection~~.

The conceptual wastewater treatment plan proposes construction of a sequencing batch reactor (SBR) treatment plant on the existing Little Bear plant site. A new 10-inch gravity main will be constructed to connect the proposed subdivision with the treatment plant. The treatment plant will have an estimated capacity of ~~218,500~~ 250,000 gpd to accommodate the proposed residential development and the existing permitted flows treated at the plant. At project build-out, the total wastewater flow at the treatment plant is estimated to be up to 184,350 gpd. With a design flow of 250,000 gpd, ~~T~~this ~~includes~~ will provide an additional surplus capacity of ~~20~~ 25 to 30% of effluent flow for contingencies and planning purposes.

The proposed SBR plant will include built-in-place concrete vaults for sedimentation and clarification, an oxidation process, coagulation and sand filtration, and final disinfection. The existing treatment ponds at the Little Bear facility will be converted to storage ponds. The system will provide tertiary treatment in order to satisfy Title 22 Water Recycling Criteria for the unrestricted use of treated effluent for irrigation. This level of treatment is proposed to allow reclamation of the treated wastewater for irrigation of adjacent

agricultural lands in the future. ~~The reclamation system will include three storage reservoirs with a combined capacity of approximately 25.5 million gallons. Treated effluent will be pumped to the ponds via a six-inch force main, which will also be used to convey the treated effluent to irrigation areas off-site.~~ However, commitments to recycle the water for agricultural or other uses have not yet been secured. Therefore, disposal of the treated wastewater will be provided by continued use of the existing Little Bear percolation-spray field located in Pine Canyon, along with the construction of a new 1.6-acre percolation field on the project site, using rapid infiltration basins.

Please refer to the **Wastewater Disposal** section of this EIR for a full discussion of the proposed wastewater treatment system for the project.

Water Supply & Service

The project will generate the demand for an estimated ~~118,277~~ 119,829 gallons of water per day (gpd), or about ~~132.5~~ 134.2 acre feet per year.; This includes 104,313 gpd for domestic uses, based on 327 gpd/unit, and 15,516 gpd for irrigation, based on 4.0 acres of common area landscaping at an irrigation rate of 1 inch/week per square foot of landscaping. Current water demand for existing uses on the property are estimated to be 1,734 gpd, such that the net increase in water demand from the project is estimated to be 118,095 gpd, or 132.3 acre-feet per year. The project proposes to upgrade the ~~a reclamation system as part of the~~ wastewater treatment plant to a tertiary level so that portions or all of the treated water may be reused locally for agricultural or landscape irrigation in the future. The reclamation and reuse of tertiary treated wastewater for local crop irrigation and/or landscape irrigation has the potential to ~~will~~ result in a net water credit of about ~~59,033~~ 58,905 gpd, or 66 acre-feet per year, assuming that an appropriate and allowable use for the reclaimed water is secured in the future.

Water service for the residential lots is proposed to be provided by the Little Bear Water Company. An internal water distribution and storage system will be constructed consisting of water lines, storage tanks, and booster pumps.

Please refer to the **Water Supply** section of this EIR for a full discussion of domestic water demand and supply.

Stormwater Drainage

Storm water runoff is proposed to be collected and routed through ~~stored onsite in~~ a ~~single~~ series of three onsite detention ponds ~~areas~~, the outflow from which will be ~~or~~ conveyed offsite ~~to open space areas~~ for ~~eventual~~ discharge into Pine Canyon Creek. A small portion of the site (about 1.5%) will be drained to a natural swale and seasonal drainage channel along the northern boundary of the site. An internal stormwater collection and storage system will be constructed, consisting of catch basins, storm drain lines, and the three detention basins. The proposed storm water conveyance and detention system is shown in Figure 3 of the September 2002 hydrology report prepared by the ~~15 in section **4.3 Hydrology and Water Quality**~~ applicant's engineer, a copy of which is provided in Appendix A. ~~There are three proposed storm water detention ponds located on the site as shown in Figure 3.~~

Please refer to the **Surface Hydrology and Water Quality** section of this EIR for a full discussion of the stormwater drainage aspects of the project.

Private Utilities

Private utilities, including telephone, electricity, natural gas, and cable television, will be provided to the site by the local providing companies (Pacific Bell, PG&E, and Charter Communications). All utilities will be placed underground.

PROJECT SCHEDULE AND PHASING

Development of the proposed project is expected to continue 10 to 15 years after approvals and permits are issued by the County. Revised Table 1 identifies the estimated number of lots in each phase, phase density, the number of inclusionary lots and the proposed zoning districts. The project ~~may not actually proceed according to the~~ phasing ~~order~~ is described on the vesting tentative map, Sheet 3, Notes 1, 2 and 3 ~~shown on the preliminary map.~~ Market conditions at the time construction begins will most likely determine the actual phasing schedule.

REQUIRED PERMITS AND APPROVALS

As indicated in the "Introduction," the EIR is an informational document for decision makers. The California Environmental Quality Act requires decision makers to review and consider the EIR in their consideration of this project. The County of Monterey is the lead agency responsible for approving the proposed project. Agencies having permit authority over the project are summarized in Revised Table 2.

REVISED TABLE 2
REQUIRED PROJECT PERMITS AND APPROVALS

Monterey County	General Plan Amendment, ~~Pre-Zoning, Preliminary Project Review Map,~~ Vesting Tentative Map, Combined Development Permit, Use Permit for development on > 30% slope, Sewage Disposal Approval (including possible variance for height and setbacks, use permit for expansion of treatment plant, septic system permits).
LAFCO	Should it be required, LAFCO, a potential responsible agency, will process annexations to Consolidated County Service Areas to include Street Lighting Service Area, Storm Drain Service Area, and Sewer Service Areas. The project is presently within County Service Area #61, which provides fire protection via agreement with CDF.
CA Department of Forestry & Fire	Review and approval of Tentative Map for compliance with fire protection requirements.
Little Bear Water Company	Approval of wastewater and water service and infrastructure design.
Central Coast Regional Water Quality Control Board	Discharge permit for disposal of treated wastewater.
Public Utilities Commission	Approval of expansion of Little Bear Water Company.
U.S. Fish & Wildlife Service, CA Dept. of Fish & Game	Potential consultation or approval regarding sensitive vegetation and wildlife species. See Biological Resources section.

DRAFT EIR SECTION "4.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES"

Section 4.1 Land Use

Page 4.1-9 The "Slope-Density Formula" section is amended as follows:

> "The proposed project includes a General Plan Amendment to change the land use designation on the site from agricultural (specifically, Rural Grazing and "Permanent Grazing") to residential uses. Therefore, the following discussion summarizes General Plan policies applicable to the proposed project and its ultimate allowable holding capacity.
>
> The applicant is requesting a General Plan Amendment to change the overall land use to various intensities of residential development. The applicant proposes areas of medium density development, which is an exception to the slope-density formula.[3] According to the ~~Preliminary~~ Vesting Tentative Subdivision Map, the applicant proposes to designate 147.9 ~~151.5~~ acres for medium density residential (MDR) with a total of 291 lots. Applying the slope-density formula to the remaining 248.3 ~~149.5~~ acres yields a maximum possible residential density of 359 units as shown in Revised Table 3. The project proposes 319 residential units."

Page 4.1-9 Table 3 is amended as follows:

Revised Table 3
Allowable Slope Density With
Medium Density Residential Exceptions

Category	Areas	Allowable Units
Medium Density Residential Exceptions	291 units (~~151.5~~ 150.3 ac)	291 units
Natural Slope < 20%	46.8 acres	46 units (100%; 1 unit/1 ac)
Natural Slope 20% to 29.9%	45.8 acres	22 units (50%; 1 unit/ 2 ac)
Natural Slope > 30%	155.7 acres	0
~~Remainder 19.9 to 29.9% slope~~	~~61.2 ac. x 1 unit/2 ac.~~	~~30.6 units~~
~~Remainder > 29.9% slope~~	~~88.3 ac. x 0 units~~	~~0 units~~
Allowable Slope Density with MDR Exceptions		~~321.6~~ 359 units (68 LDR and 291 MDR)

Note: Slope calculations provided by Monterey Bay Engineers, Inc., ~~1999~~ 2004.

[3] As per Section 3.2.4 of the County's General Plan, areas designated for medium density residential development may be excempted from the slope-density formula.

Section 4.2 Geology and Soils

Page 4.2-10 Mitigation Measure GS-1.1 is amended as follows:

"**GS-1.1** Project design and engineering shall assume peak horizontal accelerations of 0.57 to 0.64g, or repeatable high ground accelerations of 0.38 to 0.43g for project design, subject to the review and approval of the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures. Structural design shall conform to UBC Zone 4 guidelines, at a minimum. All specified setbacks identified in the geological suitability map must be field-verified by a qualified geologist ~~before construction begins~~ prior to issuance of a grading permit."

Page 4.2-13 Mitigation Measure GS-2.1 and GS-2.2 is amended as follows:

"**GS-2.1** No building intended for human habitation shall be sited on any recognized landslide unless the landslide is demonstrated to be stable. In addition, no building intended for human habitation shall be sited within 100 feet of the toe of landslide Qls-a or within 50 feet of the toes of landslides Qls-b or Qls-c unless site specific slope stability analyses demonstrate that smaller setbacks are warranted by site conditions. This mitigation shall be subject to the review and approval ~~of~~ by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.

GS-2.2 No buildings intended for human habitation should be sited on or within 50 feet of the toe of a slope over 50% gradient, or within 75 feet of the toe of a slope of gradient 60% or greater unless site specific geotechnical investigations determine that such mitigation is unnecessary. This mitigation shall be subject to the review ~~of~~ and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures."

Page 4.2-15 The paragraph titled Impact GS-3 is amended as follows:

"**Impact GS-3:** The proposed ~~effluent storage pond sites (B and C)~~site improvements will require the construction of earth embankments ~~and~~ some of which are underlain by low density, alluvial sediments. Such sediments can settle under the loads induced by earth embankments and~~.~~ t~~The risks associated with these hazards are considered to be low, since the earth embankments associated with the ponds will be small; however t~~here is the potential for failure of the embankments ~~of the banks of the ponds~~. *This is a potentially significant impact; however, the following mitigation measures will ensure that the proposed embankments will not result in any adverse geologic impacts.*"

Page 4.2-15 Mitigation Measures GS-3.1 through GS-3.3 are amended as follows:

"**GS-3.1** A qualified geotechnical consultant shall be present at the site to observe ~~storage pond~~ excavations and evaluate all earth embankment locations for settlement potential and make appropriate mitigation recommendations as subsurface conditions warrant. The project shall be constructed in conformance with all recommendations of the geotechnical consultant. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.

GS-3.2 Site preparation shall consist of reworking the supporting soil prior to placement of berms or other new fills, in accordance with ~~the~~ all applicable recommendations of ~~the~~ previous geotechnical and geologic studies of the site,~~y for the storage ponds prepared~~ including those by Weber, Hayes and Associates (May 1994), Steven Raas & Associates, Inc. (August 1994), Tharp & Associates (July 1994, July 1997, and March 1999). These measures include overexcavation and recompaction of the soils supporting ~~the~~ earthen berms, combined with protection of ~~the~~ all pond side slopes with stabilization fills, subject to review and approval by the project geologist prior to approval of the grading plans and during grading. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.

GS-3.3 ~~The Engineering Geologic Evaluation (Nolan Associates, June 26, 1997) and Geotechnical investigation (Donald M. Tharp & Associates, July 1997)~~All previous geotechnical and geologic studies of the site shall be provided to the attention of the architect, engineer(s) and general contractor for the project, and all applicable recommendations made in the report shall be incorporated into the plans and specifications, and carried out in the field. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures prior to issuance of each grading and building permit for the project."

Page 4.2-16 Mitigation Measures GS-4.1 and GS-4.2 are amended as follows:

"**GS-4.1** The applicant shall submit a Drainage Plan for each phase of project improvements prepared by a registered civil engineer to the County Public Works, Water Resources Agency, and Planning and Building Inspection Department for review and approval prior to approval of the Final Map for that phase. The Drainage Plan shall include at a minimum, the following:

- Collection of a~~A~~ll drainage from improved surfaces such as walkways, patios, roofs and driveways, roads, etc. ~~shall be collected~~ in impermeable gutters or pipes and ~~carried~~ conveyance to neighborhood storm sewers or natural drainages.
- ~~At no time should~~ Absence of any concentrated discharge or other water ~~be allowed to spill~~ flowing directly onto the ground adjacent to a proposed building site or onto steep slopes, or~~. Any water landing on paved areas should not be allowed to flow~~ towards an existing or proposed building site.
- Installation of energy dissipaters at storm water outfall locations.
- The requirements contained within Mitigation Measures HW-1.1 and HW-1.2. ~~All development should include engineered drainage plans that include energy dissipaters at storm water outfall locations.~~

GS-4.2 The applicant shall prepare and implement an Erosion Control Plan for the entire project or for each area included on an individual grading permit consistent with the policies and requirements of the Erosion Control Ordinance (Monterey County Code Chapter 16.12) and the Storm Water Pollution Prevention Plan for the project subject to the approval of the Monterey County Public Works ~~Department~~ and Planning and Building Inspection Departments prior to issuance of that grading permit. Measures include, but are not limited to: stockpiling of soils during construction to prevent

deposition into drainages or watercourses; minimizing areas of exposed soil; temporary detention of runoff; and short and long term re-vegetation.

Page 4.2-17 Mitigation Measures GS-4.3 is amended as follows:

GS-4.3 ~~The applicant shall develop envelopes on the tentative map on lots located on ridges, which should be designed to conform to site topography and to minimize grading and other site preparation activities, to the maximum extent possible.~~ For necessary grading operations, the smallest practicable area of land shall be exposed at any one time during development and the length of exposure shall be kept to the shortest practicable amount of time. Grading, clearing and all construction activities shall conform to the Monterey County grading ordinance. This mitigation measure shall be monitored throughout grading activities by the County Grading Inspector (Planning and Building Inspection Department)."

Page 4.2-17 The paragraph under the heading "Soil Percolation" is amended as follows:

~~Geotechnical and hydrology reports for the proposed project do not evaluate soil percolation at specific locations proposed for septic systems specifically on lots in Phase A and B ,and percolation testing has not been performed at those sites because detailed site plans, drainage and septic system improvements would be designed at a later phase of the project. The soil types on the project site and within the watershed include shaley clay loams and exposed rock outcrops with very shallow soils that may or may not have adequate percolation ability to accommodate septic systems.~~

A percolation study of the project site was conducted in October 2001 to evaluate the permeability of the subsoils for percolation of sewage effluent (Haro, Kasunich & Associates, Inc., October 30, 2001). The study included geologic test borings and percolation testing in selected, representative areas of the project site where sewage disposal-percolation systems are planned. It included testing on 14 of the proposed 28 residential lots in Phase A and B that are planned to be served by individual onsite septic tank-leachfield systems. The study also included percolation testing of the area in the northeastern corner of the project site which is planned to be used as a community wastewater disposal site, using Rapid Infiltration Basins. Additional "infiltration" testing was also conducted at the community disposal site in January 2003 (Haro, Kasunich & Associates, Inc., January 29, 2003). At all sites, percolation tests were run at depths of 5 feet, 10 feet and 15 feet. The results showed moderate to high rates of percolation at all locations and depths, with reported test results ranging from 1 to 31 minutes per inch (MPI). The results of this percolation test study demonstrated the general feasibility of onsite septic systems as proposed for the residential lots in Phase A and B, as well as the percolation suitability in the area proposed for the community wastewater disposal system. Testing of the other 14 lots has been completed or backhoe trenching has been conducted to verify their ability to comply with applicable septic system requirements. However, the Monterey County Health Department has commented that redesign of the lots may be necessary to remove proposed septic areas from within a Pacific Gas & Electric easement. This redesign may require additional soils testing to prove adequate percolation in other areas of the proposed lots. The project would be required to comply with Monterey County Health Department requirements for septic systems prior to ~~tentative~~ final map approval, including standards, specifications, and regulations of the Sewage Disposal Ordinance (Monterey County Code Chapter 15.20). In addition, the Regional Water Quality Control Board enforces prohibitions in their Basin Plan and their approval will be necessary for the septic systems. See **4.11 Wastewater and**

Groundwater Quality ~~See **4.3 Surface Hydrology and Water Quality** for more information and analysis of the septic system issue.~~for more information and analysis of the septic system issue.

Page 4.2-17 The paragraph titled Impact GS-5 is amended as follows

"Impact GS-5 The ability of the soils to provide adequate percolation for the proposed septic systems at particular sites has been demonstrated for 14 (i.e., half) of the proposed 28 residential lots in Phase A and B. To date, testing of the other 14 lots has been completed or backhoe trenching has been conducted to verify their ability to comply with applicable septic system requirements. However, the Monterey County Health Department has commented that redesign of the lots may be necessary to remove proposed septic areas from within a Pacific Gas & Electric easement. This redesign may require additional soils testing to prove adequate percoloation in other areas of the proposed lots. . ~~is undetermined at this time since the layout of individual lots in Phase 2 and 3 will be designed later.~~ *This is a potentially significant impact that can be mitigated to a less-than significant level with the following measures.*"

Page 4.2-17 Mitigation Measure GS-5.1 is amended as follows:

"**GS-5.1** Prior to approval of any phase of a final map that includes ~~issuance of building or grading permits~~ lots that proposes to utilize on site septic systems, the applicant shall identify lot-specific locations and submit detailed engineering plans for each septic system to the Monterey County Health Department (MCDH) for review and approval. For those lots, the applicant shall demonstrate to MCDH that connection to a sanitary sewer system is not feasible and that the lot does not abut any roads containing proposed sanitary sewer lines. Each design shall be stamped and signed by a registered engineer and shall meet the regulations in Chapter 15.20 of the Monterey County Code (Sewage Disposal Ordinance) and in the Prohibitions of the Basin Plan by the Regional Water Quality Control Board. If it has not already been completed (i.e., in the October 2001 Percolation Study), the applicant shall perform percolation testing for each proposed septic system consistent with the policies and requirements of the Monterey County Code Chapter 15.20 (Sewage Disposal Ordinance."

Delete the rest of the mitigation and the bulleted list and replace the last sentence as follows:

Per the MCDH, if a proposed individual septic system site does not meet the policies and requirements of the Monterey County Code Chapter 15.20, Sewage Disposal Ordinance, the lot shall be eliminated as a residential site.

Section 4.3 Surface Hydrology and Water Quality

Page 4.3-1 to 4.3-10 (the entire section) is amended as follows:

"INTRODUCTION

The following discussion is based on two hydrology studies for the project prepared by Monterey Bay Engineers, Inc.. The original study, ~~the~~ ("Tavernetti Subdivision Hydrology Report", dated ~~prepared for the project (Monterey Bay Engineers, Inc.,~~ June

8, 2001) formed the basis of the analysis presented in the Draft EIR. An updated, supplemental study was prepared for the revised project ("Tavernetti Subdivision Hydrology Report", dated September 4, 2002), which was reviewed for the discussion and analysis presented in this revised document. A copy of the June 2001 hydrology report was included in Appendix C of the Draft EIR; a copy of the September 2002 hydrology report is included in Appendix A of this Final EIR.

The geologic and geotechnical conclusions and recommendations were independently reviewed by Steven Raas Associates for inclusion in ~~this~~ the Draft EIR. For the Draft EIR, ~~A~~assistance with conclusions and recommendations concerning site drainage and surface hydrology ~~in this report~~ were provided by the Monterey County Water Resources Agency (Roy Marci, MCWRA, personal communication, March 2001). For the revised document, the site drainage and surface hydrology issues, including the updated hydrology report by Monterey Bay Engineers, were reviewed by Questa Engineering Corporation.

ENVIRONMENTAL SETTING

The Salinas Valley has a climate typical of Central Coastal California inland valleys, receiving the majority of its rainfall in the winter season, from October to April. Average annual rainfall in the project region ranges from a high of about 14 inches per year along the margins of the Salinas Valley basin to about 11 inches per year towards the center of the basin. Average annual rainfall in King City, roughly in the center of the basin, for the period of 1950 to 1993 was 11.17 inches per year.

The principal drainage in the project area, the Salinas River, drains an area of about 5,000 square miles (Figure 14 of the Draft EIR). Prior to development of the San Antonio and Nacimiento reservoirs, the river flowed primarily during and shortly after the rainy season. River flow is now maintained through summer months by release from these reservoirs. The principal tributaries to the Salinas River in the project area are Pine Canyon and Thompson Canyon. The streams in both these canyons are seasonal, as are the smaller tributary canyons on or adjacent to the subject property.

The site is situated in the easterly foothills of the Santa Lucia Range. The site drains generally from west to east and ultimately to the Salinas Valley Basin and the Salinas River. The project site varies from mildly sloping foothills at the east end of the project to moderate to steep slopes in the west. The lowest elevation of the site is approximately 385 feet at the entrance road, at the easterly boundary of the subdivision. The highest elevation of the site is approximately 920 feet at the top of the hills to the west. The highest elevation in the watershed is approximately 2,000 feet. The majority of proposed lots are concentrated within one mile northwest of Pine Canyon Road in the mild to moderately sloping foothills.

Watershed Summary

The drainage basin in which the project site is located consists of a total of 12 separate drainage subareas. The subarea boundaries have been chosen to facilitate the design of the project's storm water system and to aid in the determination of runoff characteristics. Major drainage features in the project vicinity are the Salinas River, located approximately 2 miles to the east, and Pine Canyon Creek, which parallels Pine Canyon Road to the south of the project site. Figure 14 of the Draft EIR depicts the project site in

relation to the major drainage basin in the study area. The existing drainage path similarly crosses the project boundary and sheet flows northeasterly across adjacent agricultural land toward Jolon Road at the lower end of Pine Canyon Creek. No signs of scouring or erosion are evident along this drainage path.

Existing groundcover on the project site and within the watershed help determine drainage and runoff characteristics. There are generally three dominant types of soil cover: rangeland, chaparral, and oak woodland. The characteristics of each groundcover type are described in detail in the "Biological Resources" section of this EIR.

The soil types on the project site and within the watershed are shaley clay loams and exposed rock outcrops with very shallow soils. Percolation rates for this bedrock material and resulting soil types are very high. Little evidence of surface runoff, typically indicated by the presence of water channels, exists in the valleys on the project site. This generally indicates that the percolation rates for the soils and underlying bedrock in the immediate vicinity of the project site are very good.

Existing Runoff Volumes/Flowrates

Flow rates for runoff in cubic feet per second (cfs) for a 10-year and 100-year storm event were estimated by Monterey Bay Engineers, Inc. using the U.S. Department of Agriculture, Soil Conservation Service (SCS) methodology (Monterey Bay Engineers, September 4, 2002). The SCS method takes into account soils types, ground cover, and land uses in the watershed. In order to provide a conservative estimate of potential storm runoff, it is assumed that the entire project site lies in a Type I storm distribution area, although a portion of the site is within a Type IA storm distribution area. According to SCS criteria, peak runoff from a Type I storm is about 2.5 times that for a Type IA area. To provide a conservative (safe) analysis, the hydrology calculations by Monterey Bay Engineers, Inc., assumed that the entire project is located in a Type I area. The time of concentration is the period of time water takes to flow from the farthest reach of a watershed to its outlet. A reduction in the time of concentration is accompanied by an increase in the peak flow rate and quantity. The pre-development time of concentration for the basin is ~~29.6~~ 30 minutes.[4]

Peak flows under existing and post-development conditions are presented in Table 5 below. Existing flows from the basin for the 10-year storm are 50 cfs; existing flows for the 100-year storm are 121 cfs. The 10-year storm flow will be used as the baseline runoff that shall be maintained in post-project conditions as required by Monterey County Water Resources Agency.

[4] *Richard Llantero, personal communication, October 2000.*

Table 5 Storm Runoff Flows							
Total Area (acre)	Development Area (acre)	10-Yr Storm (cfs)			100-Yr Storm (cfs)		
		Pre	Post		Pre	Post	
			Undetained	Detained[1]		Undetained	Detained[1]
250	56	50	160.5 ~~188~~	50 ~~68~~	121	276.2 ~~336~~	50 ~~134~~

[1] Includes discharge from the proposed storm water detention system. Refer to Appendix A~~C~~ for detail of flows by sub-basin.
Source: *Tavernetti Subdivision Hydrology Report*, Monterey Bay Engineers, Inc., Sept. 2002 ~~2001~~.

IMPACTS AND MITIGATION MEASURES

Standards of Significance: In accordance with the State CEQA Guidelines, and agency and professional standards, a project impact may be considered significant if the project would:

- violate any water quality standards or waste discharge requirements; or
- substantially interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site; or
- substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or
- create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;[5] or
- otherwise substantially degrade water quality; or
- place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; or
- place within a 100-year flood hazard area structures which would impede or redirect flood flows; or

[5]The Monterey County Water Resources Agency's storm water drainage criteria states: "The criteria for storm water detention is to limit discharge to the 10-year pre-development rate and store the difference between the 100-year post-development runoff and the 10-year pre-development runoff in a basin or pond."

- expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

The project site is not within a 100-year flood hazard area and is not within an area that would be subject to flood hazards.

Proposed Drainage Improvements

Proposed drainage improvements consist of a system of three (3) detention ponds, drainage channels, energy dissipaters and catch basins, with ultimate conveyance to Pine Canyon Creek and the Salinas River. Figure ~~15~~ 3 of Appendix A, the revised hydrology report by Monterey Bay Engineers (September 4, 2002) depicts the proposed drainage plan. The revised total capacity of the detention ponds is ~~185,450~~ 192,250 cubic feet, or ~~4.2~~ 4.4 acre-feet. The original (June 2001) drainage plan also included three detention basins, with a slightly smaller total storage volume of 185,45 cubic feet, or 4.2 acre-feet. More importantly, however, the revised (September 2002) drainage plan proposes to locate one of the detention basins (Pond Z) at the bottom (northeastern) edge of the project site, providing that virtually all runoff from the project will be routed through detention facilities. The original (June 2001) drainage plan situated all three detention basins near the mid-elevation of the project site, with no runoff detention measures for the lower elevations in the easterly third of the project. Storm water runoff ~~will be collected~~ leaving the on-site detention basins will be ~~and~~ conveyed under the subdivision entrance road and Pine Canyon Road to an outlet structure at Pine Canyon Creek, approximately 2,000 feet from the confluence of Pine Canyon Creek and the Salinas River. The outfall structure will be designed to dissipate the energy of the flow and minimize erosion at Pine Canyon Creek. In addition, the hydrology report recommends installation of oil and grease traps. This measure is required to mitigate for operational surface water quality impacts.

Estimated Post-Project Runoff

Post-development drainage flows were estimated by Monterey Bay Engineers, Inc. using the SCS method. Development of the project site will add impervious surfaces consisting of roads, driveways, sidewalks, patios, and roofs. Smaller lots (less than 10,000 square feet) located in the area of highest development concentration are assumed to contain ~~4,000~~ 2,000 square feet each of new impervious surface. For larger lots (greater than 10,000 square feet), 5,000 ~~to 6,000~~ square feet of impervious surfaces were assumed for each lot. Therefore, buildout of the proposed subdivision will add approximately 56 acres of impervious area, including roads and sidewalks to a total watershed of 250 acres. This equals about 22.4% of the total watershed area.

To reduce peak flows through the post-development subdivision, the drainage plan includes a collection and pond system based on flow from subareas. Three detention ponds are proposed, labeled Ponds X, Y and Z. Ponds X and Y are located in the upper portions of the site and will collect and detain runoff from subareas 3 and 4, respectively; the flow out of these basins will be limited to 5 cfs from each pond. Pond Z will be located in the northeastern corner of the project site, near the wastewater percolation fields, and will collect and detain runoff from the remainder of the site, along with the outflow from Ponds X and Y. The discharge from Pond Z will be limited to a maximum metered rate of 50 cfs, which is equal to the estimated pre-development 10-year peak runoff rate. The outflow from Pond Z will be conveyed in a storm drain to Pine Canyon

Creek. Subareas 3 and ~~4~~ ~~2 through 6~~ comprise ~~67.5~~ 46.5% of the total project area. The runoff from these subareas into Ponds X and Y will have ~~is routed through three separate detention ponds (Figure 15) resulting in~~ a post-development concentration time of ~~6.0 minutes, 5~~ 8.0 minutes and ~~12~~ 14.5 minutes ~~for Ponds X, Y, and Z~~, respectively. Detained runoff from Ponds X and Y will be discharged into Pond Z~~X~~ at a rate of no more than 5 cfs from each pond. ~~Runoff detained in Pond Z will be discharged at a metered rate of 5 cfs.~~ Subareas ~~7~~5 through 12 comprise ~~31~~52% of the total project area. Runoff from these subareas will be collected in the storm drain system via catch basins located throughout the subdivision and routed into Pond Z, along with the outflow from Ponds X and Y. Post-development concentration time for subareas ~~7~~5 through 12 is estimated to be ~~9.2~~18 minutes. Post-development runoff for subarea 1 (approximately 1.5% of the total project area) will be discharged onsite through an energy dissipater on a natural swale that drains to the northerly boundary of the subdivision. The amount of runoff from this subarea is relatively insignificant to the overall project and the large watershed that drains into the valley from the north.

Table 5 compares existing and estimated post-development peak flows~~.~~, based on the hydrological analysis provided by Monterey Bay Engineers for the revised drainage plan (September 4, 2002). The table shows the post-development flows that would occur both with and without stormwater detention facilities. The post-development flows labeled "Detained" represent the ~~include~~ discharge ~~from detained runoff~~ leaving the site from Pond Z, the last in the series of detention ponds. Please refer to Appendix A~~C~~ for a detailed breakdown of the detained and undetained drainage flows by sub-area.

By design, the peak discharge from Pond Z has been set to not exceed the estimated pre-development 10-year peak runoff rate of approximately 50 cfs. The discharge will be controlled by the sizing and configuration of the outlet structure and discharge pipe. To meet this peak discharge limitation, Monterey Bay Engineers (September 4, 2002) determined the storage volume (in cubic feet, CF) of detention Ponds X, Y and Z to be as follows:

	Pond X	Pond Y	Pond Z
Required 10-yr Detention Volume, CF	3,800	15,600	18,800
Required 100-yr Detention Volume, CF	9,900	29,250	57,600
Proposed Detention Capacity, CF	37,360	85,690	68,800

~~Post-development 10-year flows for the basin will exceed pre-development flows by 18 cfs even with the proposed drainage detention system. For the 100-year storm event, post-development peak flows in the project area basin exceed pre-development flows by 13 cfs even with the proposed detention system. This number is lower primarily because the proposed detention ponds have such large capacities that they can limit 100-year peak flows from subareas 2 through 6 to 5 cfs.~~

~~Pine Canyon Creek has a total watershed of 15.6 square miles which is much larger than the project site. The time of concentration for Pine Canyon Creek is approximately 220 minutes compared to 9.2 minutes for the project area drainage basin. When the region is inundated by a large rainfall event, the peak flow from the project site will have drained into the Salinas River via Pine Canyon Creek well before the peak flow for Pine Canyon Creek arrives. In their report, Monterey Bay Engineers states that the project is not expected to have an adverse impact on Pine Canyon Creek because of this time delay between peak flows of the basin as a whole versus the project site alone, and the excess~~

~~capacity available in the creek at the point of discharge (Monterey Bay Engineers, Inc., 2001).~~

The Monterey County Water Resources Agency's storm water drainage criteria states: "*The criteria for storm water detention is to limit discharge to the 10-year pre-development rate and store the difference between the 100-year post-development runoff and the 10-year pre-development runoff in a basin or pond.*" The original drainage plan reviewed in the Draft EIR would have resulted in an increased discharge from the project site of 18 cfs and 13 cfs, respectively, for the 10-year and 100-year storm conditions, which was determined to not conform with the above criteria and was judged to be a significant impact. However, ~~T~~the revised ~~proposed~~ drainage system design, as presented in the September 2002 report by Monterey Bay Engineers, ~~therefore, does not~~ meet~~s~~ the MCWRA ~~r~~requirements ~~during either~~ for both a 10-year ~~or~~ and a 100-year event. ~~The discharge rate (in this case 68 cfs) is higher relative to the pre-development 10-year peak discharge (50 cfs).~~ This should ensure that downstream property owners ~~would~~ will not experience increased flow ~~for a period of time~~ during storm events, over that occurring under present (undeveloped) conditions during the 10-year and 100-year storm event. ~~Specifically, they will experience an approximate 3% increase in flow rate for a 10-year frequency storm. According to FEMA, Pine Canyon Creek at Jolon Road has a 10-year flow rate of 650 cfs. With the project, the creek will carry 18 cfs additional flow (18/650=3%) (Roy Marci, MCWRA, personal communication, March 19, 2001).~~

Impact HW-1: The project will increase storm water flows from pre-development levels due to construction and the increase in impervious surfaces, such as roadways, buildings, patios, and parking areas. However, with the incorporation of on-site detention basins as proposed in the revised project plans (August 2004), the ~~P~~post-development 10-year and 100-year storm event flows for the project area drainage basin will not exceed pre-development ~~flows by 18 cfs and 15 cfs, respectively, even with the proposed detention system (i.e., the undetained runoff will increase by 18 cfs during the 10-year frequency storm and by 13 cfs during the 100-year).~~ ~~This is an adverse impact on~~ Therefore, downstream properties along Pine Canyon Creek should not experience increased runoff during peak flow conditions as compared with existing conditions as long as the final design details of the detention facilities conform with the proposed plans and the basins are properly maintained. Detailed construction plans and maintenance plans for the detention basins have not yet been prepared. ~~even with the excess capacity available in the creek and the differing time of concentration for the watershed.~~ *This is a potentially significant impact that can be mitigated to a less-than significant level with the following measures.*

Mitigation

HW-1.1 Prior to issuance of building or grading permits, the applicant shall prepare and submit Drainage Plans and final design and construction drawings, including hydraulic calculations for the detention basin outlet structures. ~~redesign the proposed storm water system to control release of detained flows during 10- and 100-year storm events to pre-development 10-year storm levels, by adding more detention ponds, storage capacity, or other changes to the design of the system.~~ The final design shall be subject to review and approval by the Monterey County Public Works Department and Water Resources Agency.

HW-1.2 Prior to issuance of any grading or building permits and during construction, the applicant shall conduct regular maintenance and cleaning of on-site drainage and detention facilities to ensure ongoing provision of adequate capacity. This requirement shall be included in the Erosion Control and Drainage Plan required by Mitigation Measures GS-4.1 and GS-4.2 and shall be monitored by the Monterey County Water Resources Agency (WRA) during construction. ~~Regular maintenance and cleaning of the system shall be the responsibility of the appropriate community services district or homeowner's association and ensured in perpetuity through legally binding covenants, conditions and restrictions.~~ Prior to approval of each final map, the applicant shall prepare and submit Covenant, Conditions, and Restrictions (CC&Rs) to the WRA applicable to that phase that shall include the following, in addition to the requirements in Mitigation Measure B-6.1 and HW-2.2: regular ongoing maintenance and cleaning upon full occupancy of the system as a responsibility of the appropriate community services district or homeowner's association and ensured in perpetuity. These CC&Rs shall be reviewed and approved by the WRA prior to approval of each final map.

Water Quality Impacts

The development of roads, driveways, and parking areas will introduce typical urban pollutants into surface runoff which may wash into Pine Canyon Creek and the Salinas River. Typical urban contaminants include silt from exposed soils, and hydrocarbons from gasoline, oil, and grease residues. Run-off contamination is particularly acute during the first major storm when contaminant buildup is flushed into the drainage system. A second consequence of urban and suburban residential development is the loss of natural infiltrative capacity and the absorption and filtering of runoff by soils and vegetation. Finally, construction of roads, buildings and other impervious surfaces can lead to higher runoff flows and consequent threat of increased flooding and stream erosion in downstream receiving waters.

As previously stated, the proposed project is estimated to result in the creation of impervious surfaces over approximately 22.4% of the project site (roughly 56 acres). The runoff analysis indicates that, without onsite detention measures, the development of the project would result in a significant increase in peak runoff rates from the project site, which drains to Pine Canyon Creek and the Salinas River. However, in accordance with Monterey County requirements, the proposed project incorporates a series of three (3) detention basins to attenuate runoff and assure that post-development peak storm flows are equal to or less than existing (pre-development) flows. The specific purpose is to reduce the potential for downstream flooding. A secondary benefit of the detention facilities is the maintenance of the hydrologic regime to avoid creation of downstream erosion and sedimentation problems. In addition, the detention basins also provide a means of capturing surface runoff pollutants, especially during small storms and "first flush" periods of larger storms, thereby providing a water quality treatment function near the source. Finally, the third and largest of the three detention basins is located in an area of alluvial soils where substantial infiltration of runoff will occur. Although the infiltration component is not factored into the hydrologic runoff analysis for compliance with Monterey County drainage requirements, the infiltration can be expected to provide an added measure of protection against downstream runoff impacts as well as retention and soil absorption of nutrients, oil and grease, and other surface runoff pollutants from the developed project site. Since virtually all of the project site runoff (98.5%) will be routed through these detention basins, the drainage design for the project will substantially mitigate potential downstream water quality impacts that might otherwise

occur if detention measures were not included in the project plans. In addition to the detention basins, the drainage plan for the project also calls for the incorporation of oil and grease traps within the stormwater collection system, although the location and details of these facilities are not specified.

The U.S. Environmental Protection Agency (EPA) establishes regulations for National Pollutant Discharge Elimination System (NPDES) permitting of storm water discharge. These regulations are implemented by the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB). Any construction project affecting ~~five~~ one acre or more is currently required to comply with SWRCB General Permit conditions for storm water runoff from construction activities. These permit conditions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that proposes implementation of Best Management Practices (BMPs) to reduce or eliminate erosion and downstream sedimentation from construction sites. In order to mitigate adverse water quality impacts after construction, the SWPPP must also include permanent BMPs into final project design to ensure storm water runoff quality. Examples of stormwater BMPs provided by the Regional Water Quality Control Board for Construction and Post-Construction water quality and erosion control are provided in Attachment 1 to Letter 4. ~~The storm water permit program may be expanded in the near future to include all construction projects over one acre.~~

Excavation, the removal of vegetation, and construction on steep slopes could result in erosion and downstream siltation if appropriate erosion control measures are not implemented. The type of site preparation, erosion control, and grading practices used on-site can also impact downstream drainage. Potential erosion impacts and appropriate mitigation are identified above under the heading **Soils Hazards**.

The planning and timing of construction grading activities is also an important consideration in avoiding erosion and sedimentation impacts from a development of this type and scale. Grading activities should be confined to the dry season as much as possible. During the rainy season, typically October 15 through April 15, erosion control measures should be in place and the amount of graded or disturbed area kept to a minimum at any given time. Failure to properly plan and coordinate the construction activities and erosion control measures can result in unnecessary sedimentation impacts during the rainy season or in the event of unseasonable rainfall events.

Impact HW-2: Development of the project will introduce urban pollutants into surface runoff, which could drain into and contaminate Pine Canyon Creek and the Salinas River~~.~~, a listed 303(d) impaired water body. The potential impact will be partially mitigated by the stormwater drainage design, which includes oil and grease traps plus onsite detention basins for attenuation of runoff and associated pollutants from 98.5% of the site. *This is a significant impact that can be mitigated to a less-than significant level with implementation of Mitigation Measures GS-3.1 through GS-3.3 in* ***Geology and Soils Hazards*** *and the following measures.*

Mitigation

HW-2.1 Prior to ~~construction~~ issuance of the first grading permit for the project, the project will be required to obtain a NPDES permit and prepare a SWPPP, in accordance with the regulations of the RWQCB. The project shall implement Storm Water Best Management Practices as specified on the SWPPP both during and after construction to

prevent the release of nonpoint source water contaminants. This shall include conformance with the following construction planning measures: (1) construction work involving work on a cleared site should be conducted during the dry season, typically April 15 – October 15; (2) where construction during the wet season can't be avoided, the erosion and sedimentation control BMPs shall be in place throughout the rainy season; (3) during the dry season erosion control materials shall be available for employment in case of an un-seasonal rain event; (4) the construction shall be phased as much as possible to limit the amount of cleared, grubbed and disturbed areas at any time during the rainy season; and (5) the construction phasing, including the timing and areal extent of soil disturbance by phase, shall be addressed in the SWPPP. Compliance with this mitigation measure shall be confirmed by the Planning and Building Inspection Department prior to issuance of a grading permit and on a regular basis, specifically, every two weeks during the wet weather season (October 15th through April 15th) and every four weeks during the dry season (April 16th through October 14th).

HW-2.2 ~~After construction,~~The project Drainage and Erosion Control Plans and SWPPP required by Mitigation Measures GS-4.1, GS-4. 2 and HW-2.2, respectively, shall include the following measures ("Best Management Practices") ~~shall be implemented~~ to minimize nonpoint source pollution: 1) the use of porous pavement or "grass-phalt" wherever possible, 2) appropriate landscaping practices to minimize runoff of fertilizers, herbicides, and pesticides, 3) regular street sweeping, 4) installation of structural storm water treatment controls such as swales, vegetated filter strips, detention basins, cisterns for storm water storage, and sediment/grease/oil traps (with regular maintenance programs). Sediment and oil traps shall be designed to capture first flush oil and sediment and inspection and maintenance of the traps shall occur at a minimum once per year in the late summer. The applicant shall also review and incorporate, as appropriate, additional Best Management Practices for surface water runoff and erosion control, including those recommended by the Regional Water Quality Control Board and listed on Attachment 1 of their letter (Letter 4). Regular maintenance shall be the responsibility of the appropriate community services district or homeowner's association and ensured in perpetuity through the legally binding Covenants, Conditions and Restrictions described in Mitigation Measure HW-1.2 that shall be reviewed and approved by Monterey County Water Resources Agency prior to approval of each final map for the project."

Section 4.4 Biological Resources

Page 4.4-1 The bullet list in the "Introduction" is amended as follows:

"The following site surveys, reconnaissances and analyses were performed as part of this environmental review:

- A preliminary biological analysis of the project site was completed by BioSystems Analysis, Inc. (BioSystems) in June 1994 (Appendix C.1).
- Tree surveys of the site were completed by Denise Duffy & Associates, Inc. in January 1994 and again in April 1999 (Appendix C.2).
- An additional site visit was completed by Denise Duffy & Associates, Inc. and Bryan Mori Biological Consulting Services in October 2000 to perform a botanical survey, and a wildlife and wetlands reconnaissance.
- A floristic season survey was conducted in May 2001 to check for the presence of specific special-status species including robust spineflower (*Chorizanthe robusta* var.

robusta), Hickman's onion (*Allium hickmanii*), Carmel Valley bush mallow (*Malacothamnus palmeri* var. *involucratus*), and hooked popcorn flower (*Plagiobothrys uncinatus*).

- A second floristic season survey was conducted in May 2002 by Denise Duffy & Associates, Inc. to check for the presence of the purple amole (*Chlorogalum purpureum* var. *purpureum*).
- A ~~late July~~ June survey ~~will~~ was conducted in 2002 to identify the presence or absence of the following special-status species: Indian bush mallow (*Malacothamnus aboriginum*) and Davidson's bush mallow (*Malacothamnus davidsonii*)."

Page 4.4-1 The paragraph under "Federal Laws and Regulations" is amended as follows:

"The federal Endangered Species Act (ESA) of 1973 (16 USC 1532 *et seq.*, as amended) prohibits federal agencies from authorizing, permitting, or funding any action that would result in biological jeopardy to a species listed as Threatened or Endangered under the Act. Listed species are taxa for which proposed and final rules have been published in the Federal Register (U.S. Fish and Wildlife Service (USFWS) 2000~~4~~). If a proposed project with a federal nexus may jeopardize listed species, Section 7 of the ESA requires consideration of those species through formal consultation with the USFWS. Federal Proposed species (USFWS 1997) are species for which a Proposed listing as Threatened or Endangered under ESA has been published in the Federal Register. If a proposed project with a federal nexus may jeopardize Proposed species, Section 7 of the ESA affords consideration of those species through informal conferences with USFWS. Both listed and proposed species are also afforded protection under (CEQA). Federal Candidate species are "taxa for which (USFWS) has on file sufficient information on biological vulnerability and threats to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded" (USFWS 1997). Federal Candidate species are not afforded formal protection, although USFWS encourages other federal agencies to give consideration to Candidate species in environmental planning. Federal species of concern do not have federal status but are afforded protection under the CEQA, and are of interest to regional USFWS offices.

The USFWS is responsible for administering the ESA, including Sections 7, 9, and 10. Section 9 of the Act prohibits the taking of any federally listed Endangered or Threatened species. Section 3(18) of the Act defines "take" to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap capture, or collect, or attempt to engage in any such conduct." USFWS regulations (50 CFR 17.3) define "harm" to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harassment is defined by the USFWS as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. The ESA provides for civil and criminal penalties for the unlawful taking of listed species. Exemptions to the prohibitions against take may be obtained through coordination with the USFWS in two ways: through interagency consultation for projects with federal involvement pursuant to Section 7 or through the issuance of an incidental take permit under Section 10(a)(1)(B) of the ESA. Therefore, for a project without a federal nexus (i.e., project carried out by a federal agency, federal funding, or federal permit required), if a "take" will result from the project, the applicant will be required to obtain authorization for an incidental take prior to construction or operation of the project and for meeting all requirements of the applicable Endangered Species Act for the

Project. Section 10(a)(1)(B) of the ESA describes the process for a Habitat Conservation Plan (HCP) along with an incidental take permit application."

Page 4.4-2 The first paragraph under "State Laws and Regulations" is amended as follows:

"Project permitting and approval requires compliance with the California Environmental Quality Act (CEQA), the 1984 California Endangered Species Act (CESA), and the 1977 Native Plant Protection Act (NPPA). The CESA and NPPA authorized the California Fish and Game Commission to designate Endangered, Threatened, and Rare species and to regulate the taking of these species (§2050-2098, Fish and Game Code). The California Code of Regulations (Title 14, Section 670.5) lists animal species considered Endangered or Threatened by the state. A Section 2081 Incidental Take Permit from the CDFG is required to "take" any state listed species (or their habitat)."

Page 4.4-2 The last sentence of the first paragraph under "Habitat Resources" is amended as follows:

"These habitats are as follows:

- Non-native grassland (110 acres)
- Blue oak woodland (197 acres)
- California sagebrush scrub (34 acres)
- Sagebrush-buckwheat scrub (33 acres)
- Chamise chaparral (0.5 acre)"

Page 4.4-3 The second paragraph under "Non-Native Grassland" is amended as follows:

"Many wildlife species use grasslands for foraging and nesting. The value of grasslands to wildlife in the project area would be enhanced if the grasslands were adjacent to open water and riparian habitats. Water and riparian vegetation provide places for resting, breeding, and escape cover. Typical amphibians and reptiles residing in grasslands include Pacific treefrogs, western fence lizards, and gopher snakes. Birds known to breed in grasslands include horned larks, western meadowlarks, and burrowing owls. Mammals using grasslands include, but are not limited to, San Joaquin kit fox, deer mice, desert cottontails, California ground squirrels, striped skunks, badgers and coyotes. Small mammals in grasslands are important prey for western screech owls, American kestrels, red-tailed hawks, red foxes, and coyotes. In spring, grasslands provide most of the forage for black-tailed deer."

Page 4.4-7 The last sentence of the third paragraph under "Special-Status Plant Species" is amended as follows:

"In addition, ~~A~~a ~~late July~~ survey ~~will be~~ was conducted in May and June 2002 in order to identify the presence or absence of later flowering special-status species, including the purple amole, caper-fruited tropidocarpum, Indian bush mallow and Davidson's bush mallow."

Page 4.4-8 The first sentence of the page is amended as follows:

"In response to the requests of the USFWS, a second survey was conducted in May 2002 by Denise Duffy & Associates, Inc. to determine the presence or absence of the purple amole. No individuals of this species were found. A ~~late July~~ June botanical survey ~~is proposed to be~~ was conducted in 2002 to identify the presence or absence of the following special-status species:

- Indian bush mallow (*Malacothamnus aboriginum*), a CNPS list 1B and federal species of concern; ~~and~~
- Davidson's bush mallow (*Malacothamnus davidsonii*), a CNPS list 1B and federal species of concern; and
- Caper-fruited tropidocarpum (*Tropidocarpum capparideum*), a CNPS list 1A.

None of these special-status plant species were identified within the project site."

Page 4.4-12 The second paragraph under the "Vegetation Impacts" is amended as follows:

"Approximately 58 acres of non-native grassland, 9 acres of California sagebrush scrub, 2 acres of sagebrush-buckwheat scrub, and 0.5 acres of chamise chaparral will be impacted as a result of the proposed project. Removal or alteration of areas of non-native grassland, California sagebrush scrub, sagebrush-buckwheat scrub, and chamise chaparral are not significant from a botanical standpoint, since these habitats are not considered sensitive. The 2000 survey found that the majority of the proposed project will occur in the portion of the study area with the lowest slope. This area is dominated by non-native grassland."

Page 4.4-13 Mitigation Measures B-1.2 through B-1.6 are amended as follows:

"**B-1.2** Subject to approval by the Monterey County Water Resources Agency and Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans that demonstrate that all ~~The applicant shall design~~ culverts and other drainage improvements are designed such~~o~~ that erosion and sedimentation from storm runoff do not occur in areas of undisturbed native vegetation. This mitigation measure shall be confirmed prior to approval of the project improvement plans.

B-1.3 Prior to approval of the final map for a specific phase, the applicant shall submit a Landscape Plan (see Mitigation Measure AV-1.3, AV-1.5 and AV-1.6) corresponding to that phase of the final map that ~~In the design of landscaping the applicant shall emphasize the use~~ includes only~~of species not requiring irrigation:~~ drought-tolerant native species from local sources, or drought-tolerant non-natives that are known to be non-invasive. The species selected must be included on Monterey County's current list of drought resistant plants and must not be classified as invasive (List A or B) by the Exotic Pest Plants of Greatest Ecological Concern in California (CalEPPC, October, 1999).

B-1.4 The applicant shall not use species in landscaping that are known to be invasive, as determined by a qualified botanist or landscape architect. The species used shall not be classified as invasive (List A or B) by the Exotic Pest Plants of Greatest Ecological Concern in California (CalEPPC, October, 1999).

B-1.5 Landscape plans shall include all irrigation systems for community areas of the project. All irrigation systems ~~are installed, they~~ shall be designed to minimize runoff of irrigation water into adjacent areas of native vegetation and to minimize overspray onto

streets and sidewalks subject to the approval of the Monterey County Planning and Building Inspection Department and ~~Public Works Department~~ Monterey County Water Resources Agency.

B-1.6 CC&Rs prepared for the project (as required by Mitigation Measure B-6.1) shall indicate that ~~The applicant shall not use~~ rodenticide or herbicide shall not be used in the project area. These CC&Rs shall be reviewed and approved by the Planning and Building Inspection Department prior to approval of each final map."

Page 4.4-13 The text under the "Special-Status Vegetation Species" is amended as follows:

"As discussed above, the habitat typing portion of the botanical evaluation section of the original biological assessment (BioSystems Analysis, Inc. June 1994) was confirmed by the 2000 survey. The habitat characterizations were ground proofed and are supported by this document. No special-status plant species were observed during the October 20, 2000, or the May 9, 2001, site assessment by Denise Duffy and Associates, Inc. However, these assessments were conducted at a time not conducive to floristic inventory for late flowering special-status species, including the Indian bush mallow, Davidson's bush mallow, and caper-fruited tropidocarpum. Therefore, a focused botanical survey was conducted in June 2002 to determine the presence or absence of theses species. None of these species were found during the surveys. ~~It is possible that two special-status plant species (species not identifiable at the time of any survey) may occur within the study area, and until subsequent botanical surveys are conducted at the appropriate time of year (usually mid-summer depending on the species and that year's climactic conditions). They are~~:

- ~~Indian bush mallow (*Malacothamnus aboriginum*), CNPS list 1B; and~~
- ~~Davidson's bush mallow (*Malacothamnus davidsonii*), federal species of concern.~~

In addition, per the request of the USFWS, a second focused botanical survey was conducted in May 2002 to determine the presence of the purple amole. None were identified during the survey.

These plants, their habitat descriptions, and the likelihood of their presence is included in Appendix C.3. The BioSystems report included two plant species, which are not currently considered special-status (they are CNPS list 4 species), and only CNPS 1B and 2B are currently considered special-status. These plant species are San Benito poppy *(Eschscholzia hypecoides)* and San Antonio Hills monardella *(Monardella antonina)*. The BioSystems report and the DD&A field survey confirmed that, although there is a low potential for the Indian bush mallow and the Davidson's bush mallow to be found during the late flowering season in July, it is unlikely that they exist in the area proposed for development due to the disturbed, ruderal nature of that area. The survey in June 2002 confirmed that these two species are not present within the project site."

Page 4.4-14 A misprint in Impact B-2 identifies impacts to the San Benito poppy and San Antonio Hill monardella, which are both CNPS list 4 species that are not considered special-status plant species in this DEIR. The text was meant to identify potential impacts to the Indian bush mallow and Davidson's bush mallow, both CNPS list 1B species which are considered special-status plant species. However, focused botanical surveys conducted since the DEIR was published have concluded that no special-status

plant species will be impacted by the proposed project, as no special-status plant species were identified within the project site, including the purple amole, caper-fruited tropidocarpum, Indian bush mallow and Davidson's bush mallow. Therefore, Impact B-2 and Mitigation Measure #B-2.1 are deleted from the EIR, as at the top of page 4.4-14.

~~**"Impact B-2:** Two special-status plant species, San Benito poppy *(Eschscholzia hypecoides)* and San Antonio Hills monardella *(Monardella antonina)*, could occur within the study area and could be impacted by the project. *This is a potentially significant impact that can be reduced to a less than significant level by the following mitigation.*~~

~~**Mitigation**~~

~~**B-2.1** Pre-construction, protocol-level surveys for Indian bush mallow and Davidson's bush mallow, shall be performed by a qualified biologist during the appropriate time of the year to establish the presence or absence of each special-status plant species. If no special-status species are found, no further mitigation is required. However, if special-status plant species are discovered on the project site, the following measures shall be implemented:~~

- ~~The project shall be re-designed to avoid identified species. Identified species shall be protected during and after construction with appropriate fencing or other measures in accordance with the requirements of the USFWS and the CDFG.~~

- ~~If avoidance is not feasible, a mitigation, management, and monitoring program shall be prepared by a qualified biologist in accordance with the requirements of and subject to approval by the resource agencies which would reduce impacts to a less-than-significant level.~~"

Page 4.4-14 The first paragraph under "Tree Removal/Blue Oak Woodland Impacts" is amended as follows:

"A summary of the tree survey follows which identifies projected tree removal within the proposed building envelopes, road alignments, and drainage basins. Appendix C.2 includes a list that identifies the location, number, and type of trees to be removed by the project. As described above, project grading, clearance, and construction activities will result in the loss of approximately 730 trees (28 acres), out of about 89,000 existing (197 acres). The trees to be removed consist predominantly of various oak species within blue oak woodlands."

Page 4.4-15 Mitigation Measures #B-3.1 through B-3.6 are amended as follows:

"B-3.1 Prior to approval of the Final Map, ~~L~~lots shall be configured, building envelopes placed, and roads and other facilities sited to minimize removal of oak trees or areas of blue oak woodland. Encroachment by construction activities or alteration to blue oak woodland habitat shall be prohibited by deed restrictions. These deed restrictions shall specifically identify the following: 1) the prohibition of oak tree removal outside prescribed building/driveway envelopes and 2) the prohibition of irrigation beneath on-site oak trees.

B-3.2 Prior to issuance of a grading permit, a A qualified arborist or forester shall be retained to monitor tree removal and trimming during grading activities.

B-3.3 As required by County Ordinance, the applicant shall provide a detailed Forest Management Plan subject to the review and approval of the County of Monterey Planning Department for the tree impacts of the project prior to approval ~~recordation~~ of the Final Subdivision Map. The Forest Management Plan shall include the following guidelines:

- Avoidance is the primary measure to preserve and protect landmark trees; only the trees that are a safety hazard or cannot be avoided should be removed. Require tree removal permits and tree replacement for removal of any oaks that occur as part of future project construction. Due to the number of trees to be removed on the site and the dry climate of the project site, tree replacement and replanting of oak trees less than 24-inches and greater than 2-inches in diameter shall be based on a 3:1 (replacement:removal) ratio in areas of suitable habitat. Tree replacement and replanting shall be based on a 5:1 ratio for all Landmark Trees. Require use of oaks grown from seeds collected in locations bordering the tree clusters from which the trees were removed. Replanting should avoid open spaces where trees are not now found unless there is evidence of soil deep enough and of sufficient quality to support the plantings.

- Road and driveway alignments shall be adjusted when possible to avoid landmark trees and all trees while minimizing the need for additional grading and limiting new erosion potential.

- Prior to construction, enclosure fencing shall be installed around the perimeter of the tree's drip line.

- Construction activities and equipment shall not encroach into the tree's drip line.

- Grading standards shall be set regarding proper drainage and aeration around the base of trees.

- Tree trimming specifications as well as crown thinning guidelines shall be prepared.

- Homeowner guidelines shall be prepared identifying proper maintenance while living among the oaks.

B-3.4 Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all s~~S~~torm runoff is ~~shall be~~ diverted away from areas of blue oak woodland during construction. Berms or other erosion control measures shall be employed to prevent such diversion.

B-3.5 Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all developed ~~Developed~~ facilities, including culverts and

other drainage improvements, are ~~shall be~~ designed so that storm runoff is not directed into areas supporting oak trees or blue oak woodland.

B-3.6 Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all developed ~~i~~Irrigation systems located near areas of blue oak woodland are ~~shall be~~ designed so that irrigation runoff is not directed into the woodland areas."

Page 4.4-15 Add Mitigation Measure B-3.7 below:

"**B-3.7** Prior to approval of the Final Map for each phase, the applicant shall submit conservation easements to the County PBID for review and approval that shall be applicable to all areas designated as open space on the Vesting Tentative Map. Additional vegetation removal, grazing, and ground disturbance shall be prohibited within those areas with the exception of any fire protection measures prescribed by the CDF."

Page 4.4-17 Mitigation Measures B-4.1 through B-4.4 are amended as follows:

"**B-4.1** During construction, vehicle traffic shall be restricted to designated access roads and the immediate vicinity of construction sites. Vehicle speeds shall not be allowed to exceed 20 mph in most areas. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

B-4.2 During construction, no pets or firearms shall be permitted on construction sites so as to avoid harassment or killing of wildlife. Construction workers shall leave the construction area each night to minimize disturbance to actively foraging animals. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

B-4.3 Construction excavations deeper than three feet shall be either fenced, covered, or filled at the end of each working day, or have escape ramps provided to prevent entrapment of wildlife. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

B-4.4 During construction, all food-related trash shall be deposited in closed containers and regularly removed from work sites. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department."

Page 4.4-18 Mitigation Measures B-4.5 and B-4.6 are amended as follows:

"**B-4.5** Prior to issuance of a grading permit, the Planning and Building Inspection Department shall require that the applicant submit evidence that demonstrates that a ~~A~~ biological monitor shall ~~should~~ be on-site during initial construction activities (lot clearing, grading, tree removal) to monitor for San Joaquin pocket mouse and nesting raptors. Prior to ~~construction,~~ issuance of a grading permit the applicant shall submit evidence to the Planning and Building Inspection Department that demonstrates a permitted biologist shall ~~should~~ consult with the appropriate agencies to establish an agreed-upon plan of action in the event that these species are found on-site during construction.

B-4.6 If raptor nests are located during the pre-construction surveys identified in Mitigation Measure B-4.5, a 500-foot buffer within which no construction is allowed shall be established by a qualified biologist around each nest ~~is required~~ during breeding season to prevent nest harassment and brood mortality. Every effort shall be made to avoid removal or impact to known raptor nests within project boundaries. Maximize avoidance of these areas. If trees known to support raptor nests cannot be avoided, removal of these trees may only occur during the non-breeding season. Compliance with this measure shall be confirmed prior to issuance of a grading permit and monitored throughout construction by the Planning and Building Inspection Department."

Page 4.4-17 Add to the paragraph at the top of the page regarding the impacts to wildlife and kit foxes.

Based on the San Joaquin Kit Fox Survey Protocol established by the USFWS (June 1999), the project applicant must submit the early evaluation report (prepared by Bryan Mori Biological Consulting Services, October 2000) to the USFWS. The USFWS will evaluate the report as to whether or not the project site represents kit fox habitat, the quality of the habitat, and the value of the habitat to the recovery of the kit fox. The USFW commented that if a "take" will result from the project, the applicant will be required to obtain authorization for an incidental take prior to construction or operation of the project and for meeting all requirements of the applicable Endangered Species Act for the Project. If it is determined by the USFWS that the project will not result in take, no further action would be necessary. If the USFWS determines take will occur as the project is currently presented, the project applicant may initiate discussions with the USFWS to determine if project modifications to protect kit fox, including avoidance, minimization, restoration, preservation, or compensation would serve to eliminate the potential take.

Page 4.4-18 The discussion and the paragraph titled Impact B-5 is amended as follows:

"Impact B-5: Although San Joaquin kit fox presence on the site has not been established, suitable habitat for it ~~may~~ was found to be present on the project site within non-native grassland and blue oak woodland (Early Evaluation Report prepared by Bryan Mori Biological Consulting Services, October 2000) to the USFWS. The San Joaquin kit fox is a federal Endangered and state threatened species and the majority of the project site is proposed in areas defined as suitable habitat. *For these reasons, the project is assumed to have a significant impact on the San Joaquin kit fox. This impact ~~that~~ may be reduced by implementation of the following mitigation as well as Mitigation Measure B-6.1, however, the impact will not be reduced to a less-than-significant level. Therefore, this impact is considered significant and unavoidable."*

Page 4.4-18 Mitigation Measure B-5.1 is amended as follows:

"**B-5.1** The applicants shall ~~Initiate informal consultation~~ confer with the USFWS and CDFG regarding the potential for take of the San Joaquin kit fox. The results of the kit fox study (Appendix C.6) and the "San Joaquin Kit Fox Habitat Evaluation Form" shall ~~should~~ be submitted to these agencies for review and comment. The applicants shall provide evidence of their compliance with applicable requirements of the federal Endangered Species Act and California Endangered Species Act prior to the issuance of

building permits and the commencement of ground disturbance for those areas within the identified habitat area, as outlined below:

Based on the San Joaquin Kit Fox Survey Protocol established by the USFWS (June 1999), the project applicant must submit the early evaluation report (prepared by Bryan Mori Biological Consulting Services, October 2000) to the USFWS. The USFWS will evaluate the report as to whether or not the project site represents kit fox habitat, the quality of the habitat, and the value of the habitat to the recovery of the kit fox. If it is determined by the USFWS that the project will not result in take, the applicant will provide evidence of this prior to the issuance of building permits. If the project discussions with the USFWS determine the potential for take, the project applicants shall present modifications to protect kit fox, including avoidance that would serve to eliminate the potential take. If the USFWS determines take will occur and project modifications cannot avoid take, the applicants shall provide evidence of their compliance with applicable requirements of the federal Endangered Species Act and California Endangered Species Act prior to the issuance of building permits for those areas within the identified habitat. The project applicant shall be required to implement the mitigation measures outlined in the incidental take permits. Implementation of the permit requirements shall be monitored by a qualified biologist and verified by the County Planning and Building Inspection Department."

Page 4.4-18 Mitigation Measure #B-5.2 is amended as follows:

"**B-5.2** Regardless of the outcome of the above recommendation, pre-construction surveys for kit fox dens shall ~~should~~ be required for all development phases of future project in the study area. Pre-construction surveys shall ~~should~~ be conducted by a qualified biologist ~~no sooner~~ no less than 14 days and no more than 30 days prior to the start of any ground disturbing activities the project to locate active kit fox den sites. In addition to pre-construction surveys, a qualified biologist, meeting the required qualifications described in the *U.S. Fish and Wildlife Service Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to Ground Disturbance*, June 1999, shall be on-site to monitor construction activities for the San Joaquin kit fox. In the event that an active kit fox den is found, then that standard mitigation actions outlined in the *U.S. Fish and Wildlife Service Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to Ground Disturbance* ~~April~~ June 199~~7~~9, are recommended to avoid possible take of kit fox during future construction activities. These actions are general in nature, therefore, site-specific strategies for the project site shall be based upon consultation with CDFG and USFWS, as described in **B-5.1**. To ensure compliance with this mitigation measure, prior to issuance of any grading permits, the Planning and Building Inspection Department (PBID) shall be furnished with written correspondence from a qualified wildlife biologist documenting that no active kit fox den sites nor kit fox individuals were found on the site. If active kit fox den sites or kit fox individuals were found on the site during the survey, the applicant will be required to comply with all mitigation actions required by CDFG and USFWS and the County PBID shall monitor implementation of those actions.**"**

Page 4.4-19 Mitigation Measure #B-6.1 is amended as follows:

"**B-6.1** Prior to approval of each final map, the applicant shall prepare and submit ~~The project shall implement~~ Covenant, Conditions ~~Codes~~, and Restrictions (CC&Rs)

applicable to that phase that shall ~~which~~ include the following in addition to the requirements in Mitigation Measure HW-1.2: 1) restrict installation of fencing to the immediate vicinity of residences, and where fencing is placed adjacent to open space areas and areas of natural, undisturbed habitat, fences shall be installed such that a six inch space is left between the bottom of the fence and the surface of the ground; 2) prohibit off-road vehicle use; 3) prohibit illegal discharge of firearms; ~~and~~ 4) require cats and dogs to be fenced or leashed at all times; and 5) prohibit the installation of road medians throughout the development. These CC&Rs shall be reviewed and approved by the Planning and Building Inspection Department prior to approval of each final map."

Section 4.5 Cultural Resources

Page 4.6-11 Mitigation Measure C-1.1 is amended as follows:

"**C-1.1** If archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 150 feet of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, appropriate mitigation measures shall be developed and implemented according to Section 15064.5 of CEQA. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department."

Section 4.6 Aesthetics / Viewshed

Page 4.6-11 Mitigation Measure #AV-1.1 through AV-1.6 are amended as follows:

"**AV-1.1** Prior to issuance of a grading permit, the applicants shall demonstrate that r~~R~~esidential development on hillsides is ~~shall be~~ designed to fit the topography of the lot, using stepped foundations or other techniques, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.2 Prior to issuance of a grading permit, the applicants shall demonstrate that a~~A~~ll grading on residential lots ~~shall be~~ has been limited to minimize visual impacts, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.3 Prior to approval of the final map for a specific phase, t~~T~~he applicant shall submit a Landscape Plan corresponding to that phase of the final map that provides landscape screening, appropriate to the surrounding area, to integrate the project into the site, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.4 Prior to approval of the final map for a specific phase, the applicant shall submit a Lighting Plan corresponding to that phase of the final map that demonstrates the use of only ~~The applicant shall use~~ non-reflective materials, subdued colors, and lighting that does not create off-site glare in all phases of project development, subject to the approval of the Monterey County Planning and Building Inspection Department.

AV-1.5 The applicant shall provide all Grading, ~~and~~ Landscape, and Lighting Plans for that phase and the Forest Management Plan for the entire site to the Monterey County Planning and Building Inspection Department for review for consistency with applicable standards prior to ~~recordation~~ approval of the final map.

AV-1.6 On the Landscape Plans for the relevant project phase, the applicant shall demonstrate to the Planning and Building Inspection Department that a~~A~~ll new water tanks ~~shall be~~ are adequately screened with vegetation and painted in earthtones prior to approval of the final map for that phase."

Page 4.6-11 Mitigation Measure AV-2.1 is amended as follows:

"AV-2.1 The applicant shall provide a Public Space Lighting Plan subject to the review and approval of the Monterey County ~~Public Works~~Planning and Building Inspection Department prior to approval of the Final Map for each phase. The type, height, and spacing of street lights shall conform to County guidelines. In particular, street lights shall be directed downward and be of minimum intensity necessary for proper intersection lighting."

Section 4.7 Traffic and Circulation

The Monterey County Public Works Department reviewed the Amendment to the Draft EIR for the Morisoli-Amaral Subdivision and commented on the proposed mitigations and updated vesting tentative map design in relation to traffic impacts.

In the Draft EIR, the project had one access road (Pettitt Road) and an emergency-only road. The vesting tentative mpa shows access from Pettitt Road and includes also a secondary access from Via Canada. The addition of a full secondary access can be accommodated for the project with the application of proper engineering standards.

Per the Public Works, the Draft EIR also indicates that traffic signals at the Jolon Road/Pine Canyon Road intersection are not necessary under the *Existing Scenario* and the *Existing Plus Project Scenario*. The Public Works Department conducted their own traffic signal warrant analysis and came to a different conclusion. A traffic signal warrants study prepared by the Department of Public Works indicates that traffic signal warrants are met under current conditions. Accordingly, the project will be required to design and install traffic signals at the Jolon Road/Pine Canyon Road intersection to mitigate project impacts on that intersection, as a condition of project approval.

T.1.1a Additional Mitigation: Design and install traffic signals at the Jolon Road/Pine Canyon Road intersection to mitigate project impacts on that intersection.

Page 4.7-8 Mitigation Measure T-1.1 is amended as follows:

"**T-1.1** The applicant shall widen Jolon Road to three travel lanes between Pine Canyon Road and the Highway 101 southbound ramps to provide two southbound lanes and one northbound lane. The widening shall be consistent with and incremented toward proposed future intersection and roadway configurations of Jolon Road and Pine Canyon Road that includes four travel lanes between Pine Canyon Road and Highway 101 and left turn channelization at Pine Canyon Road (see cumulative mitigation). The widening of Jolon Road to three lanes will also benefit other developments along Pine Canyon Road and south of Pine Canyon Road along Jolon Road. The project applicant may be eligible for reimbursements from future development. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase."

Page 4.7-10 Mitigation Measure T-2.1 is amended as follows:

"**T-2.1** The applicant shall improve the segment of Pettitt Road connecting Pine Canyon Road to the project site by adding pavement, striping, and appropriate signage, such as speed limit signs subject to the approval of the Monterey County Public Works Department. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase."

Page 4.7-11 Mitigation Measure T-3.1 is amended as follows:

"**T-3.1** ~~The project shall provide sidewalks along Pine Canyon Road as part of the site's frontage improvements, and all future roadway widening shall include sidewalks and bicycle lanes in accordance with County requirements.~~ The project shall provide sidewalks along one side of Pine Canyon Road from the project entrance to Jolon Road, and all future roadway widening shall include sidewalks and bicycle lanes on both sides of the road in accordance with County requirements. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase."

Page 4.7-15 Mitigation Measures C-1.1 and C-1.2 are amended as follows:

"C-1.1 Widen Jolon Road to four travel lanes (two northbound and two southbound) between Pine Canyon Road and Highway 101 southbound ramps. The Jolon Road northbound approach to Pine Canyon Road shall include a left-turn lane and a shared through/right-turn lane. The Jolon Road southbound approach to Pine Canyon Road shall include a left-turn lane, a through lane, and a free (unrestricted) right turn lane. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.

C-1.2 Widen Pine Canyon Road to four travel lanes with left turn channelization between Pettitt Road and Jolon Road. The eastbound Pine Canyon Road approach to Jolon Road shall include two left-turn lanes and a shared through/right-turn lane. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase."

Page 4.7-16 Mitigation Measure C-2.1 is amended as follows

"C-2.1 Install a traffic signal at the Jolon Road/Pine Canyon Road intersection. In addition to the lane configurations discussed in mitigation measures C-1.1 and C-1.2, an acceleration lane shall be constructed on Pine Canyon Road to the west of the intersection, and the single-lane westbound Pine Canyon Road approach shall serve as a shared left/through/right lane.[2] All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase."

Page 4.7-16 Footnote #2 is amended as follows:

"[2] According to ~~the project engineer for the applicant, Steve Wilson of Monterey Bay Engineers,~~ the County of Monterey Public Works Department, the County has been collecting a traffic impact fee from development in the Pine Canyon area for the past 16 years. ~~His understanding is that~~ The purpose of these fees is to fund improvements to the Pine Canyon/Jolon Road intersection. ~~If this is the case,~~ The applicant may be able to pay into the fund as an alternative to constructing the cumulative mitigation themselves, and according to CEQA case law, payment of fees to a program established to implement a required mitigation is adequate to reduce the associated project's contribution to the cumulative impact to a less-than- significant level. (Bryce Hori, personal communications, August 2004 ~~Memorandum dated February 14, 2001 to Kris Berry, Monterey County Planning Department~~)."

Section 4.8 Noise

Page 4.8-4 Mitigation Measures N-1.1 through N-1.3 are amended as follows:

"N-1.1 Construction activities shall be restricted to the hours of 8:00 AM to 7:00 PM Monday through Saturday. Equipment maintenance and servicing shall be confined to the same hours. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

N-1.2 All construction equipment utilizing internal combustion engines shall be required to have mufflers which are in good condition. Stationary noise sources shall be located at least 300 feet from occupied dwelling units unless noise reducing engine housing enclosures or noise screens are provided by the contractor. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.

N-1.3 Equipment mobilization areas, water tanks, and equipment storage areas shall be placed in a central location as far from existing residences as feasible. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department."

Page 4.8-4 Mitigation Measures N-2.1 through N-2.2 are amended as follows:

"N-2.1 The applicant shall design lot boundaries adjacent to existing agricultural operations so that a physical separation, such as a row of trees, wall or fence will be installed between new residences and existing agricultural uses, subject to the review ~~of~~ and approval by the Monterey County Planning and Building Inspection Department through review of the project Landscape Plans (see Mitigation Measure AV-1.3, AV-1.5, AV-1.6, B-1.3 and B-1.5).

N-2.2 The applicant shall ~~transfer~~ record documents for lots adjacent to existing agricultural operations and shall disclose that the transferred property may be subject to normal effects of agricultural operations such as dust, noise, pesticide use, and possible odors subject to the review ~~of~~ and approval by the Monterey County Planning and Building Inspection Department."

Section 4.9 Air Quality

Page 4.9-1 The last sentence of the first paragraph under the heading "Regulatory Setting/Air Quality Management Plan" is amended as follows:

"…. The MBUAPCD monitors air quality at stations located in Salinas, Hollister, Carmel Valley, Monterey, Santa Cruz, Davenport, Watsonville, Scotts Valley, Moss Landing and King City."

Page 4.9-2 The first paragraph is amended with the following text:

"In 1997, the District was redesignated as a Federal Maintenance Area for ozone, and the EPA adopted new federal standards of ozone, PM_{10} and $PM_{2.5}$. In ~~1997~~ 2000, the MBUAPCD published its most recent approved Air Quality Management Plan (AQMP). Attainment of the PM_{10} standard is addressed in the "1996 Report of Attainment of the California Particulate Matter Standards in the Monterey Bay Region." ~~The 2000 AQMP is currently being considered by the MBUAPCD for approval.~~"

Page 4.9-2 The "Ambient Air Quality" section is amended as follows:

"~~No violations in Federal or State ozone standards were recorded in King City or at any monitoring station in Monterey County between 1997-1999. In the North Central Coast Air Basin, the State 1-hour ozone standard was exceeded once in 1997, 12 times in 1998, and 4 times in 1999. The federal 1-hour ozone standard was not exceeded during that period and the federal 8-hour standard was exceeded once in 1997, seven times in 1998, and once in 1999.~~

~~During these three years, the State standard for PM_{10} was exceeded on only 2 days (both in 1999) at the King City monitoring station. In Monterey County, the State PM_{10} standard was exceeded 19 times between 1997 and 1999, and a total of 44 exceedances of the State PM_{10} standards were recorded in the North Central Coast Air Basin between 1997 and 1999. Of these, 23 were at the Davenport station, and 13 were recorded at the Moss Landing station.~~

Table A shows the past three years of exceedances of federal and state ambient air quality standards for the King City monitoring station and the North Central Coast Air Basin.

Table A
Exceedances of Federal and State Ambient Air Quality Standards

	North Central Coast Air Basin days (highest concentration, ppm)			King City Monitoring Station days		
	2001	**2002**	**2003**	**2001**	**2002**	**2003**
State 1-hr O_3 (ppm)	3 (0.108)	8 (0.115)	3 (0.111)	0	0	0
Federal 1-hr O_3 (ppm)	0	0	0	0	0	0
Federal 8- hr O_3 (ppm)	2 (0.088)	5 (0.094)	2 (0.088)	0	0	0
State PM_{10} ($\mu g/m^3$)	8 (74)	4 (81)	7 (90)	0	0	0
Federal PM_{10} ($\mu g/m^3$)	0	0	0	0	0	0
See Table 10 of Draft EIR for the Federal and State Ambient Air Quality Standards.						

"

Page 4.9-5 Mitigation Measure AQ-1.1 is amended as follows:

"**AQ-1.1** No more than 2.2 acres of grading or excavation and no more than 8.1 acres of earthmoving shall occur in one day. Dust control measures, as recommended by the Monterey Bay Unified Air Pollution Control District and required by State law, shall be implemented by the project applicant to ensure PM_{10} emissions do not exceed thresholds. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department. These include: …"

Section 4.10 Water Supply

This section is amended in its entirety as follows:

INTRODUCTION

The following discussion is based on the analysis and conclusions contained in the hydrology and groundwater study prepared for the proposed project by Donald M. Tharp & Associates. The conclusions and recommendations of that report were independently reviewed by Rogers Johnson & Associates for inclusion in this EIR. These reports are available for review at the Monterey County Planning and Building Inspection Department. Additional review and analysis for the revised document was completed by Questa Engineering Corporation, based on updated (2004) water use information, changes to the project wastewater plans, and the corresponding effects on the water balance summary for the project.

ENVIRONMENTAL SETTING

Regional Water Resources

The proposed project is located on the western flank of the Salinas Valley ground water basin. The Salinas Valley is a 120 mile long, broad, flat-bottomed drainage that flows northwest toward Monterey Bay, in central coastal California. The valley is filled with river alluvium up to several hundred feet thick in the vicinity of the project. The alluvium is underlain by the Paso Robles Formation.

Recharge to groundwater occurs principally by infiltration from the Salinas River, fed during the dry part of the year by water released from the Nacimiento and San Antonio reservoirs. Other sources of recharge are precipitation and return flows from irrigation. On the project site, principal recharge of aquifers is by rainfall, with recharge occurring due to direct infiltration of precipitation on areas underlain by the Paso Robles Formation, and by infiltration of runoff from steep slopes underlain by the Monterey Formation into the alluvial valley fills.

This basin is commonly divided into four subareas for purposes of analysis: Pressure, East Side, Forebay, and Upper Valley. The alluvial deposits underlying the riverbed are deepest in the Forebay subarea and relatively shallow along the coast and at the southern end of the valley. These deposits include at least three separate fresh water aquifers labeled the "180-foot," "400-foot," and "900-foot" aquifers. Both the 180-foot and 400-foot aquifers are in contact with the salt water of Monterey Bay, which has intruded

inland causing agricultural and domestic water supply wells along the coast in the Pressure subarea to be abandoned[6].

Extensive groundwater pumping for agricultural, municipal, and industrial uses has affected the groundwater supplies of the basin in terms of both quantity and quality. Annual pumping in excess of recharge has caused a gradual lowering of water tables and pressure heads. This "overdraft" condition is the primary cause of salt water intrusion into the Pressure subarea.

The State Water Resources Control Board (SWRCB) is concerned about seawater intrusion into the Salinas Valley groundwater basin and has requested that the County develop and implement an adequate plan to stop the seawater intrusion problem. Should the SWRCB determine that the County and the SWRCB cannot reach an agreement on short- and long-term programs and implementation schedules, the SWRCB may start the process for adjudication, in preparation for state takeover of local decision making.

A number of solutions to the seawater intrusion problem have been identified by the County at this time. The Monterey County Water Resources Agency (MCWRA) is currently working on water reclamation and irrigation projects to re-establish higher ground water levels by relieving pumping stresses in the aquifers in the Pressure and East Side subareas.

The Castroville Seawater Intrusion Project has been established to use reclaimed water from the Monterey Regional Water Pollution Control Agency wastewater treatment plant near Marina for crop irrigation in the Castroville area, thereby reducing the need to pump ground water. Additional efforts to relieve overdraft in the East Side subarea are required to halt seawater intrusion.

The MCWRA has proposed the conjunctive use of surface water and ground water storage. Runoff is stored in San Antonio and Nacimiento Reservoirs and within the storage basin. The MCWRA is in the process of developing the Salinas River Basin Management Plan, which will address the sea water intrusion problem through conjunctive use. Several alternatives, consisting of both structural and non-structural components, are under consideration for the Basin Plan.

Local Water Resources

The MCWRA restricts the use of Salinas Valley groundwater to specified zones encompassing the basin. These zones were formed to pay off bond debt incurred as a result of development of the Nacimiento and San Antonio dams and reservoirs, and for maintenance and repair of these facilities. The water from these reservoirs is used primarily for ground water recharge of the Salinas Valley groundwater basin.

The proposed project is within zones 2 and 2A which cover essentially all of the Salinas Valley. Figure 29 of the Draft EIR shows the limits of zones 2 and 2A near the project site. There is an annual water standby charge for zones 2 and 2A. The Monterey County Water Resources Agency obtains revenues from this fee. Additionally, when the site is

[6] *Physical Features and Natural Resources of Monterey County; December, 1980.*

annexed to these zones, the Monterey County Water Resources Agency will receive annexation fees, which is a one time source of revenue to this agency.

Monterey County Regulations

The MCWRA has jurisdiction over matters pertaining to water within Monterey County, including both incorporated and unincorporated areas. The MCWRA is authorized to manage the groundwater in the Salinas Valley Groundwater Basin, and, in connection with such groundwater management activities, to conserve water, prevent waste, and prevent groundwater extractions which are considered harmful to the present and future uses of the groundwater basin.

In response to continued overdraft conditions in the Salinas Valley Groundwater Basin contributing to the intrusion of seawater into the basin along the coast, the County Board of Supervisors adopted a water conservation and allocation ordinance in March 1994. Under County Ordinance 3744, each water district within the County must develop and implement an urban water conservation and allocation plan to reduce consumption.

Nitrates in drinking water can have serious health effects and are addressed through primary drinking water standards. Since the Salinas Valley Groundwater Basin serves as a major source of water supply, nitrates from sewage disposal, agricultural operations, and other activities are of concern in the area. In 1991, the County adopted an ordinance specifically limiting the nitrate-nitrogen discharge from wastewater reclamation and land disposal facilities to a maximum of 6.0 mg/l nitrate-nitrogen. This criterion is established to provide a reasonable factor of safety.

Existing Project Site Water Use

There are currently two residences, a barn, and a corral on the project site. In addition, the site supports grazing of approximately 60 head of cattle. According to the project applicant, one existing agricultural well on the site provides water for the cattle and the two residences. Cattle typically consume water at a rate of 18 gallons per head of cattle per day, and residences require 327 gallons per day per residence. Therefore, it is estimated that the existing water use on the site totals approximately 1,734 gallons per day.

IMPACTS AND MITIGATION MEASURES

Standards of Significance: In accordance with the State CEQA Guidelines, and agency and professional standards, a project impact may be considered significant if the project would:

- substantially deplete groundwater supplies such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or

- require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or

- have insufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements are needed.

Proposed Project Water Supply

Domestic water supply for this project is proposed to be provided by Little Bear Water Company (LBWC), a private urban water purveyor. LBWC currently provides service to ~~640~~705 residential units in the Pine Canyon area. LBWC produced ~~109,074,000~~ 114,918,980 gallons (~~334.73~~ 352.67 acre-feet) of water per year in ~~1999~~ 2003 from the Salinas Valley Groundwater Basin (personal communication, Richard Hiwa, LBWC).

The project site lies within Zones 2 and 2A and is therefore eligible to utilize Salinas Valley groundwater supplied by LBWC. LBWC obtains its water supply from one well in the upper Salinas Valley aquifer (near the mouth of Pine Canyon). The entire system consists of three wells; one well (#3) is used regularly, while the other two (#1 and #2) are on stand-by for emergency use only. The two wells are on stand-by because, in the past (1983-1985), State Maximum Recommended Levels (MRL's) for Total Dissolved Solids (TDS) and the State's Drinking Water Standard for nitrates were exceeded. If the stand-by wells were to be used, they could be used no longer that 5 days consecutively or 15 days intermittently in the calendar year. In addition, the wells (#1 and #2) would have to be monitored on a monthly basis for sulfates, nitrates and TDS. At this time, wells #1 and #2 have nitrate levels well below Maximum Contaminant Level (MCL) standards, and groundwater quality for the upper Salinas Valley aquifer is generally good.

Fire Flow

The quantity of water necessary for fire protection varies with the type of development, occupancy, and the degree of fire hazard. The adequacy of fire flow for a given area is based on required fire flow, response distance from the existing fire station, and the Fire Marshal's judgement of needs in the area. Required fire flow is directly related to land use. According to the fire district, improvements to the proposed water system will be required pursuant to the Monterey County General Plan recommendations to provide sufficient fire flow rates and durations. Fire flows have not been considered in the water demand calculations because fire flow demands are intermittent and variable. In evaluating the water system, the County will add the fire flow demand to average daily demand to determine the appropriate infrastructure.

Estimated Project Water Use

As described above, water service to the project will be provided by the Little Bear Water Company (LBWC). Construction of the proposed project will add 319 new residential water connections to the LBWC. Using a generation figure of 327 gallons per day (gpd) per residence, the project will create the demand for approximately 104,313 gpd of water for residential uses. At present, the LBWC provides approximately ~~209,280~~230,535 gpd of water to the local community (based on ~~640~~705 current residential customers and a generation rate of 327 gpd).

Water Balance

Table 12 presents the existing and future water use with implementation of the project. The site has historically been used for cattle grazing, which utilizes approximately 18 gallons of water per day per head of cattle and two residential units, which utilize approximately 327 gallons per day per unit. The total existing on-site water use is assumed to be 1,734 gallons per day. The project will result in a substantial increase in water demand for the proposed residential uses. The total anticipated water demand from the project is approximately 104,313 gpd for domestic uses. Additional irrigation for the project entrance and park area is estimated at approximately ~~13,964~~ 15,516 gpd, based on 4.0 acres of irrigated area at a rate of 1.0 inch per week per square foot. This results in a total project water demand of ~~118,277~~119,829 gallons per day. Taking into account the estimated existing water use on the property, the net increase in water use is estimated to be 118,095 gpd.

As described in the **Wastewater Disposal** section of this EIR, the plan for wastewater treatment proposed by the project includes, as an ultimate objective, the reclamation and reuse of tertiary treated wastewater for local crop irrigation. However, while letters of interest have been submitted, to date the applicant has not been able to obtain secure commitments by local growers to accept and utilize the reclaimed water for irrigation. Consequently, the wastewater plan provides for upgrading the treatment system to tertiary level with continued use of the existing Little Bear wastewater disposal system in combination with the development of additional (new) percolation facilities ("Rapid Infiltration Beds", RIBs) in the northern corner of the project site. At present, all of the wastewater flows entering the Little Bear treatment plant are disposed of at percolation ~~ponds or by~~ spray fields. The intent of the project's wastewater plan is to provide a reliable method of wastewater disposal using the existing Little Bear facilities and the new RIBs, with the intent of reducing reliance on these percolation methods in the future as local growers enter into agreements to make use of the tertiary treated water as a substitute source of irrigation water. With the proposed ~~reclamation~~treatment system upgrade to meet reclamation standards, all of the flows from both the existing and proposed uses would potentially be available for reuse as irrigation water in the future. The wastewater flows from both uses are estimated at approximately ~~175,250~~173,000 gpd. Table 12 presents the total amount of reclaimed water that would potentially be available for use, and it assumes that the reclaimed water would be used for irrigation of agricultural land and would replace an existing water source serving the same area as the proposed project.

Table 12
Water Balance Summary (Gallons per Day)

LAND USE	UNITS	DEMAND FACTOR	GPD
Current LBWC Water Demand			
Existing Demand (Residential)	~~640~~ 705	327 gallons/day/unit	~~209,280~~ 230,535
Existing Irrigation Water Demand[1]	-	-	95,000
Total Current Water Demand			~~*209,280*~~ *325,535*
Future LBWC Water Demand			
Residential - Existing	~~640~~ 674	327 gallons/day/unit	~~209,280~~ 230,535
Irrigation – Existing[1]	-	-	95,000
Residential - Project	319	327 gallons/day/unit	104,313
Irrigation – Project[~~1~~2]	4 acres	1 inch/week/s.f.	~~13,964~~ 15,516
Total Future Water Demand			~~*327,557*~~ *445,364*
Reclaimed Wastewater to be Available for Use by an Existing Water User			
Project Wastewater Flows[~~2~~3]	291	250 gallons/day/unit	72,750
Existing Wastewater Flows	~~410~~ 401	250 gallons/day/unit	~~102,500~~ 100,250
Total reclaimed wastewater available after project			~~*175,250*~~ *173,000*
Existing On-site Water Use			
Existing Onsite Grazing	60 head	18 gallons/head/day	1,080
Existing Onsite Residential	2	327 gallons/day/unit	654
Total Existing On-site Water Use			*1,734*
Total New Water Demand [~~118,277~~ 119,829 gpd (proposed) - 1,734 gpd (existing)]			~~**116,543**~~ **118,095**
Max. credit possible if all wastewater is reclaimed & reclaimed water is reused			~~175,250~~ 173,000
POTENTIAL WATER BALANCE SURPLUS WITH RECLAIMED WATER CREDIT			~~**58,707**~~ **58,905**

[1]For dedicated landscape irrigation uses; estimated from annual water production totals for years 1999 through 2003.
[~~2~~1]Includes landscape irrigation for project entrance and recreation area.
[~~3~~2]Includes only proposed residences connecting to the wastewater treatment facility, not those residences that would have individual septic systems.
Source: Monterey Bay Engineers, Inc., ~~1997 and 1999.~~ 2004, and personal communication with Richard Hiwa, General Manager, LBWC (2004).

Assuming that all of the effluent from the new treatment plant is ultimately used to displace water presently used for agricultural purposes, the project ~~will~~ could potentially result in a net increase in water supply of about ~~58,707~~58,905 gpd, as shown at the bottom of~~in~~ Table 12. Currently, the Monterey County Health Department ~~does not~~ allows spray application of reclaimed water on edible food crops in conjunction with more stringent monitoring for pathogens through testing for the indicator organism clostridium perfringens. ~~and, as noted above, it is unknown whether an acceptable use for the reclaimed water will be found and secured by the project applicant.~~However, commitments to recycle the water for agricultureal or other uses have not yet been secured. Therefore, currently the project water balance results in a net increase in water demand of ~~116,543~~118,095 gpd, which is shown as the "Total New Water Demand" in Table 12.

Assuming that the project finds and secures commitments for reuse~~disposal for~~ of all of the available reclaimed water that is acceptable to the Monterey County Health Department, the project ~~will~~would result in a net water credit of ~~58,707~~58,905 gallons per day with implementation of the proposed reclamation system and would have a beneficial impact on water supply.

Impact WS-1: Without approval from the Monterey County Health Department that the project applicant has identified and legally secured adequate reclaimed water disposal locations, the project would increase water demand in the local area by ~~116,543~~118,095 gallons per day. This increased water use will be partially offset by the percolation of treated water (approximately 73,000 gpd) through the proposed Rapid Infiltration Basins. However, this will still result in a net increase in water use for the local area, which is in conflict with Monterey County water resource conservation objectives. *Only with proof of identification of a location and method of reclaimed water disposal and agreement with nearby property owners for use of a minimum of ~~116,543~~ 118,095 gallons per day of the reclaimed water, would the project result in a less-than-significant impact upon water supply. This is a significant impact that can be reduced to a less-than-significant level with the following mitigation measures.*

Mitigation

WS-1.1 Subject to approval by the Monterey County Health Department, the project applicant shall pursue and secure commitments to utilize ~~present evidence that they have secured and provided a means for appropriate ultimate disposal of~~ a minimum of ~~116,543~~ 118,095 gallons per day of the tertiary treated wastewater as a substitute for existing groundwater-supplied agricultural irrigation water, landscape irrigation or other appropriate recycled water uses. This will also require a change in the Waste Discharge Requirements for the Little Bear Wastewater System to formally recognize it as a water recycling facility. It will also require review by the State Department of Health Services.

WS-1.2 Design of the proposed storm water detention ponds shall include provisions to increase infiltration rates for runoff such that detention ponds function partially as percolation ponds, subject to the review of the Monterey County Health Department and Water Resources Agency.

WS-1.3 ~~Design of t~~The proposed effluent disposal system shall be operated ~~include provisions~~ to maximize infiltration of treated effluent, until such time as commitments are secured to divert the treated water for ~~unless~~ appropriate reuse for agricultural

irrigation, landscape irrigation, or other approved water recycling uses. ~~has been identified for all of the reclaimed water.~~

WS-1.4 Design of the proposed residential portion of the project shall maximize the use of drought-tolerant, native, and fire resistant landscaping and each residence shall use low-flow fixtures, per the requirements of County Code 3539, as amended.

Section 4.11 Wastewater and Groundwater Quality

This section is amended in its entirety as follows:

"INTRODUCTION

The following discussion on wastewater treatment and disposal is based on several reports and studies that have been prepared for the project, as follows:

1. ~~t~~The original conceptual wastewater plan for the project prepared by Monterey Bay Engineers, Inc., in April and May of 1999;
2. "Percolation Study for Tavernetti Subdivision", October 2001, prepared by Haro, Kasunich & Associates;
3. Letter Reports of June 14, 2002, and February 26, 2003, (and accompanying drawings) from Monterey Bay Engineers, Inc., regarding proposed revisions to the original conceptual wastewater plan for the project;
4. "Assessment of Proposed Wastewater Treatment and Disposal for Morisoli/Tavernetti Subdivision", July 31, 2003, prepared by Kennedy/Jenks Consultants;
5. Letter Reports dated January 20, 2004, and March 24, 2004, from Kennedy/Jenks Consultants clarifying and answering questions on various aspects of the proposed wastewater plans for the project;
6. "City of King City Wastewater Facilities Plan (Draft)", November 2003, prepared by Corollo Engineer; and
7. Other related correspondence from the applicant's representatives, Central Coast Regional Water Quality Control Board, Little Bear Water Company, Monterey County Health Department, and the State Department of Health Services. ~~and~~

~~a~~An independent analysis of ~~this~~ the original conceptual wastewater plan was conducted by Questa Engineering Corp.(Questa), ~~conducted~~ in October of 1999. A subsequent analysis was completed by Questa of the additional information and revised plan for wastewater treatment and disposal as contained in the various documents listed above.

ENVIRONMENTAL SETTING

Existing Wastewater Service

Wastewater treatment for the Pine Canyon area is supplied by individual septic systems and by Sierra Vista Properties (a private wastewater service system which is a subsidiary of the Little Bear Water Company), and the Little Bear Water Company.

Little Bear Water Company has a treatment plant facility located south of the intersection of Jolon and Pine Canyon Roads. The treatment plant location and service area are shown in Figure 30. The existing Little Bear treatment plant currently handles an average daily wastewater flow of 91,000 to 98,000 gallons per day (gpd), serving ~~410~~401 residential service connections. Existing maximum plant capacity per the Central Coast Regional Water Quality Control Board's (RWQCB) waste discharge permit is 124,000 gpd.

Existing treatment plant facilities include a series of three ponds. The first is a gunite-lined pond with a total capacity of 1.1 million gallons. This pond provides primary settling and removal of floatables. The second, clay-lined pond has a total capacity of 1.4 million gallons and provides further oxidation. The third pond has a total capacity of 50,000 gallons and provides final clarification of the wastewater prior to discharge to the disposal area. Surface aerators in the first two ponds furnish mechanical aeration of the effluent. The discharge permit for the treatment plant specifies weekly monitoring of treatment plant effluent for settleable solids and dissolved oxygen, monthly monitoring of pH, and semi-annual monitoring for total dissolved solids and sodium. Results are submitted to the RWQCB on a monthly basis.

Following treatment, wastewater is pumped from the plant up Pine Canyon to the disposal area, located south of the proposed subdivision (refer to ~~Figure 30~~ Sheet 10 of the August 2004 Vesting Tentative Map). Wastewater is directed into a clay-lined, ~~1.3~~0.4-million gallon storage pond, and then flows to the percolation-spray area below. The wastewater disposal area totals 80 acres, with 11.5 acres in a valley area currently used for percolation-spray disposal of treated wastewater. An additional 3.5 acres of percolation-spray area are being constructed by LBWC to expand the disposal capacity, pending approval by the Regional Water Quality Control Board (personal communication, Richard Hiwa, LBWC, July 2004). The percolation-spray site is divided into~~consists of~~ 11 disposal zones,~~8 equal units, and~~, with 3 additional zones due to be brought on-line in the near future. Presently, wastewater is directed to individual disposal zones based on daily assessment of soil moisture conditions and demand; this is done manually by the operator. ~~only applied to 2 of the 8 units at any give time.~~ Average discharge to the disposal field occurs during an 8 hour interval, conducted so that ponding of water on the field does not occur. Wastewater is not applied to the disposal field during rainfall, when all treated wastewater is temporarily held in the storage pond. The LBWC has current plans to upgrade the disposal system operation with the addition of an automated, timer-based irrigation control system and automatic shut-off based on rainfall. Two monitoring wells are located adjacent to and down-gradient of the disposal area. Groundwater monitoring is performed semi-annually and includes analysis for nitrate, total nitrogen, total dissolved solids, and sodium.

The only reported problem at the plant has been occasional odor complaints from the residential area surrounding the treatment plant. This problem has been most prevalent during the warm summer months and has been resolved, in part, by increasing the amount of aeration in the treatment ponds (Dias, staff, Little Bear Treatment Plant, personal communication, 1997).

IMPACTS AND MITIGATION MEASURES

Standards of Significance: In accordance with the State CEQA Guidelines, and agency and professional standards, a project impact would be considered significant if:

- proposed sewage treatment and disposal do not conform to the standards and guidelines established by local, regional and state regulatory agencies; or

- proposed discharge will substantially contribute to groundwater contamination or contaminate a public water supply; or

- create an odor nuisance.

Proposed Treatment/Disposal

The project site has been annexed into the Little Bear Water Company's service area. Wastewater treatment for 291 of the proposed residential lots will be connected to the Little Bear wastewater collection system. The remaining 28 lots (one acre and larger) are proposed to be served by individual septic systems and leachfields. Development with resulting connection to the sanitary sewer (wastewater) collection system will proceed beginning with Phase C and will proceed alphabetically. Construction of Phases A and B (septic system areas) are not dependent upon the extension of the storm water or sewer collection systems.

Conceptual Wastewater Treatment Plan

The existing Little Bear wastewater collection system is not adequate to meet the needs of the proposed subdivision. The Little Bear plant has a current excess treatment capacity of approximately ~~30,000~~ 26,000 gpd, of which 12,400 gpd (10% of total plant capacity) is expected to be reserved as a contingency, leaving about 13,600 gpd for new connections (approximately 54).~~has been reserved for the proposed subdivision in an agreement made between the project developer and the Little Bear facility.~~ This excess capacity is insufficient to satisfy the needs of the project, or any individual phase of the project. Also, the LBWC has indicated its commitment to make wastewater service available to other properties within its service area, some of which are currently served by individual septic systems that may be nearing the end of their useful service life. For example, there are 92 existing residences with onsite septic systems in the Royal Estates Subdivision that the LBWC anticipates needing to provide sewer service in the future (letter of December 17, 2003, Richard Hiwa, LBWC). Based on the limited surplus treatment plant capacity available, the LBWC plant is planned to be modified and expanded prior to the construction of those portions of the project that are intended to be connected to the Little Bear facility for sanitary sewer service.~~will be used to accommodate the first 100 residential lots constructed during the first phases of the project. When 100 new connections have been made, it is estimated that the plant will be treating a daily average flow of 116,000 to 123,000 gpd. As the Little Bear plant's ultimate capacity is approached, a new treatment facility will be constructed in time to begin operation once the number of new service connections exceeds 100.~~

A schematic of the proposed wastewater treatment system is presented on ~~Figure 31~~ Sheet 10 of the August 2004 Vesting Tentative Map. The project proposes construction of a sequencing batch reactor (SBR) treatment plant, located on the existing plant site. The plant will include built-in-place concrete vaults for sedimentation and clarification, an oxidation process, coagulation and sand filtration, and final disinfection of plant effluent to achieve tertiary treatment levels. Tertiary treatment is proposed in order to satisfy Title 22, Water

Recycling Criteria, for the unrestricted use of treated effluent for irrigation ("tertiary 2.2"). In addition, the wastewater treatment system ~~is~~will be designed and operated to meet Monterey County's requirement of 6 mg/L nitrate-nitrogen (net impact on groundwater) for land application of wastewater via percolation or ~~reclaimed water that is to be used for~~ irrigation-disposal systems.

Monterey County requires a minimum of three days of emergency storage for wastewater reclamation facilities. Although the upgraded Little Bear wastewater system proposed by the project will not initially be operated as a wastewater reclamation facility, it is the intent to ultimately make the treated water available for landscape or agricultural irrigation uses in the future. Therefore, the plans for the treatment plant upgrade include the provision of a minimum of three days of emergency storage to facilitate future compliance with Monterey County requirements. This storage will be provided by the existing plant's first oxidation pond, which has a capacity of 1.1 million gallons. Assuming an average daily wastewater flow of ~~218,500~~184,350 gpd, this pond will provide approximately ~~five~~six days of emergency storage. Wastewater will be directed to this pond via gravity flow, or pumping if gravity flow cannot be achieved.

The wastewater treatment plan for the project was initially conceived based upon the objective of producing reclaimed (recycled) water that could be used locally in place of groundwater supplies~~includes a reclamation program to reuse the treated wastewater~~ for irrigation of adjacent agricultural lands or landscaped areas. This remains the long-term objective of the project, and there are local land owners who have expressed an interest in making use of the treated water once it becomes available. However, to date no firm commitments to reuse the treated water have been secured. Therefore, the wastewater plan has been revised to provide the necessary wastewater disposal capacity through continued use of the Little Bear percolation-spray fields along with the construction of additional percolation fields ("Rapid Infiltration Basins) on a portion of the project site. In the future, the tertiary-treated water will be made available for local recycling uses as soon as appropriate commitments and legal arrangements can be made. When this occurs, it will also require modification of the waste discharge permit as well as review and approval of the entire system as a water recycling facility.

Under the original wastewater plan, the project was to have included several reservoirs for storage of treated water during extended wet weather periods when irrigation would not be needed or possible. Under the revised plan, the needs for storage of treated wastewater are greatly reduced, since the method of disposal will be by percolation rather than crop or landscape irrigation. Storage facilities for treated water will include three ponds which are part of the existing Little Bear system: (1) 1.4-million gallon clay-lined pond at the plant, currently used as an oxidation pond; (2) 0.2-million gallon pond at the plant, currently used a clarifier and pumping reservoir; and (3) 0.4-million gallon reservoir at the percolation-spray disposal site. These three ponds will provide a total storage capacity of approximately 2.0-million gallons, or roughly 6.0 acre feet of treated water. This storage capacity will be available for emergency purposes, such as extended rainy periods when discharge to the Little Bear percolation-spray field has to be temporarily suspended. Additionally, in the future, some of this storage capacity may be used to regulate flows to recycled water users. ~~This will be accomplished by pumping treated wastewater via a 6-inch force main to a series of four storage reservoirs (referred to as Ponds A, B, and C). Pond A is located at the existing treatment plant and consists of two existing ponds in operation. The capacity of Pond A is about 5 acre feet. The remaining ponds are located on the project site along the property's northerly boundary~~

~~(refer to Figure 30). The total pond capacity (Ponds A-C) is approximately 76 acre feet, or 24.8 million gallons. The approximate capacities of the storage ponds in acre-feet are provided below:~~

~~Pond A: 5.0 acre feet~~
~~Pond B: 24.0 acre feet~~
~~Pond C: 47.0 acre feet~~

~~The capacities of the storage ponds take into account all inflows (i.e., wastewater and precipitation) and outflows (i.e., irrigation water, seepage, and evaporation). This has resulted in storage capacities to meet the 120-day storage requirement.~~

As previously stated, the disposal capacity for the Little Bear facility will be expanded to meet the projected increase in wastewater flows from the project, while not compromising the capacity to meet the present and anticipated wastewater treatment needs of the existing Little Bear service area. The disposal capacity is planned to be provided by: (1) retaining the use of the existing Little Bear percolation-spray fields (current permitted capacity of 124,000 gpd); and (2) constructing new percolation facilities ("Rapid Infiltration Basins") on an approximately 1.8-acre site located in the northeastern corner of the project site. Rapid Infiltration Basins (RIBs) are essentially shallow, open percolation beds, which receive periodic (cyclical) doses of treated water. The fact that the basins are open to the surface promotes drying of soils between wastewater applications, allows access for maintenance, and generally helps preserves long-term soil infiltration-percolation characteristics. For the proposed project, the new RIB-percolation facilities are planned to be constructed as a series of 12 beds, each having a surface infiltration area of 6,500 square feet. The RIBs will have a minimum rated capacity of 78,000 gpd, to meet or exceed the projected wastewater disposal needs of the project, which are estimated to be 72,750 gpd for the proposed 291 residential sewer connections.

The treated wastewater will be distributed to both the existing Little Bear percolation-spray field and to the new RIBs from the existing pump station at the Little Bear treatment plant. It is anticipated that the flow will be distributed in proportion to the respective capacity of each disposal field, and within the rated or approved capacity of each disposal area. The existing 6-inch diameter effluent force main from the plant to the Little Bear percolation-spray field will remain in use. A new 6-inch diameter force main, approximately 1-mile long, will be installed to convey treated water to the new RIB-percolation field on the project site.

~~Supply of the reclaimed water to the end user will be accomplished by gravity flow through the same 6-inch line used to convey the treated wastewater to the storage ponds. Once the SBR plant is constructed and the reclaimed water is applied to irrigation, the area currently used for wastewater disposal will be maintained as an emergency disposal area. In addition, the existing disposal spray fields located south of the plant in the canyon will remain available for back-up disposal areas.~~

The proposed wastewater system will significantly improve and upgrade the existing Little Bear plant. Conversion of the existing system from aerated lagoons ~~and percolation disposal fields~~ to a full, tertiary-level treatment ~~reclamation~~ facility will result in the following benefits: 1) elimination of odor problems at the existing treatment lagoons; 2) improved quality of the final effluent in terms of nitrate concentrations, solids

and organic material, and pathogens; and 3) potential future reuse of the treated water for irrigation purposes.

On-Lot Septic Tanks and Leach Fields

Due to their remote locations, 28 of the residential lots are proposed to be served by individual septic systems, consisting of on-lot septic systems and leach fields. According to the project engineer, up to three miles of additional gravity sewer lines and a lift station would be required to connect these lots to sewer. Based on these engineering constraints, on-site septic systems and leach fields are proposed for these 28 lots. On-site septic systems are self contained collection and disposal systems serving each lot. The sizing of septic tanks and leach fields for residential buildings is set forth in Monterey County Code Chapter 15.20. For single-family residential systems, the septic tank is sized according to the number of bedrooms, with the minimum size (for a three-bedroom residence with garbage grinder) being 1,500 gallons and increasing by 500 gallons for each additional bedroom. All septic systems will be subject to review and approval by the Monterey County Health Department. In particular, soil testing shall be supervised by Monterey County Health staff, and siting of septic tanks and leach fields must be approved by the County prior to submittal of the tentative map.

A percolation study of the areas of the project proposed for septic systems was conducted in September and October 2001 to evaluate the permeability of the subsoils for subsurface sewage disposal (Haro, Kasunich & Associates, Inc., October 30, 2001). The study included a soil profile test pit (8 to 12-feet deep) and/or soil boring (15-feet deep) on each of the 28 lots, and percolation testing on 14 of the 28 lots. The percolation tests were run at depths of 5 feet, 10 feet and 15 feet on each lot area that was tested. Portions of the work was witnessed by Monterey County Health Department staff. The test pits and borings showed the subsurface conditions to consist of typically 1 to 3 feet of topsoil underlain by Monterey Formation bedrock (shale). No groundwater was encountered in any of the test pits or borings. The percolation test results showed moderate to high rates of percolation at all locations and depths, with reported rates ranging from 1 to 31 minutes per inch (MPI). The percolation test results by Lot # and test depth are summarized in Table 13. In general, the test results showed favorable conditions for onsite septic tank-leachfield systems; however, not all lots were tested. See additional discussion about soil percolation in section **4.2 Geology and Soils**. Additional percolation testing for individual lots not yet tested, and to serve as a basis for final septic system design, will still be required. Sites restricted by size and location may require the extension of pipes, pumps, and other improvements in accordance with Health Department requirements.

Table 13 **Percolation Rate Summary**			
Lot #	**Depth (ft) / Rate (minutes per inch)**		
	15'	**10'**	**5'**
3	0.6	2.1	8.3
6	16.7	6.0	10.4
8	2.1	0.6	0.6
9	8.3	2.8	8.3
13	1.4	2.8	8.3
14	2.6	2.5	4.6
16	1.2	4.2	4.2
17	0.3	0.3	1.4
18	1.4	4.0	3.3
21	1.2	1.7	2.8
23	6.9	6.9	31.3
25	1.5	2.1	10.4
26	2.2	2.5	4.9
27	5.0	1.7	25

Projected Wastewater Flows

The ~~conceptual wastewater plan estimates an~~ average daily wastewater flow at buildout for the Little Bear treatment facility is estimated to be ~~of 218,500~~184,350 gpd. This includes the current permitted Little Bear system capacity limit of 124,000 gpd, less 10% for reserve contingencies (-12,400 gpd)~~,average daily flow of 91,000 to 98,000 gpd from existing connections~~ , ~~and~~plus an additional wastewater flow of 72,750 gpd generated by the proposed 319 additional service connections from the project. The projected subdivision flow rate was based on an assumed unit wastewater flow of approximately 250 gpd per service connection, which is equivalent to the current unit flow rate for the treatment plant's existing connections. The new SBR treatment plant is planned to be sized for a design flow of 250,000 gpd, providing a built-in reserve capacity of about 25% in the treatment plant. ~~An additional 9.5 to 12.5 percent contingency factor was included to arrive at a total projected wastewater flow rate of 218,500 gpd.~~

State and County Wastewater Treatment/Disposal Requirements

Wastewater treatment and disposal is governed by a variety of policies and regulations including:

- Monterey County Code Chapter 15.20 - Sewage Disposal and Chapter 15.23-Sewage Treatment and Reclamation Facilities;

- Water Quality Control Plan for the Central Coast Region;

- Title 22, Division 4, California Code of Regulations – ~~Wastewater Reclamation Criteria; including draft revisions (March 1997) entitled~~"Water Recycling Criteria~~.~~" (2001).

The requirements applying to the proposed wastewater system are described briefly below.

Treatment Facilities

Requirements for centralized treatment facilities in Monterey County are established principally by the Central Coast RWQCB, with provisions that can be imposed by the Monterey County Health and Public Works Departments. The requirements are formalized as "Waste Discharge Requirements," issued by the RWQCB for individual facilities. These requirements typically specify final effluent quality and mass pollutant loadings, based upon the ultimate method and location of disposal.

Although the project has been modified so that it does not depend on wastewater reclamation (i.e., irrigation) as the primary means for wastewater disposal, the treatment system expansion and upgrades are being planned to accommodate wastewater reclamation (recycling) uses in the future. Treatment requirements for wastewater reclamation uses are specified in Title 22 (California Code of Regulations) and are typically incorporated by the RWQCB as permit conditions. The Title 22 ~~Wastewater Reclamation~~ Water Recycling Criteria ~~are currently being~~ were amended in 2001. Use of wastewater for unrestricted crop and landscape irrigation requires that the effluent be adequately oxidized, coagulated, clarified, filtered and disinfected to meet tertiary treatment requirements. Table 14~~13~~ lists the Title 22 treatment standards for different reclamation uses, including the 2001 ~~pending~~ amendments.

Title 22 also includes provisions for use of recycled water for groundwater recharge. The specific treatment requirements for "Groundwater Recharge Reuse Projects" are presently in draft form and under review. Based on draft information, it is anticipated that recycled water used for groundwater recharge is likely to require additional treatment of non-regulated "emerging" constituents (e.g., antibiotics, personal care products, etc.), which is not required for other tertiary-treatment recycling uses. This may require the inclusion of a reverse osmosis treatment process. Although the proposed project will result in percolation of treated water that will eventually reach the Salinas River Groundwater Basin, the State Department of Health Services (DHS) has indicated that the pending regulations for Groundwater Recharge Reuse Projects would only apply if the project applicants explicitly intend for the percolated water to augment the aquifer as a means of offsetting the water demands for the project (Letter of January 2, 2003 from Betsy S. Lichti). The project applicant has not proposed to take groundwater recharge "credit" for the treated water that will be percolated in the rapid infiltration basins. Therefore, the DHS Draft Groundwater Recharge Regulations are not deemed to apply to the project.

Table 14~~3~~

Wastewater Treatment and Quality Criteria For Reuse

Treatment Level	Coliform Limits (Most Probable Number, MPN)	Type of Use
SECONDARY Oxidation and Disinfection	~~N/A~~	~~• Surface irrigation of orchards and vineyards~~ ~~• Fodder, fiber, and seed crops~~
	Median: < 23/100 ml Max: 240 /100 ml (no more than one in 30 days)	▪ Pasture for milking animals ▪ Landscape impoundments ▪ Landscape irrigation (restricted access golf courses, cemeteries, etc.) ▪ Surface irrigation of orchards and vineyards ▪ Fodder, fiber, and seed crops
	Median: < 2.2/100 ml Max: 23/100 ml (no more than one in 30 days)	▪ Surface irrigation of food crops (no contact between water and edible portion of crop)
TERTIARY Oxidation, coagulation[1], clarification, filtration[2], and disinfection	Median; < 2.2/100 ml Max: 23/100 ml (no more than one in 30 days); no sample >240/100 ml ~~Max. 23/100 ml~~	▪ Food crops where water comes in contact with edible portion of crop ▪ Parks and playgrounds ▪ Schoolyards ▪ Residential landscaping ▪ Unrestricted access golf courses

[1] Coagulation optional provided turbidity of filtered effluent is <5 NTU.

[2] The turbidity of filtered effluent cannot exceed: (a) an average of 2 NTU during any 24-hour period; (b) 5 NTU more than 5 percent of the time; and, (c) 10 NTU at any time.

Source: Questa Engineering Corp.,~~1999~~ 2004.

The County of Monterey (Code Chapter 15.23) also regulates wastewater facilities in the County that involve disposal of wastewater to land. Chapter 15.23 requires an initial application and annual renewal of an operating permit for all reclamation facilities. This code mandates that wastewater disposal to land not result in a net impact to groundwater exceeding a maximum nitrate-nitrogen concentration of 6 mg/L ~~in wastewater~~. The code also requires implementation of a discharge monitoring program approved by the Director of Environmental Health. The Monterey County Director of Health has expressed concerns regarding the use of reclaimed water for irrigation of food crops (LeMoine, Monterey County Health Department, March 1999). At this time, however, there are no specific written County-imposed restrictions pertaining to the irrigation of food crops with reclaimed water (LeMoine, Monterey County Health Department, September 2000). Also, the project plans have been revised such that they are not dependent upon irrigation of food crops or other reclamation uses for disposal of the treated wastewater. Should a County policy regarding this issue be adopted, it would likely limit the agricultural lands that would be able to use the reclaimed water generated by the ~~Tavernetti subdivision~~ Little Bear Wastewater Treatment facility in the future.

Disposal

Requirements for wastewater disposal are primarily set by the RWQCB, with input from the Health Department. Disposal facilities that rely upon spray and/or drip irrigation are permitted based upon evidence of adequate terrain, soils, and groundwater conditions that assure adequate absorption and treatment of the applied effluent. Unlike percolation pond systems or septic tank leachfields, there are no specific soil depth or percolation standards that apply to spray disposal and/or drip irrigation. This is because these operations are confined to the irrigation season when essentially all of the wastewater is absorbed and utilized by the vegetation. Lands used for agriculture are typically well suited for application of reclaimed wastewater. The ~~pending~~2001 changes to Title 22 Wastewater ~~Reclamation~~ Recycling Criteria specify a minimum 50-foot setback between water supply wells and areas irrigated with tertiary treated effluent, unless specific mitigating conditions have been met, as summarized in CCR, Title 22, Section 60310(a). Additionally, the spray fields must be on property controlled by the owners/operators of the wastewater facility (i.e., the discharger). This may be satisfied with long-term contract agreements. Wastewater irrigation-reuse is not part of the project, as revised; however, it is anticipated to occur in the future. When that occurs, the locations proposed for reuse of the treated wastewater from the Little Bear system would be subject to review for conformance with Title 22 requirements and any other site specific restrictions that may be imposed by the County or RWQCB.

The existing Little Bear wastewater percolation-spray disposal system is not considered to constitute a wastewater reclamation or recycling operation. This is because, even though the treated water is applied using a sprinkler system, it is conducted in a restricted area where the principal purpose is disposal (via percolation and evapotranspiration), rather than to support a recycling use such as crop, pasture or landscape irrigation.

Neither Monterey County nor the RWQCB have specific requirements for "rapid infiltration basins", which are proposed to be constructed to provide wastewater disposal capacity for the project flows. Such facilities, which are essentially a type of percolation bed, would typically be evaluated based on their demonstrated ability to provide absorption and dispersal of the treated wastewater, considering the same type of factors used to evaluate the suitability of septic tank-leachfield systems. These factors include soil type and depth, permeability, vertical separation to groundwater and lateral separation from wells and watercourses. The RWQCB also considers the receiving water quality objectives, which in this case would be those established for the Upper Valley of the Salinas River Groundwater Basin. Of most significance is the water quality objective for nitrogen, which is indicated in the RWQCB Basin Plan to be 5.0 mg/L (median value) for this area. This water quality objective will be taken into consideration by the RWQCB in their review and establishment of revised waste discharge requirements for the upgraded/expanded Little Bear treatment system. In particular, it is anticipated that the RWQCB will require that the combination of the treatment system (SBR) and the rapid infiltration basins be designed and operated to assure that a nitrogen level of 5 mg/L not be exceeded in the groundwater adjacent to and down-gradient of the rapid infiltration basins. This limit is slightly more restrictive than the 6 mg/L nitrate-nitrogen limit contained in Monterey County Code Chapter 15.23 and would be the governing requirement for this wastewater disposal system.

Wastewater storage requirements are set forth by both State and County regulations. Provision for short-term emergency storage of incoming wastewater at the treatment plant is normally provided by a small holding pond or tank. Title 22 requires a minimum of 24-hour storage, whereas Monterey County has a 3-day storage requirement. Long-term storage is

also required at treatment facilities during wet weather. Monterey County requires a minimum of 120 days wet weather storage capacity. Although the Little Bear treatment system is no longer proposed to be operated in the near term as a Title 22 wastewater reclamation facility, Monterey County has indicated that they will re-classify the treatment plant as a "wastewater reclamation facility," based on the proposed upgrading of the treatment capability of the plant. Therefore, the County will impose the 3day storage requirement for raw wastewater, but will not impose the 120-day wet weather storage requirement for treated water because of the use of percolation facilities for disposal. The upgrade and expansion of the Little Bear treatment plant is planned to include the provision of more than six days of influent storage which will comply with the County's 3-day requirement and will facilitate future conversion of the plant to a Title 22 reclamation facility. Also, in the future, it is anticipated that long-term storage will be provided by the percolation-disposal fields and/or storage ponds provided at sites where the recycled water is used for irrigation.

Wastewater Flows , & Plant Capacity, Modifications & Access

Based on a per unit flow of 250 gpd per connection, wastewater flow to the treatment plant following ultimate build-out of the subdivision will increase by approximately 72,750 gpd, resulting in a total wastewater flow of up to 176,330184,350 gpd. This flow rate is about 1025 to 30% below the proposed ultimate design capacity of the treatment plant, which is planned to be upgraded and expanded to 250,000 gpd. and associated disposal facilities. The RWQCB typically requires 20-30% excess treatment capacity in new facilities to allow for future increases in treatment demand. This is particularly important for the Little Bear plant since there are areas in the immediate vicinity that may be developed and require wastewater treatment. The RWQCB may also require provisions for future expansion based on estimated future demand. Since the proposed wastewater treatment plan only provides 1025 to 30% excess treatment capacity, this should may result in a future lack of provide adequate capacity for demand. In addition, since the Little Bear facility is currently within 25 percent of its permitted capacity of 124,000 gpd, the proposed expansion will improve the ability of the LBWC to meet the wastewater treatment needs of their service area. In order to meet the RWQCB's excess treatment capacity requirement, no additional flows should be added to the existing facilities before the system is expanded. The project proposes to use the existing excess capacity to accommodate new homes.

Impact WW-1: The project wastewater flow rate in combination with the flows from the Little Bear service area would be about 1025 to 30% below the proposed ultimate design capacity of the treatment plant. And associated disposal facilities. This flow meetsexceeds the RWQCB requirement of 20-30% excess treatment capacity in new facilities to allow for future increases in treatment demand. , and this may result in a future lack of adequate capacity. *This represents is a potentially less-than-significant impact and no mitigation is necessary. that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-1.1 Treatment plant capacity should be increased to accommodate each phase of the project prior to filing of the final map for the respective project phases. A minimum 20% additional treatment capacity should be added to the plant and disposal facilities, as needed, for each phase of the project, to accommodate future increases in wastewater flow rates,

~~based on estimates of future development utilizing the Little Bear wastewater facility.[1] In addition, flows should be metered and records of the flows should be provided to the RWQCB and Monterey County Health Department for review. The applicant shall complete construction of the new SBR and one of the storage ponds prior to receiving additional flows from the project.~~

The major proposed changes to the Little Bear Wastewater Treatment Plant will involve the installation of a new SBR treatment system and other related tanks and equipment. The new facilities are planned to be located on the west side of Pond #2, occupying an area of approximately 6,000 square feet. The other site improvements include changes in internal piping, as well as new piping into and out of the treatment plant site. It appears that the changes and additions to the treatment plant can be accomplished without any interruption of the current treatment operations.

The greatest potential construction impact has to do with the installation of the new treatment tanks adjacent to Pond #2, which is a 1.44-million gallon clay-lined pond. Installation of the tanks will require excavation into a portion of the outward slope of the pond embankment. The project engineer has indicated that sheet piling will be installed prior to any excavation work to insure the structural integrity of the pond embankment and protect against any lateral seepage from the pond into the tank excavation area during the construction period (*personal communication, Steve Wilson, Monterey Bay Engineers, Inc., July 2004).* The excavation is expected to be open for an approximately 4 to 6-week construction period, after which the tank area would be backfilled and re-compacted to original conditions and the sheet piling removed. This construction plan appears feasible and sound; however, a geotechnical investigation will be needed to develop specific design guidance for the sheet pile installation as well as for the treatment tank foundation and related construction work.

Impact WW-1: Construction of the tanks for the SBR treatment system upgrade to the Little Bear wastewater system will involve excavation into the outward embankment of one of the existing wastewater treatment ponds. Damage to the pond could result in interruption of the treatment operations. *This is a potentially significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-1.1 A design-level geotechnical investigation shall be performed to determine the subsurface conditions at the proposed sheet pile and tank locations. The investigation shall include a minimum of two to three boreholes drilled to a minimum of twenty-five feet below existing ground surface. Soils will be logged in accordance with the Unified Soil Classification System and samples will be collected at least every five feet and at changes in composition for logging and laboratory testing. Results of the field and laboratory investigation shall be used to provide geotechnical design recommendations for sheet pile construction, excavation stability during tank construction, shoring, excavation safety, bearing capacity for tank foundations, lateral pressures for tank sidewalls and sheet piles, required depth of embedment for sheet piles, and any other measures required to preserve the structural integrity of the adjacent wastewater ponds and facilities. Methods to control groundwater, if present, shall also be provided. Recommendations derived from this

~~[1] The applicant has stated that under the existing wastewater discharge permit, any increases to the capacity of the plant are unlikely. The expansion of the Little Bear Sewage Treatment facilities will be done at one time, with the construction of the proposed Sequencing Batch Reactor Plant.~~

investigation shall be implemented during planning and construction of the wastewater system improvements.

With respect to potential legal constraints, according to the project engineer (*personal communication, Steve Wilson, Monterey Bay Engineers, July 2004*) all proposed work required to expand the wastewater treatment plant is intended to occur within existing easements owned and utilized by the Little Bear Water Company. If additional easements or expansion of existing easements are required, these would have to be secured prior to County approval of the construction work. Although there are existing utility easements for pipelines to and from the existing wastewater treatment plant site, there is presently no secured access road to the treatment plant site. Historically, vehicle access to the site (from Royal Drive) has been granted informally by the adjacent property owner. The need for vehicle access to and from the treatment plant will increase significantly with the proposed expansion of the treatment plant to serve the project, and with the conversion of the plant to a tertiary-level facility.

Impact WW-2: Upgrading and expanding the Little Bear Wastewater Treatment Plant to a tertiary facility will require a greater need for vehicle access for routine maintenance and emergency response. There is presently no secured road easement for access to the treatment plant. *This is a potentially significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-2.1 Prior to approval of the planned upgrade and expansion of the Little Bear wastewater treatment plant, a legal (recorded) easement shall be obtained in favor of the Little Bear Water Company which provides for the construction and maintenance of an all-weather access road from Royal Drive to the treatment plant.

TREATED WASTEWATER DISPOSAL

Existing Little Bear Percolation-Spray Disposal Fields

The existing Little Bear wastewater treatment and disposal system has capacity for disposing up to 124,000 gpd of treated effluent through land disposal in an undeveloped region of Pine Canyon, as specified in the existing waste discharge permit. ~~This disposal method would be adequate to accommodate the initial development phases of the proposed project, but additional disposal capacity is necessary once approximately 130 new service connections have been added to the system.~~ Under the proposed project (as revised), the existing Little Bear percolation-spray disposal facility will remain in service, and will benefit from the upgrading of the treatment plant to a tertiary-level facility. Additionally, independent of the proposed project, the LBWC has been exploring ways to upgrade and expand the capacity of the Pine Canyon disposal fields. According to the General Manager, LBWC will be requesting approval from the RWQCB for expansion of the disposal fields by approximately 3.5 acres in areas immediately adjacent to the existing fields. To date, a formal application to the RWQCB has not been made for this expansion. However, soil investigations were recently conducted in the Little Bear wastewater disposal field area to provide baseline

information on the site conditions in preparation for an application to the RWQCB. The exploratory testing showed the site to have relatively deep and highly permeable soil conditions, including: (1) clayey sand soil deposits to depths of 13 to 20 feet; (2) no presence of groundwater in any of the three borings in the spring of 2003; and (3) infiltration rates of 1 to 6 gallons per hour per square foot (Mid-Coast Geotechnical, Inc., 5/26/03). Expansion of the LBWC's Pine Canyon disposal field capacity, if approved by the RWQCB, is not intended to meet the needs of the Morisoli-Amaral project, nor is the proposed project dependent on such approval. Available records and a site inspection with LBWC staff (July 2004) indicate that LBWC's existing percolation-spray field is operated in accordance with requirements established by the RWQCB and that it's continued use, with upgraded treatment per the proposed project, will not create any new impacts.

New Rapid Infiltration Basins

As previously described, disposal capacity specifically to meet the needs of the project, is intended to be provided by the construction of a series of twelve (12) rapid infiltration basins (RIBs), each 6,500 square feet in area (approximately 1.6 acres total) in an area located in the northeastern corner of the project site. The RIBs will be operated in combination with the existing Pine Canyon percolation-spray disposal facility. The treated water will be applied to the RIBs in a cyclical or rotating fashion to allow for drainage and drying between applications. The sizing of the RIBs is based on percolation capacity and will operate year-round without any need for temporary or long-term storage, e.g., in rainy periods.

Soil investigations and percolation testing were conducted in the proposed disposal area in September-October 2001 (Haro, Kasunich & Associates, Inc., October 30, 2001), with additional infiltration testing performed in selected locations performed in January 2003 (Haro, Kasunich & Associates, Inc., January 29, 2003). The initial testing in 2001 included four soil profile test pits, two soil borings to a depth of 50 feet, and six 15-ft deep borings that were used for percolation testing. Percolation tests were run at depths of 5 feet, 10 feet and 15 feet in the each of the six percolation test locations. The percolation test results are summarized in Table 15. As indicated the percolation rates ranged from about 1 to 10 MPI, indicating moderate to rapid percolation characteristics. The soil profile test pits and borings showed the soils in the proposed disposal area to consist of interbedded, alluvial, fan-deposited silty to clayey sands. The deep borings showed an indication of shale fragments and increasing clay fraction below 15 to 17 feet. No groundwater was encountered to a depth of 50 feet at the time of the test borings in the fall of 2001. The infiltration testing in January 2003 was conducted at the 10-foot depth using 48-inch diameter rings. These tests showed a high rate of vertical infiltration at the 10-ft depth, with rates of about 5 to 6 inches per hour.

Based on these test results, the applicant's engineers (Kennedy/Jenks, July 2003) have estimated that the proposed RIBs would be capable of handing a wastewater flow of up to 250,000 gpd, utilizing only one-third of the available infiltration surface, with two-thirds in reserve (i.e., a total infiltration capacity of 750,000 gpd). This equates to an infiltration rate of 9.6 gpd per square foot. While these infiltration rates may be achievable on a short-term basis, the EIR consultants disagree that these wastewater application-percolation rates have been demonstrated to be sustainable over a long period of time. Independent analysis of the soils and percolation test data by Questa Engineering (letter report of January 3, 2003), indicated that limiting conditions for percolation appear to occur at about the 15-foot depth, which is consistent with the findings of increasing clay and shale content in the soil borings. Based on this analysis and without long-term demonstration of a higher capacity, it is

Questa's opinion that the rated percolation capacity should be limited to no greater than 2.0 gpd per square foot. This is equal to roughly 50% of the demonstrated clear-water percolation rate of about 4 gpd per square foot per Questa's analysis of the test data at the 15-foot depth (the limiting zone); this provides a reasonable built-in safety factor for the possible decline in percolation from tertiary treated water (likely very small effect) and possible variations in subsurface conditions across the site. On this basis the proposed 1.6-acre RIB disposal area is estimated to provide a total percolation capacity of approximately 156,000 gpd. Consistent with safe engineering practices, the appropriate way to utilize this capacity would be to limit the discharge to 50% of this capacity (78,000 gpd) and while retaining 100-percent capacity in reserve. This capacity is sufficient to meet the projected disposal needs for the wastewater flows associated with the Morisoli-Amaral project, which are estimated to be 72,250 gpd. Monitoring the operational performance of this system over time may provide a basis for increasing the rated capacity.

Impact WW-3: The proposed use of rapid infiltration basins for disposal of treated wastewater generated by the project is feasible if limited to hydraulic loading rates of no greater than 2.0 gpd per square foot of infiltration surface area. Increasing the amount of discharge to a higher rate has been suggested by the applicant as a future possibility. However, the long-term capacity to operate the proposed RIBs safely at a rate in excess of 2.0 gpd/square feet has not been demonstrated. *This is a potentially significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-3.1 As a condition of approval, the applicant shall implement a soil-groundwater and disposal field-performance monitoring program for the RIBs. The purpose of the monitoring program will be to provide an on-going accounting of the actual amount of treated water applied to the RIBs, along with observations of the response of the soils and groundwater over time. The results of the monitoring will provide the basis for evaluating the demonstrated infiltration and deep percolation of the disposal field area, for use in determining the feasibility of increasing the rated discharge capacity. The details of the proposed monitoring program and evaluation of results shall be subject to review and approval by the RWQCB and the Monterey County Health Department. Until such time as sufficient monitoring data have been collected and the capacity evaluation reviewed and accepted, the discharge to the 1.6-acre RIBs disposal field shall be limited to a rate of 2.0 gpd per square foot (weekly average).

Table 15 **Percolation Rate Summary** **Community Disposal Area**			
Lot #	**Depth (ft) / Rate (minutes per inch)**		
	15'	**10'**	**5'**
CS3	2.3	5.6	10.4
CS4	2.3	2.1	8.3
CS5	4.0	3.5	10.4
CS6	10.0	0.4	0.8
CS7	5.8	8.3	3.6
CS8	3.8	4.6	9.3

Future Reclamation Uses

The original wastewater treatment plan for the project proposed disposal of the treated wastewater through unrestricted irrigation of agricultural lands in the vicinity of the project site. This remains a long-term goal; but, due to the inability to obtain secure commitments for use of the treated water by local growers, irrigation-reuse of the treated water is not planned to be part of the proposed project currently under review. Any future plans for irrigation-reuse will be subject to additional review and approval. However, as a point of reference, ~~T~~the acreage that would be required or could be used for disposal of the reclaimed wastewater is estimated to be roughly 61 acres, based on a typical evapotranspiration rate of approximately 47 inches/year for grassed pasture lands in this region (*U.C. Cooperative Extension, Leaflet #21491*), and a total annual production of 245 acre-feet of reclaimed water. The exact requirements will depend upon crop selection.

The proposed wastewater treatment facilities would meet Title 22 tertiary standards ~~(referred to as "tertiary 2.2" standards)~~ as designated by the State Health Department (see Table ~~13~~14). As such it would meet State criteria for unrestricted crop and landscape irrigation, including irrigation of food crops where water comes in contact with edible portions of the crop.

However, the Monterey County Health Department has indicated that it disagrees with the practice of using wastewater that has been treated to tertiary 2.2 standards for irrigation of food crops (LeMoine, Monterey County Health Department, letter to Planning Department, July 1, 1999), unless extensive monitoring of pathogens is performed (LeMoine, Monterey County Health Department, personal communication, September 18, 2000). County Health Department staff have indicated that (1) irrigation of crops with reclaimed water is reviewed by the County Health Department on a case-by-case basis; (2) spray irrigation of food crops with tertiary 2.2 reclaimed water may be approved subject to regular monitoring, and documented absence, of protozoa including cyclospora, cryptosporidium, giardia, and E. coli 0157-H7; (3) drip irrigation to wine

grapes may be approved, subject to further research of this use in other Counties; and (4) subsurface irrigation of food crops with tertiary 2.2 reclaimed water may be approved.

To date, several vineyard owners (wine grapes) and others with pasture and landscape irrigation needs in the project area have expressed interest in receiving project reclaimed water; however, no ~~specific irrigation (disposal) sites have been identified and no~~ secure long-term arrangements with local land owners have been established.

Impact WW-~~2~~4: The project has~~lacks~~ a ~~secure~~suitable long-term ~~reclaimed~~ wastewater disposal plan utilizing the existing LBWC Pine Canyon percolation-disposal fields in combination with new 1.6 acres of RIBs on the project site. However, commitments to reuse the water for local irrigation needs, which is a long-term goal of the project, have not been secured. For this to occur in the future would include~~ing~~ agreement from Monterey County Health Department and identification of specific sites ~~potential users of reclaimed water,~~ for the disposal of the reclaimed water, as well as review and approval by the State Department of Health Services and the Regional Water Quality Control Board. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measures.* **Impact WW-4:**

Mitigation

WW-~~2~~4.1 ~~As described above, t~~The proposed wastewater treatment ~~and disposal~~ plans satisfy State Health Department Title 22 criteria for unrestricted crop and landscape irrigation, including irrigation of edible food crops where water comes in contact with edible portions of the crop. ~~To meet CEQA standards, l~~Locations and users of the treated wastewater must be identified and long-term agreements with the growers that will use the reclaimed water must be secured. Monterey County Health Department has more stringent requirements regarding irrigation of edible food crops with disinfected tertiary recycled water (per CC, Title 22, Section 60301.230~~. tertiary 2.2 reclaimed water.~~ To satisfy Monterey County Health Department, the following measures would need to be completed in order to irrigate edible food crops with ~~tertiary 2.2 reclaimed water~~: disinfected tertiary recycled water:

1. Potential locations and users of the treated wastewater must be identified and long-term agreements with the growers or land owners that will use the reclaimed water must be secured.

2. The amount of area(s) available for recycling uses ~~disposal~~ should be determined. This information is required for review and approval by the Regional Water Quality Control Board per the Monterey County Health Department. ~~,as part of the project (tentative map) application, and evidence of adequate disposal area must be presented.~~

3. A pathogen monitoring program similar to that conducted by the Monterey Regional Water Pollution Control Agency at the Monterey Regional Treatment Plant in Marina, California must be implemented. The monitoring program shall be developed under consultation with Monterey County Health Department, and may include monitoring of cyclospora, cryptosporidium, giardia, and E. coli 0157-H7. Alternatively, subject to County approval, monitoring may be required only of the indicator organism Clostridium. The County currently only requires the

Monterey Regional Water Pollution Control Agency to monitor for Clostridium perfringens spores, in addition to fecal and total coliform at the Monterey Regional Treatment Plant in Marina.

4. A less extensive monitoring program may be approved if the reclaimed water is applied via subsurface irrigation. Under these circumstances an irrigation design plan must be submitted for review and approval by the Regional Water Quality Control Board per the Monterey County Health Department.

5. To avoid the stringent requirements (and high cost) of pathogen monitoring and/or subsurface irrigation, areas for irrigation of non-food crops could be identified. However, if non-food crop sites are identified, secure agreements will need to be secured and the disposal area will need to be approved by Monterey County Health Department.

6. ~~In order to approve irrigation of wine grapes with tertiary 2.2 reclaimed water, Monterey County Health Department requires review of the conditions and requirements of similar systems in other counties. If~~ vineyards are identified, long-term agreements must be secured, and the applicant must provide the County with documentation from other counties that have approved this use of reclaimed water.

~~An alternative to irrigation disposal would be disposal to percolation ponds or leach fields. If secure agreements with agricultural users are not obtained, or if the cost associated with monitoring of pathogens is prohibitive, then disposal via percolation to groundwater via ponds or leach fields may be a viable alternative. Under this alternative, percolation (or leach field[2] sites would need to be identified and site suitability (soil and groundwater conditions) documented and approved by the County.~~

Connection to King City

The Central Coast RWQCB has specifically requested that consideration be given to connecting the proposed project, and the Pine Canyon area in general, to the City of King City's wastewater treatment system. No sewer connection exists between the Pine Canyon area and King City, which are on opposite sides of the Salinas River. However, Pine Canyon falls within the sphere of influence of King City.

Since the publication of the Draft EIR in September 2001, the City of King City has completed a Draft Wastewater Facilities Plan (Corollo Engineers, November 2003). This study examined and compared a broad range of alternatives for improvements and expansion of the existing King City wastewater facilities to accommodate projected growth in the City and surrounding areas. The study included the possibility of extending sewer service to the Pine Canyon area. The study accounted for existing and projected

[2] ~~According to Monterey Bay Engineers, the applicants engineer, the leach fields would be potentially located along the easterly side of the project within the 200 foot agricultural setback. This environmental analysis does not evaluate the effectiveness or the indirect environmental impacts of this potential wastewater disposal method. It is anticipated, however, that if leach fields are to be used, the design of those leach fields would require test borings, percolation testing, additional engineering, and review and approval by the Monterey County Department of Environmental Health prior to receipt of building or grading permits for any portion of the project to reduce Impact WW-2 to a less-than-significant level.~~

growth in the Pine Canyon area, including the Morisoli-Amaral project. The alternatives evaluated in the Corollo study covered a wide variety of treatment and disposal options, including secondary and tertiary treatment systems, spay fields, percolation ponds, surface discharge to the Salinas River and wastewater reclamation. Although an alternative has not been formally selected, the apparent best alternative identified and recommended in the draft report is to convert the existing facultative ponds to aerated lagoons (secondary treatment), and to continue and expand the existing method of wastewater disposal which consists of restricted-access spray fields. Although wastewater reclamation alternatives were considered in the study, they did not rank high due primarily to cost considerations.

Based on the Draft Wastewater Facilities Plan, wastewater flows from the proposed Morisoli-Amaral Project and Pine Canyon area could be accommodated by future expansion of the King City wastewater facilities. In this respect it would achieve a stated policy of the Regional Water Quality Control Board, which encourages consolidation of wastewater treatment and disposal facilities. The underlying objective of the Regional Board's policy is to promote greater opportunities for wastewater reclamation that often results from consolidation of wastewater facilities in an area. However, in this case, it appears that there is greater opportunity to achieve wastewater reclamation goals by not connecting the Pine Canyon area (and proposed project) to the King City wastewater system due to the fact that: (a) the tentative recommendation for future expansion of the King City wastewater facilities does not include wastewater reclamation; and (b) a key element of the proposed Morisoli-Amaral project will involve upgrading the Little Bear Treatment Plant to produce tertiary-treated water that would allow for future agricultural or landscape irrigation-reuse in the area.

An additional environmental consideration is the sewage transmission line and energy requirements associated with connection to King City as compared with the proposed project. This was not evaluated in the study for King City. However, based on review of the plans for the Little Bear wastewater system upgrade and expansion proposed in connection with the Morisoli-Amaral project: (1) connection to King City would be favorable from the standpoint of energy use, involving shorter piping distance and lower pumping lift requirements; and (2) the applicant's proposal for upgrade/expansion of the Little Bear system would pose a lower degree of risk to water quality by avoiding the construction and maintenance of a raw sewage force main crossing of the Salinas River (presumably secured to the Highway 101 bridge), and converting the existing and future effluent force main pipelines from the Little Bear facility from to tertiary treated water lines. Based on these offsetting factors, there does not appear to be a strong environmental advantage favoring either option with respect to the issue of wastewater pumping.

Recommended Condition of Approval

Prior to approval of Final Map, applicant shall enter into the necessary binding agreements with the City of King City to permit connection of the development's wastewater collection system to the King City's wastewater treatment facility. Applicant shall acquire rights of way, design, and construct necessary pipelines, pump stations, and related infrastructure to connect development to the treatment facility. Easements and sewer facilities shall be dedicated to the City or other entity responsible for maintenance of the facilities as appropriate.

If the applicant demonstrates that connection to the King City treatment facility regional treatment facility is not feasible or otherwise practical, an on-site tertiary wastewater treatment facility may be approved for the development. The tertiary wastewater treatment facilities and associated wastewater storage and disposal facilities shall meet approved state and local design criteria. An approved PUC regulated utility or independent district under California law (e.g. Community Services District or Sanitary District) shall own and operate the facilities. Operation under a dependent district (e.g. County Service Area or County Sanitation District) will not be permitted. The operator of facility shall demonstrate certification to the State and county that they possess the Technical, Managerial, and Financial (TMF) capabilities to responsibly operate and maintain the facilities.

Sludge Production

Historically, sludge produced as a result of the treatment process at the Little Bear Treatment Plant has simply been allowed to settle and collect at the bottom of the three treatment ponds. Sludge depths are checked annually with the most recent thickness in the first treatment pond being approximately 19-inches (Hiwa, personal communication, 1997). Should sludge depths exceed three feet, the sludge would require removal. To date, this has not occurred.

With the increase in wastewater flows, additional sludge will be generated and will require disposal. Typical sludge production for the proposed treatment system is estimated at approximately 200 pounds of dry solids per day.

Several options exist for the handling and disposal of sludge. After the sludge is digested and thickened it may be further de-watered by the use of dewatering beds or a bag filter system. De-watering beds are essentially permeable beds onto which the sludge is applied and allowed to drain. The beds have an under-drain system that collects the drained water and conveys it back to the SBR plant for treatment. Once the sludge has been de-watered sufficiently, it is removed and disposed of by landfill. Filter bag systems are systems in which thickened sludge is pumped through fabric bags that filter out sludge solids and allow water to drain out. After filling, the bags are typically placed on a small drying bed where additional water is removed. Once the solids content has increased sufficiently the bags are disposed of in a sanitary landfill.

Impact WW-~~3~~5: The proposed SBR treatment plant provides for a sludge digestion/thickening tank but does not contain any further provision for sludge handling or ultimate disposal. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-~~3~~5.1 As a condition of approval, the design, construction, and operation of the proposed wastewater collection, treatment, and disposal facilities will be conducted in accordance with all applicable state and county requirements, including appropriate sludge handling and disposal. If the sludge produced by the Little Bear Treatment Plant is sent to a landfill, it shall be disposed of at Marina Regional Landfill[3], or another approved facility that handles sludge materials.

[3] *This landfill has a minimum solids content of 20% for primary sludge and 15% for secondary treatment sludge (Shedden, personal communication, 1997).*

~~Reclaimed Water Storage~~ Ponding and Storage of Treated Water

The original conceptual wastewater plan included ~~recommends~~ the construction of three long-term storage ponds ~~that will contain~~ with capacity for approximately 78 acre-feet of treated effluent. This was intended to provide ~~is equivalent to~~ the 120-days of storage that is required by Monterey County for water reclamation facilities. Under the revised wastewater plan, no new storage ponds will be constructed. However, the system will retain the use of the existing storage reservoir at the Little Bear percolation-spay disposal site, and will also convert the two of the existing ponds at the Little Bear Treatment Plant for storage of the tertiary-treated water. Additionally, the project will include the construction of a series of 12 rapid infiltration basins for percolation of treated water. Operation of these basins will involve temporary ponding of treated water, presenting some of the potential concerns and risks associated with storage ponds. These rapid infiltration basins ~~storage ponds~~ are to be located within the proposed Morisoli-Amaral subdivision. Potential impacts associated with the existing ponds and the new rapid infiltration basins are presented below.

The possibility of overflow from existing Little Bear wastewater storage ponds ~~exists~~ or the new rapid infiltration basins, even in years of extremely high rainfall, is negligible. The wastewater storage ponds will be used only for temporary, short-term storage of treated water. They are not intended to store water throughout the winter (i.e., non-irrigation) season, since the wastewater disposal facilities will have year-round percolation capacity for the entire wastewater flow. The possibility of overflow of treated water from the rapid infiltration basins is also remote due to the demonstrated excess percolation capacity and the freeboard provided in the design. ~~The wastewater plan proposes to meet the storage requirement by construction of three new storage ponds within the subdivision. In addition, the Little Bear treatment plant's existing Ponds #1 and A and the back-up reservoir will be utilized, resulting in a total storage capacity of 81.8 acre-feet. The required storage capacity does not take into account the direct rainfall additions to the ponds or evaporation losses during the 120-day wet weather storage period. In order to verify suitable storage capacity for the 120-day storage requirement, a detailed water balance analysis should be conducted. All inflows (i.e., wastewater and precipitation) and all outflows (i.e., irrigation water, seepage, and evaporation) must be accounted for in constructing the water balance.~~

Impact ~~WW-4~~: The possibility of overflows from wastewater storage ponds or the rapid infiltration basins is negligible ~~exists~~, even in years of extremely high rainfall. *This is a ~~potentially~~ less-than-significant impact and no mitigation is required. ~~that can be reduced to a less-than-significant level with implementation of the following measure.~~*

~~Mitigation~~

~~WW-4.1~~ ~~To minimize or eliminate the possibility of wastewater overflow from the storage ponds and verify compliance with Monterey County's 120-day storage requirement, the ponds must be sized to include surplus storage for wet weather effects. As a condition of approval, this should be done by completing a water balance analysis for all of the ponds. In addition, a provision of two feet of additional freeboard above the projected maximum water depth is typically incorporated as a factor of safety. The~~

~~design of the storage ponds should be based on the results of the water balance analysis and subject to approval by the Monterey County Environmental Health Department.~~

Impact WW-~~5~~6: The existing wastewater storage ponds which are part of the Little Bear wastewater facility are in fenced areas and located away from the public; this will not change as a result of the project. Because the rapid infiltration basins ~~storage ponds~~ are located adjacent to residential lots within the proposed subdivision and are readily accessible to the general public, they could pose an attractive nuisance to children and a potential drowning or public health hazard. This hazard is somewhat reduced by the design of the basins ~~ponds~~ which ~~specify~~ will have gentle bank slopes of 3:1, and the fact that the basins will be operated intermittently and will have very shallow water ponding depths. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-~~5~~6.1 Fencing shall be installed around the rapid infiltration basins ~~storage ponds~~ and screening vegetation planted to provide a physical barrier. The ~~All pond~~ area~~s~~ shall include signage indicating that the basins ~~ponds~~ contain treated wastewater and access is prohibited.

Impact WW-~~6~~7: The visual aspects of the existing wastewater storage ponds in the Little Bear system will not change as a result of the project. Due to the proximity of the rapid infiltration basins ~~storage ponds~~ to the planned residential lots, the development of the basins ~~ponds~~ at lower elevations than the surrounding lots, and the general shape of the basins ~~ponds~~, the visual aesthetics of the area may be degraded. *This is a significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-~~6~~7.1 Vegetative planting shall be used to screen the rapid infiltration basins ~~storage ponds~~ and reduce their visual impacts upon adjacent residential lots.

Impact: The rapid infiltration basins will not pond water for more than a day at a time, which is not long-enough to support the production of mosquitoes. The existing Little Bear ~~W~~wastewater storage ponds have the potential to be a breeding site for mosquitoes, which are a nuisance and public health concern. However, during warm months of the year when mosquito reproduction is greatest, the water is circulated through the ponds with a portion removed each day for disposal. ~~irrigation.~~ This movement of water and the changing water levels will interfere with the mosquito breeding cycle, thereby limiting their reproduction. Also, the storage pond at the existing Little Bear percolation-spray disposal site is in a very remote area. *This is a less-than-significant impact.*

Odor Concerns

Impact WW-~~7~~8: The proposed SBR plant will be fully enclosed within a structure. Odors generated at the plant will generally be contained within the structure, reducing existing odor impacts upon nearby residences resulting from the plant. However, proposed sludge drying operations at the plant could impact downwind receptors. *This is a potentially significant impact that can be mitigated to a less-than-significant level with the following measure.*

Mitigation

WW-~~7~~8.1 Design and operation of the proposed wastewater facilities will be conducted in accordance with all applicable state and county requirements, including appropriate sludge handling and disposal to minimize odor.

Effects on Groundwater Quality

Agriculture has been identified as a major contributor to nitrate levels in the Salinas Groundwater Basin, due to nitrate laden runoff from nitrogen-based fertilizers. Septic tank leachate has also been identified as a contributor. Existing sources of nitrate loading in the project area generally consist of two single-family residences which are currently occupied. These residences are served by individual septic systems. There is no significant current agricultural or commercial use of the project property.

In evaluating the performance of wastewater treatment facilities where nitrate groundwater contamination is a concern, it is necessary to examine total nitrogen removal, not simply nitrate removal. Due to the natural processes of nitrification and denitrification, the form of nitrogen will change depending on environmental conditions (particularly the presence or absence of oxygen). For example, nitrogen in the ammonia form will convert to nitrate-nitrogen during passage through the soil. In order for the threat of groundwater nitrate contamination to be eliminated, total nitrogen concentrations ultimately reaching the groundwater should be at or below ~~6.0~~5.0 mg/l to conform with the RWQCB Basin Plan water quality objectives for the Upper Valley of the Salinas River Groundwater Basin.

Table 16~~14~~ presents data on nitrogen removal from sequencing batch reactors (SBRs) for a variety of treatment facilities.[4] These data show good nitrogen removal performance for SBRs under a variety of settings and flow rates and provide some indication of the potential effluent nitrate concentrations from the proposed SBR.

The original ~~proposed~~ treatment plan proposed for the project included ~~recommends~~ reuse of the treated effluent for irrigation of adjacent agricultural lands. During winter months the reclaimed wastewater would have been ~~will be~~ stored in up to three storage ponds to meet the County's 120-day wastewater storage requirement. It is not uncommon for denitrification to occur in wastewater storage ponds, thereby further reducing nitrate concentrations of the treated effluent and increasing the overall treatment performance of the wastewater treatment system. At the Rancho Las Palmas wastewater treatment plant near Salinas, California, there is a 50 percent reduction in total nitrogen (53-percent reduction in nitrate-nitrogen) occurring in the plant's storage ponds following 30 to 60 day storage (Lee, Monterey County Public Works, 1999). Further, Crites and Tchobanoglous (1998) report 43 to 82 percent nitrogen removal in four facultative lagoons located throughout the U.S. These data indicate that nitrogen removal does occur in ponds, and total nitrogen concentrations would have been reduced as a result of detention in the storage ponds that were part of the original ~~for the~~ proposed system.

[4] *Designed by Fluidyne Corporation.*

Table 16~~14~~ Average Effluent Nitrogen Concentrations from Sequencing Batch Reactors				
Location of Plant & Period of Record	**Average Flow (mgd)**	**Nitrate (mg/l)**	**Total Kjeldahl Nitrogen (mg/l)**	**Total Nitrogen (mg/l)**
Hollister, California 1/98 to 12/9	0.015	2.3	4.06	6.36
Mulberry, Florida 10/90 to 3/92	0.75	1.60	N/A	1.98
Haynesville, Florida 1/98	0.12	1.25	1.32	2.57
Bartow, Florida 10/94 to 1/96	3.06	2.04	1.84	3.88
Sources: Bracewell Engineering, Inc. January 1999, Cielo Vista Wastewater Treatment Plan 1998 Annual Self-Monitoring Report Order No. 87-115; and Fluidyne Corporation, Feb. 1999, Erick Mandt, Cedar Falls, IA.				

As revised, the project has eliminated the storage ponds, which reduces the nitrogen removal benefit that they may have provided. Instead the project proposes to include a relatively small amount of treated water storage at the Little Bear treatment plant (pond #2), and to discharge the treated water directly to a combination of the LBWC's Pine Canyon percolation-spray disposal field and to new rapid infiltration basins adjacent to cropland along the northeastern corner of the property. The existing discharge LBWC discharge is secondary-quality effluent that likely contains a total nitrogen in the range of 20 to 30 mg/L. To date the discharge has not had any reported significant impact on groundwater nitrate concentrations in the areas down-gradient of the disposal fields. The planned upgrade of the treatment system to an SBR-tertiary facility will substantially reduce the nitrogen content of the treated water discharged in Pine Canyon, such that the total loading of nitrogen is likely reduced to 50% or less of the current discharge. This upgrade should further reduce the potential for nitrogen-groundwater effects from the existing LBWC disposal fields.

Up to 78,000 gpd of treated wastewater will be discharged to the 1.6-acre RIB disposal field on the project site. The wastewater is intended to be applied in wetting (1 to 2 days) and drying (7 to 10 days) cycles to promote nitrogen removal via denitrification in the near-surface soils. The applicant's engineer suggests that this mode of operation should provide nitrogen reduction of approximately 66 percent of the nitrogen contained in the treated (SBR) effluent. No supporting data have been supplied to support this claim; however, if this level of removal can be achieved, the nitrogen concentration in water ultimately percolating and recharging the groundwater should fall well within the limit of 5.0 mg/L indicated by the RWQCB water quality objectives for the local groundwater basin in this area. It is worth noting that groundwater monitoring data for the existing King City wastewater disposal facilities, which consist of a spray field-percolation system similar to the existing LBWC disposal system, have historically shown relatively low levels of nitrogen impact in down-gradient areas (less than 5 mg/L). Plant uptake and denitrification in shallow soil zones during irrigation also provides considerable nitrogen removal, generally 50% or more. To the extent that treated water can be utilized for irrigation-reuse in the future, this would further reduce the nitrogen impacts on groundwater from the project.

Impact WW-~~8~~9: Disposal of treated wastewater may have negative impacts on the receiving groundwater by increasing nitrogen concentrations. The primary drinking water standard for nitrate as nitrogen is 10 mg/l. Monterey County requires that nitrate-nitrogen levels in land-applied ~~reclaimed~~ wastewater not result in a net impact on the groundwater that would exceed ~~be maintained at or below~~ 6 mg/l. Also, the Regional Board's Basin Plan has a nitrate-nitrogen water quality objective of 5.0 mg/L for the groundwaters in the project area.

Monitoring of groundwater down-gradient of the Little Bear disposal fields has shown conformance with these objectives. Also, the applicant's consultants assert that the nitrate removal rates of the proposed treatment and disposal facilities will be adequate to meet these objectives; ~~Despite these considerations~~ however, there is no specific control process to assure total nitrogen removal in SBRs or in the proposed rapid infiltration basins. Further, the treatment performance, relative to nitrogen removal, of the proposed SBR and the disposal facilities is not known. Therefore, the potential exists that the proposed SBR may not meet the required County's nitrate-nitrogen impact requirement of 6.0 mg/l, or the Basin Plan groundwater quality objective of 5 mg/L. *This is a potentially significant impact that can be reduced to a less-than-significant level with implementation of the following measure.*

Mitigation

WW-~~8~~9.1 Though there is no specific control process to ensure total nitrogen removal in SBRs, these systems can be designed to augment nitrification and denitrification. Therefore, the proposed SBR should be designed to promote nitrification and denitrification in order to adequately decrease nitrogen concentrations in the effluent. ~~The system should be designed and operated to route the treated wastewater from the SBR facility through the storage ponds year round, in order to increase the potential for total nitrogen removal. The duration of storage should be based, at least in part, on nitrogen removal. Per County Environmental Health Department requirements, the storage ponds should be lined to prevent seepage of reclaimed water into the ground.~~ Per the recommendation of the applicant's engineer, the operation of the RIBs should be planned to maximize nitrogen removal through adjustment of wetting and drying cycles. Monthly monitoring of the reclaimed wastewater should be performed for total Kjeldahl nitrogen and nitrate-nitrogen. In addition, ~~semi-annual~~ quarterly groundwater monitoring in the immediate vicinity of the irrigation sites should be performed. Operation of the RIBs for nitrogen removal should be checked and adjusted with the use of suction lysimeters or other comparable methods to determine nitrogen levels in the unsaturated zone immediately beneath the RIBs. The monitoring data should be submitted to the RWQCB and County Environmental Health Department for review as part of the self-monitoring reports prepared by the treatment plant. Finally, the applicant and the LBWC should continue to pursue and secure commitments from land owners for future irrigation-reuse of the treated water as an additional means of reducing the amount of nitrogen loading to the groundwater basin.

If the treated water is used for irrigation-ruse in the future, ~~T~~the concentration of total dissolved solids (TDS) in the reclaimed water may limit its suitability for use in the irrigation of agricultural land. High salt concentrations, especially sodium, can adversely affect soil permeability and drainage due to mineral build-up in the soil. In addition, depending on the crop type, there may be toxic effects associated with elevated levels of specific minerals such as boron, chloride, and sodium.

Impact: Monitoring data from the Little Bear treatment plant for 2003 ~~December 1995~~ indicate a TDS concentration of ~~680~~ 700 to 764 mg/l, and a sodium concentration of ~~140~~ 96 to 134 mg/l in the treated effluent. These data are a reasonable indicator of the salt concentration that can be expected in the ~~reclaimed~~ treated water from the new, expanded wastewater facilities after development of the project. The most recently monitored concentrations are moderate in terms of potential constraints for crop irrigation. Significant limitations or impacts would not normally be anticipated until TDS levels reach or exceed about 1,000 mg/l. The effects of sodium are dependent on the soil conditions as well as the irrigation water quality. Sodium levels in the range of 100 to 150 mg/l are not anticipated to

pose significant crop irrigation problems for the soil types on agricultural lands in the project vicinity that may be ~~are being~~ considered for reclaimed water use in the future. Therefore, the effect of salt concentrations in the reclaimed water are not expected to have a significant impact. *This is a less-than-significant impact. However, the following condition of approval is recommended as a good management tool and to prevent the development of unforeseen problems with the use of reclaimed water for crop irrigation to further assure that no impacts to the groundwater occur from salt loading.*

Recommended Condition of Approval

- The ~~reclaimed~~ treated water should be monitored for TDS, sodium, chloride, boron, and nitrate levels ~~during the irrigation season~~. The data should be supplied to the potential future reclaimed water users and the regulatory agencies so that appropriate measures can be taken regarding irrigation and cropping practices, as necessary. The project shall prohibit the use of water softeners that utilize salt.

The proposed RIBs will be located immediately adjacent to the project site property line which borders existing cropland. While the treatment of wastewater to tertiary levels along with nitrogen removal via SBR treatment and soil processes will result in a very high quality water that ultimately percolates to groundwater, the water cannot be considered safe as a drinking water source within a significant distance from the RIBs. The large volume of wastewater proposed to be applied in this area (up to nearly 80,000 gpd) will become the dominant source of recharge to the water table in the area immediately down-gradient of the RIBs. The applicant's engineers (Kennedy/Jenks, March 2004) have identified existing water wells in the project area and made estimates of the depth to groundwater, groundwater flow patterns, and the vertical and lateral travel time of for water discharged to the RIBs. They estimated, conservatively, that the water table may be at 56 feet below ground surface, based upon drilling logs and projection of groundwater contour information. They also determined that the nearest well is approximately 2,950 feet from the RIB area, toward the northeast. They further calculated the estimated travel time from the point of discharge (RIBs) to this well to be approximately 100 days vertical travel and 27 years horizontal travel, the latter based on an estimated groundwater velocity of 0.28 feet per day. Questa's review of the travel time calculations indicates that applicant's discussed but failed to account for the porosity of the soils and aquifer materials in calculating groundwater travel times. Properly applying the estimated porosity of 35% would reduce the travel time estimates by a factor of 2.86 (1/0.35). Accordingly, the corrected estimate for vertical travel time would be 35 days, and the horizontal travel time to the nearest well would be about 9.5 years, at a velocity of 0.8 feet per day.

These estimated travel times provide a safe period for assimilation and reduction of water quality threats to the nearest down-gradient water well. However, the same protection would not necessarily be provided to new water wells that might be located closer to the proposed wastewater disposal area. A safe practice is to provide a minimum travel time of two years between community wastewater percolation disposal facilities and water wells, wherever possible. In this case, based on 35 days of vertical travel time, and an estimated horizontal groundwater velocity of 0.8 feet/day, a buffer area of about 565 feet would be the estimated 2-yr travel distance from the RIBs. This is calculated as: (2 x 365 days – 35 days)(0.8 feet/day).

Impact WW-10: The location of the proposed RIBs adjacent to the northeasterly property line of the project will restrict the ability to install a water well in nearby areas on the adjoining property. *This is a significant impact that can be reduced to a less-than-significant level by the following mitigation measure.*

Mitigation

WW-10.1 As a condition of approval, the applicant shall acquire an easement or other suitable legal instrument from the neighboring property(ies) providing a buffer area around (down-gradient of) the RIBs which would preclude the installation of new water wells that could be affected by the wastewater disposal system. The down-gradient distance from the RIBs shall be equal to the estimated 2-yr groundwater travel time from the point of discharge which is estimated to be about 565 feet."

Section 4.12 Public Services

Page 4.12-3 Add the following information in Environmental Setting from the Sheriff's Department:

Currently, there is a minimum of one patrol vehicle with one deputy covering the beat 11 area during the day shift *(6 a.m. to 4 p.m). D*uring swing shift, there is a minimum of one patrol vehicle with two deputies covering both beat 11 and beat 12. *(4 pm to 2 am).* During the midnight shift, *(10 p.m. to 8 a.m),* there is one patrol vehicle with two deputies covering beats 10, 11, and 12. The Sheriff's Department has commented "with any population increase, the potential for crime could increase at normal rates per thousand population, thus increasing the crime rate as well as the total Calls for Service (CFS). Without adjustments, these CFS would further impact our ability to staff adequately with our existing number of deputies. This corresponding increase in population over the build out of the project could also further negatively impact our response times to said CFS."

Page 4.12-4 Mitigation Measure PS-2.1 through PS-2.6 are amended as follows:

"PS-2.1 Prior to approval of the Final Map for any phase, the Lighting Plans shall be reviewed and approved by the County Sheriff to confirm that ~~A~~adequate security lighting, although muted to conform to the rural residential setting, ~~shall be~~ is incorporated appropriately into the project design to facilitate patrol performance.

PS-2.2 Prior to approval of the Final Map for any phase, the Landscaping Plans shall be reviewed and approved by the County Sheriff to confirm that the proposed l~~L~~andscaping ~~shall~~ does not unacceptably limit visibility of homes for patrol purposes and residential security.

PS-2.3 Numbering of homes shall be consistent and shall be at least four inches in size and provide a light-on-dark or dark-on-light contrast for visibility. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.

PS-2.4 Doors surrounded by glass should be equipped with double deadbolts. Single-cylinder deadbolts should be placed on all other doors. Sliding glass doors should have auxiliary locks and window construction should also incorporate a secondary auxiliary locking device. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.

PS-2.5 Residents who intend to incorporate alarm systems into their homes shall, from the outset, be advised of Sheriff's Department and Communication Department policies and ask to consult with the representatives of these two departments prior to installation. According to County ordinance, alarm systems must be registered with the Sheriff's Department prior to installation. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.

PS-2.6 ~~Through~~ The applicant shall pay a fair share development fees ~~the project shall pay its fair share~~ to the County Sheriff's office prior to approval of the Final Map for each phase that will be used toward the cost of additional deputies and equipment to serve the area. ~~an additional deputy for the midnight shift to allow the existing single-car unit with two deputies to cover the rest of the King City patrol area, and a single deputy to concentrate on Beat 11 and the Pine Canyon area~~."

The Sheriff's department has requested that "the developer contribute funds in the form of public safety impact fees of $0.29 per square foot for residential properties, and $0.18 per square foot for commercial properties. These impact fees will go directly to the costs associated with additional deputies and the associated equipment. If it is deemed appropriate in this process, a portion of these fees may also be directed towards development of a local Community Field Office in order to meet this increased demand."

Page 4.12-7 Mitigation Measure PS-3.1 is amended as follows:

"PS-3.1 Prior to issuance of the first building permit for the project, the ~~P~~project applicant shall mitigate the potential school impact of proposed residential development ~~upon schools~~ by paying the King City Union Elementary School and King City Joint Union High School Districts' adopted fees in effect at the time of development and an additional fair share development fee, if applicable, ~~entering into an agreement signed by both the project applicant and the school district. The agreement shall require the applicant~~ to fund its fair share of school improvements that are not already paid for by the adopted fees for ~~$1.93 per square foot of~~ residential development."

Section 4.13 Population / Jobs / Housing

Page 4.13-7 The first paragraph is amended with the following text:

"The project proposes to allocate 48 residential lots on the site, which represents 15% of the total number of lots proposed."

DRAFT EIR SECTION "5.0 CEQA CONSIDERATIONS"

Page 5-8 The sixth sentence in the second paragraph is amended as follows:

"TAMC is developing a countywide traffic fee program as well; however it has not been adopted."

DRAFT EIR SECTION "6.0 PROJECT ALTERNATIVES"

Page 6-2 The 2nd paragraph under "No Project Alternative" is amended as follows:

"Under the No Project Alternative, the site would retain its ~~agricultural land use~~ "Rural Grazing" and "Permanent Grazing" designations until such time as the County adopts new land use designations through amendments to the General Plan. Implementation of this alternative would not preclude the construction of new residential development on another site or even on the proposed site at some future date; however, as with the proposed project, doing so would require a General Plan amendment and a zone change."

Page 6-2 The 1st paragraph under "Environmental Impacts" is amended as follows:

"The No Project Alternative would avoid the anticipated environmental impacts associated with the proposed project. None of the significant, unavoidable impacts from the project would occur, including impacts to biological resources and visual quality resulting from the removal of ~~substantial~~ oak woodland and degradation of views on the presently undeveloped site…."

Page 6-3 The last sentence of the first paragraph on this page is amended as follows:

"The ~~objectives of the~~ Reduced Density Alternative offers the following environmental benefits relative to the proposed plan~~, are as follows~~:"

Page 6-3 The paragraph under "Land Use" is amended with the following text:

"As with the proposed project, the Reduced Density Alternative would be consistent with the slope density policies of the County's General Plan, and depending on the layout of the residential lots on the easternmost boundary, this alternative would potentially reduce already less-than significant impacts due to conflicts with agricultural uses.

Page 6-4 Because no special-status plant species were found in the focused botanical surveys conducted in 2001 and 2002, references to special-status plant species are deleted from the "Biological Resources" section under the "Reduced Density Alternative."

The first paragraph under Biological Resources is amended as follows:

"The Reduced Density Alternative would result in a reduction in impacts to vegetation and wildlife by decreasing grading, constructing fewer units, and reducing tree removal~~, and avoiding areas that have the potential to support special-status plant species on the site~~."

The third and fourth paragraph under "Biological Resources" are deleted.

~~"The Reduced Density Alternative would include building envelopes and deed restrictions, intended to minimize impacts to trees and the blue oak woodland habitat. As with the proposed project, the Reduced Density Alternative would continue to have significant impacts to the oak woodland habitat, due to the impacts to the long-term viability of the oak woodland trees and habitat resulting from development. Although the Reduced Density Alternative would decrease impacts to trees, it would still result in significant impacts on the oak woodland habitat on the site. Potentially, it may be possible to reduce the impacts on oak woodland habitat to a less-than-significant level.~~

~~The Reduced Density Alternative would avoid areas of the special status plant species on the site, including the following as identified in pre-construction flowering season surveys:~~

- ~~Indian bush mallow (*Malacothamnus aboriginum*), CNPS list 1B; and~~
- ~~David's bush mallow (*Malacothamnus davidsonii*), federal species of concern.~~

~~Although the Reduced Density Alternative would eliminate impacts to special status species, measures would still be required to assure protection of special status species on the site to prevent indirect impacts.~~"

The sixth paragraph under "Biological Resources" is amended as follows:

"In conclusion, while this alternative would greatly reduce biotic impacts, impacts to trees, blue oak woodland, ~~special status species~~, as well as the fragmentation of habitat, would be significant due to the unknown distribution of development, human disturbance, and the cumulative effects on long-term habitat viability."

Page 6-5 The first sentence of the first paragraph is amended with the following text:

"The impacts to wildlife (including San Joaquin kit fox, pocket mouse, and nesting raptors) and fragmentation of habitat associated with the project may still occur under the Reduced Density Alternative; however, there is the potential to ~~completely avoid~~ reduce habitat impacts by clustering all development on the site in areas that ~~do not~~ contain less suitable habitat or that would not fragment habitat as determined by a qualified biologist.

Page 6-5 The paragraph under the heading "Conclusion" is amended as follows:

"This alternative would result in fewer new housing opportunities for the Central Salinas Valley area and would not fully meet the objectives of the project to develop ~~a~~ housing in the Pine Canyon area…."

Page 6-9 The end of the first partial paragraph is amended with the following text:

"Monterey would consider completing a detailed study of the potential for development in the foothills, with one of its goals being the identification of specific criteria for ranking development proposals in this sensitive geographic zone. However, at this time no alternative site has been identified."

Page 6-9 Add the following as an additional alternative prior to the "Environmentally Superior Alternative" heading.

"**ALTERNATIVE WASTEWATER SYSTEM**

Since the publication of the Draft EIR in September 2001, the City of King City has completed a Draft Wastewater Facilities Plan (Carollo Engineers, November 2003). This study examined and compared a broad range of alternatives for improvements and expansion of the existing King City wastewater facilities to accommodate projected growth in the City and surrounding areas. The study included the possibility of extending sewer service to the Pine Canyon area, which is within the City's sphere of influence. The study accounted for existing and projected growth in the Pine Canyon area, including the Morisoli-Amaral project. The alternatives evaluated in the Carollo study covered a wide variety of treatment and disposal options, including secondary and tertiary treatment systems, spay fields, percolation ponds, surface discharge to the Salinas River and wastewater reclamation. Although an alternative has not been formally selected, the apparent best alternative identified and recommended in the draft report is to convert the existing facultative ponds to aerated lagoons (secondary treatment), and to continue and expand the existing method of wastewater disposal which consists of restricted-access spray fields. Although wastewater reclamation alternatives were considered in the study, they did not rank high due primarily to cost considerations.

Based on the Draft Wastewater Facilities Plan, wastewater flows from the proposed Morisoli-Amaral Project and Pine Canyon area could be accommodated by future expansion of the King City wastewater facilities. In this respect it would achieve a stated policy of the Regional Water Quality Control Board, which encourages consolidation of wastewater treatment and disposal facilities. The underlying objective of the Regional Board's policy is to promote greater opportunities for wastewater reclamation that often results from consolidation of wastewater facilities in an area. However, in this case, it appears that there is greater opportunity to achieve wastewater reclamation goals by not connecting the Pine Canyon area (and proposed project) to the King City wastewater system due to the fact that: (a) the tentative recommendation for future expansion of the King City wastewater facilities does not include wastewater reclamation; and (b) a key element of the proposed Morisoli-Amaral project will involve upgrading the Little Bear Treatment Plant to produce tertiary-treated water that would allow for future agricultural irrigation uses in the area. Additionally, although formal commitments have not been obtained, the applicant has provided written documentation from several agricultural land owners in the Pine Canyon area expressing an interest in making use of the reclaimed water for irrigation once it becomes available.

Response to comment 48 in this Final EIR compares energy demands and potential environmental impacts of this alternative in comparison to the proposed wastewater treatment and disposal system."

Page 6-9 The last sentence of the last paragraph is amended as follows:

"Although this alternative would reduce the number of residential units, it ~~would~~could generally meet the basic project objectives to provide a range of housing at relatively high residential densities for the area. This would not occur to the extent it would with the 319-unit project."

DRAFT EIR SECTION "7.0 REFERENCES"

See Section 5.0 of this Final EIR for all references used in preparation of this document. The complete list of references for the Final EIR includes this list plus the entirety of Section 7.0 of the Draft EIR.

4. COMMENTS AND RESPONSES

Letters of comment were received from the following, and responses are provided after each comment. Where a comment states an agency position or opinion and does not comment on issues relevant to the environmental analysis in the DEIR, the phrase "comment is acknowledged" is provided. If the comment is directed at the County regarding the decision on the Morisoli-Amaral Residential Subdivision, the phrase "comment is referred to decision-makers for their consideration" is provided. Typically, these comments do not raise issues relevant to the environmental analysis.

FEDERAL AGENCIES

1. United States Department of the Interior, Fish and Wildlife Service [November 23, 2001]

STATE AGENCIES

2. State of California, Governor's Office of Planning and Research State Clearinghouse [December 4, 2001]
3. State of California, Governor's Office of Planning and Research State Clearinghouse [December 10, 2001]
4. State of California Department of Fish and Game [November 26, 2001]

REGIONAL AGENCIES

5. California Regional Water Quality Control Board [November 27, 2001]
6. Monterey Bay Unified Air Pollution Control District [November 14, 2001]
7. Association of Monterey Bay Area Governments [November 15, 2001]
8. Monterey County Department of Health [December 2, 2001]
9. Monterey County Department of Public Works [January 14, 2002]

PRIVATE PARTIES

10. Miller Brown & Dannis [December 3, 2001]

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LETTER 1

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

November 23, 2001

Kris Berry
Senior Planner
Monterey County Planning and Building Inspection
2620 First Avenue
Marina, California 93933

Subject: Comments on the Draft Environmental Impact Report for the Tavernetti Residential Subdivision (PLN010051), King City, Monterey County, California

Dear Ms. Berry:

This letter is in response to the Notice of Availability and request for comments on the draft Environmental Impact Report (EIR) for the Tavernetti Residential Subdivision in King City, Monterey County, California. The Notice of Availability was received in our office on October 18, 2001, seeking comments no later than December 3, 2001. We have reviewed the subject content and offer the following comments in regards to federally threatened or endangered species and their habitats.

SPECIFIC COMMENTS

1-1 Page 2-3; Impact B-5: The U.S. Fish and Wildlife Service (Service) agrees with the determination that the proposed impact of the residential subdivision is significant and unavoidable. If there is no federal nexus involved with this project, a site-specific Habitat Conservation Plan (HCP) is likely necessary due to the amount of habitat disturbance that is proposed and the adverse affects that are likely to occur to federally listed species in the area.

1-2 Page 2-3; Impact B-5.2: A more recent version of the Service's "Standardized Recommendations for the Protection of the San Joaquin Kit Fox" is available for use during construction activities, dated April, 1999. This document is available by contacting the Ventura Fish and Wildlife Office.

1-3 Page 2-3; Impact B-6.1: The proposed project discusses installation of fencing in the vicinity of the residences. In areas where fencing is placed adjacent to open space areas and areas of natural, undisturbed habitat, consideration should be given to installing fence such that a six inch space is

1-3 Cont. left between the bottom of the fence and the surface of the ground to allow for San Joaquin kit fox (*Vulpes macrotis mutica*) and other small mammal movement (i.e. escape from predators, dispersal) through the area.

1-4 Page 2-8; Impact B-2: An additional federally threatened plant species is known to occur within approximately 12 miles of the proposed residential development area. This plant was listed after the initial study (dated December, 1992) and circulation of the Notice of Preparation in 1997. The purple amole (*Chlorogalum purpureum* var. *purpureum*) was listed as a threatened species on March 20, 2000 (65 Federal Register 14878). The purple amole is a summer-dormant perennial herb that grows primarily within an open grassland community, with a smaller number of individuals found within scattered oak woodland communities and open areas within shrubland communities. Surveys for this species should be conducted at the appropriate time of year, which can vary depending on the amount and timing of rainfall in a given year. Please contact the Ventura Fish and Wildlife Office for information regarding surveys that are needed for this plant species.

1-5 Page 2-8; Impact B-4 and B-4.5: A biologist should be on-site to monitor construction activities for all listed species, including the San Joaquin kit fox. A Service qualified biologist should monitor construction activities that may adversely affect the San Joaquin kit fox. Biologists conducting surveys, monitoring, or related survey work concerning the San Joaquin kit fox must have demonstrable experience in kit fox biology, identification, and survey techniques. The senior biologist should have a university degree in wildlife biology or a related science, and at least 360 hours of field experience in traditional kit fox survey techniques. The assisting biologist(s) should have 30 hours of experience, be able to identify coyote, red fox and gray fox, and needs to have seen a kit fox either in the wild, zoo or museum mount. Other qualifications are not necessarily excluded, provided the surveyor can demonstrate to the Service good professional judgment and experience. The Service suggests that the biologist contact the Service if there are any questions regarding their qualifications.

1-6 Page 2-9; Impact T-1: An increase in the amount of traffic in the project area has been documented by this draft EIR. The increase in traffic will also raise the likelihood for San Joaquin kit fox road kills. Although the draft EIR did not mention whether or not median barriers would be installed for the proposed road widening that will accommodate for the increased flow of traffic, consideration should be given to not installing median road barriers. These barriers prohibit the movement and dispersal of San Joaquin kit fox and other mammals that are in the area.

1-7 Page 3-4 and 3-5; Project Characteristics and Residential Development: These two sections describe the proposed residential development resulting in 319 residential lots on 411 acres of land. However, on page 1-1, the Authorization and Purpose section states that 319 residential lots are proposed on 402 acres of land.

1-8 Page 4.4-1; Environmental Setting, Federal Laws and Regulations: The Service's responsibilities include administering the Endangered Species Act of 1973, as amended (Act), including sections 7, 9, and 10. Section 9 of the Act prohibits the taking of any federally listed endangered or

1-8 Cont. threatened species. Section 3(18) of the Act defines "take" to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Service regulations (50 CFR 17.3) define "harm" to include significant habitat modification or degradation which actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering. Harassment is defined by the Service as an intentional or negligent action that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed species. Exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways: through interagency consultation for projects with federal involvement pursuant to section 7 or through the issuance of an incidental take permit under section 10(a)(1)(B) of the Act. Therefore, for a project without a federal nexus, the landowner can prepare and submit an HCP along with an incidental take permit application.

1-9 Page 4.4-3; Non-native Grassland: A number of other wildlife species may occur in non-native grassland habitat, including the San Joaquin kit fox. Rather than mislead the reader, the non-native grassland section (in addition to some of the other habitat sections) should list species that may be present there, including a statement such as "Mammals using grasslands include, but are not limited to, San Joaquin kit fox, deer mice, California ground squirrels, etc."

1-10 Page 4.4-7; Special-status Plant Species: The draft EIR states that the botanical consultants (BioSystems Analysis) ". . .did not identify any habitat within the study area that is clearly suitable for any other special-status species and, therefore concluded that it is unlikely that any other special-status species occur in the study area." It appears that this statement may be inappropriate and possibly inaccurate, considering that known populations of the federally threatened purple amole occur throughout Fort Hunter Liggett property approximately 12 miles from the project area. Thorough surveys have not yet been conducted for this species. The descriptions of the habitat within the proposed residential subdivision appear to be equivalent to the habitat types where purple amole occurs at Fort Hunter Liggett. Therefore, thorough and accurate surveys for this species are warrented throughout the proposed project area. In addition, a plant species thought to be extinct, the caper-fruited tropidocarpum (*Tropidocarpum capparideum*), was recently discovered at Fort Hunter Liggett. This species is known to occur within valley and foothill grasslands which may or may not contain somewhat alkaline soils. These grassland communities include introduced, annual grasses and native herbs, which occurs in a large portion of the habitat as described by this draft EIR.

In addition, Denise Duffy and Associates, Inc., conducted surveys on October 20, 2000 and May 9, 2001. These survey times may not necessarily reflect presence or absence of the purple amole or caper-fruited tropidocarpum.

1-11 Page 4.4-9; Wildlife: Vernal pool fairy shrimp (*Branchinecta lynchi*) have been documented to occur approximately 12 miles south of the project area at Fort Hunter Liggett. They are commonly found within grassland and oak savannah communities, and occasionally in pine forest communities. Surveys need to be conducted by a qualified biologist to determine if vernal pools

1-11 Cont. may be present within the project area. If vernal pools are found, Service protocol surveys need to be conducted to determine presence or absence of fairy shrimp. Please contact the Ventura Fish and Wildlife Office for information regarding surveys that may be needed for the fairy shrimp.

1-12 Page 4.4-10; Reptiles and Amphibians; California tiger salamander: Activities such as grazing don't necessarily mean that the California tiger salamander *(Ambystoma californiense)* wouldn't be found in the project area. If vernal pools are present within or surrounding the project area, California tiger salamanders may be present on the project site; they also have the potential to migrate and/or utilize upland habitat that is not immediately adjacent to breeding ponds or vernal pool sites. California tiger salamanders have been found throughout Fort Hunter Liggett property as well as other areas throughout Monterey County. According to the California Natural Diversity Data Base, California tiger salamanders have been documented to occur in the following 7.5 Minute Series Topographic Quadrangles that are within close proximity to the proposed residential development area: Gonzales, Cosio Knob, Williams Hill, Jolon, and Alder Peak.

1-13 Page 6-4; Biological Resources: Under the Reduced Density Alternative for the proposed project, the draft EIR states that ". . .there is the potential to completely avoid habitat impacts by clustering all development on the site in areas that do not contain suitable habitat or that would fragment habitat as determined by a qualified biologist." We feel this statement is inaccurate, as nearly all of the habitat within the proposed project area is suitable for the San Joaquin kit fox. San Joaquin kit fox have been documented to inhabit foothill grasslands, oak savannah and adjacent agricultural lands, such as fallow agricultural fields, irrigated pastures and non-irrigated pastures, scrublands within oil fields/petroleum fields, orchards, areas adjacent to and sometimes within vineyards, and road right-of-ways, road shoulders and around bridges where denning can also occur. San Joaquin kit foxes are also found within urban areas and on virtually every soil type.

1-14 Page 7-2; Bibliography: The "Renshaw 1992" reference is not included within the bibliography of the draft EIR or the San Joaquin kit fox early evaluation results prepared by Bryan Mori Biological Consulting Services.

Thank you for the opportunity to comment on the draft EIR for the Tavernetti Residential Subdivision. If you have any questions, please contact Heidi E. D. Crowell of my staff at (805) 644-1766.

Sincerely,

for Diane K. Noda
Field Supervisor

RESPONSE TO LETTER 1
UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE 11/23/01

1-1 Comment is acknowledged. An early evaluation report for the proposed project was prepared in October 2000 (Bryan Mori Biological Consulting Services) and is included as Appendix C.6 in the DEIR. The report found that, although no kit fox, kit fox sign, or potential dens were observed on the study area during the early evaluation, the project site provides potential kit fox denning and foraging habitat.

Based on the San Joaquin Kit Fox Survey Protocol established by the USFWS (June 1999), the project applicant must submit the early evaluation report (prepared by Bryan Mori Biological Consulting Services, October 2000) to the USFWS. The USFWS will evaluate the report as to whether or not the project site represents kit fox habitat, the quality of the habitat, and the value of the habitat to the recovery of the kit fox. If a "take" will result from the project, the applicant will be required to obtain authorization for an incidental take prior to construction or operation of the project and for meeting all requirements of the applicable Endangered Species Act for the Project. If it is determined by the USFWS that the project will not result in take, no further action would be necessary. If the USFWS determines take will occur as the project is currently presented, the project applicant may initiate discussions with the USFWS to determine if project modifications to protect kit fox, including avoidance, minimization, restoration, preservation, or compensation would serve to eliminate the potential take.

Impact B-5 states that impacts to the San Joaquin kit fox are considered significant and unavoidable. Mitigation Measure B-5.1 has been revised to address the information provided in this comment. Additionally, the text of the EIR, page 4.4-17, has been revised to address this comment. See **Changes to the Draft EIR** of this Amendment.

1-2 The text of the EIR, pages 4.4-17-4.4-19 (including Mitigation Measure B-5.2), has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-3 The text of the EIR, page 4.4-19 (Mitigation Measure B-6.1), has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-4 In response to this comment, DD&A contacted botanical experts in the Camp Roberts/Fort Hunter Liggett area where this species is known to occur to determine the appropriate time of year to conduct the focused survey. Based on discussions with local experts, a focused botanical survey for the purple amole (*Chlorogalum purpureum* var. *purpureum*) was conducted within the project boundaries on May 8, 2002 by DD&A. None were identified. The text of the

EIR, pages 4.4-13 and 4.4-14, has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-5 Mitigation measure B-5.2 on page 4.4-18 of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-6 Mitigation measure B-5.2 on page 4.4-18 of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-7 The text of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-8 Comment is acknowledged; see response to Comment 1-1.

1-9 The text of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-10 See response to comment 1-4. In further response to this comment, DD&A contacted botanical experts in the Camp Roberts/Fort Hunter Liggett area where this species is known to occur to determine the appropriate time of year to conduct the focused survey. Based on discussions with local experts, a focused botanical survey for the caper-fruited tropidocarpum (Tropidocarpum capparideum) was conducted within the project boundaries on June 12, 2002 by DD&A. None were identified. The text of the EIR has been revised to include the information provided in this comment. See **Changes to Draft EIR** of this Amendment.

1-11 As described in the discussion regarding California tiger salamander (page 4.4-10 and 4.4-11 of the DEIR), no ponds, vernal pools, or other suitable aquatic habitat is present on-site, and the nature of the soils suggest that vernal pools are not formed even during the heaviest of rain. Therefore, suitable habitat for vernal pool fairy shrimp is not present within the project site and no additional surveys are necessary. The project would have no impacts on vernal pool fairy shrimp.

1-12 See response to comment 1-11. As stated on page 4.4-10 and 4.4-11 of the DEIR, no suitable breeding habitat is present on-site. Although mammal burrows are located within the grasslands on the project site, this species has never been reported to occur within or adjacent to the project site. Since this species was recently listed as federally Threatened (August 4, 2004), DD&A reviewed the CNDDB again for any recent occurrence reports of the California tiger salamander in the project vicinity. No occurrences of this species, including known or potential breeding habitat, are reported within two kilometers of the project boundary. Although potential upland habitat occurs within the project site (grassland with mammal burrows), there is no known or potential breeding site accessible within 1.24 miles (2 km), therefore, the presence of California tiger salamander on the project site remains unlikely (Source: Interim Guidance on Site

Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander, October 2003).

1-13 The text of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

1-14 The text of the EIR has been revised to address this comment. See **References** of this Amendment.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

State Clearinghouse

Gray Davis
GOVERNOR

Steven A. Nissen
DIRECTOR

LETTER 2

December 4, 2001

Kristina Berry
Monterey County
2620 First Avenue
Marina, CA 93933

Subject: Tavermetti Subdivision
SCH#: 1997041029

Dear Kristina Berry:

2-1 The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on December 3, 2001, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044

916-445-0613 FAX 916-323-3018 WWW.OPR.CA.GOV/CLEARINGHOUSE.HTML

Document Details Report
State Clearinghouse Data Base

SCH# 1997041029
Project Title Tavermetti Subdivision
Lead Agency Monterey County

Type EIR Draft EIR

Description Combined Development Permit consisting of a General Plan Amendment to amend the Central Salinas Valley Area Plan from Rural Grazing, 20 acre minimum, Rural Grazing, 40 acre minimum, Permanent Grazing, 40 acre minimum and Low Density Residential, 1 acre per unit to Medium Density Residential, Low Density Residential and Public/Quasi-Public or similar classification; reclassification from RG/40, PG/40 and RG/20 (Rural Grazing) and LDR/1 UR (Low Density Residential, Urban Reserve) to MDR/5, LDR/1 and O (Open Space) or similar classification; standard subdivision to subdivide a 411 acre parcel into 319 lots ranging in size from 2,100 square feet to 25.63 acres. The property is located northerly off Pine Canyon Road, in the King City area, Central Salinas Valley Area Plan.

Lead Agency Contact

Name Kristina Berry
Agency Monterey County
Phone 831-833-7519 **Fax**
email
Address 2620 First Avenue
City Marina **State** CA **Zip** 93933

Project Location

County Monterey
City King City
Region
Cross Streets Pine Canyon/Jolon Road
Parcel No. 221-161-017-000
Township **Range** **Section** **Base**

Proximity to:

Highways 101
Airports
Railways
Waterways Salinas River, Pine Canyon Creek
Schools
Land Use Rural/Agriculutural
Present GP: Rural Grazing, 20 Acre Minimum; Rural Grazing, 40 Acre Minimum; Low Density Residential, 1 Acre per Unit

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wildlife; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Game, Region 3; Department of Forestry and Fire Protection; Department of Parks and Recreation; Department of Water Resources; Caltrans, District 5; Department of Food and Agriculture; Regional Water Quality Control Board, Region 3; Native American Heritage Commission; State Lands Commission

Date Received 10/17/2001 **Start of Review** 10/17/2001 **End of Review** 12/03/2001

Note: Blanks in data fields result from insufficient information provided by lead agency.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

State Clearinghouse

Gray Davis
GOVERNOR

Steven A. Nissen
DIRECTOR

LETTER 3

December 10, 2001

Kristina Berry
Monterey County
2620 First Avenue
Marina, CA 93933

Subject: Tavernetti Subdivision
SCH#: 1997041029

Dear Kristina Berry:

The enclosed comment (s) on your Draft EIR was (were) received by the State Clearinghouse after the end of the state review period, which closed on December 3, 2001. We are forwarding these comments to you because they provide information or raise issues that should be addressed in your final environmental document.

3-1 The California Environmental Quality Act does not require Lead Agencies to respond to late comments. However. we encourage you to incorporate these additional comments into your final environmental document and to consider them prior to taking final action on the proposed project.

Please contact the State Clearinghouse at (916) 445-0613 if you have any questions concerning the environmental review process. If you have a question regarding the above-named project, please refer to the ten-digit State Clearinghouse number (1997041029) when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

RESPONSE TO LETTERS 2 & 3
GOVERNOR'S OFFICE OF PLANNING AND RESEARCH STATE CLEARINGHOUSE, 12/4/01 & 12/10/01

2-1 Comment is acknowledged; no response is necessary.

3-1 Comment is acknowledged; no response is necessary.

LETTER 4

California Regional Water Quality Control Board

Central Coast Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov/rwqcb3
81 Higuera Street, Suite 200, San Luis Obispo, California 93401-5427
Phone (805) 549-3147 • FAX (805) 543-0397

Gray Davis
Governor

November 27, 2001

Clear
12/03/01
late
e

SCH#:1997041029

Kris Berry, Senior Planner
Monterey County Planning and Building Inspection
2620 1st Ave.
Marina, CA 93933

Dear Kris Berry:

TAVERNETTI RESIDENTIAL SUBDIVISION; DRAFT ENVIRONMENTAL IMPACT REPORT; WEST OF KING CITY, MONTEREY COUNTY

We appreciate the opportunity to review and comment on your September 2001 Draft Environmental Impact Report (DEIR). We understand that the project involves amending the General Plan to change land use designations to allow the development of a 319-lot subdivision. Twenty-eight of the homes will be on septic systems, and the remaining homes will connect with the existing Little Bear sewer system, which will be expanded to accommodate the project. We provide the following comments and voice some concerns regarding water quality.

Background

The Central Coast Regional Water Quality Control Board (Regional Board) protects California's waters in Monterey County, including ocean waters, surface waters, ground waters, and wetlands. The Regional Board is responsible for administering regulations established by the Federal Clean Water Act and the California Water Code (Porter-Cologne Water Quality Control Act). The Federal Clean Water Act established the National Pollutant Discharge Elimination System Program (NPDES Program) to regulate surface water discharges from both point and nonpoint sources. The Regional Board administers the NPDES Program through the issuance of Waste Discharge Requirements (WDR's), General Permits for storm water pollution prevention during construction, and Clean Water Act Section 401 Water Quality Certification for projects that impact Waters of the State that are within federal jurisdiction. Under authority of the California Water Code, the Regional Board regulates discharges to land in order to protect groundwater quality.

Comments on Sections of the DEIR

4-1 1. (Page 4.11-1, under "Environmental Setting, Existing Wastewater Service", 2nd paragraph) The project description says Little Bear Water Company serves 410 residences. Little Bear Water Company reports that they serve 394 residences.

4-2 2. (Page 4.11-1, under "Environmental Setting") The DEIR discusses the Environmental Setting but does not mention an important local, environmental situation; one hundred eleven homes within the service area of the Little Bear Water Company, in the Royal Estates subdivision utilize substandard septic tanks and leachfields. Those septic tanks and leachfields are on small lots and are more than 30 years old. They may be close to the end of their useful lives and likely do not have sufficient replacement area. The existing, unsewered residences within the service area of the Little Bear Water Company should be sewered before new development occurs.

The DEIR states that the existing Little Bear wastewater treatment plant handles up to 98,000 gpd with a remaining capacity of 26,000 gpd. The remaining capacity is almost enough to sewer the existing substandard lots. However, the project proposes to use that remaining capacity. If the proposed project proceeds, there will be no capacity available to service the existing, unsewered homes. An undesirable environmental condition will persist and the hopes of correcting it will be lessened. The proposed project exacerbates the existing condition. The DEIR is deficient with regards to those matters. It should discuss the existing unsewered homes, actual and potential leachfield failures, the inevitable need for sewering unsewered homes in the Little Bear Water Company service area, and plans to provide needed services.

4-3 3. (Page 4.11-3, under "Conceptual Wastewater Treatment Plan", 1st paragraph) The Conceptual Wastewater Treatment Plan claims an excess treatment capacity of 30,000 gpd at the existing Little Bear Wastewater Treatment Plant, but the excess is much less. The Little Bear Wastewater Treatment Plant has a maximum permitted flow of 124,000 gpd. Reserving ten percent of the flow for contingencies and subtracting the existing 99,000 gpd daily flow lowers the excess flow to 12,400 gpd, or about 50 connections.

4-4 4. (Page 4.11-3, under "Conceptual Wastewater Treatment Plan", 2nd paragraph) The DEIR conceptually describes the construction of a new wastewater treatment plant on the site of the existing wastewater treatment plant. Such a plan will be hampered by physical constraints and, perhaps, legal constraints. There is not enough room to operate the existing wastewater treatment plant and construct the proposed wastewater treatment plant. Also, access to the existing wastewater treatment plant is via private property. Permission to use the private access should be secured and a right-of-way should be established for any new pipelines that would be constructed across private property.

4-5 5. (Page 4.11-3, under "Projected Wastewater Flows) The DEIR says that the project will generate 72,750 gpd. The project will actually generate 79,750 gpd with 72,750 gpd going to the treatment plant and the remainder going to septic tanks and leachfields.

4-6 6. (Page 4.11-6, Under "Treatment Facilities") The DEIR mentions our principle of centralizing wastewater treatment facilities. Our Basin Plan includes the following Regional Water Quality Control Board Management Principle:

> The number of waste sources and independent treatment facilities shall be minimized and the consolidated systems shall maximize their capacities for wastewater reclamation, assure efficient management of, and meet potential demand for reclaimed water.

This principle conforms to our Basin Plan goals:

- ≈ to manage municipal and industrial wastewater disposal as part of an integrated system of fresh water supplies to achieve maximum benefit of fresh water resources for present and future beneficial uses and to achieve harmony with the natural environment, and

- ≈ to continually improve waste treatment systems and processes to assure consistent high quality effluent based on best economically achievable technology.

The project proposes to use an improved and expanded wastewater treatment plant in the Pine Canyon area. However the Pine Canyon area wastewater treatment plant is within the King City sphere of influence and urban reserve line. Wastewater aspects of the proposed project should consider the Regional Board's long-term wastewater management principle and our goals. Since the Pine Canyon area appears destined for further development, it seems prudent to consolidate wastewater treatment and disposal in order to effectively implement wastewater recycling. In considering project alternatives, the DEIR should consider connecting the project to the existing King City wastewater treatment facility. At

this time, Regional Board staff is reluctant to recommend another Waste Discharge Requirement order to the Regional Board for expanding a satellite system when connecting to a regional system seems feasible.

4-7 7. (Page 4.11-11, Under "Impact WW-2") The DEIR assumes that agricultural growers will agree to use recycled water, but they may not. It is our experience that growers do not always elect to use recycled water, especially recycled water that has a high total dissolved solids concentration. The total dissolved solids concentration can be estimated and the agricultural feasibility of using recycled water can be better assessed. If growers do not agree to use recycled water, the DEIR vaguely proposes percolation ponds or leachfields as an alternative. Sufficient investigation should occur to assure that such an alternative would be available. All alternatives, including water recycling, should be fully evaluated by the DEIR.

4-8 8. Another environmental reason to connect to the King City wastewater treatment facility involves energy and spill prevention considerations. The existing Little Bear Water Company wastewater system pumps sewage hundreds of feet uphill. Such a practice is not desirable because it is energy intensive and increases the potential for sewage spills. The proposed plant would pump wastewater from the new development to the wastewater treatment plant, would pump even more wastewater to the existing disposal area, and would pump even more wastewater to the new winter storage reservoirs. The DEIR should consider energy requirements and spill potential of the proposed project and compare those factors in the alternatives analysis.

4-9 Comments on Appendix B, Surface Hydrology and Water Quality section of DEIR

Many of the projects involve paving, road building and other alterations to the land which typically result in decreased storm water infiltration, and increased storm water runoff volumes and velocities. Studies have shown that building roadways and other impervious structures over previously vegetated areas impacts water quality in several ways. One is the loss of natural pollutant treatment provided as storm water infiltrates through soil and plants. Second, storm water flowing off of roads and other impervious areas tends to pick up urban pollutants (documented in Section 6217(g) of the Coastal Zone Act Reauthorization Amendment of 1990). Third, increasing the volume and velocity of base flow and peak flow, and altering the timing of peak flow runoff into water bodies (time of concentration) affects the receiving water body channels. Left unchecked, the hydrologic changes often cause increased erosion and subsequent sediment deposition downstream. Increased sediment and urban pollutants degrade water quality and beneficial uses. The DEIR must discuss these environmental considerations.

4-10 My staff agrees with the DEIR mitigation measures HW-1.1, 1.2, 2.1 and 2.2. Drainage from this area eventually enters the Salinas River, which is listed on the 303D list of impaired water bodies. For this reason, as well as those outlined above, staff strongly urges that the development be required to included drainage infiltration and non-point source pollution mitigation measures. Included with this letter are 2 attachments that outline Construction and Post-Construction Best Management Practices. Construction phase BMP's are temporary measures to control sediment, erosion, and runoff from construction sites. Post-construction BMP's are used for the same purpose, but because they are incorporated into project design, they are permanent pollution control methods. These include methods to increase on-site retention and infiltration of storm water, which by nature decreases the amount of pollution-bearing water from reaching natural water bodies. We request that the attachments be referred to and requirements be made for inclusion of Best Management Practices.

Construction Planning

4-11 The revised DEIR discusses wet weather construction conditions. The wet weather season is typically between October 15 and April 15. During wet weather, the potential for critical erosion and sedimentation problems increases drastically for open construction sites. For this reason, the DEIR should advise that construction activities involving work on a cleared site be conducted during the dry season. If this cannot be

avoided, then BMP's for erosion and sedimentation control must be in place during the rainy season. During the dry season, BMP's must be on site and accessible in case of unseasonal precipitation events. Furthermore, it is advised that the amount of graded and grubbed areas be limited (suggest 2 acres at a time) during the rainy season (refer to Attachment 1) by conducting construction in phases. It is expected that a description of the timing and areal extent of each phase be described in the SWPP.

If you require specific information on the programs discussed in this letter, please contact the following:

Waste Discharge Requirements and NPDES permitting	Tom Kukol	(805) 549-3689
CEQA and Storm Water permitting	Donette Dunaway	(805) 549-3698

Sincerely,

FOR. Roger W. Briggs
Executive Officer

cc: State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044
Water Quality Certification

S:\WB\Central Watershed\CEQA Docs\Mont. County\Tavernetti, draft EIR, 11-26-01.doc

ATTACHMENT 1
PLANNING AND CONSTRUCTION CONSIDERATIONS
TO REDUCE
SURFACE WATER RUNOFF AND EROSION

Site Planning Controls

The project should minimize impacts from project development by incorporating appropriate site planning concepts. This should be accomplished by designing and proposing site planning options as early in the project planning phases as possible. Appropriate site planning concepts to consider include, but are not limited to the following:

1. Minimize directly connected impervious areas;
2. Preserve natural topography, existing drainage courses and existing vegetation;
3. Reduce paved area through cluster development, narrower streets, use of porous pavement or retaining natural surfaces;
4. Minimize use of gutters and curbs which concentrate and direct runoff to impermeable surfaces;
5. Use existing vegetation and create new vegetated areas to promote infiltration;
6. Design and layout communities to reduce reliance on cars;
7. Include green areas for people to walk their pets, thereby reducing build-up of bacteria, worms, viruses, nutrients, etc. in impermeable areas (or institute ordinances requiring owners to collect pets' excrement);
8. Incorporate low-maintenance landscaping;
9. Design and lay out streets and storm drain systems to facilitate easy maintenance and cleaning;
10. Consider need for runoff collection and treatment systems. Insure that the sizing of storm water runoff basins is sufficient to meet the needs of the site during and after construction.
11. Label storm drains to discourage dumping of pollutants into them.

Construction Planning Controls

1. Phase construction to limit areas and periods of impact;
2. Perform ground-disturbing activities in the dry season.
3. Locate construction and structures as far as possible from streams, wetlands, drainage areas;
4. Locate staging and material stockpiling areas far from drainages.
5. Store stockpiled materials and wastes under a roof or plastic sheeting;

Erosion Controls

The project should minimize erosion and control sediment during and after construction. This should be done by developing and implementing an erosion control plan, or equivalent plan (which should be included in the SWPPP). The plan should specify all control measures which will be anticipated or used including, but not limited to, the following:

1. Limit access routes and stabilize access points;
2. Stabilize denuded areas as soon as possible with seeding, mulching or other effective methods;
3. Protect adjacent properties with vegetative buffer strips, sediment barriers or other effective methods;

4. Delineate clearing limits, easements, setbacks, sensitive areas, vegetation and drainage courses by marking them in the field;
5. Stabilize and prevent erosion from temporary conveyance channels and outlets;
6. Use sediment controls and filtration to remove sediment from water generated by dewatering or collected on site during construction. For large sites, storm water settling basins will often be necessary;
7. Constructing a temporary earthen berm at tops of slopes to divert surface water runoff away from slope and into appropriate channel;
8. Implementing erosion protection measures to prevent bank erosion in drainages and on cut slopes (erosion control mat or fabric);
9. Providing and implement a vegetation restoration plan to be put in place as soon as possible after each phase of final grading;
10. Preventing construction debris or material from entering the natural drainages by using best management practices;
11. Fueling, cleaning, or maintaining of the vehicles should not take place within the channel banks to prevent materials from entering the slough;
12. Preventing equipment from entering flowing water;

Chemical and Waste Management Controls

The project should minimize impacts from chemicals and wastes used or generated during construction. This should be done by developing and implementing a plan or set of control measures (that should be included in the SWPPP). The plan should specify all control measures, which will be anticipated or used, including, but not limited to the following:

1. Designate specific areas of the site, away from streams or storm drain inlets, for storage, preparation and disposal of building materials, chemical products and wastes;
2. Store stockpiled materials and wastes under a roof or plastic sheeting;
3. Store containers of paints, chemicals, solvents, and other hazardous materials stored in containers under cover during rainy periods;
4. Berm around storage areas to prevent contact with runoff;
5. Cover open dumpsters securely with plastic sheeting, a tarp or other cover during rainy periods;
6. Designate specific areas of the site, away from streams or storm drain inlets for auto and equipment parking and for routine vehicle and equipment maintenance;
7. Routinely maintain all vehicles and heavy equipment to avoid leaks;
8. Perform major maintenance, repair, and vehicle and equipment washing off-site, or in designated and controlled areas on-site;
9. Collect used motor oil, radiator coolant or other fluids with drip pans or drop cloths;
10. Store and label spent fluids carefully prior to recycling or proper disposal;
11. Sweep up spilled dry materials (cement, mortar, fertilizers etc.) immediately- do not use water to wash them away;
12. Clean up liquid spills on paved or impermeable surfaces using "dry" cleanup methods (e.g. absorbent materials, cat litter, rags) and dispose of cleanup materials properly;
13. Clean up spills on dirt areas by digging up and properly disposing of the soil; and
14. Keep paint removal wastes, fresh concrete, cement mortars, cleared vegetation, and demolition wastes out of gutters, streams and the storm drains by using proper containment and disposal.

Post-Construction Controls

The project should minimize impacts from other pollutants, which may be generated by the project post-construction. These pollutants may include sediment, bacteria, metals, solvents, oil and grease or pesticides, all of which are typically generated during the life of a residential, commercial or industrial project after

construction has ceased. This should be done by developing and implementing a plan or set of control measures (that should be included in the SWPPP). The plan should specify all control measures which will be anticipated or used including, but not limited to the source controls and treatment controls discussed in the California Storm Water Best Management Practice Handbooks; EPA's Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters; and by Regional Board Staff.

RESPONSE TO LETTER 4
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

4-1 Since the publication of the Draft EIR in September 2001, there have been additional sewer connections made to the Little Bear Water Company's (LBWC) wastewater system. According to a letter of December 17, 2003, from the General Manager (Richard Hiwa), the Little Bear Water Company presently has 401 sewer connections. **See Changes to the Draft EIR**; a copy of the December 17, 2003, letter from LBWC is included as Appendix B to this Amendment to the Draft EIR.

4-2 According to the previously mentioned letter of December 17, 2003, from the General Manager, the Little Bear Water Company has reserved capacity in their system for 132 other projected sewer connections in the Pine Canyon area, not including the 291 new connections associated with the proposed Morisoli-Amaral Subdivision. Included in the LBWC projections are 92 connections in the Royal Estates Subdivision currently served by onsite septic systems that may be near the end of their useful life. As detailed in the description of the revised project, treatment and disposal capacity will be retained in the LBWC wastewater system to accommodate the flows from existing residences in the Royal Estates Subdivision at such time as sewer service is requested or required. However, there is no current County enforcement action pending that mandates the abandonment of the existing septic systems in the Royal Estates Subdivision. **See Changes to the Draft EIR.**

4-3 The EIR has been amended to clarify the surplus treatment capacity at the Little Bear Wastewater Treatment Plant. **See Changes to the Draft EIR.**

4-4 The major proposed changes to the Little Bear Wastewater Treatment Plant as reflected in this Amendment to the Draft EIR and on the August 2004 Vesting Tentative Map involve the installation of a new SBR treatment system and other related tanks and equipment. The new facilities are planned to be located on the west side of Pond #2, occupying an area of approximately 6,000 square feet. The other site improvements include changes in internal piping, as well as new piping into and out of the treatment plant site. Based on a 3rd party review of the plans by Questa Engineering for Monterey County, it appears that the changes and additions to the treatment plant can be accomplished without any interruption of the current treatment operations.

The greatest potential construction impact has to do with the installation of the new treatment tanks adjacent to Pond #2, which is a 1.44-million gallon gunite-lined pond. Installation of the tanks will require excavation into a portion of the outward slope of the pond embankment. The project engineer has indicated that sheet piling will be installed prior to any excavation work to insure the structural integrity of the pond embankment and protect against any lateral seepage from the

pond into the tank excavation area during the construction period (*personal communication, Steve Wilson, Monterey Bay Engineers, Inc.*). The excavation is expected to be open for an approximately 4 to 6-week construction period, after which the tank area would be backfilled and re-compacted to original conditions and the sheet piling removed. This construction plan appears feasible and sound; however, a geotechnical investigation will be needed to develop specific design guidance for the sheet pile installation as well as for the treatment tank foundation and related construction work. The EIR has been amended to include a mitigation measure (WW-1.1) requiring the completion of a design-level geotechnical investigation to establish appropriate design and construction specifications for the proposed work adjacent to Pond #2. **See Changes to the Draft EIR.**

With respect to potential legal constraints, according to the project engineer (*personal communication, Steve Wilson, Monterey Bay Engineers, July 2004*) all proposed work required to expand the wastewater treatment plant is intended to occur within existing easements owned and utilized by the Little Bear Water Company. If additional easements or expansion of existing easements are required, these would have to be secured prior to County approval of the construction work. Although there are existing utility easements for pipelines to and from the existing wastewater treatment plant site, the Regional Water Board is correct in pointing out that there is presently no secured access road to the treatment plant site. Historically, vehicle access to the site (from Royal Drive) has been granted informally by the adjacent property owner. The need for vehicle access to and from the treatment plant will increase significantly with the proposed expansion of the treatment plant to serve the project, and with the conversion of the plant to a tertiary-level facility. Accordingly, the EIR has been amended to include a mitigation measure (WW-2.1) requiring that appropriate legal access be secured for a permanent all-weather access road to the treatment plant site.

4-5 The EIR has been amended to state more accurately that the project will generate a total average wastewater flow of 79,750 gpd, with 72,750 gpd going to the treatment plant and the remaining 7,000 gpd being treated and disposed through onsite septic tanks and leachfields on 28 large rural residential parcels. **See Changes to the Draft EIR**

4-6 Since the publication of the Draft EIR in September 2001, the City of King City has completed a Draft Wastewater Facilities Plan (Carollo Engineers, November 2003). This study examined and compared a broad range of alternatives for improvements and expansion of the existing King City wastewater facilities to accommodate projected growth in the City and surrounding areas. The study included the possibility of extending sewer service to the Pine Canyon area, which is within the City's sphere of influence. The study accounted for existing and projected growth in the Pine Canyon area, including the Morisoli-Amaral project. The alternatives evaluated in the Corollo study covered a wide variety of treatment and disposal options, including secondary and tertiary treatment

systems, spay fields, percolation ponds, surface discharge to the Salinas River and wastewater reclamation. Although an alternative has not been formally selected, the apparent best alternative identified and recommended in the draft report is to convert the existing facultative ponds to aerated lagoons (secondary treatment), and to continue and expand the existing method of wastewater disposal which consists of restricted-access spray fields. Although wastewater reclamation alternatives were considered in the study, they did not rank high due primarily to cost considerations.

Based on the Draft Wastewater Facilities Plan, wastewater flows from the proposed Morisoli-Amaral Project and Pine Canyon area could be accommodated by future expansion of the King City wastewater facilities. In this respect it would achieve a stated policy of the Regional Water Quality Control Board, which encourages consolidation of wastewater treatment and disposal facilities. The underlying objective of the Regional Board's policy is to promote greater opportunities for wastewater reclamation that often results from consolidation of wastewater facilities in an area. However, in this case, it appears that there is greater opportunity to achieve wastewater reclamation goals by not connecting the Pine Canyon area (and proposed project) to the King City wastewater system due to the fact that: (a) the tentative recommendation for future expansion of the King City wastewater facilities does not include wastewater reclamation; and (b) a key element of the proposed Morisoli-Amaral project will involve upgrading the Little Bear Treatment Plant to produce tertiary-treated water that would allow for future agricultural irrigation uses in the area. Additionally, although formal commitments have not been obtained, the applicant has provided written documentation from several agricultural land owners in the Pine Canyon area expressing an interest in making use of the reclaimed water for irrigation once it becomes available.

4-7 In response to this comment the Applicant has revised the project to maintain the use of the existing LBWC spray disposal fields in combination with percolation beds ("Rapid Infiltration Beds") as the primary method of wastewater disposal. The wastewater treatment plant will still be upgraded as originally proposed to produce tertiary treated recycled water for use as agricultural irrigation by growers in the area. Recycled water will be made available for local agricultural uses; however, the project will not be dependent upon the growers to utilize the recycled water. This revised plan is described in the EIR. The EIR also describes the soil, percolation and groundwater investigation that has been completed by the Applicant to establish the feasibility of the percolation-based disposal system for the project.

4-8 Pumping facilities and increased energy use would be required for either: (a) upgrading and expanding the Little Bear Wastewater System, as proposed by the applicant; or (b) connection of the Pine Canyon area to the King City wastewater system, as encouraged by the Regional Water Board. In addition to energy use, in both cases there would also be the potential for wastewater spills due to power

outage, pump failure, or pipeline damage which would need to be mitigated through pump station redundancies and pipeline design measures, i.e., duplex/back-up pumps and back-up emergency power. The following is a comparison of the two wastewater alternatives with respect to these issues.

a) The existing Little Bear Wastewater System has a wastewater effluent pump station and transmission line used to pump secondary treated water from the treatment plant to the spray disposal field reservoir. The transmission line is approximately 3.5-miles long, with an elevation (lift) requirement of approximately 500 feet between the treatment plant and the spray field reservoir. The existing facilities currently include duplex pumps and a standby generator for emergency power supply. According to the LBWC General Manager (*personal communication, Richard Hiwa*), these failsafe design features have been effective, and to date the LBWC has never experienced a sewage spill or failure of this effluent pipeline. Under the proposed project, the existing pump station and transmission line will continue to be used, with two changes: (1) the amount of water pumped to the spray field area will increase up to the permitted design capacity of the spray field, which is 124,000 gpd (the existing LBWC flows are reported to be about 98,000 gpd); and (2) the treated water pumped to the LBWC spray field will be improved from secondary to tertiary quality, meeting recycled water standards. Additionally, a new effluent force main will be constructed to take up to 80,000 gpd of tertiary treated water from the LBWC treatment plant to the new disposal field on the Morisoli-Amaral project site. This force main will be about 5,000-feet long, with an elevation pumping requirement of approximately 40 feet between the treatment plant and the disposal field. The sanitary sewer from the proposed project to the Little Bear Treatment Plant will be a gravity system. The original plans for the proposed project described in the DEIR included several wastewater storage ponds with additional pumping requirements; but these ponds, and their associated pumping and transmission lines have been eliminated from the revised project.

b) Under the King City option, the existing effluent pump station and transmission line to the LBWC spray field would be abandoned, as would the entire wastewater treatment plant. In its place, a new sanitary lift station for the Pine Canyon area would be required to pump raw sewage from the vicinity of the Little Bear Treatment Plant across the Salinas River to King City, where it would be discharged to the City's gravity sewer system. The sewer force main would most likely be secured to the Highway 101 bridge. The pumping distance would be approximately 1.6 miles, with a lift requirement of approximately 20 feet, due to the topography at the Little Bear Treatment Plant.

In terms of energy requirements, connecting to the King City would be more advantageous than the proposed project due the shorter total pumping distance and the lower elevation-pumping requirements. However, a sewer connection to

King City would pose a greater potential impact to water quality and public health because it would involve pumping raw sewage rather than tertiary treated (reclaimed) water as proposed by the project. Also, connecting to King City would introduce an additional potential threat of direct spillage of raw sewage into the Salinas River in the event of a pipeline rupture or leak along the nearly ½-mile section of suspended/exposed pipeline where it would have to cross the river on the Highway 101 bridge. This threat and potential impact would not exist for the proposed project, which would involve no new pipeline crossings of any water courses, and no construction within roughly a mile of the Salinas River. Therefore, from an environmental standpoint, the issue of sewage pumping does not clearly favor one option over the other.

4-9 The EIR has been amended to include a discussion of the potential effects on surface water runoff and water from the alteration of the landscape associated with grading activities and the construction of roads, buildings, and other project facilities. Please note that, in accordance with Monterey County requirements, the proposed project incorporates a series of three (3) detention basins to attenuate runoff and assure that post-development peak storm flows are equal to or less than existing (pre-development) flows. The specific purpose is to reduce the potential for downstream flooding. A secondary benefit of the detention facilities is the maintenance of the hydrologic regime to avoid creation of downstream erosion and sedimentation problems which are mentioned in this comment as a particular concern of the Regional Water Board. In addition, the detention basins also provide a means of capturing surface runoff pollutants, especially during small storms and "first flush" periods of larger storms, thereby providing a water quality treatment function near the source. Finally, the third and largest of the three detention basins is located in an area of alluvial soils where substantial infiltration of runoff will occur. Although the infiltration component is not factored into the hydrologic runoff analysis for compliance with Monterey County drainage requirements, the infiltration can be expected to provide an added measure of protection against downstream runoff impacts as well as retention and soil absorption of nutrients, oil and grease, and other surface runoff pollutants from the developed project site. **See Changes to the Draft EIR**

4-10 As discussed in response to Comment 4-9, the drainage plan for the project, as revised, includes a series of three stormwater detention basins, through which virtually all (98.5%) of the site project site runoff will be directed. A small portion of the site will be drained to a natural drainage swale on the northerly boundary of the site. Although intended primarily for control of peak runoff rates, these detention basins will provide retention, infiltration and soil absorption of surface runoff pollutants to minimize the stormwater quality impacts on downstream receiving waters, including the Salinas River. Additionally, as requested by the Regional Water Board, EIR mitigation measure HW-2.2 has been amended to include specific reference to the supplied list of water quality Best Management Practices for site planning and drainage design.

4-11 As requested by the Regional Water Board, EIR mitigation measure HW-2.1 has been amended to include an expanded discussion of construction planning for erosion and sedimentation control. Specifically, the mitigation measure incorporates the following recommendations: (1) that construction work involving work on a cleared site should be conducted during the dry season, typically April 15 – October 15; (2) where construction during the wet season can't be avoided, the erosion and sedimentation control BMPs shall be in place throughout the rainy season; (3) during the dry season erosion control materials shall be available for employment in case of an un-seasonal rain event; (4) the construction shall be phased as much as possible to limit the amount of cleared, grubbed and disturbed areas at any time during the rainy season; and (5) the construction phasing, including the timing and areal extent of soil disturbance by phase, shall be addressed in the SWPPP.

LETTER 5

State of California - The Resources Agency
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

GRAY DAVIS, *Governor*

November 26, 2001

Ms. Kristina Berry, AICP
Monterey County Planning and
Building Inspection Department
2620 First Avenue
Marina, CA 93933
FAX (831) 384-3261

Tavernetti Subdivision
Draft Environmental Impact Report
Monterey County, SCH# 1997041029

Dear Ms. Berry:

Department of Fish and Game (Department) personnel have reviewed the Draft Environmental Impact Report (DEIR) for the Tavernetti Subdivision. The proposed project is located approximately two miles west of King City and north of Pine Canyon Road, in central Monterey County. The project, as proposed, consists of a 319-lot residential subdivision on 411 acres. Also proposed to be included in this 411-acre development are 106.3 acres of open space and 3.6 acres of improved parkland. The project would involve the removal of 730 trees (out of approximately 89,000 existing trees), many of which are oak species in blue oak woodlands. The project also includes grading in the amount of 700,000 cubic yards of cut and 630,000 cubic yards of fill, for roads, infrastructure and proposed mitigation measures.

5-1 The DEIR contains a map showing the location of habitats, but fails to quantify project impacts in terms of acreage. Due to the lack of specific information, it is not possible to determine if the project has been mitigated to a less than significant level. Therefore, it is the Department's opinion that the DEIR is inadequate and should not be certified.

5-2 Section 2.0 of the summary, under Biological Resources Impact B-3, states that "project grading, clearing and construction activities will result in the loss of approximately 730 trees, out of about 89,000 existing. Although the proposed tree removal equates to less than one percent of the tree population on site, the trees to be removed include various oak species within the blue oak woodlands, a sensitive habitat type

5-2 Con't under the provisions of Title 16, Chapter 16.60, Monterey County Code. This is a significant impact that can be reduced with the following required measures, but not to a less than significant level due to the existing habitat quality of the site, and the unknown ability to find appropriate locations for, and to maintain the replacement trees. Therefore, this is a significant, unavoidable adverse impact." The applicant should redesign the project to reduce impacts to blue oak woodland, which could include reducing subdivision density and more tightly clustering the development within the 411-acre site. The acreage impacted, of the various habitat types on site, should be quantified to facilitate calculation of impacts and mitigation needs. Specific and feasible mitigation must be identified in the DEIR, in order for the lead agency and the public to determine if those impacts can be properly offset. It is insufficient to state that habitat restoration will be done and mitigation areas set aside. How much restoration will be done? Where will it be done? How will it be protected in the future?

5-3 On a project of this size, 3:1 tree replacement is not adequate to replace a functioning oak woodland. For impacts to oak woodland of this magnitude, the applicant should mitigate in a 3:1 ratio for land set aside of existing oak woodland, in addition to a 1:1 ratio of acreage restored through tree planting. Without quantifying the acreage of the different habitat types available in the open space section, it is not clear that adequate mitigation is available on site. Additionally, the applicant needs to more clearly define what activities will be allowed under the conservation easement in the open space portion of the project. For example, grazing should not be allowed on the parcel, considering that 301 acres of wildlife habitat are already being impacted by the project.

5-4 An "early San Joaquin kit fox evaluation" was conducted in September 2000 to check for evidence of burrows. No candidate burrows were located. No protocol level surveys for San Joaquin kit fox (*Vulpes macrotis mutica*) have been performed, yet suitable habitat exists on site for kit fox. The DEIR states that impacts may be reduced with mitigation, "...however not to a less than significant level. Therefore, this impact is considered significant and unavoidable." The DEIR also states that the U. S. Fish and Wildlife Service (USFWS) and the Department shall be consulted with for guidance on kit fox. Consultation with regulatory agencies does not constitute mitigation and no other mitigation is proposed to offset this impact.

5-5 The applicant shall complete the Department's Kit Fox Habitat Suitability form (available from the local wildlife biologist) and mitigate impacts based on the habitat rating. Mitigation can take the form of land (of suitable habitat value) set aside, or placed in conservation easement. To facilitate estimation of mitigation required, the applicant should quantify acreage of suitable kit fox habitat to be impacted by the project. Survey results and specific mitigation measures must be included in the DEIR. Surveys to be conducted at a later time, or mitigation measures to be identified at some future time, are not acceptable. It has been determined in a court ruling that such studies and mitigation measures would be improperly exempted from the California Environmental Quality Act (CEQA). A DEIR which requests future studies or future identification of mitigation will be considered inadequate.

5-6 The USFWS has made comments on earlier versions of this project, but it is not clear whether or not they have been asked to comment on the DEIR. The DEIR should receive USFWS review prior to being certified. Reducing the density of the project, and more tightly clustering the development, would reduce the acreage of habitat impacted.

5-7 The DEIR states in summary Section 2-8, and in Section 4.4 on Biological Resources, that per Department of Fish and Game recommendation for recent botanical surveys, surveys were conducted in October 2000 and May 2001. Additionally, a proposed late July survey for Indian bush mallow (*Malacothamnus aboriginum*) CNPS 1B List and Davidson's bush mallow (*Malacothamnus davidsonii*), a Federal species of concern, would be conducted. Was this survey conducted and, if so, what were the findings? As the DEIR now reads, the potential impacts to this species have not been adequately identified. The DEIR indicates in Section 6-4, Project Alternatives, that the "reduced density alternative would avoid impacts to these listed species." How can the applicant avoid impacts to this resource if they don't know where it currently exists?

5-8 In Section 4.4-16, the DEIR states that the "general impacts to wildlife species utilizing the non-native grasslands in the northeastern portion of the site...The localized loss of this area is not considered to be significant to wildlife due to the regional availability of similar habitat." This is not an acceptable argument on determining significance of impacts, as the long-term status of habitat within this region is currently unknown and not secured for wildlife through set-aside or conservation easement.

5-9 Appendix B, Section 3.1, regarding the field review of vegetation in the southern portion of the proposed development, indicates that "large lots 326, 327, 328 and 329 were not surveyed in detail on the ground, due to time constraints and difficulty of access." The DEIR does state that the area was mapped using brief ground reconnaissance and aerial photograph interpretation. Was this area surveyed more thoroughly in follow-up field visits in 2000 or 2001? If so, what were the results? If not, what assurances can the applicant offer that sensitive species concerns have been properly assessed on site? As the DEIR now reads, the potential impacts from the development of these lots have not been adequately identified.

5-10 In the discussion of project alternatives, the "no action" alternative is the only alternative that avoids significant and unavoidable impacts to kit fox and blue oak woodlands. The reduced density alternative appears to reduce impacts over the project. The Department prefers the reduced density alternative, due to its reduced impacts on blue oak woodlands and kit fox habitat. With the development of adequate, new mitigation strategies for kit fox and blue oak woodlands, the reduced density alternative may be workable.

5-11 As detailed in this letter, the DEIR in its current form is inadequate and should not be certified. In almost every Section, the lack of well defined habitat impacts makes it difficult for the Department to review the DEIR. Due to the lack of specific information, it is not possible to determine if the project has been mitigated to a less than significant level. Reported potential impacts to kit fox habitat and blue oak woodlands would suggest that the project, as proposed, cannot be mitigated to a less than significant level.

Thank you for the opportunity to comment on this DEIR. If you have further questions, please contact Jeff Cann, Associate Wildlife Biologist, at (831) 649-7194; or Scott Wilson, Habitat Conservation Supervisor, (707) 944-5584.

Sincerely,

Robert W. Floerke
Regional Manager
Central Coast Region

RESPONSE TO LETTER 5
CALIFORNIA DEPARTMENT OF FISH AND GAME 11/26/01

5-1 The text of the Draft EIR, page 4.4-2, has been revised to include the information provided in this comment. See **Changes to Draft EIR** of this Amendment.

5-2 Mitigation Measure B-3.1 requires that lots be configured, building envelopes placed, and roads and other facilities sites to minimize removal of oak trees or areas of blue oak woodland. In addition, the project is designed to cluster all but 28 of the 319 lots. The EIR considers a Reduced Density Alternative (page 6.3) that would reduce the acreage of habitat impacted by clustering. Mitigation Measures B-3.1 through B-3.6 identify specific and feasible mitigation for the protection of oak trees during construction activities and throughout the life of the project through deed restrictions, appropriate replacement requirements and ratios, replanting requirements, monitoring of the removal and trimming activities, and erosion control measures. In addition, Mitigation Measures B-3.1 through B-3.6 have been amplified and Mitigation Measure B-3.7 has been added to the EIR to further reduce impacts on oak trees and habitat. See changes to the DEIR of this Amendment.

5-3 Mitigation Measure B-3.3 requires that the Forest Management Plan include a replacement: removal ratio of 5:1 for landmark trees and 3:1 for oaks greater than two inches in diameter less than 24 inches above ground, which is more stringent than the existing County Ordinance, which requires replacement of oaks more than six inches in diameter less than 24 inches above ground at a 1:1 ratio. Also see response to comment 5-2. Mitigation Measure B-3.7 has been added to the text of the EIR to include clarification on the activities allowed within the designated conservation easements. See **Changes to Draft EIR** of this Amendment.

5-4 The impacts to the San Joaquin kit fox were identified in the EIR as significant and unavoidable, and, by definition, this impact cannot be fully mitigated and reduced to less-than-significant level with mitigation. Mitigation Measures B-5.1, B-5.2 and B-6.1 have been included in the text of the EIR. See **Changes to Draft EIR** of this Amendment.

5-5 An early evaluation was conducted for the San Joaquin kit fox in October 2000 in coordination with the USFWS prior to the finalization of the San Joaquin Kit Fox Habitat Suitability Form. Although the early evaluation includes discussion of questions and issues outlined in the form, additional language has been added to Mitigation Measure #B-5.1 as described in response to comment 1-1. See response to Comment 5-4 describing enhancements to mitigation measures. See **Changes to Draft EIR** of this Amendment.

5-6 A copy of the Draft EIR was sent to the USFWS for their review and comment. A comment letter was received from USFWS on the Draft EIR and responses are included above (Letter 1). As noted on page 3-4 of the Draft EIR (see page 3-2 of this Amendment to the Draft EIR) the currently proposed site plan is a reduced scale project from previously considered site plans. This reduction was completed in order to reduce impacts in the areas of biology, aesthetics and land use. In addition, the Draft EIR pages 6-3 to 6-6 considers another alternative, the "Reduced Denisty Alternative," that would further reduce impacts of the project while still meeting most of the project objectives.

5-7 The Draft EIR was updated to include the results of the additional botanical surveys conducted for the proposed project (pages 4.4-7 to 4.4-8). An additional focused botanical survey was conducted in June 2002 to determine the presence of the purple amole, not the species in the comment, (see response to comment 1-4). No special-status plant species were identified during these surveys. Therefore, no impacts to special-status plant species will occur as a result of the proposed project. In addition, the Reduced Density Alternative would not reduce impacts to special-status species as none are present. The text of the EIR has been revised in response to this comment. See **Changes to Draft EIR** of this Amendment.

5-8 Non-native annual grassland is not considered a sensitive habitat by CDFG, Holland, or the California Natural Diversity DataBase's working list of high priority sensitive and rare natural habitats. Impacts to wildlife species and their habitat were addressed in the EIR and are identified in Impacts B-4, B-5, and B-6. With the exception of the San Joaquin kit fox, impacts to wildlife and their habitat were considered to be mitigated to a less-than-significant level by the mitigation measures in the EIR. Mitigation measures have been added to the Draft EIR including the requirement to set aside all open space areas in a conservation easement (see Mitigation Measure B-3.7) and amplified . See **Changes to Draft EIR** of this Amendment.

5-9 Denise Duffy & Associates, Inc. surveyed the entire project site during the 2000 and 2001 surveys as a result of the revisions made in the subdivision map, which included removal of the large lots 326, 327, 328, and 329. The results of those surveys were included in the Draft EIR analysis and conclusions. In addition, the focused surveys conducted in 2002 have been documented in this Amendment to the DEIR.

5-10 Comment is acknowledged; no response is necessary.

5-11 See response to comments 5-1 and 5-4.

LETTER 6

AMBAG
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

November 15, 2001

Mr. Kris Berry
Senior Planner
Monterey County Planning and
Building Inspection
2620 1st Avenue
Marina, CA 93933

Re: MCH # 110114 –Notice of Availability of Draft Environmental Impact Report for Tavernetti Residential Subdivision

Dear Mr. Berry:

AMBAG's Regional Clearinghouse circulated a summary of notice of your environmental document to our member agencies and interested parties for review and comment.

6–1 The AMBAG Board of Directors considered the project on **November 14, 2001**, and has no comments at this time.

Thank you for complying with the Clearinghouse process.

Sincerely,

Nicolas Papadakis
Executive Director

RESPONSE TO LETTER 6
ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS, 11/15/01

6-1 Comment is acknowledged; no response is necessary.

LETTER 7

MONTEREY BAY
Unified Air Pollution Control District
serving Monterey, San Benito, and Santa Cruz counties

AIR POLLUTION CONTROL OFFICER
Douglas Quetin

24580 Silver Cloud Court • Monterey, California 93940 • 831/647-9411 • FAX 831/647-8501

November 14, 2001

Kris Berry
Senior Planner
County of Monterey Planning and Building
2620 1st Avenue
Marina, CA 93933

SUBJECT: DEIR FOR TAVERNETTI RESIDENTIAL SUBDIVISION

Dear Ms. Berry:

Staff has reviewed the DEIR for the proposed 319 lot subdivision and has the following comments:

7-1 1. Page 4.9-1. The District operates air monitoring stations at Moss Landing and King City in addition to those referenced.

7-2 2. Page 4.9-2. The District's most current AQMP is the 2000 plan.

7-3 3. Page 4.9-2. Ozone and PM_{10} data should be updated as follows:

The State ozone standard was violated 4 times in 2000. The 8 hour federal ozone standard was violated ones in 2000. The State PM_{10} standard was violated 4 times in 2000. In 2001 to-date, the State PM_{10} standard was violated 12 times with 2 times at King City.

7-4 4. Based on soil sampling conducted by the Air Resources Board and Monterey County Environmental Health in the King City area during June 2001, approximately 75% of the samples contained unsafe levels of asbestos. Based on these data, we recommend that soil samples be taken throughout the project area to determine if asbestos is present and that mitigation measures be adopted as needed.

Thank you for the opportunity to review the document. Please do not hesitate to call if you have any questions.

Sincerely,

Janet Brennan
Supervising Planner

c: Nicolas Papadakis, AMBAG

RESPONSE TO LETTER 7
MONTEREY BAY UNIFIED AIR POLLUTION CONTROL DISTRICT, 11/14/01

7-1 The text of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

7-2 The text of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

7-3 The text of the EIR has been revised to address this comment. See **Changes to Draft EIR** of this Amendment.

7-4 A site specific soil survey was conducted by LandSet Engineers, Inc., on June 12, 2002. The results of this survey reflected no detectable levels of asbestos in the project area (see **Appendix C** for soil survey). See **Changes to the Draft EIR** for a reference to this new information.

LETTER 8

MONTEREY COUNTY

DEPARTMENT OF HEALTH LEN FOSTER, Director

FAMILY & COMMUNITY HEALTH | ENVIRONMENTAL HEALTH | HEALTH PROMOTION
EMERGENCY MEDICAL SERVICES | BEHAVIORAL HEALTH | ADMINISTRATION

December 2, 2001

Kris Berry, Senior Planner
Monterey County
Planning and Building Inspection Department
2620 1st Avenue
Marina, CA 93933

RE: Comments on the Draft EIR for the Tavernetti Residential Subdivision

Dear Ms. Berry:

The Monterey County Division of Environmental Health (MCDEH) has had the opportunity to review the above mentioned DEIR and has the following comments:

2.0 SUMMARY

8-1 **Page 2-1**

Proposed Project:
The proposed project encompasses 402 acres. Throughout the rest of the document, the proposed project encompasses 411 acres. Please correct for consistency.

GEOLOGY AND SOILS

8-2 **Page 2-6**

GS-5.1:
It should be added that MCDEH will only approve the use of onsite sewage disposal systems on lots where it has been proven that connection to the sanitary sewer is not feasible. Additionally, MCDEH will not approve onsite sewage disposal systems on lots that abut roads with sanitary sewer lines. We concur with the elimination of lots where connection to the sanitary sewer is not feasible and where the lots do not meet the percolation standards set in the Monterey County Code Chapter 15.020.060 (M).

WASTEWATER AND GROUNDWATER QUALITY

8-3 **Page 2-14**

WW-2.1:
In reference to the sampling conducted by MCDEH at the Marina treatment plant for the CSIP project, we sample for fecal and total coliform in addition to Clostridium perfringens spores.

8-3 CONTD **Impact WW-3:**
The sentence should read: "The proposed SBR treatment plant provides for sludge digestion/thickening tank but does *not* contain any further provision for sludge handling or ultimate disposal." This should be corrected on page 4.11-12

8-4 **Page 2-15**

Impact WW-5:
Similar ponds within Monterey County have had problems with children and animals gaining access to such ponds. MCDEH has required these ponds to install life rings with rope to be used in the event someone cannot climb out of the pond. Additionally, a chain link fencing surface has been required on all four sides of a pond's sidewall to assist an animal or human in escaping the pond. Add additional mitigation to read:

WW-5.2 *As a condition of approval, life rings with rope, to be used as a life-saving device, shall be installed within the pond's perimeter. Chain link fencing surface shall be installed on all four sides of the pond's sidewall to assist an animal or human in escaping the pond.*

WW-5.1:
Sentence should read: *As a condition of approval,* fencing shall be installed around the storage ponds and screening vegetation planted to provide a physical barrier.

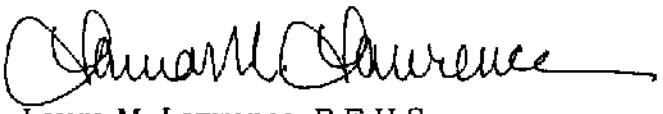
8-5 **Page 2-16**

WW-7.1
Mitigation should read: *As a condition of approval,* design and operation of the proposed wastewater facilities will be conducted in accordance with all applicable state and county requirements, including appropriate sludge handling and disposal to minimize odor.

Thank you for the opportunity to review the DEIR. If the applicants, EIR consultants or you have any questions please feel free to contact me at (831) 755-4557.

Sincerely,

Walter Wong, M.P.H., R.E.H.S.
Director of Environmental Health



Laura M. Lawrence, R.E.H.S.
Supervising Environmental Health Specialist
Division of Environmental Health

cc: Walter Wong, Director of Division of Environmental Health
Mary Anne Dennis, Branch Chief, Division of Environmental Health

RESPONSE TO LETTER 8
MONTEREY COUNTY DEPARTMENT OF HEALTH, 12/2/01

8-1 The EIR has been amended to correct the total project area which is 402 acres. See Changes to the Draft EIR.

8-2 Mitigation Measure GS-5.1 in the EIR has been amended to address this comment from Monterey County Department of Health (MCDH) by requiring that the applicant demonstrate to MCDH that connection to a sanitary sewer system is not feasible and that the lot does not abut any roads containing proposed sanitary sewer lines. Mitigation Measure GS-5.1 also requires compliance with Monterey County Code Chapter 15.020.060 (M). See Changes to the Draft EIR.

8-3 Mitigation Measure WW-2.1 in the EIR has been amended to address this comment by MCDH by adding that they also sample for fecal and total coliform at the Marina treatment plant. See Changes to the Draft EIR.

8-4 Mitigation Measure WW-5.1 has been amended as requested in this comment and modified to pertain to the Rapid Infiltration Basins rather than wastewater storage ponds. See Changes to the Draft EIR.

8-5 Mitigation Measure WW-7.1 has been amended as requested in this comment. See Changes to the Draft EIR.

LETTER 9

DEPARTMENT OF PUBLIC WORKS
COUNTY OF MONTEREY

MEMORANDUM

TO: Kris Berry
Senior Planner

FROM: Herb Naslund *Herbert C. Naslund*
Development Services Engineer

SUBJECT: **Tavernetti Residential Subdivision (Draft Environmental Impact Report)**

DATE: January 14, 2002

9-1 This memorandum is to advise that our previous comments have been addressed in the Draft EIR, dated September 11, 2001. We have no further comments at this time.

Please call me at extension 4805 if you have any questions.

HCN:reh

RESPONSE TO LETTER 9
MONTEREY COUNTY DEPARTMENT OF PUBLIC WORKS, 01/14/02

9-1 Comment is acknowledged; no response is necessary.

LETTER 10

MILLER BROWN & DANNIS

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December 3, 2001

VIA FACSIMILE AND U.S. MAIL

Kris Berry, Senior Planner
Monterey County Planning and Building Inspection
2620 1st Avenue
Marina, CA 93933

Re: Draft Environmental Impact Report,
Tavernetti Residential Subdivision;
County No. SH 92-01, SH 92-02;
SCH No. 97041029;
Comments by King City Union Elementary School District;
Our file 3790.1.007.0

Dear Ms. Berry:

The King City Union Elementary School District ("District") has asked this office to provide the District's comments to the Draft Environmental Impact Report ("DEIR") for the proposed Tavernetti Residential Subdivision located west of King City and north of Pine Canyon Road in Central Monterey County.

General Observations

The District is concerned with the following issues raised by the DEIR:

10-1 • The DEIR does not address the cumulative effects of planned development in the King City area as it relates to the District's need to provide facilities.

10-2 • The DEIR does not adequately address the need to house the students expected to be generated by this planned development.

10-3

- The DEIR postpones consideration of the developer's duty to mitigate the impact on the District to a future agreement.

10-4

- The DEIR states that the District will receive developer fees of $1.93 per square foot. The developer would be obligated to pay the developer fees in effect at the time of development.

Comments On Specific Sections of DEIR

10-5 2.0: Summary, p. 2-17.

Impact PS-3: The impact of student generation upon school facilities should be discussed. The number of students expected to be generated by the housing should be discussed here. Mitigation PS-3.1: This measure postpones the mitigation of the impacts on school facilities to a future agreement, although it appropriately requires that the project proponent fund improvements for impacts over and above the level mitigated by developer fees. The District expects that the developer fees will be increased to a yet to be determined figure, so the $1.93 per square foot rate should be replaced with a reference to the rates adopted by the District per statute.

10-6 4.0: Environmental Setting, pp. 4.12-5 – 4.12-7.

The DEIR correctly notes that the District's facilities are at full capacity and that there is a need for more classroom space. The District does not accept that overcrowded classrooms are an acceptable mitigation of residential development. The DEIR should address in this section the planned residential developments within the District's boundaries, including this proposal, that will have a cumulative impact on the District through an increased student population substantially in excess of capacity.

The District has not confirmed that it will be in a position financially to build a new middle school. See p. 4.12-6. The school has not begun construction, nor has it opened for the current school year.

For a discussion of Impact PS-3 and Mitigation PS-3.1 see discussion in the Summary section of this letter.

10-7 5.0: CEQA Considerations, pp. 5-1 – 5-2.

The DEIR should address the cumulative impacts on the District of this development and of the other planned residential development within the District's boundaries. The DEIR does not identify, for example, the Meyers Ranch proposed development. See Figure 32.

Please contact us should you have any questions regarding these comments.

Very truly yours,

MILLER BROWN & DANNIS

Mark W. Kelley

MWK/teh

cc: Stephen H. Young, Ed.D.
Jeanne Howland, Chief Business Officer

RESPONSE TO LETTER 10
MILLER BROWN & DANNIS, 12/03/01

10-1 School impacts of the project are addressed on page 4.12-5. The EIR found that the project would have a significant impact on schools that would be reduced to less-than-significant with mitigation measure #PS-3.1. With that mitigation which would also apply to all cumulative developments, cumulative impacts on the school district due to the project in combination with cumulative development in the area would be less-than-significant.

10-2 Page 4.12-6 of the Draft EIR states: "The proposed project will increase the enrollment of the two school districts serving the site, both of which are experiencing overcrowded conditions on school campuses" and then identifies this condition as a significant impact (Impact PS-3).

10-3 The text of the EIR has been revised to require that the applicant pay the King City Union Elementary School and King City Joint Union High School Districts any adopted fees in effect at the time of development and an additional fair share development fee, if applicable, prior to issuance of the first building permit for the project, to mitigate the impacts on the school system. See **Changes to Draft EIR**.

10-4 See response to comment 10-3.

10-5 The impact of student generation, including the number of students expected to be generated by the project, is discussed in the **Section 4.12, Schools, Page 4.12-5**, and not in the Summary Section. As stated on page 2-1, the first page of the summary section, the summary should be used in conjunction with a thorough reading of the EIR, as it is intended as an overview; the report serves as the basis for the summary. Please see response to comment 10-3, above and **Changes to Draft EIR** for the text amendments.

10-6 See responses to comments 10-1, 10-2, 10-3, and 10-5, above.

10-7 See response to comment 10-1.

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5. FINAL EIR REFERENCES

These documents are available for public review at the Monterey County Planning and Building Inspection Office, 2620 First Avenue, Marina, CA 93933. Request: Tavernetti (Morisoli-Amaral) PLN 01-0051 Project Files.

California Department of Health Services, Letter to Sheri Damon, Lombardo & Gilles, RE: Morisoli/Amaral Residential Subdivision, Sewage Treatment and Disposal, November 5, 2002.

California Regional Water Quality Control Board, Letter to Derinda L. Messenger, RE: Morisoli/Amaral Residential Subdivision, November 13, 2002.

Haro Kasunich & Associates, Inc. *Percolation Study for Tavernetti Subdivision*, October 2001

Haro Kasunich & Associates, Inc. *Percolation Testing Summary*, January 29, 2003

Kennedy/Jenks Consultants, Assessment of Proposed Wastewater Treatment and Disposal for Morisoli/Tavernetti Subdivision, Pine Canyon, Monterey County, CA, July 31, 2003.

Kennedy/Jenks Consultants, Letter to Sheri Damon, Esq., Lombardo & Gilles, Subject: Morisoli/Tavernetti Subdivision, Pine Canyon, Wastewater Disposal, September 30, 2003.

Kennedy/Jenks Consultants, Letter to Sheri Damon, Esq., Lombardo & Gilles, Subject: Morisoli/Tavernetti Subdivision, Pine Canyon, Wastewater Disposal, Response to Request for Additional Information, January 20, 2004.

Kennedy/Jenks Consultants, Letter to Sheri Damon, Esq., Lombardo & Gilles, Subject: Morisoli/Tavernetti Subdivision, Pine Canyon, Wastewater Disposal, Response to Request for Additional Information, March 24, 2004.

Landset Engineers, Inc., Fax to Amarral Ranches, Subject: Asbestos Lab Results, June 15, 2002.

Landset Engineers, Inc., Letter to Amarral Ranches, Subject: Soil Sampling Procedures and Laboratory Test Results, June 24, 2002.

Little Bear Water Company, Inc., Letter to Monterey County Environmental Health Department c/o Kris Berry, Monterey County PBID, Re: Morisoli/ Amaral Subdivision Application, Mo Co File PLN 010252

Little Bear Water Company, Inc., Letter to Sheri Damon, Esq., Lombardo & Gilles, Subject: Morisoli/Tavernetti Subdivision, December 17, 2003.

Lombardo & Gilles, Letter to Alana Knaster, Monterey County PBID, Re: Morisoli/Tavernetti Subdivision PLN 010051, October 2, 2002.

Lombardo & Gilles, Letter to Alana Knaster, Monterey County PBID, Re: Morisoli/Tavernetti Subdivision PLN 010051, November 27, 2002.

Lombardo & Gilles, Letter to Therese M. Schmidt, Monterey County PBID, Re: Morisoli/Tavernetti Subdivision, January 23, 2004.

Monterey Bay Engineers, Inc., *Tavernetti Subdivision Hydrology Report*, September 4, 2002.

Monterey Bay Engineers, Inc., Letter to Kris Berry, Monterey County PBID, EIR for Morisoli - Amaral Subdivision MoCo PLN 010051, November 12, 2002.

Monterey Bay Engineers, Letter to Alana Knaster, Monterey County Planning Department, Re: Morisoli/ Amaral Subdivision, Draft EIR, Wastewater Design, February 26, 2003 (including the attachments listed separately and map of nearby wells (portion of Thompson Canyon quadrangle map))

Monterey Bay Engineers, Inc., *Water Balance Summary*, December 8, 2003.

Monterey Bay Engineers, Inc., Vesting Tentative Map, June 21, 2004 (received by Monterey County PBID on June 23, 2004).

Monterey Bay Engineers, Inc., Letter to Therese M. Schmidt, Monterey County PBID, Re: Summary of design changes to the Morisoli-Amaral Residential Subdivision, MoCo PLN 01-0051 July 6, 2004.

Application and Water Use/Nitrate Impact Questionnaire for Development in Monterey County, Monterey County Planning and Building Inspection Department, January 2002. [1]

Renshaw, Diane L. May 1993. Sensitive Species Surveys, Mule Show Mine Use Permit 637-92, Spur Ranch, King City, CA. Prepared for Mr. Charles Hinkle.

[1] The Vesting Tentative Map submitted with this application is now considered to be obsolete and replaced with the August 2004 version.

Department: Planning and Building Inspection ***Condition Compliance & Mitigation Monitoring and/or Reporting Plan***	***Project Name*: Tavernetti (Morisoli-Amaral) Subidvision** ***File No***: PLN010051; ***APNs:*** 221-161-017,420-063-044, 420-063-045, 420-063-046, 420-063-054 & 420-063-055 ***Approval by:*** _____ ***Date:*** _____

****Monitoring or Reporting refers to projects with an EIR or adopted Mitigated Negative Declaration per Section 21081.6 of the Public Resources Code.***

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	GS-1.1	**Geology and Soils Hazard Impact GS-1: Seismic Shaking / Public Works (PWD) and Planning and Building Inspection Department (PBID).** Project design and engineering shall assume peak horizontal accelerations of 0.57 to 0.64g, or repeatable high ground accelerations of 0.38 to 0.43g for project design, subject to the review and approval of the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures. Structural design shall conform to UBC Zone 4 guidelines, at a minimum. All specified setbacks identified in the geological suitability map must be field-verified by a qualified geologist prior to issuance of a grading permit.	• Applicant/Geologist: all applications for building permits shall show that the project's structural design meets the seismic design parameters in the geology reports, including field verification by a qualified geologist. • County staff: confirm above	Applicant & Qualified Geologist PWD/PBID	Prior to issuance of a building permit	
	GS-2.1	**Geology and Soils Hazard Impact GS-2: Landsliding Hazard / PWD & PBID.** No building intended for human habitation shall be sited on any recognized landslide unless the landslide is demonstrated to be stable. In addition, no building intended for human habitation shall be sited within 100 feet of the toe of landslide Qls-a or within 50 feet of the toes of landslides Qls-b or Qls-c unless site specific slope stability analyses demonstrate that smaller setbacks are warranted by site conditions. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.	• Applicant: all applications for building permits shall show that no building is sited on any unstable landslide area nor within established setbacks for identified landslide areas. • County staff: confirm above	Applicant & Qualified Geologist PWD/PBID	Prior to issuance of building permit	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	GS-2.2	**Geology and Soils Hazard Impact GS-2: Landsliding Hazard / PWD & PBID.** No buildings intended for human habitation should be sited on or within 50 feet of the toe of a slope over 50% gradient, or within 75 feet of the toe of a slope of gradient 60% or greater unless site specific geotechnical investigations determine that such mitigation is unnecessary. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.	• Applicant: all applications for building permits shall ensure that all buildings are sited appropriately away from toes of slopes with over a 50% gradient. • County staff: confirm above	Applicant & Qualified Geologist PWD/PBID	Prior to issuance of building permit	
	GS-3.1	**Geology and Soils Hazard Impact GS-3: Soil Hazards / PWD & PBID.** A qualified geotechnical consultant shall be present at the site to observe excavations and evaluate all earth embankment locations for settlement potential and make appropriate mitigation recommendations as subsurface conditions warrant. The project shall be constructed in conformance with all recommendations of the geotechnical consultant. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.	• Applicant/Geologist: observe, excavate, and evaluate all earth embankment locations and make appropriate mitigation recommendations • County staff: review and approve improvement plans	Applicant & Qualified Geologist PWD/PBID	Prior to and during excavation	
	GS-3.2	**Geology and Soils Hazard Impact GS-3: Soil Hazards / PWD & PBID.** Site preparation shall consist of reworking the supporting soil prior to placement of berms or other new fills, in accordance with all applicable recommendations of previous geotechnical and geologic studies of the site, including those by Weber, Hayes and Associates (May 1994), Steven Raas & Associates, Inc. (August 1994), Tharp & Associates (July 1994, July 1997, and March 1999). These measures include overexcavation and recompaction of the soils supporting earthen berms, combined with protection of all pond side slopes with stabilization fills, subject to review and approval by the project geologist prior to approval of the grading plans and during grading. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures.	• Applicant/Geologist: prepare site in accordance with all applicable recommendations from previous studies • County staff: review and approve improvement plans	Applicant & Qualified Geologist PWD/PBID	Prior to approval of the grading permit and during grading	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	GS-3.3	**Geology and Soils Hazard Impact GS-3: Soil Hazards / PWD & PBID.** All previous geotechnical and geologic studies of the site shall be provided to the attention of the architect, engineer(s) and general contractor for the project, and all applicable recommendations made in the report shall be incorporated into the plans and specifications, and carried out in the field. This mitigation shall be subject to the review and approval by the Monterey County Public Works Department for road improvements and Monterey County Planning and Building Inspection for private improvements and structures prior to issuance of each grading and building permit for the project.	• Applicant: provide all previous geotechnical and geologic studies of the site to the architect, engineer, and general contractor to be incorporated • County staff: review and approve improvement plans	Applicant PWD/PBID	Prior to issuance of each grading and building permit	
	GS-4.1	**Geology and Soils Hazard Impact GS-4: Grading and Soil Erosion/ PWD & PBID.** The applicant shall submit a Drainage Plan for each phase of project improvements prepared by a registered civil engineer to the County Public Works, Water Resources Agency, and Planning and Building Inspection Department for review and approval prior to approval of the Final Map for that phase. The Drainage Plan shall include at a minimum, the following: • Collection of all drainage from improved surfaces such as walkways, patios, roofs and driveways, roads, etc. in impermeable gutters or pipes and conveyance to neighborhood storm sewers or natural drainages. • Absence of any concentrated discharge or other water flowing directly onto the ground adjacent to a proposed building site or onto steep slopes, or towards an existing or proposed building site. • Installation of energy dissipaters at storm water outfall locations. • The requirements contained within Mitigation Measures HW-1.1 and HW-1.2.	• Applicant/Civil Engineer: prepare and submit Drainage Plan • County staff: review and approve Drainage Plan	Applicant & Registered Civil Engineer PWD/PBID	Prior to approval of the final map for each phase	
	GS-4.2	**Geology and Soils Hazard Impact GS-4: Grading and Soil Erosion/ PWD & PBID.** The applicant shall prepare and implement an Erosion Control Plan for the entire project or for each area included on an individual grading permit consistent with the policies and requirements of the Erosion Control Ordinance (Monterey County Code Chapter 16.12) and the Storm Water Pollution Prevention Plan for the project subject to the approval of the Monterey County Public Works and Planning and Building Inspection Departments prior to issuance of that grading permit. Measures include, but are not limited to: stockpiling of soils during construction to prevent deposition into drainages or watercourses; minimizing areas of exposed	• Applicant/Engineer: prepare and implement an Erosion Control Plan consistent with the policies and requirements of Monterey County Code • County staff: review and approve Erosion Control Plan	Applicant & Registered Civil Engineer PWD/PBID	Prior to issuance of grading permit	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
		soil; temporary detention of runoff; and short and long term re-vegetation.				
	GS-4.3	**Geology and Soils Hazard Impact GS-4: Grading and Soil Erosion/ PWD.** For necessary grading operations, the smallest practicable area of land shall be exposed at any one time during development and the length of exposure shall be kept to the shortest practicable amount of time. Grading, clearing and all construction activities shall conform to the Monterey County grading ordinance. This mitigation measure shall be monitored throughout grading activities by the County Grading Inspector (Planning and Building Inspection Department).	• Applicant: ensure minimal land exposure and conform to Monterey County grading ordinance • County staff: confirm above	Applicant PBID	During grading operations and development	
	GS-5.1	**Geology and Soils Hazard Impact GS-5: Soil Percolation / Environmental Health Department (EHD).** Prior to approval of any phase of a final map that includes lots that propose to utilize on site septic systems, the applicant shall identify lot-specific locations and submit detailed engineering plans for each septic system to the Monterey County Health Department (MCDH) for review and approval. For those lots, the applicant shall demonstrate to MCDH that connection to a sanitary sewer system is not feasible and that the lot does not abut any roads containing proposed sanitary sewer lines. Each design shall be stamped and signed by a registered engineer and shall meet the regulations in Chapter 15.20 of the Monterey County Code (Sewage Disposal Ordinance) and in the Prohibitions of the Basin Plan by the Regional Water Quality Control Board. If it has not already been completed (i.e., in the October 2001 Percolation Study), the applicant shall perform percolation testing for each proposed septic system consistent with the policies and requirements of the Monterey County Code Chapter 15.20, Sewage Disposal Ordinance.	• Applicant/Engineer: identify lot-specific locations, submit detailed engineering plans for each septic system, and perform percolation testing per Mo Co 15.20 • County staff: review and approve engineering plans. Lots must meet requirements per Mo Co 15.20	Applicant & Registered Engineer EHD	Prior to approval of the Final Map for phases that include lots to be served by septic	
	HW-1.1	**Hydrology and Water Quality Impact HW-1: Drainage / Water Resources Agency (PWD & WRA).** Prior to issuance of building or grading permits, the applicant shall prepare final design and construction drawings, including hydraulic calculations for the detention basin outlet structures. The final design shall be subject to review and approval by the Monterey County Public Works Department and Water Resources Agency.	• Applicant: prepare final design and construction drawings, including hydraulic calculations for the detention basin outlet structures • County staff: review and approve above	Applicant WRA/PWD	Prior to issuance of building or grading permits for the detention basins	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	HW-1.2	**Hydrology and Water Quality Impact HW-1: Drainage / WRA.** Prior to issuance of any grading or building permits and during construction, the applicant shall conduct regular maintenance and cleaning of on-site drainage and detention facilities to ensure ongoing provision of adequate capacity. This requirement shall be included in the Erosion Control and Drainage Plan required by Mitigation Measures GS-4.1 and GS-4.2 and shall be monitored by the Monterey County Water Resources Agency (WRA) during construction. Prior to approval of each final map, the applicant shall prepare and submit Covenant, Conditions, and Restrictions (CC&Rs) to the WRA applicable to that phase that shall include the following, in addition to the requirements in Mitigation Measure B-6.1 and HW-2.2: regular ongoing maintenance and cleaning upon full occupancy of the system as a responsibility of the appropriate community services district or homeowner's association and ensured in perpetuity. These CC&Rs shall be reviewed and approved by the WRA prior to approval of each final map.	• Applicant: conduct regular maintenance and cleaning of on-site drainage and detention faculties as part of the Erosion Control and Drainage Plan, prepare and submit CC&Rs to the WRA • County staff: monitor above, review and approve CC&Rs	Applicant WRA	Prior to issuance of building or grading permits and during construction and prior to approval of each final map	
	HW-2.1	**Hydrology and Water Quality Impact HW-2: Water Quality / PBID.** Prior to issuance of the first grading permit for the project, the project will be required to obtain a NPDES permit and prepare a SWPPP, in accordance with the regulations of the RWQCB. The project shall implement Storm Water Best Management Practices as specified on the SWPPP both during and after construction to prevent the release of nonpoint source water contaminants. This shall include conformance with the following construction planning measures: (1) construction work involving work on a cleared site should be conducted during the dry season, typically April 15 – October 15; (2) where construction during the wet season can't be avoided, the erosion and sedimentation control BMPs shall be in place throughout the rainy season; (3) during the dry season erosion control materials shall be available for employment in case of an un-seasonal rain event; (4) the construction shall be phased as much as possible to limit the amount of cleared, grubbed and disturbed areas at any time during the rainy season; and (5) the construction phasing, including the timing and areal extent of soil disturbance by phase, shall be addressed in the SWPPP. Compliance with this mitigation measure shall be confirmed by the Planning and Building Inspection Department prior to issuance of a grading permit and on a regular basis, specifically, every two weeks during the wet weather season (October 15th through April 15th) and every four weeks during the dry season (April 16th through October 14th).	• Applicant: obtain NPDES permit and prepare SWPPP, implement Storm Water BMPs • County staff: confirm compliance with this mitigation measure	Applicant PBID	Prior to issuance of the first grading permit, during and after construction, and on a regular basis	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	HW-2.2	**Hydrology and Water Quality Impact HW-2: Water Quality / WRA.** The project Drainage and Erosion Control Plans and SWPPP required by Mitigation Measures GS-4.1, GS-4.2 and HW-2.2, respectively, shall include the following measures ("Best Management Practices") to minimize nonpoint source pollution: 1) the use of porous pavement or "grass-phalt" wherever possible, 2) appropriate landscaping practices to minimize runoff of fertilizers, herbicides, and pesticides, 3) regular street sweeping, 4) installation of structural storm water treatment controls such as swales, vegetated filter strips, detention basins, cisterns for storm water storage, and sediment/grease/oil traps (with regular maintenance programs). Sediment and oil traps shall be designed to capture first flush oil and sediment and inspection and maintenance of the traps shall occur at a minimum once per year in the late summer. The applicant shall also review and incorporate, as appropriate, additional Best Management Practices for surface water runoff and erosion control, including those recommended by the Regional Water Quality Control Board and listed on Attachment 1 of their letter (Letter 4). Regular maintenance shall be the responsibility of the appropriate community services district or homeowner's association and ensured in perpetuity through the legally binding Covenants, Conditions and Restrictions described in Mitigation Measure HW-1.2 that shall be reviewed and approved by Water Resources Agency prior to approval of each final map for the project.	• Applicant/Appropriate Community Services District or Homeowner's Association: include BMPs to minimize non-point source pollution, design oil traps to capture first flush oil and sediment, inspect and maintain traps, review and incorporate additional BMPs for surface water runoff and erosion control • County staff: review and approve CC&Rs	Applicant & Appropriate Community Services District or Homeowner's Association WRA	Prior to approval of each final map and after construction	
	B-1.2	**Biological Resources Impact B-1: Vegetation / PBID.** Subject to approval by the Monterey County Water Resources Agency and Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans that demonstrate that all culverts and other drainage improvements are designed such that erosion and sedimentation from storm runoff do not occur in areas of undisturbed native vegetation. This mitigation measure shall be confirmed prior to approval of the project improvement plans.	• Applicant: submit drainage and improvement plans that demonstrate that all drainage improvements are designed to prevent erosion and sedimentation • County staff: confirm and approve mitigation measures	Applicant WRA/PBID	Prior to approval of the project improve-ment plans	
	B-1.3	**Biological Resources Impact B-1: Vegetation / PBID.** Prior to approval of the final map for a specific phase, the applicant shall submit a Landscape Plan (see Mitigation Measure AV-1.3, AV-1.5 and AV-1.6) corresponding to that phase of the final map that includes only drought-tolerant native species from local sources, or drought-tolerant non-natives that are known to be non-invasive. The species selected must be included on Monterey County's current list of drought resistant plants and must not be classified as invasive (List A or B) by the Exotic Pest Plants of Greatest Ecological Concern in California (CalEPPC, October, 1999).	• Applicant: submit a Landscape Plan that includes only drought-tolerant native species or drought tolerant non-natives that are non-invasive • County staff: confirm above	Applicant & Landscape Architect PBID	Prior to approval of the final map for a specific phase	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	B-1.4	**Biological Resources Impact B-1: Vegetation / PBID.** The applicant shall not use species in landscaping that are known to be invasive, as determined by a qualified botanist or landscape architect. The species used shall not be classified as invasive (List A or B) by the Exotic Pest Plants of Greatest Ecological Concern in California (CalEPPC, October, 1999).	• Applicant/Botanist or Landscape Architect: do not use invasive species • County staff: confirm above	Applicant & Qualified Botanist or Landscape Architect PBID	Prior to approval of the final map for a specific phase	
	B-1.5	**Biological Resources Impact B-1: Vegetation / PBID.** Landscape plans shall include all irrigation systems for community areas of the project. All irrigation systems shall be designed to minimize runoff of irrigation water into adjacent areas of native vegetation and to minimize overspray onto streets and sidewalks subject to the approval of the Monterey County Planning and Building Inspection Department and Monterey County Water Resources Agency.	• Applicant: include all irrigation systems and design systems to minimize runoff and overspray in Landscape Plans • County staff: confirm above	Applicant & Landscape Architect MCWRA/PBID	During project design and development	
	B-1.6	**Biological Resources Impact B-1: Vegetation / PBID.** CC&Rs prepared for the project (as required by Mitigation Measure B-6.1) shall indicate that rodenticide or herbicide shall not be used in the project area. These CC&Rs shall be reviewed and approved by the Planning and Building Inspection Department prior to approval of each final map.	• Applicant: indicate that rodenticide and herbicide will not be used • County staff: review and approve CC&Rs	Applicant PBID	Prior to approval of each final map	
	B-3.1	**Biological Resources Impact B-3: Tree Removal / PBID.** Prior to approval of the Final Map, lots shall be configured, building envelopes placed, and roads and other facilities sited to minimize removal of oak trees or areas of blue oak woodland. Encroachment by construction activities or alteration to blue oak woodland habitat shall be prohibited by deed restrictions. These deed restrictions shall specifically identify the following: 1) the prohibition of oak tree removal outside prescribed building/driveway envelopes and 2) the prohibition of irrigation beneath on-site oak trees.	• Applicant: prepare deed restrictions for each legal lot of record, as required by this measure. • County staff: confirm deed restriction complies with mitigation measures	Applicant PBID	Prior to approval of the Final Map	
	B-3.2	**Biological Resources Impact B-3: Tree Removal / PBID.** Prior to issuance of a grading permit, a qualified arborist or forester shall be retained to monitor tree removal and trimming during grading activities.	• Applicant/Arborist: monitor tree removal and trimming • County staff: confirm above by requiring written confirmation	Applicant & Qualified Arborist PBID	Prior to issuance of grading permit	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	B-3.3	**Biological Resources Impact B-3: Tree Removal / PBID.** As required by County Ordinance, the applicant shall provide a detailed Forest Management Plan subject to the review and approval of the County of Monterey Planning Department for the tree impacts of the project prior to approval of the 1st phase for the Final Subdivision Map. The Forest Management Plan shall include the following guidelines: • Avoidance is the primary measure to preserve and protect landmark trees; only the trees that are a safety hazard or cannot be avoided should be removed. Require tree removal permits and tree replacement for removal of any oaks that occur as part of future project construction. Due to the number of trees to be removed on the site and the dry climate of the project site, tree replacement and replanting of oak trees less than 24-inches and greater than 2-inches in diameter shall be based on a 3:1 (replacement:removal) ratio in areas of suitable habitat. Tree replacement and replanting shall be based on a 5:1 ratio for all Landmark Trees. Require use of oaks grown from seeds collected in locations bordering the tree clusters from which the trees were removed. Replanting should avoid open spaces where trees are not now found unless there is evidence of soil deep enough and of sufficient quality to support the plantings. • Road and driveway alignments shall be adjusted when possible to avoid landmark trees and all trees while minimizing the need for additional grading and limiting new erosion potential. • Prior to construction, enclosure fencing shall be installed around the perimeter of the tree's drip line. • Construction activities and equipment shall not encroach into the tree's drip line. • Grading standards shall be set regarding proper drainage and aeration around the base of trees. • Tree trimming specifications as well as crown thinning guidelines shall be prepared. • Homeowner guidelines shall be prepared identifying proper maintenance while living among the oaks.	• Applicant/Arborist: provide a detailed Forest Management Plan including the outlined guidelines • County staff: review and approve Forest Management Plan	Applicant & Qualified Arborist PBID	Prior to approval of the 1st phase for the Final Subdivision Map	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
	B-3.4	**Biological Resources Impact B-3: Tree Removal / PBID.** Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all storm runoff is diverted away from areas of blue oak woodland during construction. Berms or other erosion control measures shall be employed to prevent such diversion.	• Applicant: submit drainage and improvement plans demonstrating storm runoff diversion • County staff: review and approve the drainage and improvement plans	Applicant PBID	Prior to approval of the Final Map	
	B-3.5	**Biological Resources Impact B-3: Tree Removal / PBID.** Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all developed facilities, including culverts and other drainage improvements, are designed so that storm runoff is not directed into areas supporting oak trees or blue oak woodland.	• Applicant: submit drainage and improvement plans demonstrating that storm runoff is not directed into areas of oak trees or blue oak woodland • County staff: review and approve the drainage and improvement plans	Applicant PBID	Prior to approval of the Final Map	
	B-3.6	**Biological Resources Impact B-3: Tree Removal / PBID.** Subject to approval by the Planning and Building Inspection Department, the applicant shall submit drainage and improvement plans prior to approval of the Final Map, that demonstrate that all developed irrigation systems located near areas of blue oak woodland are designed so that irrigation runoff is not directed into the woodland areas.	• Applicant: submit drainage and improvement plans demonstrating irrigation systems are not directed into the woodland areas • County staff: review and approve the drainage and improvement plans	Applicant PBID	Prior to approval of the Final Map	
	B-3.7	**Biological Resources Impact B-3** Prior to approval of the Final Map for each phase, the applicant shall submit conservation easements to the County PBID for review and approval that shall be applicable to all areas designated as open space on the Vesting Tentative Map. Additional vegetation removal, grazing, and ground disturbance shall be prohibited within those areas with the exception of any fire protection measures prescribed by the CDF.	• Applicant: submit conservation easements for all open space areas • County staff: review and approve above	Applicant PBID	Prior to approval of the Final Map for each phase	
	B-4.1	**Biological Resources Impact B-4: Wildlife Species - General / PBID** During construction, vehicle traffic shall be restricted to designated access roads and the immediate vicinity of construction sites. Vehicle speeds shall not be allowed to exceed 20 mph in most areas. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.	• Applicant: restrict traffic and traffic speed to designated access roads and immediate project vicinity • County staff: monitor compliance of the above	Applicant PBID	During construction	

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	B-4.2	**Biological Resources Impact B-4: Wildlife Species - General / PBID** During construction, no pets or firearms shall be permitted on construction sites so as to avoid harassment or killing of wildlife. Construction workers shall leave the construction area each night to minimize disturbance to actively foraging animals. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.	• Applicant: prohibit pets or firearms on construction sites • County staff: confirm and monitor above	Applicant PBID	During construction	
	B-4.3	**Biological Resources Impact B-4: Wildlife Species - General / PBID** Construction excavations deeper than three feet shall be either fenced, covered, or filled at the end of each working day, or have escape ramps provided to prevent entrapment of wildlife. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.	• Applicant: fence, cover, or fill construction excavations deeper than three feet • County staff: monitor and confirm above	Applicant PBID	During construction	
	B-4.4	**Biological Resources Impact B-4: Wildlife Species - General / PBID** During construction, all food-related trash shall be deposited in closed containers and regularly removed from work sites. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.	• Applicant: deposit food-related trash in closed containers and regularly remove from the work site • County staff: monitor and confirm above	Applicant PBID	During construction	
	B-4.5	**Biological Resources Impact B-4: Wildlife Species - General / PBID** Prior to issuance of a grading permit, the Planning and Building Inspection Department shall require that the applicant submit evidence that demonstrates that a biological monitor will be on-site during initial construction activities (lot clearing, grading, tree removal) to monitor for San Joaquin pocket mouse and nesting raptors. Prior to issuance of a grading permit the applicant shall submit evidence to the Planning and Building Inspection Department that demonstrates a permitted biologist should consult with the appropriate agencies to establish an agreed-upon plan of action in the event that these species are found on-site during construction.	• Applicant/Biologist: submit evidence that biological monitor will be on-site during initial construction activities and that a permitted biologist will consult with the appropriate agencies to establish a plan of action if the mentioned species are found • County staff: confirm above	Applicant & Qualified Biologist PBID	Prior to issuance of grading permit	

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	B-4.6	**Biological Resources Impact B-4: Wildlife Species - General / PBID** If raptor nests are located during the pre-construction surveys identified in Mitigation Measure B-4.5, a 500-foot buffer within which no construction is allowed shall be established by a qualified biologist around each nest during breeding season to prevent nest harassment and brood mortality. Every effort shall be made to avoid removal or impact to known raptor nests within project boundaries. Maximize avoidance of these areas. If trees known to support raptor nests cannot be avoided, removal of these trees may only occur during the non-breeding season. Compliance with this measure shall be confirmed prior to issuance of a grading permit and monitored throughout construction by the Planning and Building Inspection Department.	• Applicant/Biologist: establish a 500-foot buffer if raptor nests are located and maximize avoidance in these areas • County staff: confirm above	Applicant & Qualified Biologist PBID	During raptor breeding season	
	B-5.1	**Biological Resources Impact B-5: Wildlife Species - Kit Fox / PBID** The applicants shall confer with the USFWS and CDFG regarding the potential for take of the San Joaquin kit fox. The results of the kit fox study (Appendix C.6) and the "San Joaquin Kit Fox Habitat Evaluation Form" shall be submitted to these agencies for review and comment. The applicants shall provide evidence of their compliance with applicable requirements of the federal Endangered Species Act and California Endangered Species Act prior to the issuance of building permits and the commencement of ground disturbance for those areas within the identified habitat area, as outlined below: Based on the San Joaquin Kit Fox Survey Protocol established by the USFWS (June 1999), the project applicant must submit the early evaluation report (prepared by Bryan Mori Biological Consulting Services, October 2000) to the USFWS. The USFWS will evaluate the report as to whether or not the project site represents kit fox habitat, the quality of the habitat, and the value of the habitat to the recovery of the kit fox. If it is determined by the USFWS that the project will not result in take, the applicant will provide evidence of this prior to the issuance of building permits. If the project discussions with the USFWS determine the potential for take, the project applicants shall present modifications to protect kit fox, including avoidance that would serve to eliminate the potential take. If the USFWS determines take will occur and project modifications cannot avoid take, the applicants shall provide evidence of their compliance with applicable requirements of the federal Endangered Species Act and California Endangered Species Act prior to the issuance of building permits for those areas within the identified habitat. The project applicant shall be required to implement the mitigation measures	• Applicant/Biologist: initiate informal consultation with the USFWS and CDFG and submit kit fox study to the agencies for review and comment, obtain letter of concurrence of no take or of compliance with Endangered Species Acts including if required, an Incidental Take Permit, implement mitigation measures, and monitor permit requirements • County staff: confirm that the applicant is in compliance with kit fox mitigation requirements	Applicant & Qualified Biologist PBID	Initiate prior to submittal of grading plans, final maps, or improvement plans and confirm prior to commencement of ground disturbance	

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		outlined in the incidental take permits. Implementation of the permit requirements shall be monitored by a qualified biologist and verified by the County Planning and Building Inspection Department.				
	B-5.2	**Biological Resources Impact B-5: Wildlife Species - Kit Fox / PBID** Regardless of the outcome of the above recommendation, pre-construction surveys for kit fox dens shall be required for all development phases of the future project in the study area. Pre-construction surveys shall be conducted by a qualified biologist no less than 14 days and no more than 30 days prior to the start of any ground disturbing activities to locate active kit fox den sites. In addition to pre-construction surveys, a qualified biologist, meeting the required qualifications described in the *U.S. Fish and Wildlife Service Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to Ground Disturbance*, June 1999, shall be on-site to monitor construction activities for the San Joaquin kit fox. In the event that an active kit fox den is found, then the standard mitigation actions outlined in the *U.S. Fish and Wildlife Service Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to Ground Disturbance* June 1999, are recommended to avoid possible take of kit fox during future construction activities. These actions are general in nature, therefore, site-specific strategies for the project site shall be based upon consultation with CDFG and USFWS, as described in **B-5.1**. To ensure compliance with this mitigation measure, prior to issuance of any grading permits, the Planning and Building Inspection Department (PBID) shall be furnished with written correspondence from a qualified wildlife biologist documenting that no active kit fox den sites nor kit fox individuals were found on the site. If active kit fox den sites or kit fox individuals were found on the site during the survey, the applicant will be required to comply with all mitigation actions required by CDFG and USFWS and the County PBID shall monitor implementation of those actions.	• Applicant/Biologist: conduct pre-construction surveys, provide written correspondence documenting results of surveys to the County, monitor construction activities, and comply with CDFG and USFWS mitigation measures • County staff: review survey results and monitor implementation of mitigation measures	Applicant & Qualified Biologist PBID	Prior to issuance of grading permit	
	B-6.1	**Biological Resources Impact B-6: Fragmentation of Habitat / PBID** Prior to approval of each final map, the applicant shall prepare and submit draft Covenant, Conditions, and Restrictions (CC&Rs) applicable to that phase that shall include the following in addition to the requirements in Mitigation Measure HW-1.2: 1) restrict installation fencing to the immediate vicinity of residences, and where fencing is placed adjacent to open space areas and areas of natural, undisturbed habitat, fences shall be installed such that a six inch space is left between the bottom of the fence and the surface of the ground; 2) prohibit off-road vehicle use; 3) prohibit illegal discharge of firearms; 4) require cats and dogs be fenced or leashed	• Applicant: prepare and submit Covenant Conditions, and Restrictions (CC&Rs) • County staff: review and approve CC&Rs	Applicant PBID	Prior to approval of each final map	

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		at all times; and 5) prohibit the installation of road medians throughout the development. These CC&Rs shall be reviewed and approved by the Planning and Building Inspection Department prior to approval of each final map.				
	C-1.1	**Cultural Resources Impact C-1: Unknown Resources/ PBID.** If archaeological resources or human remains are accidentally discovered during construction, work shall be halted within 150 feet of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, appropriate mitigation measures shall be developed and implemented according to Section 15064.5 of CEQA. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.	• Applicant/Archaeologist: halt work within 150 feet of a cultural resources find • County staff: monitor and confirm above	Applicant & Qualified Professional Archaeologist PBID	During Construction	
	AV-1.1	**Aesthetics / Viewshed Impact AV-1: Viewshed / PBID.** Prior to issuance of a grading permit, the applicants shall demonstrate that residential development on hillsides is designed to fit the topography of the lot, using stepped foundations or other techniques, subject to the approval of the Monterey County Planning and Building Inspection Department.	• Applicant: demonstrate that residential development on hillsides is designed to fit the topography of the lot • County staff: approve development design	Applicant PBID	Prior to issuance of grading permit	
	AV-1.2	**Aesthetics / Viewshed Impact AV-1: Viewshed / PBID.** Prior to issuance of a grading permit, the applicants shall demonstrate that all grading on residential lots has been limited to minimize visual impacts, subject to the approval of the Monterey County Planning and Building Inspection Department.	• Applicant: demonstrate that all grading on residential lots has been limited to minimize visual impacts • County staff: approve visual impacts of grading	Applicant PBID	Prior to issuance of grading permit	
	AV-1.3	**Aesthetics / Viewshed Impact AV-1: Viewshed / PBID.** Prior to approval of the final map for a specific phase, the applicant shall submit a Landscape Plan corresponding to that phase of the final map that provides landscape screening appropriate to the surrounding area, to integrate the project into the site, subject to the approval of the Monterey County Planning and Building Inspection Department.	• Applicant: submit a Landscape Plan that provides landscape screening • County staff: approve Landscape Plan	Applicant PBID	Prior to approval of the final map for a specific phase	

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	AV-1.4	**Aesthetics / Viewshed Impact AV-1: Viewshed / PBID.** Prior to approval of the final map for a specific phase, the applicant shall submit a Lighting Plan corresponding to that phase of the final map that demonstrates the use of only non-reflective materials, subdued colors, and lighting that does not create off-site glare in all phases of project development, subject to the approval of the Monterey County Planning and Building Inspection Department.	• Applicant: submit a Lighting Plan that demonstrates the use of only non-reflective materials, subdued colors, and lighting that does not create off-site glare • County staff: approve Lighting Plan	Applicant PBID	Prior to approval of the final map	
	AV-1.5	**Aesthetics / Viewshed Impact AV-1: Viewshed / PBID.** The applicant shall provide all Grading, Landscape, and Lighting Plans for that phase and the Forest Management Plan for the entire site to the Monterey County Planning and Building Inspection Department for review for consistency with applicable standards prior to approval of the final map.	• Applicant: provide all Grading, Landscape, Lighting, and Forest Management Plans • County staff: review for consistency with applicable standards	Applicant & Qualified Arborist PBID	Prior to approval of the final map	
	AV-1.6	**Aesthetics / Viewshed Impact AV-1: Viewshed / PBID.** On the Landscape Plans for the relevant project phase, the applicant shall demonstrate to the Planning and Building Inspection Department that all new water tanks are adequately screened with vegetation and painted in earthtones prior to approval of the final map for that phase.	• Applicant: demonstrate that all new water tanks are adequately screened • County staff: review the Landscape Plan for adequate screening	Applicant PBID	Prior to approval of the final map for that phase	
	AV-2.1	**Aesthetics / Viewshed Impact AV-2: Light and Glare / PBID.** The applicant shall provide a Public Space Lighting Plan subject to the review and approval of the Monterey County Planning and Building Inspection Department prior to approval of the Final Map for each phase. The type, height, and spacing of street lights shall conform to County guidelines. In particular, street lights shall be directed downward and be of minimum intensity necessary for proper intersection lighting.	• Applicant: provide a Public Space Lighting Plan that conforms to County guidelines • County staff: review and approve Public Space Lighting Plan	Applicant PBID	Prior to approval of the final map for each phase	
	T-1.1	**Traffic and Circulation Impact T-1: Roadway Segment Operations / PWD.** The applicant shall widen Jolon Road to three travel lanes between Pine Canyon Road and the Highway 101 southbound ramps to provide two southbound lanes and one northbound lane. The widening shall be consistent with and incremented toward proposed future intersection and roadway configurations of Jolon Road and Pine Canyon Road that includes four travel lanes between Pine Canyon Road and Highway 101 and left turn channelization at Pine Canyon Road (see cumulative	• Applicant: widen Jolon Road to three travel lanes between Pine Canyon Road and the Highway 101 southbound ramps to provide two southbound lanes and one northbound lane • County staff: review and approve traffic improvement plans	Applicant PWD/Caltrans	Prior to approval of the final map for the first project phase	

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		mitigation). The widening of Jolon Road to three lanes will also benefit other developments along Pine Canyon Road and south of Pine Canyon Road along Jolon Road. The project applicant may be eligible for reimbursements from future development. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.				
	T-2.1	**Traffic and Circulation Impact T-2: Intersection Operations / PWD.** The applicant shall improve the segment of Pettitt Road connecting Pine Canyon Road to the project site by adding pavement, striping, and appropriate signage, such as speed limit signs subject to the approval of the Monterey County Public Works Department. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.	• Applicant: improve the segment of Pettitt Road by adding pavement, striping, and appropriate signage per Mitigation Measure T-2.1 • County staff: review and approve traffic improvement plans	Applicant PWD/ Caltrans	Prior to approval of the final map for the first project phase	
	T-3.1	**Traffic and Circulation Impact T-3: Pedestrian/Bicycle Facilities / PWD.** The project shall provide sidewalks along one side of Pine Canyon Road from the project entrance to Jolon Road, and all future roadway widening shall include sidewalks and bicycle lanes on both sides of the road in accordance with County requirements. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.	• Applicant: provide sidewalks along portions of Pine Canyon Road and include sidewalks and bicycle lanes on all future roadway widening per Mitigation Measure T-3.1 • County staff: review and approve all traffic improvement plans	Applicant PWD/ Caltrans	Prior to approval of the final map for the first project phase	
	C-1.1	**Cumulative Traffic and Circulation Impact C-1: Roadway Segment Operations / PWD.** Widen Jolon Road to four travel lanes (two northbound and two southbound) between Pine Canyon Road and Highway 101 southbound ramps. The Jolon Road northbound approach to Pine Canyon Road shall include a left-turn lane and a shared through/right-turn lane. The Jolon Road southbound approach to Pine Canyon Road shall include a left-turn lane, a through lane, and a free (unrestricted) right turn lane. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.	• Applicant: widen Jolon Road to four travel lanes, include two left-turn lanes, a shared through/right-turn lane, a through lane, and a free right turn lane • County staff: review and approve all traffic improvement plans	Applicant PWD/ Caltrans	Prior to approval of the final map for the first project phase	

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	C-1.2	**Cumulative Traffic and Circulation Impact C-1: Roadway Segment Operations / PWD.** Widen Pine Canyon Road to four travel lanes with left turn channelization between Pettitt Road and Jolon Road. The eastbound Pine Canyon Road approach to Jolon Road shall include two left-turn lanes and a shared through/right-turn lane. All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.	• Applicant: widen Pine Canyon Road to four travel lanes with left turn channelization, include two left turn lanes and a shared through/right turn lane • County staff: review and approve all traffic improvement plans	Applicant PWD/Caltrans	Prior to approval of the final map for the first project phase	
	C-2.1	**Cumulative Traffic and Circulation Impact C-2: Intersection Operations / PWD.** Install a traffic signal at the Jolon Road/Pine Canyon Road intersection. In addition to the lane configurations discussed in mitigation measures C-1.1 and C-1.2, an acceleration lane shall be constructed on Pine Canyon Road to the west of the intersection, and the single-lane westbound Pine Canyon Road approach shall serve as a shared left/through/right lane.[1] All traffic improvement plans shall be subject to the approval of the Monterey County Public Works Department, and if necessary, Caltrans, prior to approval of the Final Map for the first project phase.	• Applicant: install a traffic signal at the Jolon Road/Pine Canyon Road intersection and construct an acceleration lane • County staff: review and approve all traffic improvement plans	Applicant PWD/ Caltrans	Prior to approval of the final map for the first project phase	
	N-1.1	**Noise Impact N-1: Construction / PBID.** Construction activities shall be restricted to the hours of 8:00 AM to 7:00 PM Monday through Saturday. Equipment maintenance and servicing shall be confined to the same hours. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.	• Applicant: restrict construction activities, equipment maintenance, and servicing to 8 AM to 7 PM Monday through Saturday • County staff: monitor and confirm above	Applicant PBID	During construction	
	N-1.2	**Noise Impact N-1: Construction / PBID.** All construction equipment utilizing internal combustion engines shall be required to have mufflers which are in good condition. Stationary noise sources shall be located at least 300 feet from occupied dwelling units unless noise reducing engine housing enclosures or noise screens are provided by the contractor. Compliance with this measure shall be	• Applicant: use construction equipment with internal combustion engines and mufflers and locate stationary noise sources at least 300 feet from dwelling units • County staff: monitor and confirm above	Applicant	During construction	

[1] According to the County of Monterey Public Works Department, the County has been collecting a traffic impact fee from development in the Pine Canyon area for the past 16 years. The purpose of these fees is to fund improvements to the Pine Canyon/Jolon Road intersection. The applicant may be able to pay into the fund as an alternative to constructing the cumulative mitigation themselves, and according to CEQA case law, payment of fees to a program established to implement a required mitigation is adequate to reduce the associated project's contribution to the cumulative impact to a less-than-significant level. (Bryce Hori, personal communications, August 2004).

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		monitored throughout construction by the Planning and Building Inspection Department.		PBID		
	N-1.3	**Noise Impact N-1: Construction / PBID.** Equipment mobilization areas, water tanks, and equipment storage areas shall be placed in a central location as far from existing residences as feasible. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department.	• Applicant: place equipment mobilization areas, water tanks, and equipment storage areas as far from existing residences as possible • County staff: monitor and confirm above	Applicant PBID	During construction	
	N-2.1	**Noise Impact N-1: Operational / PBID.** The applicant shall design lot boundaries adjacent to existing agricultural operations so that a physical separation, such as a row of trees, wall or fence will be installed between new residences and existing agricultural uses, subject to the review and approval by the Monterey County Planning and Building Inspection Department through review of the project Landscape Plans (see Mitigation Measure AV-1.3, AV-1.5, AV-1.6, B-1.3 and B-1.5).	• Applicant: design per mitigation N-2.1 • County staff: review and approve above through review of the Landscape Plan	Applicant PBID	Prior to approval of Final Map	
	N-2.2	**Noise Impact N-1: Operational / PBID.** The applicant shall record documents for lots adjacent to existing agricultural operations and shall disclose that the transferred property may be subject to normal effects of agricultural operations such as dust, noise, pesticide use, and possible odors subject to the review and approval by the Monterey County Planning and Building Inspection Department.	• Applicant: record documents for lots adjacent to existing agricultural operations and disclose that the transferred property may be subject to effects of agricultural operations • County staff: review and approve above	Applicant PBID	Prior to approval of Final Map	

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	AQ-1.1	**Air Quality Impact AQ-1: Construction /PBID.** No more than 2.2 acres of grading or excavation and no more than 8.1 acres of earthmoving shall occur in one day. Dust control measures, as recommended by the Monterey Bay Unified Air Pollution Control District and required by State law, shall be implemented by the project applicant to ensure PM_{10} emissions do not exceed thresholds. Compliance with this measure shall be monitored throughout construction by the Planning and Building Inspection Department. These include: • Provide equipment and manpower for watering all exposed or disturbed earth surfaces at least twice daily. Increased watering frequency should be required whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible. • Cover stockpiles of debris, soil, sand or other materials that can be blown by the wind. As required by State law, trucks transporting fill material to and from the project site shall be covered. • Sweep mud and dust from construction areas and streets daily or as needed. • Minimize the area of land disturbed at any time. After clearing, grading or excavation is completed, landscape or cover those portions of the site immediately.	• Applicant: limit grading or excavation to no more than 2.2 acres and earthmoving to 8.1 acres in one day, implement dust control measures, and ensure that PM_{10} emissions do not exceed thresholds • County staff: monitor and confirm above	Applicant PBID	During construction	
	WS-1.1	**Water Supply Impact WS-1: Water Balance / EHD.** Subject to approval by the Monterey County Health Department, the project applicant shall pursue and secure commitments to utilize a minimum of 118,095 gallons per day of the tertiary treated wastewater as a substitute for existing groundwater-supplied agricultural irrigation water, landscape irrigation or other appropriate recycled water uses. This will also require a change in the Waste Discharge Requirements for the Little Bear Wastewater System to formally recognize it as a water recycling facility. It will also require review by the State Department of Health Services.	• Applicant: pursue and secure commitments to utilize tertiary treated wastewater • County staff: review and approve above	Applicant EHD	Prior to the use of treated water for any reclamation uses	

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	WS-1.2	**Water Supply Impact WS-1: Water Balance / WRA & EHD.** Design of the proposed storm water detention ponds shall include provisions to increase infiltration rates for runoff such that detention ponds function partially as percolation ponds, subject to the review of the Monterey County Health Department and Water Resources Agency.	• Applicant: include provisions to increase infiltration rates for runoff • County staff: review and approve above	Applicant EHD/WRA	Prior to approval of the grading plans for the stormwater detention basins	
	WS-1.3	**Water Supply Impact WS-1: Water Balance / EHD.** The proposed effluent disposal system shall be operated to maximize infiltration of treated effluent, until such time as commitments are secured to divert the treated water for appropriate reuse for agricultural irrigation, landscape irrigation, or other approved water recycling uses.	• Applicant: maximize infiltration of treated effluent • County staff: review and approve above	Applicant EHD	Prior to approval of the final map	
	WS-1.4	**Water Supply Impact WS-1: Water Balance / PBID.** Design of the proposed residential portion of the project shall maximize the use of drought-tolerant, native, and fire resistant landscaping and each residence shall use low-flow fixtures, per the requirements of County Code 3539, as amended.	• Applicant: maximize use of drought-tolerant, native, and fire resistant landscaping • County staff: review and approve above	Applicant PBID	Prior to approval of the final map for a specific phase of the project	
	WW-1.1	**Wastewater and Groundwater Quality Impact WW-1: Wastewater Treatment Operations / PBID.** A design-level geotechnical investigation shall be performed to determine the subsurface conditions at the proposed sheet pile and tank locations. The investigation shall include a minimum of two to three boreholes drilled to a minimum of twenty-five feet below existing ground surface. Soils will be logged in accordance with the Unified Soil Classification System and samples will be collected at least every five feet and at changes in composition for logging and laboratory testing. Results of the field and laboratory investigation shall be used to provide geotechnical design recommendations for sheet pile construction, excavation stability during tank construction, shoring, excavation safety, bearing capacity for tank foundations, lateral pressures for tank sidewalls and sheet piles, required depth of embedment for sheet piles, and any other measures required to preserve the structural integrity of the adjacent wastewater ponds and facilities. Methods to control groundwater, if present, shall also be provided. Recommendations derived from this investigation shall be implemented during planning and construction of the wastewater system improvements.	• Applicant/Engineer: perform geotechnical investigation, provide geotechnical design recommendations and methods to control groundwater, and implements recommendations • County staff: review and approve above	Applicant & Engineer PBID	Prior to issuance of a grading and building permit for the changes to the wastewater treatment plant	

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	WW-2.1	**Wastewater and Groundwater Quality Impact WW-2: Treatment Plant Maintenance and Emergency Response / PWD.** Prior to approval of the planned upgrade and expansion of the Little Bear wastewater treatment plant, a legal (recorded) easement shall be obtained in favor of the Little Bear Water Company which provides for the construction and maintenance of an all-weather access road from Royal Drive to the treatment plant.	• Applicant: obtain legal easement in favor of the Little Bear Water Company • County staff: review and approve above	Applicant PWD	Prior to approval of the final map	
	WW-3.1	**Wastewater and Groundwater Quality Impact WW-3: Rapid Infiltration Basins' Operation / EHD.** As a condition of approval, the applicant shall implement a soil-groundwater and disposal field-performance monitoring program for the RIBs. The purpose of the monitoring program will be to provide an on-going accounting of the actual amount of treated water applied to the RIBs, along with observations of the response of the soils and groundwater over time. The results of the monitoring will provide the basis for evaluating the demonstrated infiltration and deep percolation of the disposal field area, for use in determining the feasibility of increasing the rated discharge capacity. The details of the proposed monitoring program and evaluation of results shall be subject to review and approval by the RWQCB and the Monterey County Health Department. Until such time as sufficient monitoring data have been collected and the capacity evaluation reviewed and accepted, the discharge to the 1.6-acre RIBs disposal field shall be limited to a rate of 2.0 gpd per square foot (weekly average).	• Applicant: implement a soil-groundwater and disposal field-performance monitoring program for the RIBs • County staff/RWQCB: review and approve above	Applicant RWQCB/EHD	Prior to issuance of a grading permit for the RIBs	
	WW-4.1	**Wastewater and Groundwater Quality Impact WW-4: Water Reuse / EHD.** The proposed wastewater treatment plans satisfy State Health Department Title 22 criteria for unrestricted crop and landscape irrigation, including irrigation of edible food crops where water comes in contact with edible portions of the crop. Locations and users of the treated wastewater must be identified and long-term agreements with the growers that will use the reclaimed water must be secured. Monterey County Health Department has more stringent requirements regarding irrigation of edible food crops with disinfected tertiary recycled water (per CC, Title 22, Section 60301.230). To satisfy Monterey County Health Department, the following measures would need to be completed in order to irrigate edible food crops with disinfected tertiary recycled water:	• Applicant: satisfy State Health Department Title 22 criteria, identify locations and users of the treated wastewater, and completed identified measures • County staff: approve above	Applicant RWQCB	Prior to approval for the use of treated water for any reclamation uses	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
		1. Potential locations and users of the treated wastewater must be identified and long-term agreements with the growers or land owners that will use the reclaimed water must be secured. 2. The amount of area(s) available for recycling uses should be determined. This information is required for review and approval by the Regional Water Quality Control Board per the Monterey County Health Department. 3. A pathogen monitoring program similar to that conducted by the Monterey Regional Water Pollution Control Agency at the Monterey Regional Treatment Plant in Marina, California must be implemented. The monitoring program shall be developed under consultation with Monterey County Health Department, and may include monitoring of cyclospora, cryptosporidium, giardia, and E. coli 0157-H7. Alternatively, subject to County approval, monitoring may be required only of the indicator organism Clostridium. The County currently only requires the Monterey Regional Water Pollution Control Agency to monitor for Clostridium perfringens spores, in addition to fecal and total coliform at the Monterey Regional Treatment Plant in Marina. 4. A less extensive monitoring program may be approved if the reclaimed water is applied via subsurface irrigation. Under these circumstances an irrigation design plan must be submitted for review and approval by the Regional Water Quality Control Board per the Monterey County Health Department. 5. To avoid the stringent requirements (and high cost) of pathogen monitoring and/or subsurface irrigation, areas for irrigation of non-food crops could be identified. However, if non-food crop sites are identified, secure agreements will need to be secured and the disposal area will need to be approved by Monterey County Health Department.				
	WW-5.1	**Wastewater and Groundwater Quality Impact WW-5: Sludge Handling & Disposal / EHD.** As a condition of approval, the design, construction, and operation of the proposed wastewater collection, treatment, and disposal facilities will be conducted in accordance with all applicable state and county requirements, including appropriate sludge handling and disposal. If the	• Applicant: comply with all applicable state and county requirements • County staff: confirm above	Applicant EHD	Ongoing	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
		sludge produced by the Little Bear Treatment Plant is sent to a landfill, it shall be disposed of at Marina Regional Landfill[3], or another approved facility that handles sludge materials.				
	WW-7.1	**Wastewater and Groundwater Quality Impact WW-7: Wastewater Storage Design / PBID.** Vegetative planting shall be used to screen the rapid infiltration basins and reduce their visual impacts upon adjacent residential lots.	• Applicant: install fencing around the RIBs, plant screening vegetation, include signage indicating that the basins contain treated wastewater and access is prohibited • County staff: review and approve above	Applicant PBID	Prior to issuance of a grading permit for the RIBs	
	WW-8.1	**Wastewater and Groundwater Quality Impact WW-8: Wastewater Storage Design / PBID.** Design and operation of the proposed wastewater facilities will be conducted in accordance with all applicable state and county requirements, including appropriate sludge handling and disposal to minimize odor.	• Applicant: design plants that plant vegetation to screen RIBs • County staff: review and approve above	Applicant PBID	Prior to issuance of grading permit for the RIBs	
	WW-9.1	**Wastewater and Groundwater Quality Impact WW-9: Wastewater Treatment Storage and Odors / EHD & PWD.** Though there is no specific control process to ensure total nitrogen removal in SBRs, these systems can be designed to augment nitrification and denitrification. Therefore, the proposed SBR should be designed to promote nitrification and denitrification in order to adequately decrease nitrogen concentrations in the effluent. Per the recommendation of the applicant's engineer, the operation of the RIBs should be planned to maximize nitrogen removal through adjustment of wetting and drying cycles. Monthly monitoring of the reclaimed wastewater should be performed for total Kjeldahl nitrogen and nitrate-nitrogen. In addition, quarterly groundwater monitoring in the immediate vicinity of the irrigation sites should be performed. Operation of the RIBs for nitrogen removal should be checked and adjusted with the use of suction lysimeters or other comparable methods to determine nitrogen levels in the unsaturated zone immediately beneath the RIBs. The monitoring data should be submitted to the RWQCB and County Environmental Health Department for review as part of the self-monitoring reports prepared by	• Applicant: design and operate wastewater facilities in accordance with all applicable state and county requirements • County staff: review and approve above	Applicant EHD/PWD	Prior to issuance of grading permit for construction	

[3] *This landfill has a minimum solids content of 20% for primary sludge and 15% for secondary treatment sludge (Shedden, personal communication, 1997).*

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		the treatment plant. Finally, the applicant and the LBWC should continue to pursue and secure commitments from land owners for future irrigation-reuse of the treated water as an additional means of reducing the amount of nitrogen loading to the groundwater basin.				
	WW-10.1	**Wastewater and Groundwater Quality Impact WW-10: Treated Wastewater Disposal / EHD.** As a condition of approval, the applicant shall acquire an easement or other suitable legal instrument from the neighboring property(ies) providing a buffer area around (down-gradient of) the RIBs which would preclude the installation of new water wells that could be affected by the wastewater disposal system. The down-gradient distance from the RIBs shall be equal to the estimated 2-yr groundwater travel time from the point of discharge which is estimated to be about 565 feet."	• Applicant/Engineer: design SBR to promote nitrification and denitrification, plan RIBs to maximize nitrogen removal, monitor reclaimed wastewater monthly, monitor groundwater quarterly, check and adjust operation of the RIBs, submit monitoring data to the RWQCB and EHD, and pursue and secure commitments for future irrigation-reuse of the treated water • County staff: review and approve above	Applicant & Engineer EHD	Prior to issuance of grading permit for the RIBs	
	WW-11.1	**Wastewater and Groundwater Quality Impact WW-11: Wastewater Disposal / EHD & WRA.**	• Applicant: acquire an easement or other suitable legal instrument providing a buffer area around the RIBs • County staff: review and approve above	Applicant EHD/WRA	Prior to approval of the final map	
	PS-1.1	**Public Services Impact PS -1: Fire Protection and Emergency Response / CA Department of Forestry and Fire Protection and South Monterey County Fire Protection District.** The project tentative map shall be subject to the review and approval of the California Department of Forestry and Fire Protection and South Monterey County Fire Protection District in order to insure that all established standards regarding access, water supply, fuel break areas, and other required fire protection design features are included. Require the project to fund its fair share of costs for additional fire apparatus to maintain existing levels of service.	• Applicant: include established standards regarding access, water supply, fuel break areas, and other required fire protection design features in the tentative map and require that the project fund its fair share of costs for additional fire apparatus • County staff: review and approve project tentative map	Applicant California Department of Forestry and Fire Protection/ South Monterey	Prior to approval of the Final Map	

Permit Cond. Number	*Mitiga-tion Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
				County Fire Protection District		
	PS-2.1	**Public Services Impact PS -2: Police Services / County Sheriff.** Prior to approval of the Final Map for any phase, the Lighting Plans shall be reviewed and approved by the County Sheriff to confirm that adequate security lighting, although muted to conform to the rural residential setting, is incorporated appropriately into the project design to facilitate patrol performance.	• Applicant: incorporate adequate security lighting into project design • County staff: review and approve the Lighting Plan	Applicant County Sheriff	Prior to approval of the final map for any phase	
	PS-2.2	**Public Services Impact PS -2: Police Services / County Sheriff.** Prior to approval of the Final Map for any phase, the Landscaping Plans shall be reviewed and approved by the County Sheriff to confirm that the proposed landscaping does not unacceptably limit visibility of homes for patrol purposes and residential security.	• Applicant: ensure that proposed landscaping does not unacceptably limit visibility of homes • County staff: review and approve Landscaping Plan	Applicant & Landscape Architect County Sheriff	Prior to approval of the final map for any phase	
	PS-2.3	**Public Services Impact PS -2: Police Services / County Sheriff.** Numbering of homes shall be consistent and shall be at least four inches in size and provide a light-on-dark or dark-on-light contrast for visibility. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.	• Applicant: number homes consistently and make sure they are visible • County staff: confirm above	Applicant County Sheriff	Prior to issuance of each certificate of occupancy	
	PS-2.4	**Public Services Impact PS -2: Police Services / County Sheriff.** Doors surrounded by glass should be equipped with double deadbolts. Single-cylinder deadbolts should be placed on all other doors. Sliding glass doors should have auxiliary locks and window construction should also incorporate a secondary auxiliary locking device. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.	• Applicant: equip doors with either single or double deadbolts, sliding glass doors with auxiliary locks and windows with secondary auxiliary locking devices • County staff: confirm above	Applicant County Sheriff	Prior to issuance of each certificate of occupancy	
	PS-2.5	**Public Services Impact PS -2: Police Services / County Sheriff.** Residents who intend to incorporate alarm systems into their homes shall, from the outset, be advised of Sheriff's Department and Communication Department policies and ask to consult with the representatives of these two departments prior to installation. According to County ordinance, alarm systems must be registered with the Sheriff's Department prior to	• Applicant: inform residents who intend to incorporate alarm systems into their homes to consult with the Sheriff's Department and Communication Department • County staff: confirm above	Applicant County Sheriff	Prior to installation and prior to issuance of each certificate of occupancy	

Permit Cond. Number	*Mitigation Measure Number*	*Impact Addressed/Responsible Land Use Department. Final Mitigation*	*Compliance or Monitoring Actions to be performed. Where applicable, a certified professional is required for action to be accepted.*	*Responsible Party for Compliance and County Verification*	*Timing*	*Verification of Compliance (name/date)*
		installation. The County Sheriff shall confirm compliance with this mitigation prior to issuance of each certificate of occupancy for a home.				
	PS-2.6	**Public Services Impact PS -2: Police Services / County Sheriff.** The applicant shall pay a fair share development fees to the County Sheriff's office prior to approval of the Final Map for each phase that will be used toward the cost of an _ additional deputies and equipment to serve the area.	• Applicant: pay a fair share development fees to the County Sheriff's office • County staff: confirm above	Applicant County Sheriff	Prior to approval of the final map for each phase	
	PS-3.1	**Public Services Impact PS -3: Schools / King City Union Elementary School and King City Joint Union High School Districts.** Prior to issuance of the first building permit for the project, the project applicant shall mitigate the potential school impact of proposed residential development by paying the King City Union Elementary School and the King City Joint Union High School Districts' adopted fees in effect at the time of development and an additional fair share development, if applicable, to fund its fair share of school improvements that are not already paid for by the adopted fees for residential development.	• Applicant: mitigate potential school impact by paying the King City Union Elementary School and the King City Joint Union School District • County staff: confirm above	Applicant PBID	Prior to issuance of the first building permit	

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APPENDIX A

Tavernetti Subdivision Hydrology Report
September 4, 2002

TAVERNETTI SUBDIVISION
HYDROLOGY REPORT

Prepared by:

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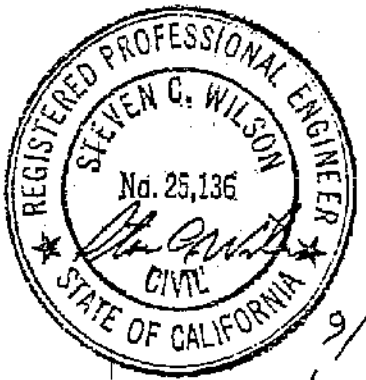


9/6/2002

EXP- 12/31/2005

September 4, 2002

INTRODUCTION

The proposed Tavernetti Subdivision is located in Monterey County, California, approximately 2.5 miles southwest of King City, north of Pine Canyon Road, and is specifically situated in portions of Sections 13 and 24 of Township 20 South, Range 7 East, of the Mount Diablo Meridian, and in portions of Section 18 of Township 20 South, Range 8 East, of the Mount Diablo Meridian. The Assessor's Parcel Numbers of the subject site are 221-161-017, 420-063-044, 420-063-045, 420-063-046, 420-063-054 and 420-063-055.

The subdivision boundaries are represented in Figure 1a and 1b with a heavy broken line comprising an area of approximately 402 acres. The shaded portions represent the respective pre-development and post-development tributary drainage areas, corresponding to an area of approximately 250 acres.

SITE SETTING

The site is situated in the easterly foothills of the Santa Lucia Range. The site drains generally from west to east. The lowest elevation of the site is approximately 385 feet NGVD at the entrance road at the easterly boundary of the subdivision. The highest elevation of the site is approximately 1,350 feet NGVD at the top of the hills to the west. The highest elevation of the watershed is approximately 2,000 feet NGVD at the top of the hills to the west. The site varies from mildly sloping foothills at the east end of the project to moderate to steep slopes at the west. The majority of the home sites of this proposed subdivision are concentrated within one mile northwesterly of Pine Canyon road in the mild to moderately sloping foothills. The project watershed extends approximately a mile westerly of the western project boundary.

SOIL TYPES

The native soils on the subject property and within the watershed area are classified in the United States Department of Agriculture Soil Survey of Monterey County, California. Figure 2 shows the distribution of soil groups within the watershed. Soil types found within the watershed are as follows:

"SfF—Santa Lucia shaly clay loam, 30 to 50 percent slopes." These are well-drained shaly clay loams on uplands underlain by hard shale of the Monterey Formation. Hydrologic soil group "C".

"CaE—Chamise shaly loam, 15 to 30 percent slopes." Same as CaD except for ground slope. Hydrologic soil group "B".

"Rc—Rock Outcrop-Xerorthents Association." These are rock outcrop and very shallow soils. The soil group is not rated, but for this report, has been conservatively classified as hydrologic soil group "D".

GROUND COVER

Existing ground cover at the project site and within the watershed has been determined from site visits and recently produced aerial photographs of the site. There are generally three dominant types of soil cover within the project site and watershed.

Rangeland: Cattle currently graze on the project site. The ground cover is mainly annual grasses, remnant perennial grasses, and scattered oaks. All of the rangeland observed was in good condition with extensive plant cover. With respect to the runoff potential on such areas, it should be noted that after development of the site, rangelands will cease to be grazed and runoff from such areas will decrease. Therefore, some runoff estimates will be slightly conservative.

Chaparral: A dense community of scrub plants, normally permanent, that is dominated by evergreen shrubs, sage, or dwarf trees. Chaparral cover generally occurs on south-facing slopes.

Oak Forest: There are extensive areas of oak forests on the site. These generally are in good condition, with significant amounts of litter, humus, and plant life on the ground surface below. Oak Forest cover generally occurs on north-facing slopes.

PERCOLATION

Personal inspection of the subject property has disclosed the presence of diatomaceous shale, a bedrock material with very high percolation rate. It also indicated little evidence of surface runoff in the valleys, as would be revealed by the presence of water channels.

A percolation study of the site conducted by Haro, Kasunich & Associates, Inc. in October 2001 found percolation rates to be between 6.8 and 21.4 inches per hour. With a mean annual precipitation of approximately 12 inches per year, surface runoff is an infrequent event. Despite the infrequency, surface runoff must be taken into account because water erosion is still the most predominant natural erosion feature in this area.

SITE WATERSHEDS

The drainage basin consists of 12 separate sub-areas. The sub-area boundaries have been chosen to facilitate the design of the project's storm water system and to aid with the determination of runoff characteristics. The existing drainage path crosses the project boundary and sheet flows northeasterly across adjacent agricultural land toward Jolon Road at the lower end of Pine Canyon Creek (see Figure 3). No signs of scouring or erosion are evident along this drainage path, indicating minimal or

occasional flow consistent with the low precipitation rate and the high percolation rate observed throughout the site.

Storm water from the project area will be collected onsite and conveyed through pipes under the subdivision entrance at Pine Canyon Road to an outlet structure into Pine Canyon Creek. Present plans are to use the existing bridge abutments of the former Jolon Road at the crossing of Pine Canyon Creek as the location of the storm drain outlet.

ESTIMATED RUNOFF

Runoff flow rates (Q) in cubic feet per second for a 10 percent (10-year) and 1 percent (100-year) storm are estimated using the Soil Conservation Service (SCS) method which accounts for the hydrologic soil-cover complex in the watershed. The complex is the combination of the hydrologic soil group, ground cover, and land use quantified in terms of the site runoff curve number, or CN. The CN indicates the runoff potential of a complex during periods when the soil is not frozen; the higher the CN, the higher the potential, with impervious and water surfaces assigned a CN of 100.

Isopluvial maps from the NOAA Atlas 2, Volume XI, show a twenty-four hour rainfall precipitation rates in this region of 3.5 and 4.5 inches for the 10-year and 100-year event, respectively.

References used in the calculation of flow rates are the "*National Engineering Handbook*, Sect. 4 - Hydrology"; "*Engineering Field Manual*, Chapter 2: Estimation Runoff and Peak Discharges"; and "*Urban Hydrology for Small Watersheds*, Technical Release No. 55". All three references are included in the United States Department of Agriculture, Soil Conservation Service Manual.

It should be noted that the majority of the project, as described by the SCS criteria, is in a Type I storm distribution area; a portion of the project is in a Type IA storm distribution area. Since SCS methods do not provide for a smooth transition between these two types of storm distribution, it was assumed that the entire project is located in a Type I area. This would result in a more conservative projected peak runoff since peak runoffs from a Type I storm for this particular location is about two-and-one-half times greater than that for a Type IA storm.

DRAINAGE IMPACTS DUE TO SUBDIVISION

IMPERVIOUS AREA

Development of this site will add impervious surfaces consisting of roads, driveways, sidewalks, patios, and roofs. Five thousand square feet (5,000 SF) of new impervious area were figured for each of the lots greater than 10,000 SF and 2,000 square feet for the smaller lots (less than 10,000 SF). The area for the streets and sidewalks varied in widths from 50 feet in densely populated areas to 25 feet for one-way roads. With these criteria, the construction of this subdivision will add approximately 56 acres of impervious area to the total watershed of 250 acres, approximately 22.4% of the total watershed area.

TIME OF CONCENTRATION

The time of concentration (t_c) is the period of time water takes to flow from the farthest reach of a watershed to the outlet of the watershed. It is inversely related to the peak flow quantity; a reduction in the time of concentration correlates to an increase in the peak flow quantity.

It was determined that the pre-development time of concentration is 30 minutes. This corresponds to peak flows of 50 cubic feet per second (cfs) for a 10-year and 121 cfs for a 100-year storm. To minimize the increase in the peak flow of the subdivision, the site was divided into three sub-areas. The post-development runoff for sub-area 1 (approximately 1.5% of the total area) will be discharged onsite through an energy dissipater into a natural swale that drains to the northerly boundary of the subdivision. The runoff for sub-area 3 and 4, with a combined area of 117 acres (46.5%), will be directed into Ponds X (t_c=8 minutes) and Y (t_c=14.5 minutes), respectively. The runoff for the remaining areas will be collected through a storm drain system and detained in a 68,800 CF capacity detention pond (Pond Z); this correlates to a t_c=18 minutes. Detained runoff from Pond X and Y will also be discharge into Pond Z through the storm drain system at a rate of no more than 5 cfs. Finally, Pond Z will discharge into Pine Canyon Creek at a metered rate equal to the pre-development discharge rate of 50 cfs.

Table 1. PEAK FLOWS

	10-YEAR	100-YEAR
PRE-DEVELOPMENT	50 cfs	121 cfs
POST-DEVELOPMENT	106 cfs	169 cfs

Table 1 shows the effect of the development to the flow rates--the 10- and 100-year flow rates increased by 56 and 48 cubic feet per second, respectively. Without storm water detention, however, post-development 10-year flow will exceed pre-development flows by 110.5 cubic feet per second from 50 to 160.5 cubic feet per second. The flow

rate for the 100-year event will increase by 155.2 cubic feet per second, from 121 to 276.2 cubic feet per second. These increases, however, will not cause a significant impact to the flow at Pine Canyon Creek as shown on Figure 6. Pine Canyon Creek has a watershed of 15.6 square miles (about 10,000 acres) with t_c=223 minutes. During a large rainfall event, the peak flow from this project will have drained into the Salinas River well before the peak flow for Pine Canyon Creek arrives. Extending the discharge period into Pine Canyon Creek through the use of detention ponds in this proposed subdivision will distribute the flow into the creek over more time and will increase the quantity of high water in the channel of Pine Canyon Creek.

DETENTION PONDS

There are three detention ponds within the project site. Ponds X and Y serve drainage sub-areas 3 and 4, respectively, and each will be discharged at a metered rate of 5 cfs. Pond Z, located near the subdivision entrance adjacent to the percolation fields, will detain all runoffs generated from the rest of the site, in addition to the discharges from Ponds X and Y. Pond Z will be discharged into Pine Canyon Creek at a metered rate of 50 cfs, equal to the pre-development discharge rate. Consequently, Pond Z will require a detention volume capacity of 57,600 cubic feet for a 100-year storm event. Table 2 summarizes the volume capacity and requirements for the detention ponds.

Table 2. POND CAPACITY AND DETENTION VOLUMES

	POND X	POND Y	POND Z
POND CAPACITY	37,760 CF	85,690 CF	68,800 CF
REQUIRED 10-YEAR DETENTION VOLUME	3,800 CF	15,600 CF	18,800 CF
REQUIRED 100-YEAR DETENTION VOLUME	9,900 CF	29,250 CF	57,600 CF

WATERSHED OUTFALLS

Storm runoff will be collected onsite and conveyed through a proposed storm drain system exiting under the subdivision main entrance and Pine Canyon Road to an outlet structure at Pine Canyon Creek, approximately 2,000 feet upstream from the confluence of Pine Canyon Creek and the Salinas River. The outfall structure will be designed to dissipate the energy of the flow and minimize erosion at Pine Canyon Creek. (See Figure 3.)

SILT AND GREASE TRAPS

Oil and grease traps should be provided in the design. Traps placed in the main stream of drainage facilities will cleanse themselves of any contaminants when high periodic flows occur. In order to prevent this undesirable self-cleaning, grease and oil traps should be placed out of the main stream of the storm flow. Low flows, especially the first runoff from a storm, contain the most contaminants, and these flows can be diverted to a grease trap via a weir in the main storm drain line. The weir will allow the

high flows to pass through without flushing the contaminants out, but will divert all low flows through the trap. Periodic maintenance is required to keep the oil and sediment traps functional. The homeowners' association or other responsible entity should be required to maintain the drainage facilities. Inspections and maintenance should occur at least annually in late summer.

Table 3. Summary of Pre- and Post-development Storm Water Drainage

Sub-area	Total Area (acre)	Dev't. Area (acre)	Pre-dev't. CN	Post-dev't. CN		Total Area (acre)	Dev't. Area (acre)	Pre-dev't. CN	Post-dev't. CN	10-Yr Peak Flow (cfs)		100-Yr Peak Flow (cfs)	
										Calculated	Design	Calculated	Design
1	3.94	2.56	60.2	84.8	N/A	3.94	2.56	60.2	84.8		0.0 [1]		0.0 [1]
3	37.33	0.69	68.5	69.1	X	37.33	0.69	68.5	69.1		19.4 [2]		38.5 [2]
4	79.60	7.29	69.7	72.3	Y	79.60	7.29	69.7	72.3		45.4 [3]		79.0 [3]
2	24.60	4.07	66.6	71.8	STORMDRAIN SYSTEM (POND Z)								
5	15.08	9.84	60.1	84.8									
6	13.08	6.00	60.5	77.7						49.7		121.2	
7	20.49	4.27	62.7	70.0									
8	18.30	4.56	60.7	70.0		130.33	45.73	63.5	74.8		95.7		158.7
9	21.02	6.03	60.4	71.2									
10	6.67	4.25	59.5	84.0									
11	7.74	4.71	58.0	82.3									
12	3.37	2.01	59.5	82.4									
TOTAL	251.19	56.27				251.19	56.27			49.7	105.7	121.2	158.7
AVERAGE			66.2	73.3		METERED DISCHARGE RATE					49.7 [4]		49.7 [4]

[1] Sub-area 1 drains on-site through an energy dissipater into a natural swale that drains to the northerly boundary of the subdivision.

[2] Pond X drains into Pond Z at 5 cfs

[3] Pond Y drains into Pond Z at 5 cfs

[4] Post-development discharge will be metered to equal pre-development 10-year peak rates

CONCLUSION

We believe that the proposed project will not pose any significant impact to the affected offsite areas, specifically to the Pine Canyon Creek and the Salinas River. Although the post-development runoff exceeds that of the pre-development rates, runoff discharge into Pine Canyon Creek will be metered to equal that of the existing flow rates. In addition, this flow will have discharged into the Salinas River well before the peak flow of the Pine Canyon Creek minimizing the possibility of an overflow due to the increase runoff from the development.

FIGURE 1a. HYDROLOGIC SUBAREA MAP – PRE-DEVELOPMENT

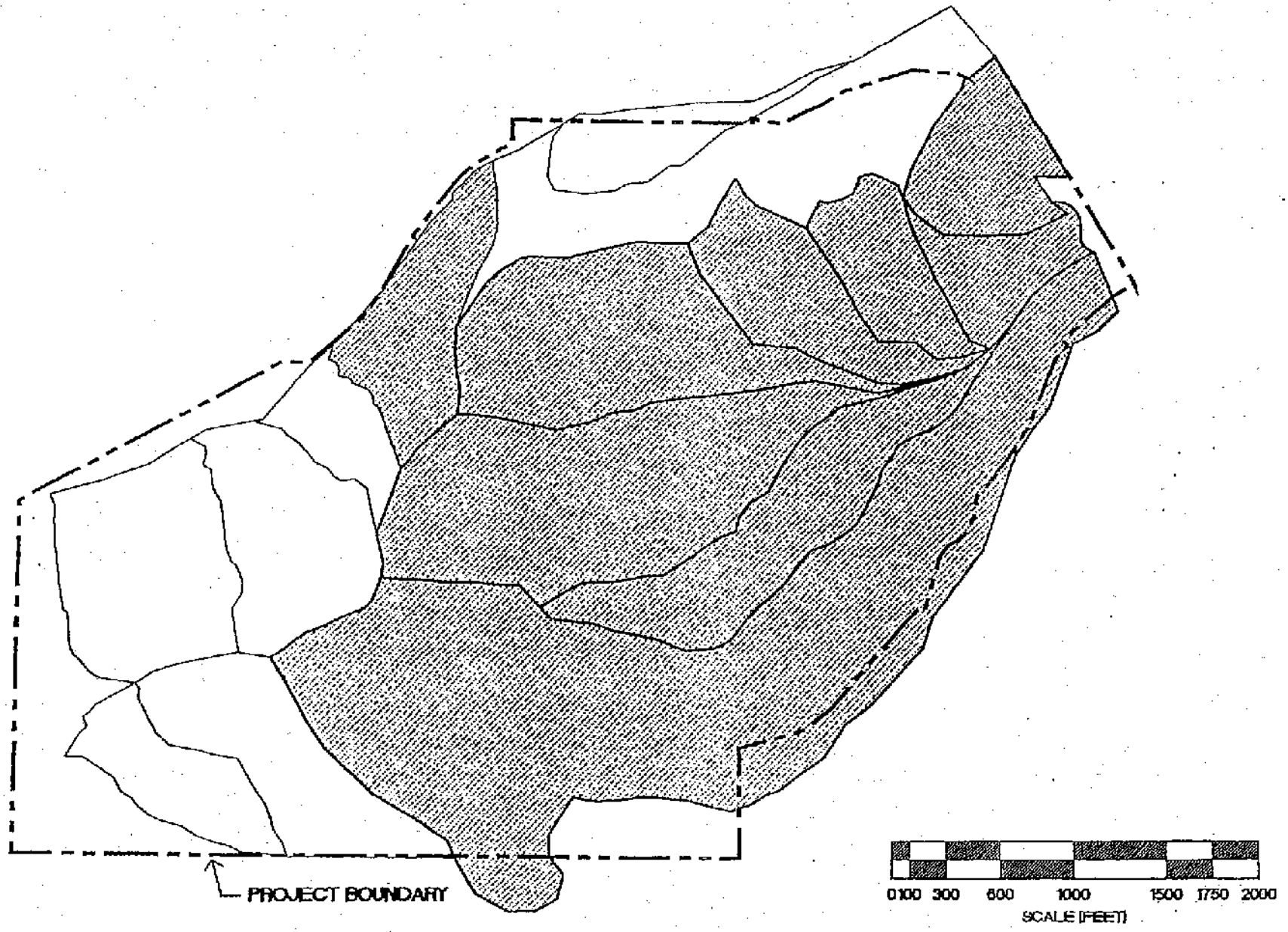


FIGURE 1b. HYDROLOGIC SUBAREA MAP - POST-DEVELOPMENT

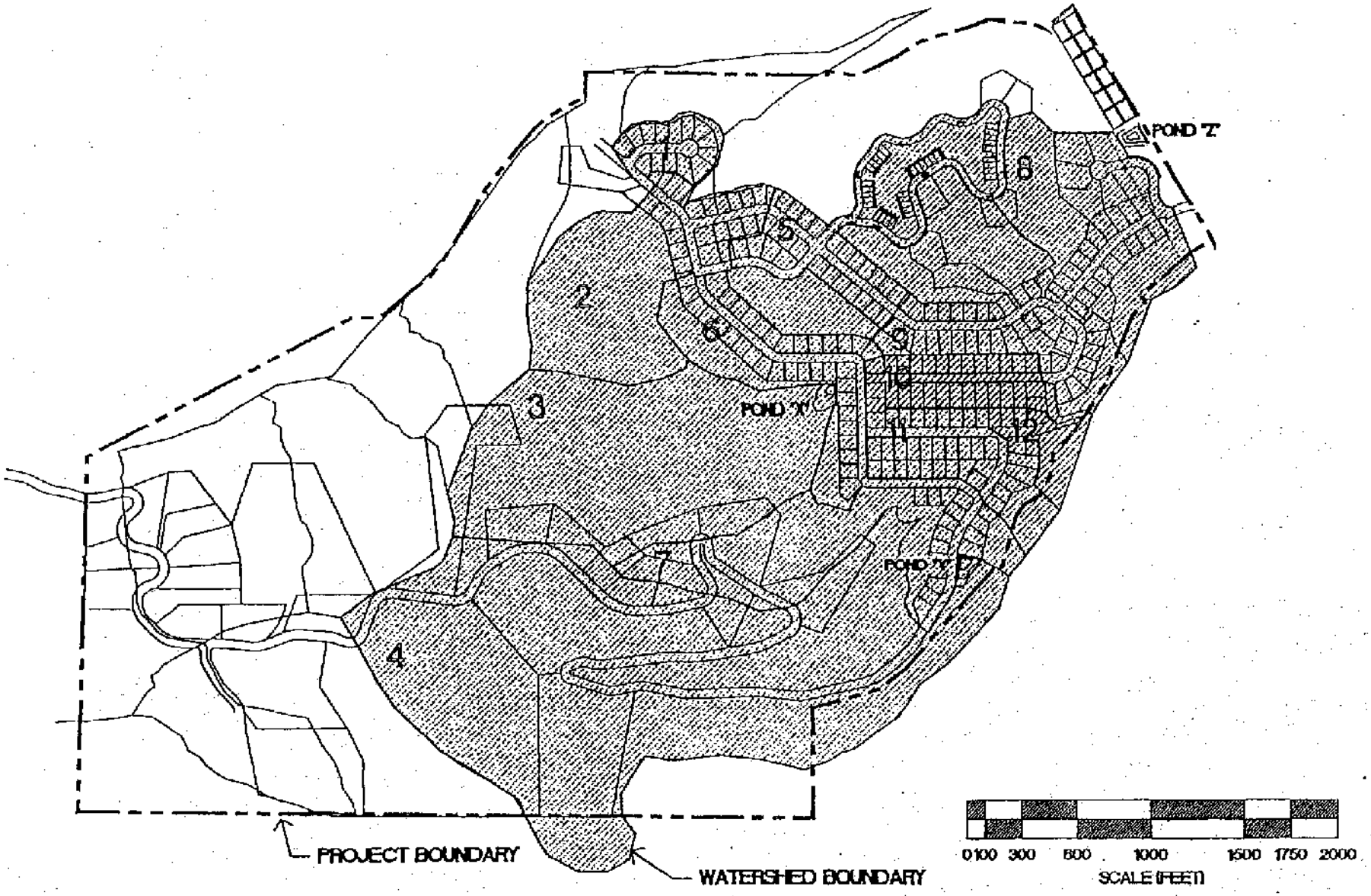


Figure 4: POST DEVELOPMENT 100-YR HYDROGRAPH

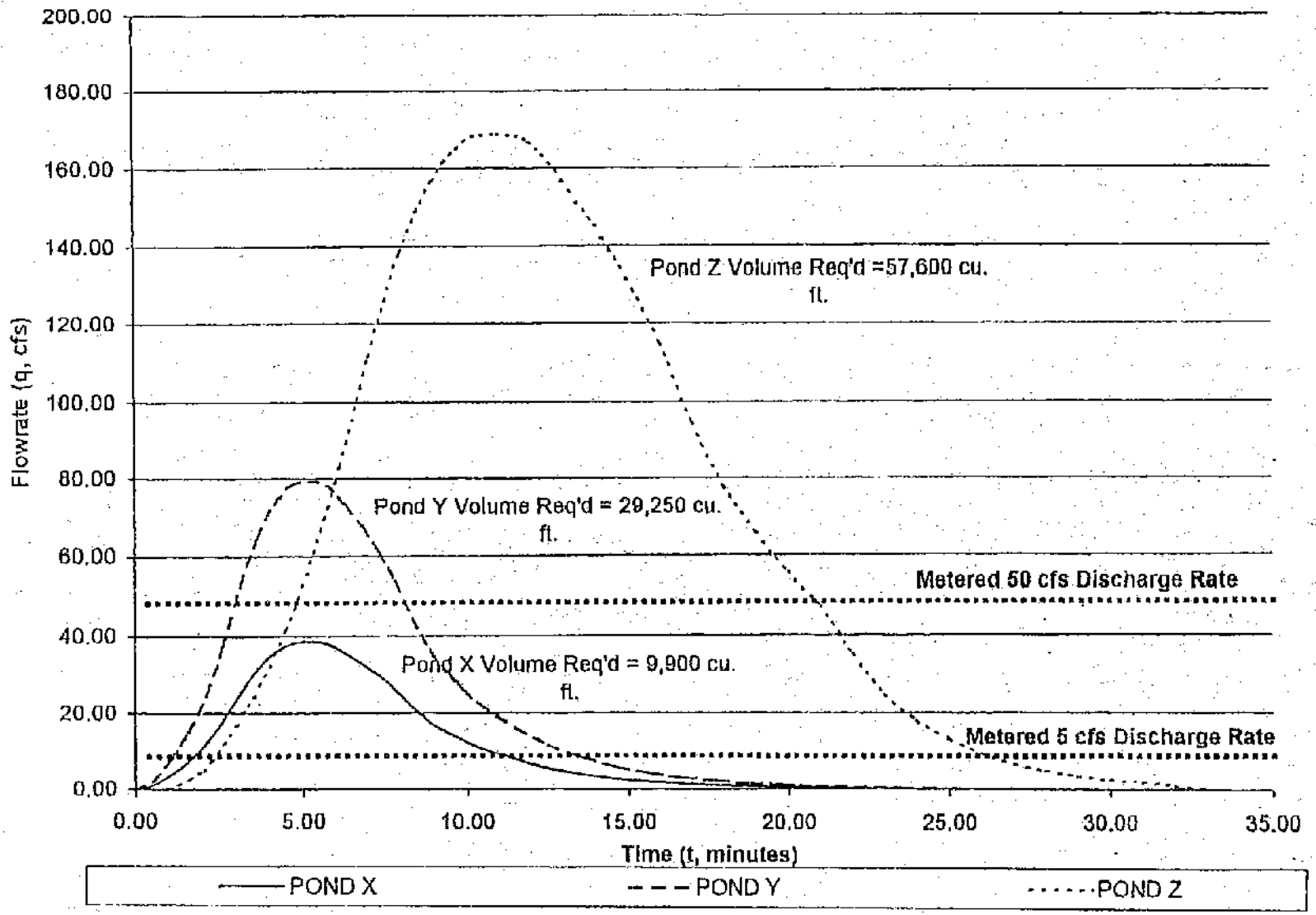


FIGURE 2. SOIL GROUPS WITHIN THE PROJECT WATERSHED

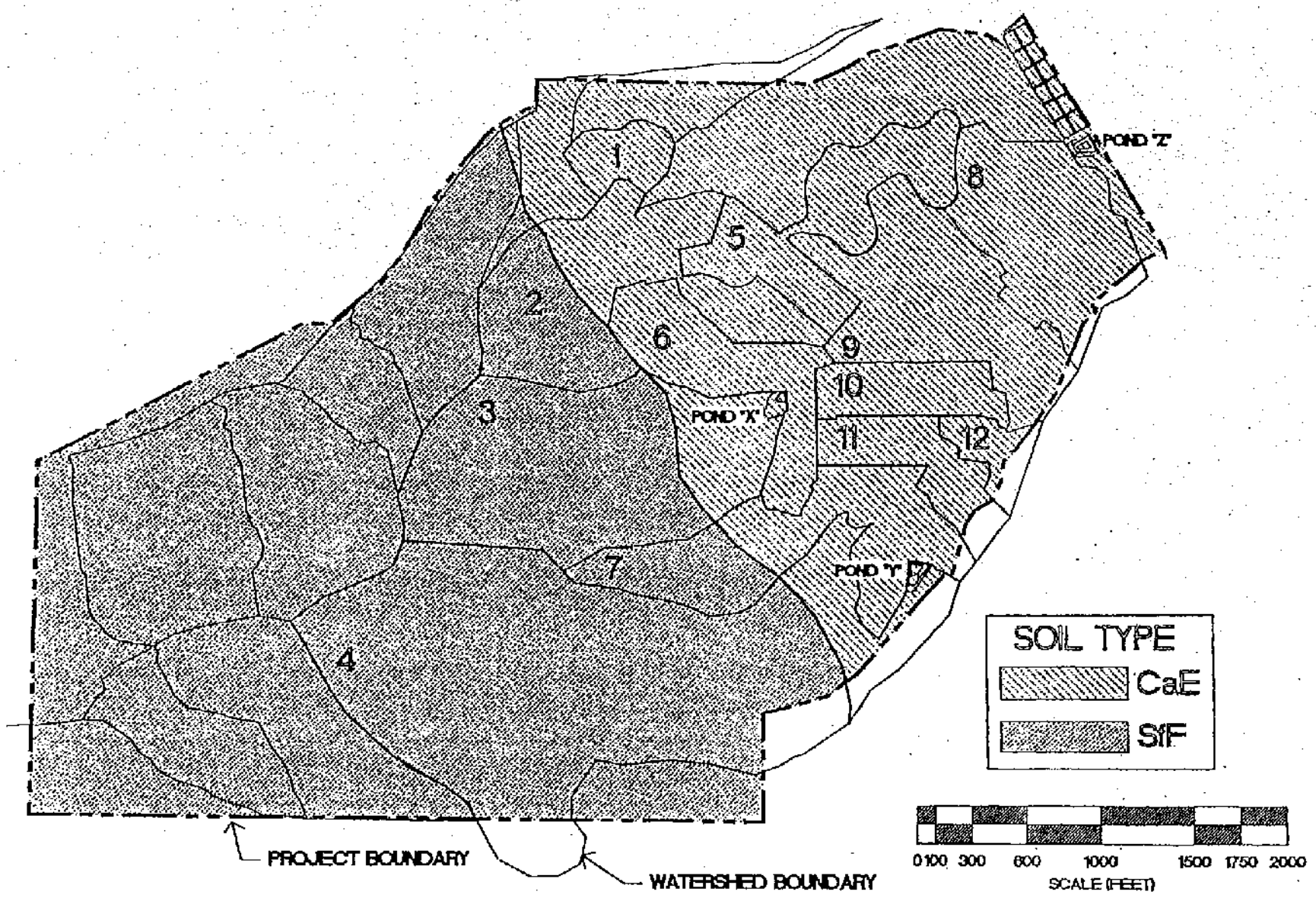


FIGURE 3. PROPOSED STORM DRAIN SYSTEM

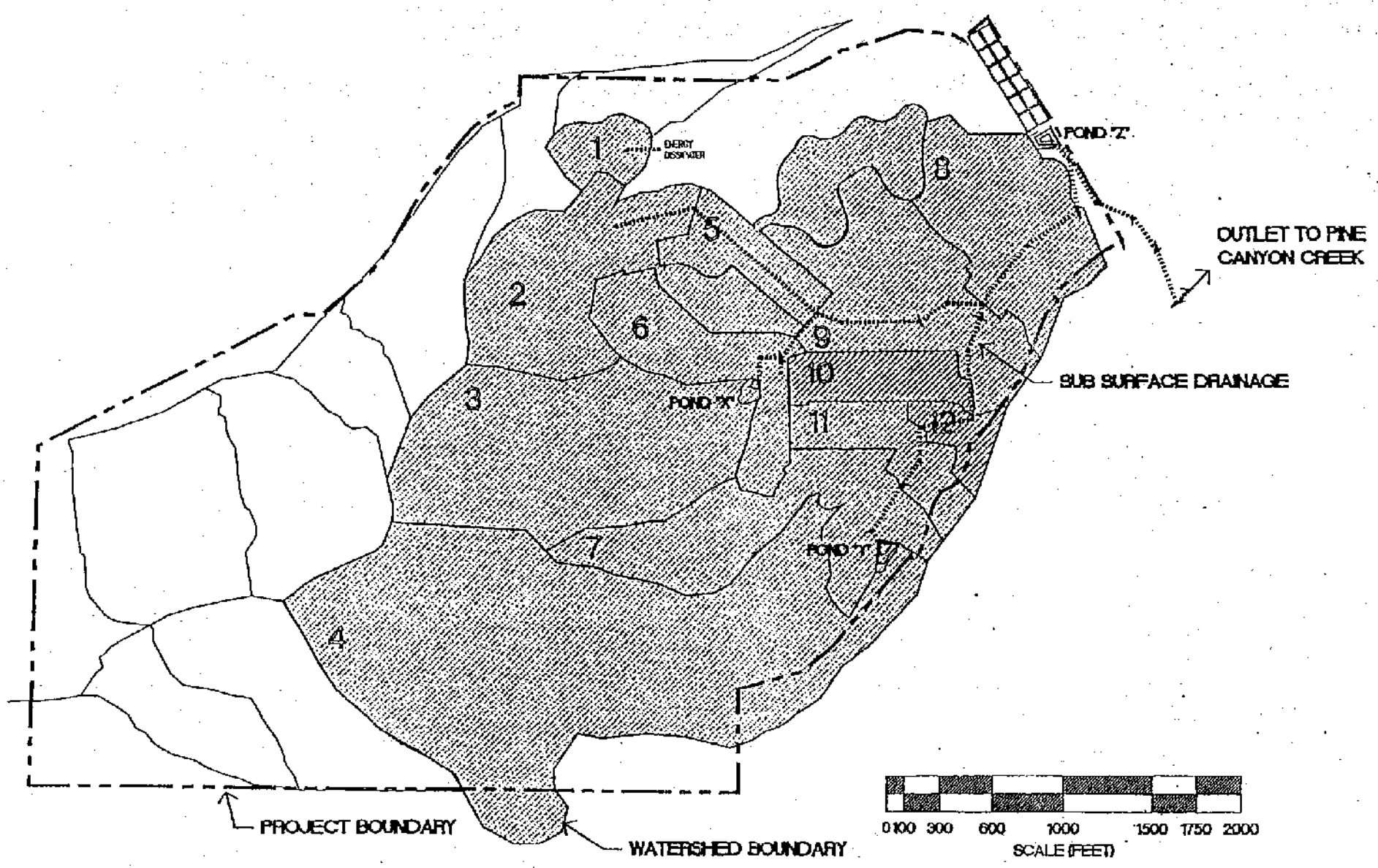
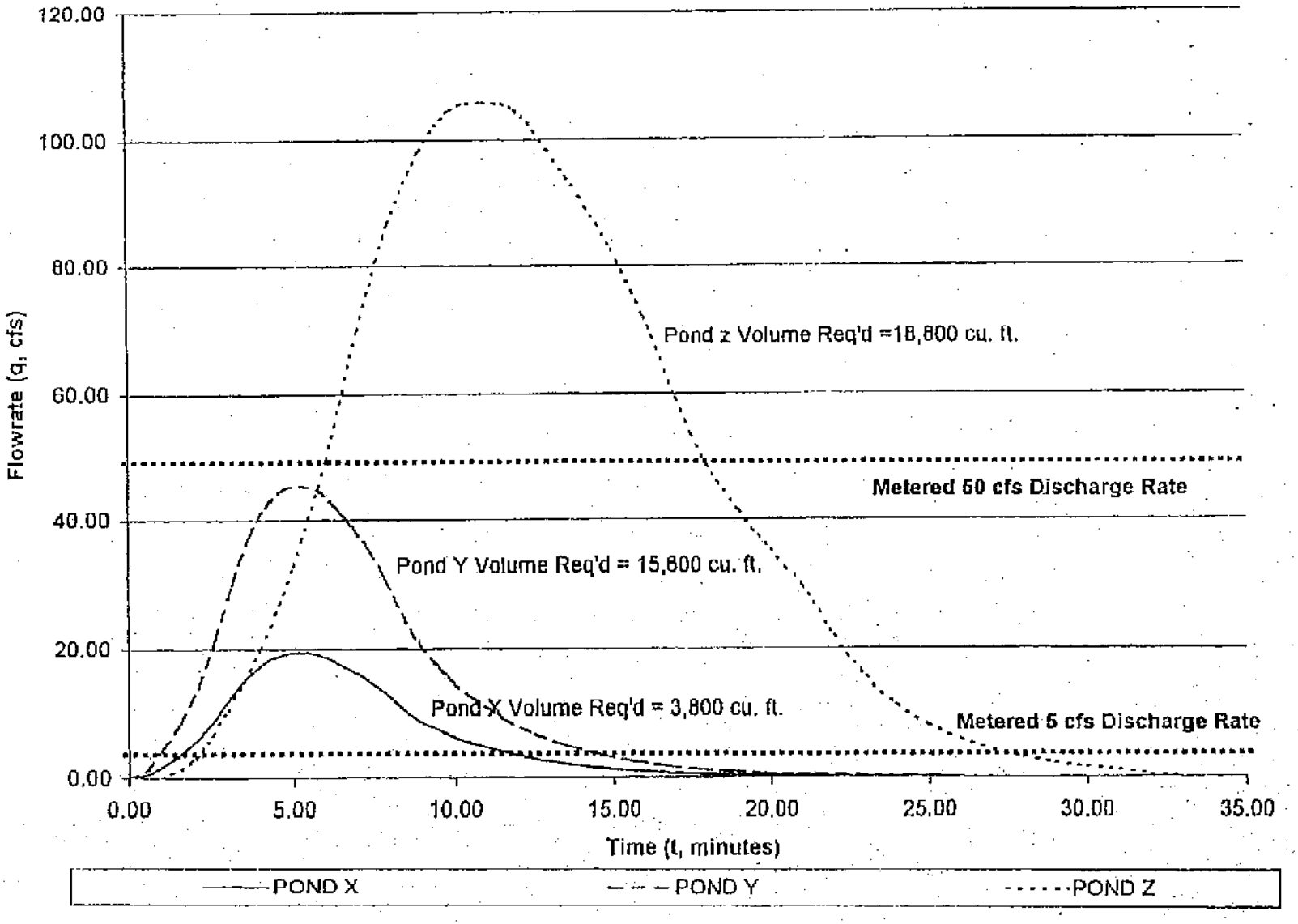


Figure 5: POST DEVELOPMENT 10-YR HYDROGRAPH



APPENDIX B

Letter from Little Bear Water Company
Dated December 17, 2003

LITTLE BEAR WATER CO., INC.
51201 PINE CANYON ROAD #125
KING CITY, CA 93930
(831) 385-3524

December 17, 2003

Sheri L. Damon, Esq.
Lombardo & Gilles, PLC
318 Cayuga Street
Salinas, California 93901

Re: ***Morisoli/Tavernetti Subdivison***

Dear Ms. Damon:

In response to your request that Little Bear Water Company (LBWC) provide a response to the issues raised in the County's letter to you dated November 10, 2003, LBWC is pleased to provide the following responses.

LBWC is not fully aware of the timing of future developments and/or construction in the Pine Canyon area, however enclosed (Table A) is a table of existing sewer connections and subdivision that have been issued a "will serve" letter. This is the extent of information possessed by LBWC and LBWC believes that the County can and should supplement this information with applications that it has pending.

With respect to accepting sewer connections from properties on septic systems, LBWC will provide service for these properties on the basic of first come, first served. Sewer connection agreement between property owners and LBWC will be done in compliance with and regulated by LBWC Tariff Rule Number 15, Sewer, Main Extension which is approved by the California Public Utilities Commission. Under this rule, all pertaining fees and charges for connection or system improvements will be paid for by the property owner or owners.

Addressing these properties which are on septic system, with respect to Royal Estates, there are 228 residences of which only 180 residences would be required to be served and of these, there are 88 residences being currently served by LBWC. The remaining 92 residences on septic systems will be required to connect to LBWC system. By applying a standard rate flow for a single family of 230 gpd, it is estimated that demand for wastewater treatment for these residences on septic system would be 21,160 gpd.

Initial request and main extension agreement, the Morisoli/Tavernetti subdivision was allocated LBWC excess sewer capacity and it will be given priority on connections by virtue of planned improvements to LBWC system which will be funded by them. If the Morisoli/Tavernetti subdivision were approved today, LBWC would have existing capacity to accommodate 100 connections without revision to its existing discharge permit. LBWC understand that it is obligated to provide service for an additional 191 lots and that the remaining 28 lots which are over 1 acre in size will be accommodate by septic systems.

With respect to the planned capacity of the SBR system, the plans submitted to the County in January 2002 show the proposed SBR facility with a treatment capacity of 250,000 gpd. This treatment capacity is designed to address LBWC permitted capacity of 124,000 gpd, plus the proposed subidivsion flow rate of 80,000 gpd and a [10-20%] excess capacity which the RWQD normally requires to address increase in treatment demand.

With respect to information on the proposed reclaimed/recycled system, including pipeline and associated infrastructure construction requirement to irrigate with reclaimed water produced by the proposed SBR system, the supply of reclaimed water to the end user will be accomplished by gravity flow through the existing 6 inch pipeline used to transfer treated effluent from the wastewater treatment facility to the spray field storage reservoir. To the extent possible, LBWC intends to utilize its existing infrastructure to deliver reclaimed water to the end users, including but not limited to its existing pipeline which are used to transfer treated effluent to the spray field.

It is envisioned that recycled water users will be able to "tap" into Little Bear's infrastructure pipeline. Appropriate meters or other recording devices will be utilized to monitor the amount of reclaimed water being utilized at any one connection to the system and reports prepared and submitted as required. Additional each user will be required to install a back-flow device and will be monitored by LBWC, under its cross-connection program. We do not intend to supply water through or to a dual plumbed setting for individual residential irrigation but rather supply directly to the agricultural or pasture irrigation. As agreed upon between users and LBWC, LBWC will tap into the 6 inch pipeline, provide flow meters, and the users will be responsible to install pipeline to their property.

In response to your request for information regarding expansion area for LBWC concerning modifications to upgrade LBWC system from secondary treatment to tertiary treatment, we do not believe any additional expansion areas or modifications to designs which were submitted by the Applicant to the County in January 2002 will be required. However, as we have previously discussed, LBWC has acquired additional land to enhance its existing spray field operation and will pursue its use as the primary disposal area with the approval of the Regional Board (Table B – Identifying the Spray Field Disposal Areas and Stage of Development).

With respect to LBWC wastewater treatment system, our facilities are still comprised of three ponds; Pond 1 (influent intake) is 1,115,000 gallons and cement lined; Pond 2 is 1,440,000 gallons and gunite lined; Pond 3 (transfer pond) is 190,000 gallons with a transfer capacity of 360,000 gpd. LBWC effluent storage reservoir is 1,300,000 gallons and located above its 12.1 acre spray field.

As we have previously advised, LBWC will necessarily be required to increase its discharge permit in order to service the increase connections. However, with the existing capacity remaining on its current discharge permit, LBWC can accommodate a build out of 100 homes using district standard allocation. It is my understanding that 28 homes within this subdivision will be on septic system and will not be connected to LBWC.

We look forward to working with the County, the surrounding community, and the Applicant to upgrade Little Bear's facilities and increase its discharge permit at the earliest possible date.

Yours truly,

Richard Hiwa
General Manager
Little Bear Water Company

Table A

Little Bear Water Company Sewer Connections

Subdivision	Current Connections	Projected Connections	Total Connections
Royal Estates	88	92	180
Pine Canyon Mobile Estates	124	0	124
Pine Meadow	189	0	189
Morisoli/Tarvenetti Subdivision	0	291	291
Royal Enflied Subdivision	0	13	13
Hall Subdivision	0	12	12
Davis Subdivision	0	15	15
Total	401	423	824

Table B

Identiying Spray Field Disponsal Area and Stage of Development

124,000 gpd

Acres	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
8.1	Yes	Yes	Yes	Yes	Yes	Yes
2.5	Yes	Yes	Yes	Yes	No	No
1.6	Yes	Yes	Yes	Yes	No	No
12.2	Total					

Stage 1	Ownership of Property
Stage 2	Clearance Completed
Stage 3	Grading Completed
Stage 4	Sprinkler System Material On Hand
Stage 5	Sprinkler System Installed
Stage 6	Operational