CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 585-1800

Th19a

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ADDENDUM

DATE: September 1, 2016

TO: Commissioners and Interested Parties

FROM: South Central Coast District Staff

SUBJECT: Agenda Item Th19a, Santa Barbara County Appeal No. A-4-STB-14-0060 (Schlesinger), Thursday, September 8, 2016

The purpose of this addendum is to attach correspondence received to date regarding the staff report. Staff has received one letter dated September 1, 2016 from Heal the Ocean in support of staff recommendation.

Attachments:

Letter from Heal the Ocean, dated September 1, 2016. (2 pages)

HEAL THE OCEAN

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September 1, 2016

California Coastal Commission
South Central Coast District Office
89 S California St #200
Ventura, CA 93001

Re: CCC Agenda September 8, 2016 Item# 19 A Appeal No. A-4-STB-14-0060 (Schlesinger, Santa Barbara Co.)

Dear Honorable Chair Kinsey and Coastal Commissioners:

Heal the Ocean (HTO), a Santa Barbara-based Citizens' Action group, concurs with the California Coastal Commission recommendation from the Staff Report (M. Sinkula) filed 8/25/16 for the denial of an appeal (A-4-STB-14-0060) for the proposed Schlesinger well in Montecito, Santa Barbara, CA County, at 1685 Fernald Point Lane (APN 007-374-006).

We have reviewed the CCC-commissioned report, *Geotechnical/Hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-Basin (Storage Unit 3) of the Montecito Groundwater Basin* conducted by Professor Hugo Loaiciga. In addition, Heal the Ocean has collaborated with Montecito Water District (MWD) and the Montecito Sanitary District (MSD) on a Montecito groundwater basin study titled *Montecito Groundwater Basin Recharge Feasibility Study* that was undertaken by Dudek Environmental, Santa Barbara, published September 25, 2015.

Although these studies were conducted with different goals in mind, we found the results of each to be similar in their findings. Both the Coastal Commission (Loaiciga) study and Heal the Ocean's coordinated Dudek study show that Montecito's groundwater supply is threatened by overdraft, which brings with it risks of saltwater intrusion, land subsidence, and water quality concerns. The installation of new wells will only exacerbate these issues. In addition, to allow for a well to be installed for the purpose of landscaping is an extremely poor use of existing water resources that are severely impacted by the ongoing drought.

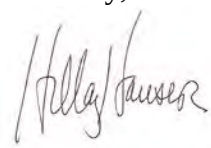
The decision of the Coastal Commission in its August 12, 2016 meeting to deny appeal A-4 STB-16-0046 for the McGaughey water storage tanks, which was a situation where a private landowner sought a permit to pump groundwater into private water storage tanks for individual use, set an important precedent for future water developments in Montecito, in that the Commission prioritized the health of groundwater systems and local hydrology

as more important than the desires of individual landowners to pump water from an overtaxed basin.

California is in its worst drought in history, and groundwater resources are reaching critical low points. Most importantly, drinkable, high quality water should not be used for landscaping. Heal the Ocean, has been for several years facilitating a discussion between the Montecito Water District (MWD) and Montecito Sanitary District (MSD) to unite in applying for a State Water Board facilities planning grant for the upgrade of the MSD wastewater plant into a recycled water plant. It is now involved in MWD discussions with the Goleta Water District for use of its recycled water for Montecito landscape purposes during the time it is going to take to revisit a collaboration of a MSD/MWD wastewater treatment plant upgrade. It is our hope this collaboration will succeed as Montecito works out its serious groundwater supply problems and proceeds toward the building of a recycled water plant for the purposes of irrigation. While Heal the Ocean is working to facilitate communication between MWD, the Goleta Water District, and local residents in order to protect Montecito's groundwater supplies, it remains hugely important that these supplies remain protected before further depletion and damage occurs.

We sympathize with the plight of the Applicant, and hope he will confer with the Montecito Water District about getting in a request for the Goleta Water District recycled water service now being discussed. In the meantime, Heal the Ocean asks that the Commission uphold its staff recommendation and Deny the appeal for the Schlesinger well, and in addition, deny all future well proposals in the Montecito area until this drought has passed.

Sincerely,



Hillary Hauser, Executive Director

Alex Bennett, Policy Associate

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Th19a

Appeal Filed: 11/13/14
49th Day: Waived
SI Found: 01/07/15
Staff: M. Sinkula - V
Staff Report: 08/25/16
Hearing Date: 09/08/16

STAFF REPORT: APPEAL DE NOVO REVIEW

APPEAL NUMBER: A-4-STB-14-0060

APPLICANT: Arnold Schlesinger

APPELLANTS: Commissioner Dayna Bochco and Commissioner Jana Zimmer

LOCAL GOVERNMENT: County of Santa Barbara

LOCAL DECISION: Coastal Development Permit (No. 14CDH-00000-00007) approved with conditions by Zoning Administrator on October 15, 2014

PROJECT LOCATION: 1685 Fernald Point Lane (APN 007-374-006), Santa Barbara County

PROJECT DESCRIPTION: Construction of a new private well to provide water for residential landscaping irrigation in excess of water supplied by a public water district.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends **DENIAL** of the proposed project on the basis that the project does not conform to the policies and standards of the County of Santa Barbara's (County) certified Local Coastal Program (LCP) designed to promote the prudent use of water resources, and protect the quality of groundwater, environmentally sensitive habitat area, and priority of land uses. The **motion** and **resolution** for the recommended action are found on **page 4**.

The proposed project consists of construction of a new private water well for supplemental irrigation of extensive, non-drought tolerant landscaping on a 2.54-acre parcel developed with an existing single family residence in the Montecito area of Santa Barbara County that already receives municipal water service from the Montecito Water District (MWD). The State of California is currently in its fifth year of one of the most severe droughts on record and the water supply portfolios of the County of Santa Barbara municipal water districts have faced unprecedented shortfalls. To address these shortfalls, the Montecito Water District (MWD) has adopted multiple ordinances to mandate strict water conservation measures, closely manage water supply allocations, and establish water-rationing provisions for the

District's customers. Further, to protect water resources from overuse and preserve water resources for priority land uses such as agriculture and coastal dependent land uses, the LCP requires urban development to be served by water district services exclusively, if feasible.

The subject residential property currently receives municipal water service from the MWD and the proposed water well is inconsistent with LCP policies and standards that protect water supply because it does not address the critical need for careful and conservative planning regarding water resources, does not demonstrate that it will not adversely affect a natural freshwater groundwater supply during this extended period of drought, and because it is intended to circumvent State, County and MWD mandated water rationing to provide supplemental water for non-drought-tolerant landscaping. Further, there is the potential that the water well will cause significant adverse impacts to San Ysidro Creek and its riparian corridor, a designated environmentally sensitive habitat area.

Therefore, Staff recommends that the Commission deny the proposed project due to its nonconformity with the County LCP's water resource, environmentally sensitive habitat area and priority of land use policies.

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I. STAFF RECOMMENDATION

MOTION: ***I move that the Commission approve Coastal Development Permit No. A-4-STB-14-0060 for the development proposed by the applicant.***

STAFF RECOMMENDATION OF DENIAL:

Staff recommends a **NO** vote. Failure of this motion will result in denial of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO DENY THE PERMIT:

The Commission hereby denies a coastal development permit for the proposed development on the ground that the development will not conform to the policies of the certified Local Coastal Program for the County of Santa Barbara. Approval of this permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures or alternatives that would substantially lessen the significant adverse impacts of the development on the environment.

II. PROCEDURAL HISTORY

On October 15, 2014, the County of Santa Barbara approved the subject CDP (No. 14CDH-00000-00007) to allow the construction of a private water well to be used for on-site irrigation of existing landscaping on a parcel developed with a single-family home.

The Notice of Final Action for the approved CDP was received by Commission staff on November 3, 2014 (Exhibit 8). A ten working-day appeal period was set and notice provided beginning November 4, 2014, and extending to November 18, 2014.

An appeal of the County's action was filed by Commissioners Dayna Bochco and Jana Zimmer on November 13, 2014, during the appeal period. Commission staff notified the County, the applicant, and interested parties that were listed on the appeal form and requested that the County provide its administrative record for the permit. The administrative record was received in November 2014.

The substantial issue and de novo CCC hearing on the subject development was scheduled for August 12, 2016, but the de novo portion of the hearing was postponed by the applicant on August 11, 2016, prior to that hearing. On August 12, 2016, the Commission found that the County's action approving the proposed development raised a substantial issue with respect to the project's conformance with the County of Santa Barbara's certified Local Coastal Program regarding water supply resources, cumulative impacts, and protection of priority land uses policies and standards.

III. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. PROJECT DESCRIPTION AND BACKGROUND

The proposed project consists of installation and operation of a water well on a 2.54-acre urban lot developed with an existing 7,309 square foot single-family residence in the unincorporated community of Montecito (Exhibit 8). The proposed well would be constructed on a lot that was developed in reliance upon, and has continuously been serviced by, the delivery of public, metered water service by the Montecito Water District.

The project site is located on a beachfront parcel within the first line of development along the coastline. The well is also proposed to be sited within approximately 400 feet of the high tide line of the coast, within 100 feet of the riparian corridor of San Ysidro Creek (Exhibit 1), and within 400 feet of existing off-site agricultural development. The water well is intended to provide supplemental irrigation for approximately 1-acre of non-drought tolerant landscaping.

The State of California is currently in its fifth year of one of the most severe droughts on record. The current drought surpasses the 1976-1978 drought, such that the period from 2012 to 2014 constitutes the driest three-year span in the State's recorded history.[1] On January 17, 2014, the Governor declared a statewide drought State of Emergency and asked that officials throughout the State take all necessary actions to prepare for water shortages. On April 25, 2014, the Governor proclaimed a Continued State of Emergency due to the ongoing drought. The Governor has also issued Executive Order Nos. B-29-15 (on April 1, 2015) and B-37-16 (on May 9, 2016) that mandate substantial water reductions to achieve a 25% reduction in potable urban water usage across the state, and mandate that the reductions be permanent, even after the drought ends, in order to prepare for more frequent and persistent periods of limited water supply. Executive Order B-29-15 also calls for the replacement of lawns and ornamental turf with drought-tolerant landscaping and increased water efficiency standards for irrigation of new and existing landscaping.

As a consequence of the ongoing severe drought, the water supply sources of water districts within Santa Barbara County are facing unprecedented shortfalls. One such District, namely the Montecito Water District ("MWD" or "District"), provides water service for the unincorporated Montecito and Summerland areas of southern Santa Barbara County. As a public water agency, MWD is charged with managing groundwater resources within its service boundaries. However, the County of Santa Barbara is vested with the authority to permit the construction, rehabilitation, and destruction of water wells in the County. As such, the County of Santa Barbara has the authority to regulate development that facilitates the use of groundwater resources, while the unaffiliated MWD is charged with the task of managing groundwater resources to provide an adequate and reliable supply of water to the residents of Montecito and Summerland. MWD's ability to provide an adequate and reliable water supply may be hindered by the permitting of private water wells within MWD's service area.

[1] *See* California Department of Water Resources (February 2015). *California's Most Significant Droughts: Comparing Historical and Recent Conditions.* Retrieved from http://www.water.ca.gov/waterconditions/publications.cfm

Although groundwater is an essential coastal resource that can be over-utilized and degraded, it is currently largely unmanaged. It remains unknown how much groundwater is being extracted by District customers via private water wells within the MWD service area to supplement the water they are obtaining from MWD, nor is it known how much water private water companies are extracting within the MWD service area. Since 1970, the Santa Barbara County Environmental Health Department has issued over 550 well permits within MWD District boundaries and there has been no mechanism with which to accurately determine the actual number of active wells, private well water use and demand, or monitor the extraction of groundwater from aquifers within its service area. However, the MWD does monitor groundwater levels within their District bi-annually and has observed a lowering of static groundwater levels. Further, the MWD has also observed a significant reduction in groundwater production from the MWD's own water wells over the past five years.

On January 21, 2014, the County of Santa Barbara declared a Water Shortage Emergency, and in February 2014, the MWD declared a Water Shortage Emergency and suspended new meter water service within its service boundaries. Facing this extreme water supply jeopardy, the MWD also adopted Ordinances that require stringent water conservation measures, set water supply allocations, and established water rationing provisions for the District's customers. These measures are set forth in Ordinances 92, 93, and 94, as well as various MWD publications. To manage remaining water supplies and reduce customer water usage, the MWD enacted Ordinance No. 92 on February 11, 2014, which declared a Stage 3 Water Shortage Emergency and mandated water use regulations, including encouraging MWD customers to reduce water consumption by thirty percent. The regulations adopted under Ordinance No. 92 were not significant enough to lessen the stress on water supplies and, in response, the MWD declared a Stage 4 Water Shortage Emergency and enacted Ordinance No. 93, which imposed monthly water supply allocation limits on each property and monetary penalties for those customers who exceeded their monthly water allocation. The conservation measures of Ordinance No. 93 proved successful in alleviating the stress on local water supplies. In the months preceding the adoption of Ordinances 92 and 93, the MWD was informed by District customers of the failure of approximately *three dozen* private wells within its service boundary.

The MWD passed Ordinance No. 94 on March 24, 2015, which updated monthly allocations to customers and prohibited any waste[2] of water. Pursuant to Section 8.2 of Ordinance No. 94, any consumption of water that is in excess of 25% of the mandated monthly allocations shall result in the installation of a flow restriction device on the service lines for the account. Additionally, any account that is fitted with a flow restriction device and continues to exceed the allowable monthly allocation shall be subject to discontinuation of water service. Water service for the account will then not be restored until a water management plan is implemented to ensure that future consumption will not exceed the allowable monthly allocations.

[2] The California State Water Board defines waste to include, but not be limited to the use of drinking water for outdoor landscapes in a manner that causes runoff; the use of a hose without a shut-off nozzle to dispense drinking water to wash a motor vehicle; the application of drinking water to driveways and sidewalks; and the use of drinking water in a fountain or other decorative water feature, except where the water is part of a recirculating system.

MWD depends primarily on surface water supplies (95%). It relies less on groundwater but that has been increasing. MWD's main water source, Lake Cachuma, is currently (as of July 2016) holding only 13.4% of its capacity. Jameson Lake, MWD's other surface water supply is currently (as of July 2016) holding only 11.6% of its capacity. In the last three years, MWD has received only 0-10% of its previous State Water Project deliveries. Due to these staggering shortfalls in water supply for the District, the MWD is currently negotiating the largest ever supplemental water purchase (5,000 acre-feet of water) from sources north of the Sacramento-San Joaquin Delta.

On October 14, 2014, the day before the subject water well application was approved by the County, a drought task force appointed by the County CEO briefed the Board of Supervisors, noting that the County had received a staggering surge in the number of water well applications—80 applications in the Montecito/Carpinteria area in the previous year, compared with a previous average of only 9 well applications per year in that part of the County.

On October 15, 2014, the Montecito Planning Commission approved the installation and operation of the subject new private water well intended to provide supplemental irrigation for landscaping that requires substantial amounts of water on a lot developed with an existing single family residence that already receives water service from MWD (Exhibit 8). The proposed water well would be installed in an intensely groundwater-mined portion of Storage Unit 3 (the coastal sub-basin of the Montecito Groundwater Basin) within the Coastal Zone between Fernald Point to the east, Highway 101 to the north, the Pacific Ocean to the south, and the Santa Barbara Cemetery to the west (Exhibit 2). The majority of MWD's own high-producing groundwater wells are located in Storage Unit 3, and at least three other private water companies extract from Storage Unit 3 as their sole source of potable water to service approximately 60 residential properties (Exhibit 3). Since 2013, MWD's groundwater wells have been extracting five times more groundwater (nearly 500 AFY) than the wells' pre-drought extraction rate.

On November 21, 2014, the MWD sent a letter (Exhibit 5) to the County requesting the placement of a moratorium on the issuance of new water well permits within the service boundary of the District until the Water Shortage Emergency is lifted. However, despite this guidance from the agency charged with management of the groundwater aquifer, the County has continued to issue well permits. As described above, there has been a surge in new water well permit applications that have been submitted and approved by the County. In fact, another permit application for a private water well (Olive Mill Trust Water Well, referred to as "Hair" in the attached Exhibits, at 1169 Hill Road in Montecito) that lies in the vicinity of the Schlesinger water well that is the subject of this report was approved on July 20, 2016. This recently approved private well similarly circumvents the rationing imposed by the MWD and would provide irrigation for water-intensive landscaping on a lot developed with a single family residence that already receives water service from the MWD.

Currently, the Montecito Groundwater Basin, where the Schlesinger well will be located, is in a state of overdraft due to the fact that groundwater levels are at a historic low and extraction has exceeded natural recharge for several consecutive years. In fact, MWD studies have indicated that there has been no measured recharge to the groundwater basin since the 2004-05 winter

season. Additionally, there is strong evidence that seawater intrusion has occurred and is ongoing within the Montecito Groundwater Basin.

B. STANDARD OF REVIEW

After certification of a Local Coastal Program (LCP), Section 30603 of the Coastal Act provides for appeals to the Coastal Commission of a local government's actions on certain types of developments (including uses that are not designated as a principal permitted use under the zoning code and development located between the first public road and the sea, such as the use proposed in the subject project and the location of the subject project). In this case, the proposed development was previously appealed to the Commission, which found, after a public hearing on August 12, 2016, that a substantial issue was raised by the local government's approval of the subject proposed project.

As a "de novo" application, the standard of review for the proposed project is whether the proposed development conforms to the policies and provisions of the County of Santa Barbara's certified LCP. Policy 1-1 of the LCP's Land Use Plan incorporates all Chapter Three policies of the Coastal Act as guiding policies of the LCP. Also, due to the location of the proposed project site within the Montecito Community Plan (MCP) area of the County, the policies and development standards contained in the MCP (which is a component of the County's certified Land Use Plan) are applicable in this case. The LCP consistency issues raised by the proposed development are discussed in the following sections.

C. WATER SUPPLY RESOURCES

The following policies and provisions of the Santa Barbara County LUP and the associated Implementation Plan (IP) standards provide for the protection of groundwater basins and water supply, require water conservation, and restrict the installation of new water systems for development that is already served by a public water system. In addition, Policy 1-1 of the LUP incorporates the Chapter Three policies of the Coastal Act as guiding policies of the LCP. Coastal Act Section 30231 provides for the protection of groundwater basins by proscribing the depletion of groundwater supplies and substantial interference with surface water flows.

LUP Policy 2-2 and **Article II CZO Section 35-60.1** states, in relevant part:

> *The long-term integrity of groundwater basins or sub-basins located wholly within the coastal zone shall be protected. To this end, the safe yield as determined by competent hydrologic evidence of such a groundwater basin or sub-basin shall not be exceeded except on a temporary basis as part of a conjunctive use or other program managed by the appropriate water district. If the safe yield of a groundwater basin or sub-basin is found to be exceeded for reasons other than a conjunctive use program, new development, including land division and other use dependent upon private wells, shall not be permitted if the net increase in water demand for the development causes basin safe yield to be exceeded, but in no case shall any existing lawful parcel be denied development of one single family residence…*

LUP Policy 2-3 and **Article II CZO Section 35-60.2** state:

> *In the furtherance of better water management, the County may require applicants to install meters on private wells and to maintain records of well extractions for use by the appropriate water district.*

LUP Policy 2-4 and **Article II CZO Section 35-60.3** state:

> *Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available.*

LUP Policy 2-5 and **Article II CZO Section 35-60.4** state:

> *Water-conserving devices shall be used in all new development.*

Coastal Act Section 30231 states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Due to the complexity of the hydrogeological issues raised by the proposed water well, Commission staff retained the services of a consulting hydrologist, Dr. Hugo Loáiciga, in August 2015 to conduct a geotechnical and hydrologic evaluation of the potential hydrologic impacts of installing and operating the subject Schlesinger irrigation well in the coastal sub-basin (Storage Unit 3) of the Montecito Groundwater Basin (MGWB). In his extensive analysis of the potential impacts of the approved development, which is attached in full as Exhibit 6, Dr. Loáiciga evaluated the application to construct and operate the new well, data concerning groundwater extraction and the conditions of the MGWB, and several previous reports concerning the hydrogeological characteristics of the MGWB. The following analysis is based on Dr. Loáiciga's report on the geotechnical and hydrologic impacts for the Schlesinger groundwater well.

The MGWB underlies the unincorporated town of Montecito and the Toro Canyon watershed (Exhibit 2). Generally, precipitation ranges from 17 to 21 inches per year in this area. However, rainfall in this area during the ongoing drought averaged only 9.17 inches per year (Exhibit 4). The MGWB's surface area equals 6,270 acres (9.8 square miles) and is divided into four sub-basins, namely Storage Units 1 (northern—2,784 acres), 2 (central—608 acres), 3 (southern coastal—1,674 acres) and the Toro Canyon Unit (1,204 acres)(Exhibit 2). The MGWB is bounded on the north by the Santa Ynez Mountains and the Arroyo Parida fault, on the east by consolidated rocks, on the southeast by the Fernald fault, and on the northeast by a surface drainage divide that separates the Montecito and Carpinteria Groundwater Basins. The offshore Rincon Creek fault and the Pacific Ocean bound the basin on the south. An administrative boundary on the west separates the MGWB from the Santa Barbara Groundwater Basin, although there is no physical separation between the two basins.

The area overlying the basin is drained by six small creeks (Buena Vista, Montecito, Oak, Romero, San Ysidro, and Toro Canyon) that flow from the Santa Ynez Mountains towards the Pacific Ocean. The primary groundwater-bearing deposits in the MGWB are unconsolidated alluvial deposits, namely the Casitas and Santa Barbara Formations.

Safe Yield of the Montecito Groundwater Basin

Safe yield, also known as perennial yield, constitutes the maximum amount of water that can be withdrawn from a groundwater basin on an average annual basis without adverse effect.[3] The concept of safe yield is a valuable baseline number that can be used to determine whether or not a groundwater basin is being used in a sustainable manner that will assure long-term beneficial use without adverse impacts. Sound management of groundwater basins requires adjustment of this baseline figure as conditions change from wet or average climatic conditions to protracted drought conditions. Commonly, water purveyors and private well owners increase groundwater extraction during droughts to compensate for the reduced availability of surface water sources. This strategy of resorting to water stored as groundwater to mitigate temporary shortfalls of surface water, with the expectation that rainfall will return to replenish aquifer storage and restore normalcy, is jeopardized when a drought lasts longer than usual. This strategy poses significant adverse impacts to coastal groundwater sub-basins, such as Storage Unit 3 of the MGWB, because groundwater storage may be severely depleted, leading to such impacts as heightened seawater intrusion (potentially to the point of irreversible freshwater groundwater basin degradation), hydraulic (well) interference, reduction in well yields, and, eventually, well failures. Depleting groundwater resources can cause an additional significant adverse impact of a reduction or termination in base flows from aquifers to support stream flows as the aquifer-stream hydraulic connection is broken when groundwater levels drop to a certain level.

In Sections 6 and 7 of Dr. Loáiciga's hydrological report, attached in full as Exhibit 6, he calculates the safe yield for Storage Unit 3 to be 409 acre-feet per year (AFY). On May 19, 2015, the MWD's Engineering Manager informed its Board of Directors that the private extraction of groundwater within the basin was believed to range between 700 to 1,000 AFY at that time. Dr. Loáiciga's analysis estimates that the amount of private extraction from the MGWB exceeds the 700 to 1,000 AFY estimate, and may exceed 1,500 AFY. Dr. Loáiciga's analysis further estimates that the groundwater extraction in Storage Unit 3 of the MGWB may alone exceed 1,000 AFY. In fact, Dr. Loáiciga's calculation of a safe yield of 409 AFY is less than the amount currently extracted by the four MWD municipal water wells alone (500 AFY) in Storage Unit 3.

Groundwater overdraft is defined as the condition of a groundwater basin or sub-basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin.[4] Overdraft can be characterized by groundwater levels that decline over a period of years and never fully recover. There are significant adverse impacts of both ongoing overdraft conditions and irreversible overdraft conditions. Specifically, these include increased extraction costs (such as those for well deepening or replacement), well interference, loss of well yield, well

[3] Definition taken from the California Department of Water Resources (2003) Bulletin 118
[4] Definition taken from the California Department of Water Resources (2003) Bulletin 118

failures, land subsidence, water quality degradation, increased risk of pervasive seawater intrusion, and reduction in nearby surface water flows. The County's 2014 Groundwater Basin Status Report, produced by the Water Resources Division of the County's Public Works Department triennially since 2006 to provide a status on the water resources of groundwater basins, addressed the long-term measured groundwater levels in the MGWB and stated "the hydrograph from the Montecito Basin shows a consistent decline over the period of record (since the early 1960s) and, with the exception of a couple of data points which may not reflect accurate measurements, shows a historic low water elevation." The declining groundwater level analyzed in the County's report provides strong evidence that the MGWB is in a state of overdraft. In addition, the County's 2015 Environmental Thresholds and Guidelines Manual records an overdraft of 426 AFY in the MGWB. Dr. Loáiciga calculates the net overdraft in Storage Unit 3 to be 591 AFY.

Dr. Loáiciga's report provides strong evidence that the safe yield of the MGWB is currently exceeded, and his analysis concurs with the County's 2015 assessment that the MGWB is in a state of overdraft. To allow the subject water well to be installed and operated in a groundwater basin that is known to have exceeded safe yield would directly conflict with Policy 2-2 of the County's LCP which specifically proscribes such authorization. Further, the operation of the water well risks the use of a water resource for private supplemental irrigation at the expense of other priority coastal land uses if groundwater is depleted or degraded by the subject well and thus rendered unavailable for other, higher priority land uses. These higher priority land uses, including but not limited to visitor-serving land uses such as overnight accomodations, public recreational opportunities such as parks, and agriculture rely on the water resources within the Montecito Groundwater Basin. The operation of the Schlesinger well site within 400 feet of existing off-site agricultural development has the potential to deplete and/or degrade water available to support the agricultural development. The operation of the water well would also be inconsistent with Coastal Act Section 30231 because the operation would further deplete already overdrafted groundwater supplies.

Cumulative Impacts of the Approved Schlesinger Well

Exhibit 1 depicts the approximate location of the property where the Schlesinger water well is proposed to be installed and demonstrates that the well is proposed to be installed and operated less than 100 feet from the riparian corridor of San Ysidro Creek. The well would lie within 400 feet from the high-tide line of the coast. The approximate locations of the MWD's four active municipal wells, namely "Amapola", "Ennisbrook 2", "Ennisbrook 5" and "Paden 2" are also depicted in Exhibit 3. Within the approximate half-mile radius of the Schlesinger well, there are a total of thirteen known, active water wells, and at least 250 additional private water wells in Storage Unit 3 (Exhibit 3).

Most of the water wells in Storage Unit 3 are within the immediate vicinity of the coastline and/or creeks, which are two environments that are vulnerable to groundwater extraction. Clustering of wells within the Coastal Zone often leads to well interference and loss of well yield (both of which are discussed in greater detail below). In its letter dated November 21, 2014 (discussed in Section III(a) above) from the MWD to the County of Santa Barbara, the MWD acknowledged that it "had no mechanism for accurately determining the number of active wells,

or the private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from aquifers within its service area" (Exhibit 5) The letter further reports on the failure of "approximately three dozen private wells" within the MWD service area and, in response, asked the County for a moratorium on well permits within the boundary of the MGWB. The letter further notes that, "these groundwater supplies, critical to the District and private water companies, could be permanently damaged if further extraction from the groundwater basin occurs through the permitting of new wells." As discussed more fully in Section III(a) above, the County has continued to issue new well permits.

In addition to the potential individual impacts of the new well, there will be cumulative impacts on groundwater supply resulting from the operation of the new well and existing wells in the area together. The effect on groundwater level by a new extraction well is to magnify the lowering of the groundwater level caused by the existing wells. Additionally, the existing wells magnify the lowering of the groundwater level caused by the new well. This mutual superposition of the influences on the groundwater level by a neighboring well or wells is known as hydraulic or well interference. Drawdown (see Figure below) is the depth to which the groundwater level is lowered in a well (or any other part of an aquifer) by groundwater extraction relative to the initial groundwater level (baseline condition). The lowering of the groundwater is further magnified, and thus well interference is worsened, when there are multiple wells extracting from the same aquifer and there is a superposition of drawdowns caused by the wells.

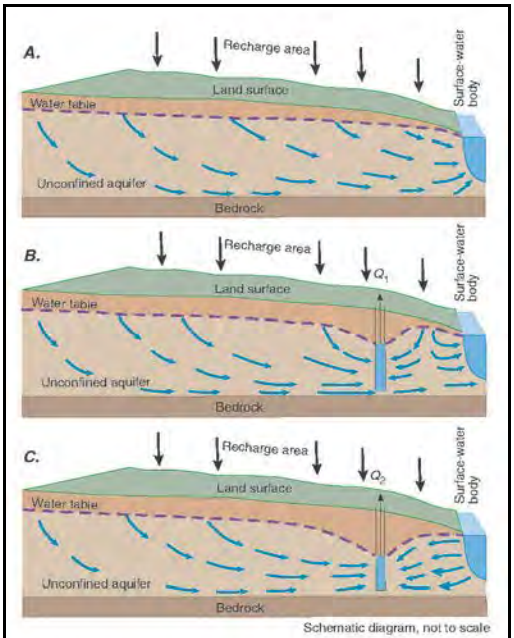

Figure 10. Pumping from ground water can affect discharge to nearby surface-water bodies. In the prepumping condition (*A*), water flows to the surface-water body. Pumping at a low rate (*B*) reduces discharge to the surface-water body. When the pumping rate is increased (*C*) the flow direction reverses and water from the surface-water body is pumped directly from the well (modified from Alley and others, 1999).

Dr. Loáiciga's analysis includes detailed calculations of potential groundwater drawdown that will be caused by the operation of the Schlesinger well. Dr. Loáiciga used a pumpage rate of 5 gallons per minute for these calculations as it is the pumpage rate cited by the applicants'

hydrologist. It must be noted that the County's approval of the water well did not include any restrictions on the amount or rate at which groundwater may be extracted from the well. Dr. Loáiciga's report states that the operation of the proposed well in conjunction with the operation of existing wells within the coastal sub-basin, at a pumpage rate of 5 gallons per minute, will generate water-level decline that will likely lower the hydraulic pressure enough to induce pervasive seawater intrusion.

The Schlesinger well was approved to be located immediately adjacent to San Ysidro Creek and its associated riparian corridor (Exhibit 1). Dr. Loáiciga states in his report that "it is estimated that the distance from the Schlesinger well to the nearest point on the San Ysidro Creek stream channel would be less than 100 ft." Dr. Loáiciga's calculations demonstrate that the drawdown caused at San Ysidro Creek by pumping 5 gallons per minute for one year would be at least 8.41 feet. Dr. Loáiciga further calculated that the drawdown within a 75-foot radius of the Schlesinger well would equal 17.76 feet, and drawdown within a 250-foot radius of the Schlesinger well (at the coastline) would equal 6.65 feet. The drawdown of groundwater levels by neighboring wells of the Schlesinger well, whose rates are unknown, would further increase drawdown of groundwater levels at San Ysidro Creek and Storage Unit 3. Dr. Loáiciga's analysis concludes that this level of drawdown is likely to reduce base flow to San Ysidro Creek which constitutes a significant adverse impact to surface water resources that are crucial to the recharge of groundwater within the coastal sub-basin. Further, drawdown in such close proximity to San Ysidro Creek will likely have a significant adverse impact on the water resources needed to sustain a healthy riparian corridor along the Creek.

In a May 14, 2015 memorandum to Commission staff, the applicants' hydrologist stated the following: "The proposed well is situated at an elevation of approximately 23 feet above mean sea level with an estimated static water level of approximately 18 feet in depth. This static water level is approximately 6 feet below the bottom of San Ysidro Creek and is therefore unlikely to cause any issues with any riparian corridor given the distance to the creek, depth of the concrete sanitary seal, and low yield of 5 gpm or less. Therefore the proposed well would have no or negligible impacts on any existing or proposed water wells and/or riparian corridors." This conclusion of the Schlesinger well's impacts on San Ysidro Creek is not supported and ignores the cumulative impacts of the well in combination with other wells. Comparing static water level at the Schlesinger well with the bottom of San Ysidro Creek at an undetermined location is not meaningful. Dr. Loáiciga's calculations, as shown in the Figure above and more fully in the attached report, demonstrate that drawdown caused by the operation of the Schlesinger well would extend long distances from the well and capture groundwater that could otherwise serve as base flows to support stream flows in San Ysidro Creek when hydrologic conditions allow flow in the Creek. The Schlesinger well will also function to draw water away from the riparian corridor of San Ysidro Creek which depends on groundwater and stream flows to maintain habitat values. This significant adverse impact is discussed more fully in Section IV.B below.

The cumulative impacts caused by the operation of the subject Schlesinger water well and the numerous additional water wells in the immediate vicinity of the Schlesinger well and the larger vicinity of the coastal sub-basin, render the development directly inconsistent with the County's LCP and the Coastal Act. The drawdown caused by the operation of the Schlesinger well will have significant adverse impacts on groundwater resources, surface water flows, and the riparian

corridor along San Ysidro Creek. These are impacts that Policies 2-2, 2-3, 2-4, 2-5, and Section 30231 of the Coastal Act are intended to prevent through responsible management and proper use of groundwater resources. Section 30231 specifically proscribes the depletion of groundwater supplies and any substantial interference with surface water flows. These policies and provisions of the LCP and the Coastal Act do not allow for the construction and operation of a supplemental irrigation well for landscaping that will have such significant adverse impacts on freshwater groundwater resources, surface water flows and a riparian corridor. If this well is installed and operated, it will serve to circumvent drought-imposed water rationing for the benefit of water-intensive ornamental landscaping and will have adverse impacts to the water resources of the MGWB and San Ysidro Creek.

Seawater Intrusion within Storage Unit 3 of the Montecito Groundwater Basin

One of the most significant adverse impacts that can be caused by intensified groundwater extraction and an exceedance of safe yield is seawater intrusion. Once seawater intrusion begins, it is an irreversible process that can lead to complete degradation of a freshwater coastal aquifer. The drawdown of groundwater elevation, directly caused by groundwater extraction that exceeds the safe yield, causes a decline of hydraulic head[5] in the coastal groundwater sub-basin that allows seawater to migrate in the direction of the decreased hydraulic head (landward). Once seawater intrusion becomes pervasive, it renders a freshwater coastal aquifer useless as a water source for human, industrial, and irrigation uses unless desalination technology is utilized to remove salts from the extracted contaminated freshwater groundwater. The use of desalination technology raises significant issues such as brine disposal, elevated energy and operational costs for water purveyors, and the potential for contamination of additional freshwater sources.

Seawater intrusion within Storage Unit 3 of the MGWB has been known to occur for many decades, but as of yet, has not reached a pervasive level. The location of the MGWB, particularly that of Storage Unit 3, in relation to the Rincon Creek Fault which lies approximately 1,000 feet offshore, is geologically predisposed to allow for contact with seawater. Storage Unit 3 extends under the sea floor until encountering the upthrown side of the Rincon Creek Fault. Seawater is in contact with the surficial, permeable layers of Storage Unit 3 in the area comprised between the coastline and the fault, and most likely with deeper deposits through submarine canyons eroded over geologic time by streams flowing through the fault. These streams are able to flow through the fault due to the fact that fractures in consolidated rocks on and near the Rincon Creek Fault allow the motion of submarine fluids (those fluids below the sea floor) through the fault. The direction of this flow depends on the hydraulic heads in the Storage Unit 3 aquifers. The flow will remain seaward as long as the hydraulic gradient drives groundwater flow towards the sea. If, however, the hydraulic head in the aquifer is lower than the sea level on the coast, seawater will advance landward to create the condition known as seawater intrusion. Therefore, it is imperative that the extraction of groundwater within the coastal sub-basin of Storage Unit 3 does not exceed safe yield in order to prevent seawater flows from moving landward and irreversibly and entirely degrading the freshwater groundwater.

[5] Hydraulic head is a term used to characterize the force exerted by a column of liquid expressed by the height of the liquid above the point at which the pressure is measured; although head refers to a distance or height, it is used to express pressure, since the force of the liquid column is directly proportional to its height.

The hydrologist hired by the applicant asserts that there is no possibility of saltwater intrusion into the MGWB due to the location of the Rincon Creek Fault. However, this assertion is based on inaccurate, historic studies that stated the Rincon Canyon Fault truncated the deeper water-bearing deposits so that they lie against consolidated rocks on the seaward side of the fault. These incorrect studies further made assumptions that saltwater intrusion was limited to only the shallow part of the aquifer that lies directly adjacent to the coast. However, P. Martin conducted a controlled experiment[6] of groundwater extraction in 1984 that established that the offshore fault is neither a barrier to shallow seawater intrusion nor to deep seawater intrusion into the adjacent coastal basin. Martin's experiment demonstrated that seawater intrusion had occurred deep through the Rincon Creek Fault, past the shallow portions of the aquifer, and into the MGWB and the connected Santa Barbara Groundwater Basin. In fact, no physical barriers are known to exist between the coast and the well fields that are the subject of this report.

The applicant's hydrologist also asserts that the Schlesinger water well will function to capture groundwater that would otherwise be wasted and discharged into the ocean. This assertion is completely unfounded as the groundwater that is proposed to be extracted by the Schlesinger well would otherwise function to maintain the seaward hydraulic gradient that prevents degrading levels of seawater intrusion into Storage Unit 3. This assertion by the applicants' hydrologist disregards well-established scientific principles developed decades ago by United States Geologic Service hydrogeologists K. S. Muir, W. R. Hutchinson, and Peter Martin, consulting hydrogeologist Richard Slade, and supported by the Coastal Commission's consulting hydrogeologist on the subject appeals, Dr. Loáiciga. A minimum amount of groundwater flow towards the ocean is necessary to prevent the migration of seawater into the coastal aquifer. The necessity of such discharge of groundwater to the ocean floor is a consequence of the basic laws of physics. Seawater is denser than fresh groundwater, and thus, how far seawater moves landward depends on how much higher the groundwater levels on the coastline are than the sea level. This represents an extremely delicate equilibrium that, if broken by over-pumping in the Coastal Zone, can irreversibly degrade the coastal aquifer. In fact, municipalities with groundwater resources in areas of Los Angeles County and other coastal aquifers worldwide protect against seawater intrusion with injection wells that inject treated sewage water into the ground to contain the landward migration of seawater. These injection wells function to inject water that would otherwise be naturally occurring (if not extracted through water wells) to maintain the seaward hydraulic gradient.

Dr. Loáiciga analyzed a dataset of chloride measurements made in wells of the MGWB by the United States Geologic Service and the State of California. Dr. Loáiciga concluded that these measurements demonstrate that wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The dataset demonstrated that high chloride concentrations have historically ranged between 312 mg/L to 1,220 mg/L, which is strong evidence that the groundwater within the MGWB has historically been contaminated with seawater. In a written professional opinion dated May 13, 2008 by consulting geologist M. Hoover to Dave Ward of the Planning and Development Department of Santa Barbara County concerning a proposed well located in Storage Unit 3 and intended to supply landscape irrigation water and laundry water to the Miramar Beach Resort and Bungalows Project, Hoover states that

[6] Martin, P. (1984). "Groundwater Monitoring at Santa Barbara, California, Phase 2." U.S. Geological Survey Water Supply Report 2197.

"there is a significant likelihood for seawater intrusion at the Miramar Hotel site." Hoover further concludes that "over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel, and Toro Canyon have resulted in elevated chloride levels, a clear indication of seawater intrusion." The Miramar site is located approximately 1,500 feet west of the Schlesinger well. The data analyzed by Dr. Loáiciga and the professional opinion by Hoover strongly indicate that reliance on groundwater during historic periods of drought has caused an increase of seawater flowing into the coastal sub-basin. Dr. Loáiciga also analyzed records that indicated that two of the MWD's wells, namely Ennisbrook 2 and Ennisbrook 5, have exhibited high chloride concentrations in recent surveys. Ennisbrook 2 was found to have a chloride concentration equal to 540 mg/L in February 2014, and Ennisbrook 5 was found to have a chloride concentration equal to 490 mg/L in May 2015. Therefore, it is very likely that groundwater extractions from Storage Unit 3 are *currently* exceeding safe yield and creating a hydraulic gradient that is causing seawater to flow into the coastal aquifer.

Further evidence of this condition may be found in a May 19, 2015 memorandum from the MWD's Engineering Manager to the Board of Directors regarding present groundwater-level data for the four active MWD wells, as shown on the Table directly below. Each of the four municipal wells listed in Column 1 below extract from the coastal sub-basin of Storage Unit 3 of the MGWB.

MWD Well Name	**Groundwater Level** (feet below mean sea level)
Amapola	-20
Ennisbrook 2	-26
Ennisbrook 5	-47
Paden 2	-58

The groundwater levels measured in each of MWD's municipal wells listed in the Table above strongly demonstrate that an over-reliance on well water as a source of water during the ongoing drought has caused a significant drawdown of the sub-basin to levels considerably below sea level. In 1987, R. M. Slade conducted a study[7] to assess the feasibility of developing additional groundwater supplies for the MWD through the installation of wells along the southern margin of Storage Unit 3 of the MGWB. In his study, Slade recommends quantitative criteria to prevent seawater intrusion in Storage Unit 3 of the MGWB. These criteria include (1) a seaward hydraulic gradient not less than 1/100 in coastal aquifers and (2) groundwater levels in new wells must not be allowed to drop below an approximate elevation of +5 feet (above mean sea level) to maintain a positive seaward gradient of fresh water. As is shown by the Table above, all four of MWD's water wells within the vicinity of the Schlesinger well site are at levels that are significantly below sea level and at least twenty-five feet below Slade's recommendation of five feet above mean sea level.

The policies and provisions of the County of Santa Barbara's certified LCP contain specific protections for the water quality, integrity, and prudent use of groundwater resources. The

[7] Slade, R. M. (1987). "Hydrogeologic Assessment Proposed Water Augmentation Measures Item No. 8 Seaward Migration of Groundwater: For Montecito Water District."

installation and operation of the subject Schlesinger water well will only function to further draw down the groundwater levels of the sub-basin and decrease the availability of a positive seaward gradient of fresh water. To allow the installation and operation of the water well when there exists such compelling evidence of the exceedance of safe yield and an increase in seawater intrusion into the sub-basin would directly contravene Policy 2-2 of the County's LCP, which prohibits new connections to a groundwater basin when demand on that source has surpassed safe yield. Further, to allow the installation and operation of the well would also contravene the general intent of policies 2-3 and 2-5 which require the management, conservation and proper allocation of water resources within the Coastal Zone. To allow the installation and operation of the well would directly conflict with Policy 2-4, which requires new development to be serviced by a municipal water purveyor. By requiring sites to be serviced by an existing municipal water system, it ensures that water resources can be managed to accommodate the needs of approved development and cumulative local buildout. Therefore, the installation and operation of the water well is inconsistent with the water resource protection policies and provisions of the County's LCP and the Coastal Act.

D. ENVIRONMENTALLY SENSITIVE HABITAT AREA AND WATER RESOURCES

The Schlesinger water well is proposed to be sited within 100 feet of the riparian corridor of San Ysidro Creek and will likely cause a drawdown of groundwater, and thus a reduction of surface flows within the Creek, which will likely have a significant impact on the vegetation and habitat within the riparian corridor that it supports. The well therefore does not conform to the County's LCP policies and provisions regarding the protection of environmentally sensitive habitat and water quality. Further, the adverse impacts posed by the operation of the Schlesinger well do not conform to the policies of the Coastal Act, incorporated into the LCP through Policy 1-1 of the LUP, for the protection of groundwater, surface water flow, environmentally sensitive habitat and water quality, and specifically, natural vegetation buffer areas along riparian habitats. The operation of a water well within a riparian corridor also contravenes the policies and provisions of the Montecito Community Plan (MCP), which specifically protects environmentally sensitive habitat areas and resources, as well as riparian corridor buffers, by restricting development within them. These restrictions on development within riparian corridors set by the MPC do not allow for the construction and operation of a water well.

Land Use Plan Policy 1-1 states that all Chapter 3 policies of the Coastal Act have been adopted by the certified County Land Use Plan as guiding policies.

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, minimizing alteration of natural streams.*

Section 30240 of the Coastal Act states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

Land Use Plan Policy 2-11 states:

All development, including agriculture, adjacent to areas designated on the land use plan or resources maps as environmentally sensitive habitat areas, shall be regulated to avoid adverse impacts on habitat resources. Regulatory measures include, but are not limited to, setbacks, buffer zones, grading controls, noise restrictions, maintenance of natural vegetation, and control of runoff.

Land Use Plan Policy 3-19 states:

Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.

Land Use Plan Definitions (within the LCP Habitat Type Section for Streams):

Stream: watercourses, including major and minor streams, drainageways and small lakes, ponds and marshy areas through which streams pass. (Coastal wetlands are not included.)

Riparian Vegetation: vegetation normally found along the banks and beds of streams, creeks, and rivers.

Stream Corridor: a stream and its minimum prescribed buffer strip.

Buffer: a designated width of land adjacent to the stream which is necessary to protect biological productivity, water quality, and hydrological characteristics of the stream. A buffer strip is measured horizontally from the banks or high water mark of the stream landward.

Land Use Plan Policy 9-37 (Streams) and Article II Zoning Ordinance **Section 35-97.19** state:

The minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100 feet, and for streams in urban areas, 50 feet. These minimum buffers may be adjusted upward or downward on a case-by-case basis. The buffer shall be established based on an investigation of the following factors and after consultation with the Department of Fish and Game and Regional Water Quality Control Board in order to protect the biological productivity of water quality of streams:

(a) soil type and stability of stream corridors;
(b) how surface water filters into the ground;
(c) slope of the land on either side of the stream; and
(d) location of the 100-year flood plain boundary.

Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.

Montecito Community Plan (MCP) **Policy BIO-M-1.1** states:

Designate and provide protection to important or sensitive environmental resources and habitats in the inland portion of the Montecito Planning Area.

MCP Policy BIO-M-1.3 states:

Environmentally Sensitive Habitat (ESH) areas within the Montecito Planning Area shall be protected, and where appropriate, enhanced.

MCP Policy BIO-M-1.6 states, in relevant part:

Riparian vegetation shall be protected as part of a stream or creek buffer.

MCP Policy BIO-M-1.7 states:

No structures shall be located within a riparian corridor except: public trails that would not adversely affect existing habitat; dams necessary for water supply projects; flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety, other development where the primary function is for the improvement of fish and wildlife habitat and where this policy would preclude reasonable development of a parcel. Culverts, fences, pipelines, and bridges (when support structures are located outside of critical habitat) may be permitted when no alternative route/location is feasible. All development shall incorporate the best mitigation measures feasible to minimize the impact to the greatest extent.

San Ysidro Creek is located along the western boundary of the Schlesinger well site and is one of six small creeks that drain the area overlying the MGWB between the Santa Ynez Mountains and the Pacific Ocean. As noted by Dr. Loáiciga in his report (Exhibit 6) and by the applicants' hydrologist in a May 14, 2015 memorandum to Commission staff, discussed above, the Schlesinger well was approved to be located within one hundred feet of the riparian corridor of San Ysidro Creek (Exhibit 1). San Ysidro Creek and its associated riparian habitat are designated as Environmentally Sensitive Habitat (ESH) area in the certified Montecito Community Plan. Additionally, the Montecito Community Plan specifically identifies woodland riparian corridors as a biological resource and habitat that is environmentally sensitive and is to be protected and preserved to the extent feasible.

Pursuant to Coastal Act Section 30107.5, in order to determine whether an area constitutes an ESHA, and is therefore subject to the ESHA protections of the County's LCP, the Commission must answer three questions:

1) Is there a rare species or habitat in the subject area?
2) Is there an especially valuable species or habitat in the area, which is determined based on:
    a) whether any species or habitat that is present has a special nature, OR
    b) whether any species or habitat that is present has a special role in the ecosystem;
3) Is any habitat or species that has met either test 1 or test 2 (i.e., that is rare or especially valuable) easily disturbed or degraded by human activities and developments?

If the answers to questions one or two and question three are "yes", the area is ESHA.

Riparian habitats and their associated streams form important connecting links for biological communities from the highest elevation upper watershed down to the sea, carrying nutrients and providing areas for refuge to the benefit of many different species along the way. The health of streams is dependent on the ecological functions provided by the associated riparian vegetation and habitat. These functions include the provision of large woody debris for habitat, shading that controls water temperature, and input of leaves that provide the foundation of the stream-based trophic structure. Riparian areas provide nesting habitat, shelter, and shade for many species of animals including insects, which thrive in riparian habitats and in turn are a food source for many other animals. Creeks and associated riparian habitat also serve as important corridors for plant dispersal. In urban areas, small animals use the riparian habitat to move in search of food sources or mates.

Riparian habitats in California have suffered serious losses, and such habitats in southern California are currently very rare and seriously threatened. In 1989, Faber estimated that 95-97% of riparian habitat in southern California was already lost. Writing at the same time as Faber, Bowler asserted that, "[t]here is no question that riparian habitat in southern California is endangered." In the intervening years, there have been continuing losses of the small amount of riparian habitat that remain. Today these habitats are, along with native grasslands and wetlands, among the most rare and threatened in California. In addition to direct habitat loss, streams and riparian areas have been degraded by the effects of development. Human-related disturbances can result in depletion of water sources, increased sedimentation rates, and the introduction of non-native species, which disrupts the entire food web and impacts the diversity and suitability of habitat for native species.

Due to the essential role that riparian plant communities play in maintaining biodiversity, because of the historical losses and current rarity of these habitats in southern California, and because of their extreme sensitivity to disturbance, streams and their riparian habitats generally meet the definition of ESHA under the Coastal Act. Dr. Loáiciga's analysis, which is supported by discussion within the applicants' hydrologist's May 14, 2015 Memorandum, confirm that the approved site for the Schlesinger well is within a recognized riparian corridor of San Ysidro Creek. Further, the portion of San Ysidro Creek and its riparian vegetation and habitat that is located on the western boundary of the Schlesinger well site and within one hundred feet of

where the well is proposed to be site is designated as Environmentally Sensitive Habitat (ESH) area in the certified Montecito Community Plan (Exhibit 1).

This portion of San Ysidro Creek and its riparian corridor also meet the definition of ESHA pursuant to the requirements of Section 30107.5 of the Coastal Act, listed above. Specifically, questions (1), (2), and (3) above may be answered with a "yes" as riparian habitat is rare, the riparian vegetation and habitat of San Ysidro Creek play a crucial role in the health of the coastal eco-system, and riparian corridors are known to be sensitive to the human disturbances caused by closely sited development. Accordingly, the Commission finds that the stream and riparian habitat on and adjacent to the Schlesinger project site meets the definition of ESHA pursuant to Section 30107.5 of the Coastal Act.

As detailed more fully in Section IV.A above, the drawdowns caused by pumping 5 gallons per minute for one year would be equal to a reduction in groundwater level by 17.76 feet within 75-feet of the well site, 8.41 feet at the nearest point along San Ysidro Creek, and 6.65 feet at the coastline (within 250 feet of the well site). These drawdown figures demonstrate that the extractions made by the Schlesinger well are likely to have a significant adverse impact on base and surface flows to San Ysidro Creek and the riparian corridor. These base and surface flows represent crucial coastal drainage that recharges the groundwater within the coastal sub-basin and supports creek flows and the neighboring riparian vegetation and habitat. As discussed in Section IV.A above, the applicants' hydrologist asserts that the proposed Schlesinger well will have no impact on the riparian corridor of San Ysidro Creek. However, the applicants' hydrologist does not recognize that the drawdown caused by the operation of the well would extend long distances from the well and capture groundwater that could otherwise serve as base flows to support stream flows in San Ysidro Creek when hydrologic conditions allow flow in the Creek. The operation of the Schlesinger well will also function to draw water away from the riparian corridor of San Ysidro Creek which depends on groundwater and stream flows to maintain habitat values.

LUP Policy 2-11 requires that development adjacent to environmentally sensitive habitat areas be regulated to avoid adverse impacts to habitat resources, and Section 30231 of the Coastal Act, as incorporated in the LCP, requires the maintenance of natural vegetation buffer areas that protect riparian habitats, water quality and the biological productivity of coastal streams. LUP Policy 3-19 prohibits development from having the impact of degrading the water quality of groundwater basins and streams. Coastal Act Section 30240 restricts development within ESHA to only those uses that are dependent on the resource and requires development in areas adjacent to ESHA to be sited and designed to prevent impacts that would significantly degrade such areas. Montecito Community Plan (MCP) Policy BIO-M-1.7 specifically restricts development within riparian corridors by providing a list of allowable development; water wells are not one of the specifically allowed uses. MCP Policy BIO-M-1.1 requires the designation and protection of sensitive environmental resources and BIO-M-1.3 requires generally that ESHA shall be protected and, where appropriate, enhanced. These numerous policies and provisions of the LCP, the Coastal Act (as incorporated into the LCP), and the MCP seek to avoid adverse impacts to environmentally sensitive resources by only allowing certain types of development in ESHA and requiring development to be sited a sufficient distance from these protected resources.

To protect the water quality of streams and riparian vegetation and habitat resources, LCP Policy 9-37 requires a minimum buffer of 50 feet from major streams in urban areas and 100 feet from major streams in rural areas. However, the LCP states that these figures should be adjusted on a case-by-case basis upon site-specific analysis. Although the Schlesinger well is to be located in an urban area and on beach-front parcel that lies within a developed neighborhood, the sensitive, fragile and rare nature of riparian corridors should be considered here as well as the interconnectedness and proximity of the approved water well, coastal stream and associated riparian corridor, high tide line of the ocean, and the overdrafted (as discussed in Section IV.A above) coastal aquifer. The County did not include findings regarding the necessary ESHA buffer for the Schlesinger well. The applicant has not provided a biological analysis to determine the distance or buffer between the Schlesinger well and San Ysidro Creek that would be necessary to protect the habitat values of the creek and riparian habitat from significant disruption.

Adequate buffers are integral to the protection of stream/riparian ESHA from the disruption of habitat values by providing a physical separation between development disturbance and the resource to protect biological productivity, water quality, and hydrological characteristics of the stream, and to minimize the spread of invasive exotic vegetation that tends to supplant native species. According to a California Coastal Commission January 2007 report entitled, “Policies in Local Coastal Programs Regarding Development Setbacks and Mitigation Ratios for Wetlands and Other Environmentally Sensitive Habitat Areas,” which documents and provides assessment of the resource protection policies in the Local Coastal Programs that existed in the state of California at that time, research on the effectiveness of riparian buffers found that 30-60m (97.5-195 feet) wide riparian buffer strips will effectively protect water resources through physical and chemical filtration processes (Exhibit 7). For the purpose of filtering nitrogen compounds, a study determined that "the most effective buffers are at least 30m (97.5 feet) or 100 feet wide composed of native forest, and are applied to all streams, including small ones." Studies of the distribution of plant and bird species in relation to variable riparian buffer dimensions within several riparian systems have found that to include 90% of streamside plants, the minimum buffer ranged from 10m (32.5 feet) to 30m (97.5 feet), depending on the stream, whereas minimum buffers of 75m (250 feet) to 175m (570 feet) were needed to include 90% of the bird species. Research suggests that recommended widths for ecological concerns in riparian buffer strips typically are much wider than those recommended for water quality concerns, often exceeding 100m (325 feet) in width. In general, as the goals of riparian buffers change from single function to multiple or system functions, the required buffer widths increase. For a riparian ESHA buffer to serve multiple functions, the research indicates that a 100-foot buffer is the absolute minimum required for protecting the habitat area and water quality from adverse environmental impacts caused by development.

As discussed in detail above, with less than a 100-foot separation between the Schlesinger well and the riparian corridor of San Ysidro Creek, operation of the well will draw down groundwater otherwise available to provide base flows to the stream and riparian ESHA. As conditioned, the County’s approval of the Schlesinger well places no restrictions on the amount the well owners may extract or thresholds of significance to protect against impacts to San Ysidro Creek and its riparian ESHA. For these reasons, it is Dr. Jonna Engel’s (Commission Staff Ecologist) biological opinion that the approved buffer in this case is inadequate to protect water quality,

riparian habitat, and ESHA from significant degradation and disruption of habitat values, and the Commission concurs with this determination.

The proposed Schlesinger well is inconsistent with the ESHA protection policies of the County's LCP, the incorporated policies of Chapter Three of the Coastal Act, and the Montecito Community Plan as the proposed well will have significant adverse impacts on base flows and surface flows that provide a water source to San Ysidro Creek and maintain the habitat values of its associated riparian corridor. Further, the proposed siting of the Schlesinger well within one hundred feet of the riparian corridor of San Ysidro Creek does not provide an adequate buffer between the development and the designated environmentally sensitive habitat area to preserve the biological productivity, water quality, and habitat values of the Creek.

Therefore, for the reasons discussed above, the Commission finds that the Makarechian and Schlesinger water wells are inconsistent with the water supply resources, ESHA (for Schlesinger), and priority of land uses protection policies of the County's LCP, the incorporated policies of Chapter Three of the Coastal Act, and the Montecito Community Plan, and must be denied.

Denial of the proposed project will not prevent or unreasonably limit productive use of the applicants' property. Without the wells, the existing homes can continue to remain and receive water from MWD, and the landowners could reconfigure their landscaping to use drought tolerant species, innovative site planning, and water conservation measures, and/or hardscape or other features to reduce landscaping water demand. Approving the wells would allow the unreasonable use and wasting of water on non-agricultural, water-intensive landscaping, in violation of LCP and Coastal Act policies as well as in contravention of state efforts to address the ongoing drought. As such, alternatives to the proposed development exist that would allow reasonable use of the site while maintaining consistency with the applicable policies of the County's certified LCP.

E. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Santa Barbara County determined that the proposed development is exempt from further environmental review requirements of the CEQA pursuant to State CEQA Guidelines Section 15303 and 15304(a). Public Resources Code (CEQA) Section 21080(b)(5) and Sections 15270(a) and 15042 (CEQA Guidelines) of Title 14 of the California Code of Regulations (14 CCR) state in applicable part:

> ***CEQA Guidelines (14 CCR) Section 15042.*** *Authority to Disapprove Projects. A public agency may disapprove a project if necessary in order to avoid one or more significant effects on the environment that would occur if the projects were approved as proposed…*
>
> ***Public Resources Code (CEQA) Section 21080(b)(5).*** *Division Application and Nonapplication…(b) This division does not apply to any of the following activities:…(5) Projects which a public agency rejects or disapproves.*

> ***CEQA Guidelines (14 CCR) Section 15270(a).*** *Projects Which are Disapproved. (a) CEQA does not apply to projects which a public agency rejects or disapproves.*

Section 13096(14 CCR) requires that a specific finding be made in conjunction with coastal development permit applications about the consistency of the application with any applicable requirements of CEQA. This report has discussed the relevant coastal resources issues with the proposed project. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference. As detailed in the findings above, the proposed project would have significant adverse effects on the environment as that term is understood in a CEQA context.

Pursuant to CEQA Guidelines (14 CCR) Section 15042 "a public agency may disapprove a project if necessary in order to avoid one or more significant effects on the environment that would occur if the project were approved as proposed." Section 21080(b)(5) of the CEQA, as implemented by Section 15270 of the CEQA Guidelines, provides that CEQA does not apply to projects which a public agency rejects or disapproves. The Commission finds that denial, for the reasons stated in these findings, is necessary to avoid the significant effects on coastal resources that would occur if the project was approved as proposed. Accordingly, the Commission's denial of the project represents an action to which CEQA, and all requirements contained therein that might not otherwise apply to regulatory actions by the Commission, do not apply.

APPENDIX 1

Substantive File Documents

Certified Santa Barbara County Local Coastal Plan; Certified Montecito Community Plan; Santa Barbara County Montecito Planning Commission Findings and Conditions dated October 22, 2014 (Local Permit Nos. 14CDH-00000-00007 and 14CDH-00000-00016); Geotechnical/Hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-Basin (Storage Unit 3) of the Montecito Groundwater Basin by Dr. Hugo Loáiciga and dated November 1, 2015; Montecito Water District Board of Supervisors Ordinance No. 92 dated February 11, 2014; Montecito Water District Board of Supervisors Ordinance No. 93 dated February 21, 2014; Montecito Water District Board of Supervisors Ordinance No. 94 dated March 24, 2015; Montecito Water District Newsletter dated March 23, 2016; Montecito Water District Newsletter dated April 22, 2016.

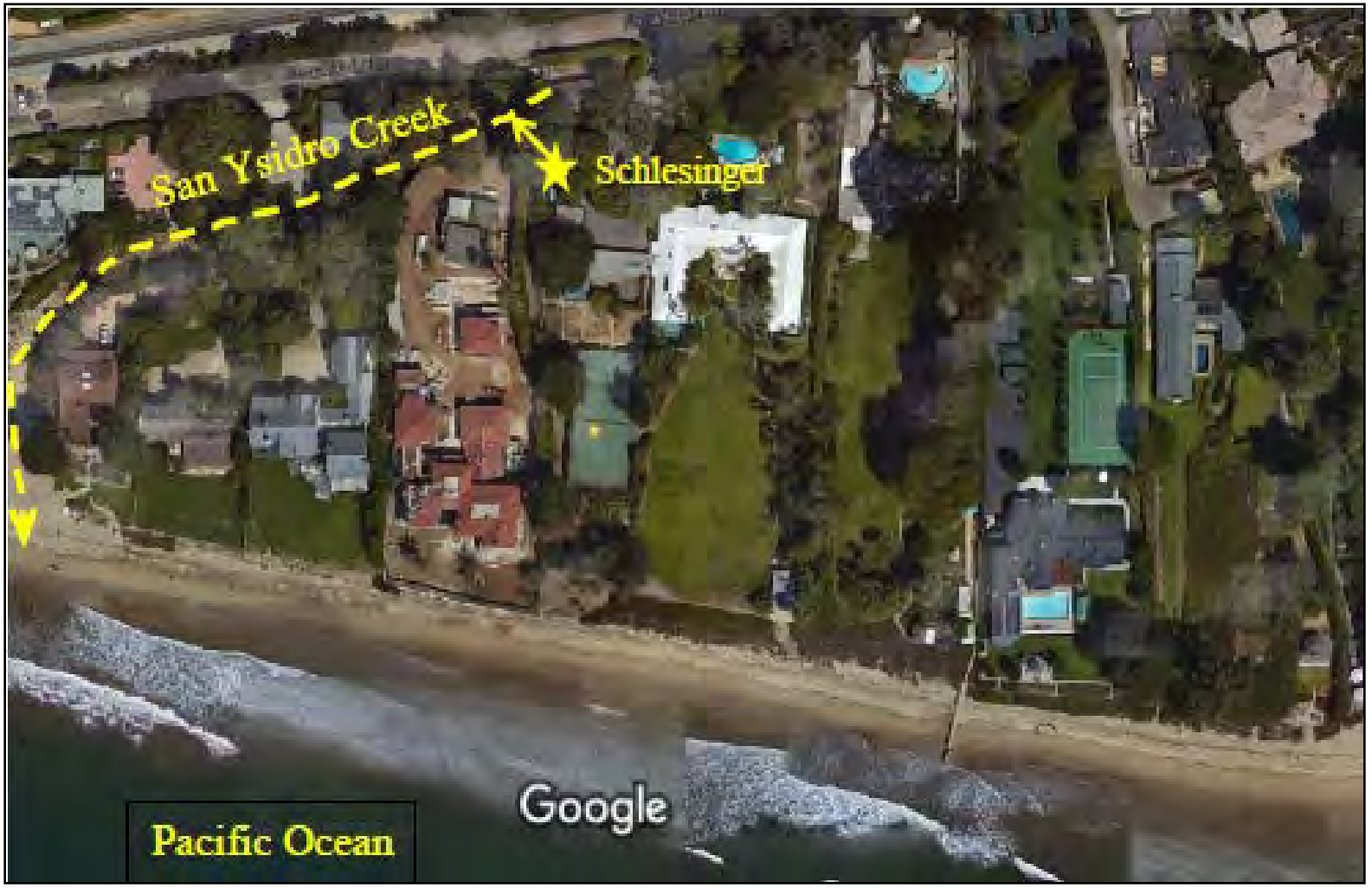

Exhibit 1
Approximate Location of the Well Site & Its Proximity to San Ysidro Creek
A-4-STB-14-0060

Exhibit 2
Map of MGWB Boundaries & Component Groundwater Storage Units
A-4-STB-14-0060

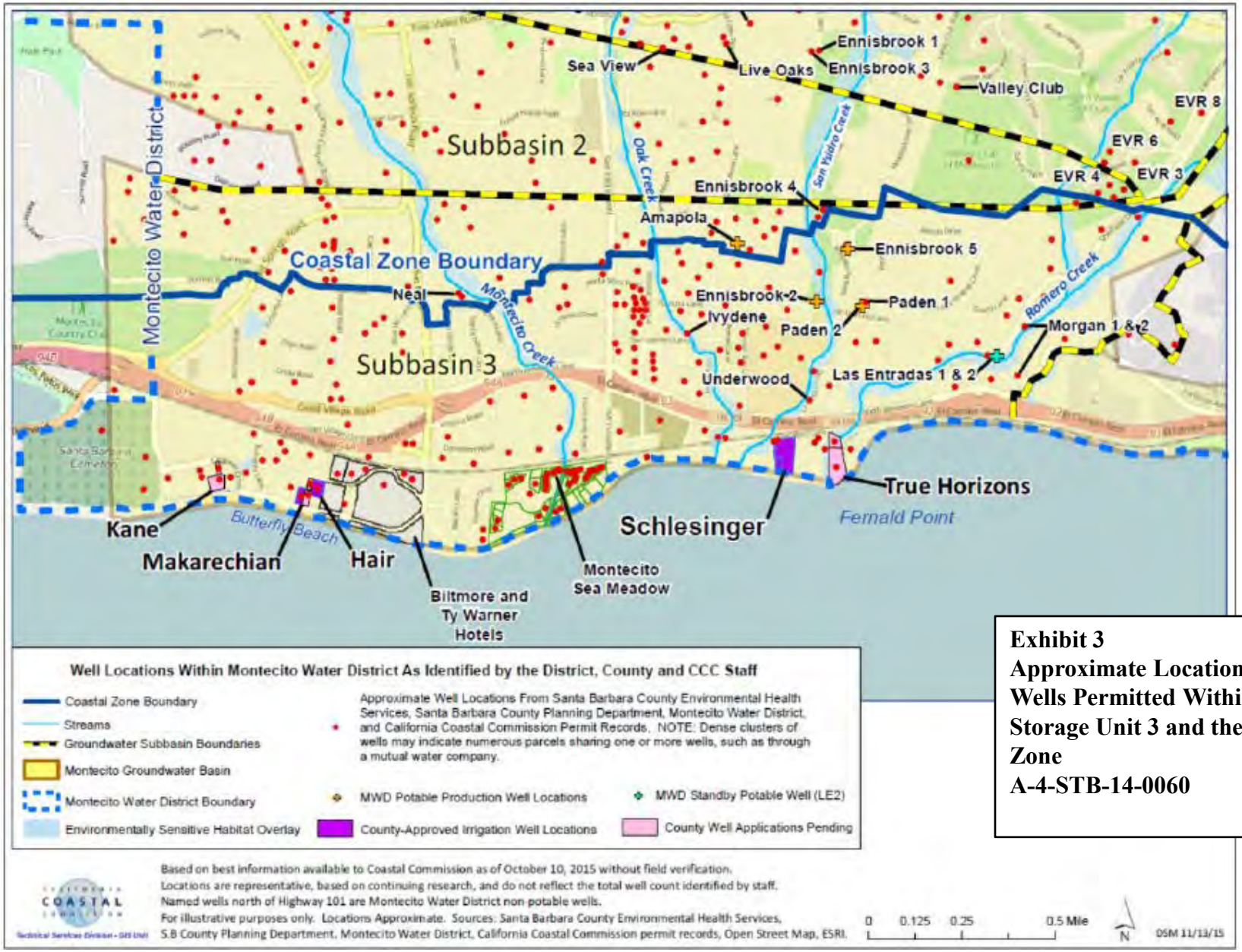

Exhibit 3
Approximate Locations of Wells Permitted Within Storage Unit 3 and the Coastal Zone
A-4-STB-14-0060

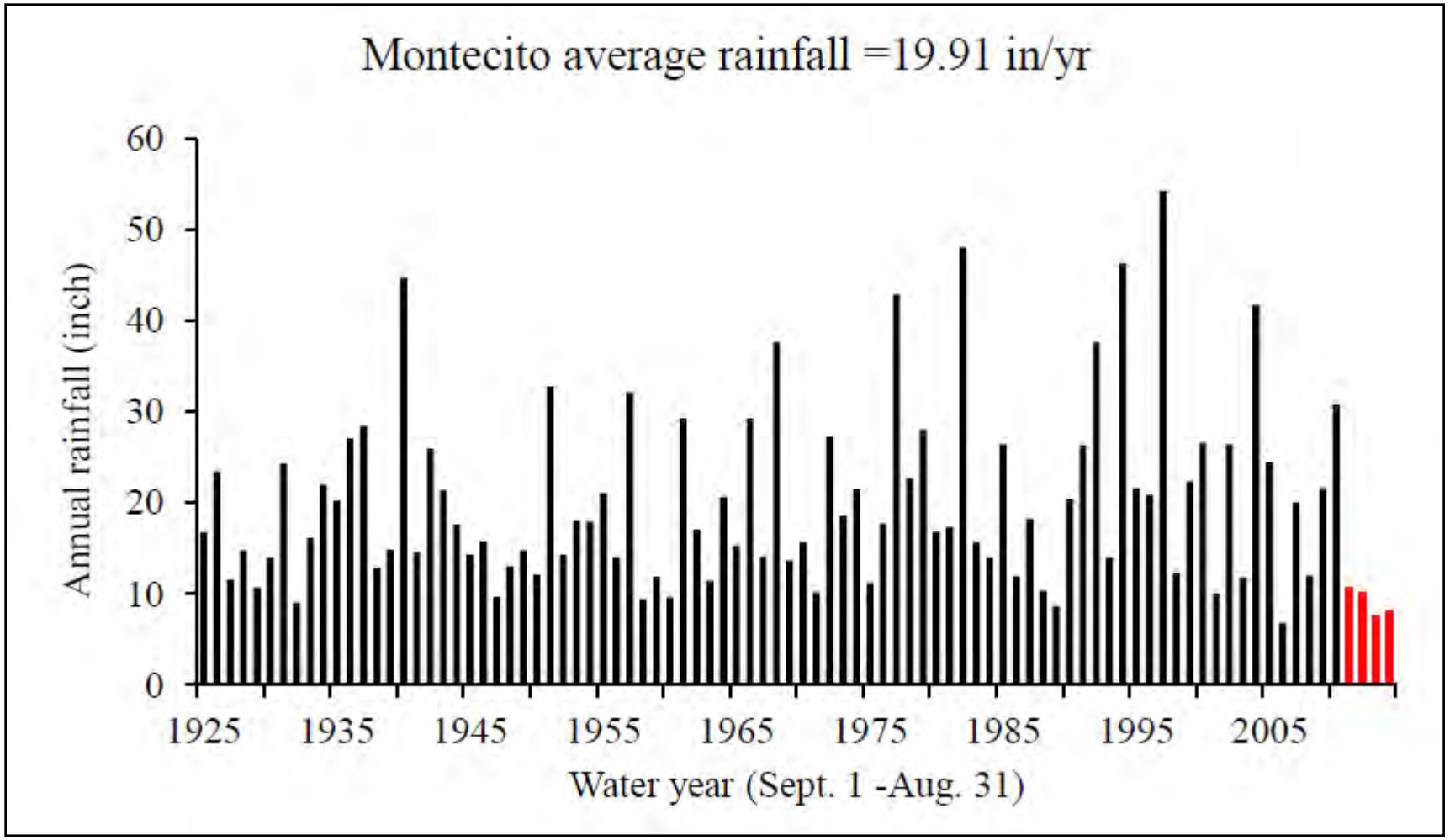

Exhibit 4
Annual Rainfall in Montecito (1925-2015)
A-4-STB-14-0060

MONTECITO WATER DISTRICT

#21150 → Glenn R.
RECEIVED Dianne
NOV 24 2014 Alice McC.
S.B. COUNTY Rachel VanM.
PLANNING & DEVELOPMENT

November 21, 2014

Norman Fujimoto, Specialist
Santa Barbara County
Environmental Health Department
225 Camino Del Remedio
Santa Barbara, CA 93110

Santa Barbara, CA 93101
Mr. Glenn Russell, Director
SBCO Planning & Development
123 East Anapamu Street
Santa Barbara, CA 93101

Salud Carbajal, 1st District
Supervisor
County of Santa Barbara
105 East Anapamu Street
Santa Barbara, CA 93101

Mona Miyasato, Executive Officer
County of Santa Barbara
105 East Anapamu Street
Santa Barbara, CA 93101

Re: Request for County Suspension on New Well Drilling Permits – Montecito Water District Service Area

Dear County Officials,

As a public water agency, Montecito Water District is charged with managing groundwater resources within its service boundaries. However, Santa Barbara County is vested with the authority to permit the construction, rehabilitation and destruction of water wells in Santa Barbara County. As a result of this disconnect between our respective agencies, the County of Santa Barbara has the full authority to protect and control groundwater resources until such time as a groundwater basin becomes imperiled and is legally adjudicated. We are herein requesting that the County work with us in proactively bridging this illogical situation and protect our community's groundwater resources.

As you are aware, the County of Santa Barbara declared a Water Shortage Emergency on January 21, 2014 and the Montecito Water District (MWD) declared a Water Shortage Emergency and suspension of new meter water service within its service boundaries in February 2014. The District's dependence on surface water for 95% of its water supplies, coupled with an acceleration of water usage, was the cause of the current water shortage that resulted in the adoption of Ordinances 92 and 93.

In the months leading up to the adoption of Ordinances 92 and 93, MWD was informed by District customers of the failure of approximately three dozen private wells within its service boundary, resulting in residents who had previously used groundwater for outside irrigation purposes shifting from groundwater to the District's potable water supply for irrigation

583 San Ysidro Road
Santa Barbara, CA
93108-2124

Ph 805.969.2271
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Exhibit 5
Letter from Montecito Water District
to County of Santa Barbara
A-4-STB-14-0060

purposes. The combination of a rapidly increasing demand for water due to climatic conditions and well failures, coupled with severely curtailed community water supplies, led us to enact strict water rationing to all District customers. Along with water rationing, the District enacted penalty charges and other mechanisms to protect against water overuse.

MWD customers responded to the Water Shortage Emergency and have reduced their District water demand by an average of 45%. However, it remains unknown how much ground water is being extracted by District customers to supplement the water they are obtaining from MWD, nor is it known how much water private water companies are extracting within the MWD service area to service the domestic needs of their customers.

The bottom line is, with the Environmental Health Department issuance of over 550 well permits within District Boundaries since the 1970s, MWD has no mechanism for accurately determining the actual number of active wells, or private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from the aquifers within its service area.

Since declaring a Water Shortage Emergency, MWD has been able to supplement its diminishing water supplies with special water purchases; however, its local surface water supplies at Lake Cachuma and Jameson Lake will only provide 33% of their normal deliveries in the 2014/15 water year which began October 1, 2014. If conditions remain dry, it is estimated that the District may have only 50% of its 2014/15 water supply available to our customers in 2015/16. As a result, it is imperative that groundwater resources, which are expected to play a larger role in the District's water supply, be appropriately managed and monitored in order to protect everyone within the community.

The water shortage emergency condition and implementation of water rationing has caused District customers to turn to alternate water supplies, and we have observed a surge in new water well permit applications to the County. This is of serious concern to Montecito Water District since this increase in well construction permit applications and well construction will lead to additional demand on the groundwater basin. The District monitors groundwater levels through the different storage units bi-annually and has observed not only lowering of static groundwater levels, but also a significant reduction in groundwater production from our own District wells.

The District has conducted numerous studies by professional geologists over the last several decades and recognizes the finite safe yield limitations of groundwater in Montecito. Groundwater is being pumped from the different storage basins by customers for non-potable purposes without regard to the adverse effect to District and community public health and safety water supplies. In fact, District studies have indicated that there has been no measured recharge to the groundwater basin since the 2004-05 winter season.

The County must understand that the majority of our District's producing groundwater wells are located in Storage Unit 3 which is within the coastal zone. In addition to District water well production in Storage Unit 3, there are at least three other private water companies within the same storage unit that are the sole source of potable water to about 60 residential properties. These private water companies do not have backup water supplies and the further lowering of groundwater levels or water quality degradation due to possible seawater intrusion could lead to serious public health and safety consequences for these private water company customers as well as District customers. These groundwater water supplies, critical to the District and private water companies, could be permanently damaged if further extraction from the groundwater basin occurs through the permitting of new wells.

As a result of the above mentioned situation, MWD is requesting that the County take immediate action to protect the public health and safety by:

1. **Water Well Moratorium** - Placing a moratorium on the issuance of new well drilling permits within the service boundary of the Montecito Water District until such time as MWD's Water Shortage Emergency is lifted.

2. **Future County Permitted Wells** - Any future County-permitted new, rehabilitated or replaced water well within the District's service boundary shall include the following conditions:

   a. Flow metering device, meeting MWD's requirements be installed at the wellhead discharge piping and the transmittal of the annual groundwater extraction information be provided by the owner to both the County and MWD.

   b. District's Bi-Annual Well Monitoring Program Participation - MWD shall be provided reasonable access to the well twice annually to monitor the well static water levels.

   c. Cross Connection Program Enrollment - A backflow device be installed in accordance with District standards and enrolled in MWD's Cross Connection Program in order to prevent cross-contamination of the District's potable water supply with the non-potable well water supply.

3. **Water Wells and County New Land Use Permits** - Whenever the County has permitting authority on a property with an existing well, numbers 2.a, 2.b, and 2.c above be conditions of the issuance of the permit.

The District is available to discuss this matter with you at your earliest convenience. We realize that the mechanisms outlined above fall within the authority of multiple departments within the County (i.e. Planning and Development, Environmental Health, etc) however, due to the urgency of this matter and the current groundwater basin degradation, it is important that a coordinated approach be undertaken to protect the

public health and safety in the near-term as well as the long-term. Please contact the undersigned at 969-2271 if you have any questions.

I look forward to working together with you on this important issue.

Sincerely,

Tom Mosby
General Manager

cc: Chair, Board of Supervisors
Tom Fayram

Geotechnical/Hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-Basin (Storage Unit 3) of the Montecito Groundwater Basin

Santa Barbara County, California

By

Hugo A. Loáiciga, Ph.D., P.E., Consulting Hydrologist

320 N. Fairview Avenue Suite 3, Goleta, California 93117

Tel: (805) 450 4432; hloaiciga@hotmail.com

July 27, 2016

Prepared for the California Coastal Commission

Report of Contract Number CC-15-30

Submitted to Mr. John Ainsworth,

Senior Deputy Director

California Coastal Commission

89 South California Street, Suite 200

Ventura, CA 93001

Exhibit 6
Geotechnical/Hydrologic Evaluation by
Dr. Hugo Loaiciga
A-4-STB-14-0060

TABLE OF CONTENTS

1. List of acronyms

AFY: acre feet per year (1 acre foot = 43,560 cubic feet = 325,851 gallons)

CDWR: California Department of Water Resources

CGWB: Carpinteria Groundwater Basin

CVWD: Carpinteria Valley Water District

ETGM: Environmental Thresholds and Guidelines Manual

gpm: gallons per minute

mg/L: milligrams per liter

MGWB: Montecito Groundwater

MWD: Montecito Water District

RCF: Rincon Creek Fault

R: Groundwater threshold of significance

SBGWB: Santa Barbara Groundwater Basin

SRGWB: Idealized standard reference groundwater basin

SYUGWB: Santa Ynez Uplands Groundwater Basin

TDS: Total dissolved solids

USGS: United States Geological Survey

2. List of Figures. The Appendix contains the following Figures.

3. Executive Summary.

This summary presents the key findings derived from the analysis of (i) the applications to install three new wells in storage unit 3 (the coastal sub-basin) of the Montecito Groundwater Basin, (ii) data concerning groundwater extraction and the conditions of the Montecito Groundwater basin, and (iii) several previous reports written about the hydrogeologic characteristics of the Montecito Groundwater basin. The key findings of this report are as follows:

(i). The proposed three new wells (the Schlesinger, Makarechian, and Hair wells) are very likely to cause significant adverse impacts on the groundwater resources of the Montecito Groundwater Basin's coastal sub-basin if constructed and operated.

(ii). The Makarechian and Hair wells would be installed in an intensely groundwater-mined portion of storage unit 3 comprised between Fernald Point to the east, highway 101 to the north, the Pacific Ocean to the south, and the Santa Barbara Cemetery to the west. The Makarechian and Hair wells would have significant adverse impacts on the groundwater resources of storage unit 3 concerning (a) well interference, (b) loss of well yield, and (c) seawater intrusion.

(iii). The Schlesinger well would have significant adverse impacts on the groundwater resources of storage unit 3 concerning (a) seawater intrusion, and (b) stream-aquifer interactions (that is, reduction of stream flow in San Ysidro Creek by groundwater extraction).

(iv). The safe yields of the Montecito Groundwater Basin and its storage units (storage units 1, 2, 3, and the Toro Canyon storage unit) stipulated in the Montecito Water District's 1998 Groundwater Management Plan overestimate the actual safe yields of the four storage units and the basin-wide safe yield. It was herein determined that the safe yields of storage units 1, 2, 3, the Toro Canyon storage basin, and the entire Montecito Groundwater basin equal 545, 38, 409, 130, and 1,122 acre feet per year, respectively. For comparison, the Montecito Water District's 1998 Groundwater Management Plan adopted a basin-wide safe yield equal to 1,650 acre feet per year.

(v). The Montecito Groundwater Basin is in a state of overdraft, which means that groundwater extraction has exceeded natural recharge for several consecutive years, groundwater levels are at historic low, and there are significant adverse impacts on its groundwater resources. The 2014 County of Santa Barbara's Groundwater Basins Status Report stated the following concerning long-term measured groundwater levels in the MGWB: "The hydrograph from the Montecito Basin shows a consistent decline over the period of record (since the early 1960s) and, with the exception of a couple of data points which may not reflect accurate measurements, shows a historic low water elevation". This condition of long-term declining ground water level (with adverse impacts, as shown by this Contractor in this report) is called groundwater overdraft. The County of Santa Barbara's Environmental Thresholds and Guidelines Manual, revised in July 2015, classified the Montecito Groundwater Basin in state of overdraft. This report demonstrates that the extent of overdraft in the Montecito Groundwater Basin is more severe than that stated by the County of Santa Barbara in 2015. The current net overdraft in storage unit 3 (the coastal sub-basin), for example, equals 591 acre feet per year.

(vi). There is ample evidence from high chloride concentrations measured in water from wells within the Montecito Groundwater Basin that seawater intrusion has occurred and is occurring in the Montecito Groundwater Basin.

(vii). The groundwater threshold of significance in storage unit 3 of the Montecito Groundwater Basin equals 0.71 acre feet per year when calculated with the County of Santa Barbara's Environmental Thresholds and Guidelines Manual procedure; yet, it equals zero when site-specific impacts are considered. The three appealed wells (Schlesinger, Makarechian, Hair) are very near the coastline and most likely will worsen seawater intrusion in storage unit 3 of the Montecito Groundwater Basin.

(viii). The Environmental Thresholds and Guidelines Manual's method to calculate groundwater thresholds of significance in alluvial basins of Santa Barbara County does not adequately consider site-specific impacts to groundwater resources in the storage units of the Montecito Groundwater Basin. The Environmental Thresholds and Guidelines Manual's method relies on an idealized reference groundwater basin with characteristics similar to those of the Santa Ynez Uplands Groundwater Basin that does not account for site-specific threats to groundwater resources posed

by well interference, loss of well yield, seawater intrusion, and depletion of stream flow.

(ix). This report's findings concur with the California Coastal Commission's reason to appeal the local permits issued to install the Schlesinger, Makarechian, and Hair wells in that the local permits are inconsistent with the County of Santa Barbara's local coastal program.

(x). There are perplexing gaps of knowledge and lack of transparency about the Montecito Groundwater Basin. Neither the Montecito Water District nor the County of Santa Barbara knows with certainty how much groundwater is extracted from the Montecito Groundwater Basin, nor the number of active wells, their locations, and groundwater extraction rates. It is impossible to protect the groundwater resources of the Montecito Groundwater Basin without such knowledge. There is also at present inadequate monitoring of the Montecito Groundwater Basin, both in terms of the frequency and the spatial coverage of measurements of its groundwater levels and groundwater quality.

The remainder of this report provides an analysis of the reasons leading to findings (i) through (x). This report's Writer concluded –based on the reviewed data- that applications for new wells in the Montecito Groundwater Basin must demonstrate that proposed extraction of additional groundwater would not adversely impact the groundwater resources of this overdrafted basin.

Drought recurrence is a characteristic of the climate of Santa Barbara County. Droughts will recur in the future, perhaps with increasing severity, as they have recurred in the past. Stresses on the Montecito Groundwater Basin will be aggravated if well permitting continues unabated. Seawater intrusion is an irreversible process that cannot be mitigated by rainfall during wet years during which groundwater recharge adds to storage to the coastal sub-basin of the Montecito Groundwater Basin. Depletion of stream flow and loss of well yield by aquifer dewatering are likely to be accentuated in the Montecito Groundwater Basin by the proliferation of new wells.

Other factors pose additional threats to the Montecito Groundwater Basin. The National Research Council (2012), for example, predicted sea-level rise by year 2100 for the coasts of California, Oregon, and Washington to range between 1.3

and 5.6 feet relative to the 2000 mean sea level. Such degree of sea-level rise would exacerbate seawater intrusion in the intensely groundwater-mined storage unit 3 of the Montecito Groundwater Basin.

4. **Background and Scope**.

Dr. Hugo A. Loáiciga (henceforth "Contractor") was retained in August 2015 by the California Coastal Commission (henceforth "Commission") to conduct a geotechnical/hydrologic evaluation of the possible hydrologic impacts of installing and operating three irrigation wells to be drilled and operated in the coastal sub-basin (storage unit 3) of the Montecito Groundwater Basin (MGWB, henceforth).

The County of Santa Barbara's approvals will be considered by the Commission pursuant to Appeal No. A-4-STB-14-0060 (Schlesinger, 1685 Fernald Point Lane, Montecito); Appeal No. 14CDH-00000-00016 (Makarechian, 1150 Channel Drive); and Appeal A-4-STB-14-0062 (Hair, 1169 Hill Road).

The California Department of Water Resources' (CDWR) Bulletin 118 (California's Groundwater, 2003) provides a succinct description of the Montecito Groundwater Basin (MGWB), which underlies the unincorporated town of Montecito and the Toro Canyon watershed. Precipitation ranges from 17 to 21 inches per year. The MGWB's surface area equals 6,270 acres (9.8 square miles). It is divided into four sub-basins or storage units 1, 2, 3, and the Toro Canyon unit. Storage units 1, 2, and 3 are the northern, central, and southern (coastal) sub-basins, respectively. The Toro Canyon unit lies on the eastern portion of the MGWB. The acreages of storage units 1, 2, 3 and the Toro Canyon unit equal 2,784, 608, 1,674, and 1,204, respectively. Figure 1 depicts the MGWB and its storage units. The MGWB is bounded on the north by the Santa Ynez Mountains and the Arroyo Parida fault, on the east by consolidated rocks, on the southeast by the Fernald fault, and on the northeast by a surface drainage divide that separates the Montecito and Carpinteria Groundwater Basins. The offshore Rincon Creek fault and the Pacific Ocean bound the basin on the south. An administrative boundary on the west separates the MGWB from the Santa Barbara Groundwater Basin (SBGWB), although there is no physical separation between the two basins. The area overlying the basin is drained by several small creeks (Buena Vista, Montecito, Oak, Romero, San Ysidro, Toro Canyon) that flow from the Santa

Ynez Mountains towards the Pacific Ocean. The primary groundwater-bearing deposits in the Montecito Groundwater Basin are unconsolidated alluvial deposits, the Casitas and Santa Barbara Formations. Groundwater is generally unconfined within alluvial deposits, where well yields are modest. The upper Casitas Formation is the main groundwater-bearing stratum of the Montecito Groundwater basin. It is partially confined in some parts of storage units 1 and 3. The Santa Barbara Formation occurs only in a restricted area in the southwest portion of the basin and, therefore, is of negligible use as a groundwater source in the MGWB (CDWR's Bulletin 118, 2003; see also, CDWR, 1999).

Figure 2 depicts the approximate locations of the properties where the Schlesinger, Makarechian, and Hair wells would be installed if approved. It is seen in Figure 2 that the Makarechian and Hair wells would be located less than 300 feet away from each other and less than 300 feet from two other existing wells (Haber, Hair). Figure 2 shows that the Schlesinger well would be located less than 200 feet from the nearest point along the course of San Ysidro Creek. The County-approved Schlesinger, Makarechian, and Hair wells would lie within 400 feet from the high-tide line.

Wells A and B, shown in Figure 2, are owned by the Biltmore Hotel and are about 500 feet east of the Makarechian and Hair wells. The Biltmore wells have a combined permitted groundwater extraction equal to 32 acre feet / year (AFY) according to the CCC. There are several other active wells near the Schlesinger, Makarechian, and Hair wells. Wells labeled C and D, for example, are private wells owned by the Montecito Sea Meadows Mutual Water Company and the Ivydene Mutual Water Company, respectively. Senior Environmental Health Specialist Norman Fujimoto (Public Health Department, County of Santa Barbara) reported in a site inspection dated January 22, 2014, that the two wells functioning at the Montecito Sea Meadows Mutual Water Company were pumping a combined 164 gpm (gallons per minute) in November 2013. If that rate were maintained constantly if would amount to 264 AFY of groundwater extraction. The Montecito Sea Meadows Mutual Water Company reported to the State's Drinking Water Program that it extracted approximately 58 acre feet of groundwater in 2014 with the two wells constructed on site in 1984 as part of the Ocean Meadows Development Plan project. The Ivydene well has a permitted extraction equal to 20 AFY according to the CCC. Other active wells near the appealed wells belong to

the Sykes Mutual Water Company, the Lingate Lane Mutual Water Company, and the Miramar Addition & Improvement Water Company. The latter three water companies have a combined groundwater extraction of approximately 68 AFY (from letter by Mrs. George P. Kerns to the South Central Coast Regional Commission, dated April 21, 1977).

The approximate locations of the Montecito Water District's (MWD, henceforth) four active municipal wells, namely, the Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2 wells are depicted in Figure 2, also. These wells had a combined groundwater extraction of approximately 495 AFY in water year 2014-2015 (that is from September 1, 2014, through August 31, 2015). The combined extractions of wells A, B, C, D, those belonging to the Sykes, Lingate Lane, and Miramar Addition and Improvement water companies, and those owned by the MWD are estimated by this Contractor to be about 879 AFY. To this amount one must add the extractions of many other wells within the coastal sub-basin (storage unit 3) of the MGWB. Preliminary research by Commission staff suggests that there are at least a dozen wells within a half mile from the Schlesinger, Makarechian, and Hair wells, and at least 250 wells lie within storage unit 3. This Contractor estimates that during current drought conditions the groundwater extraction in the coastal sub-basin of the MGWB may exceed 1,000 AFY. The implications of this level of groundwater extraction for the coastal sub-basin in particular, and the MGWB in general, are elaborated further in section 8 of this report.

Proximity to the coastline, to surface water resources (creeks), and interference between neighboring wells extracting groundwater from the same water-bearing geologic formations are key topics addressed in this report. It can be seen in Figure 2 that there are three streams flowing toward the Pacific Ocean that are comprised between the Makarechian and Hair well's proposed locations and that of the Schlesinger well. Those are Montecito, Oak, and San Ysidro creeks. Figure 3 shows a Google Earth image of the approximate locations of the proposed Makarechian and Hair wells, and the existing Chase, Haber, and private wells A and B. Figure 4 is a Google Earth image of the approximate location of the Schlesinger well. Notice the proximity to the coastline of the appealed groundwater wells.

Figure 5 depicts the approximate locations of wells permitted within storage unit 3 and the associated coastal zone (the latter under CCC jurisdiction). It is striking in Figure 5 the agglomeration of wells in the vicinity of the coastline and near creeks, two environments particularly vulnerable to groundwater extraction. It is also remarkable in Figure 5 the clustering of many wells within the coastal zone, a practice conducive to well interference and loss of well yield. This Contractor reviewed County of Santa Barbara records of well permits issued since 1906 till present that revealed about 1,280 such permits. The status of many of these wells remains uncertain or unknown to the local water purveyor (the MWD) and the local well-permitting agency (the County of Santa Barbara). In a letter dated November 21, 2014, from the MWD to the County of Santa Barbara, the former acknowledged that it "had no mechanism for accurately determining the active number of active wells, or the private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from the aquifers within its service area". The same letter reported the failure of "approximately three dozen private wells" within the MWD service area and asked the County of Santa Barbara for a moratorium of well permits within the boundary of the MGWB. The MWD's Engineering Manager informed its Board of Directors in a May 19, 2015, memorandum that the private extraction of groundwater was believed to range between 700 and 1,000 acre feet / year (AFY) in the MGWB. This Contractor estimates the amount of private extraction from the MGWB exceeds the 700 to 1,000 AFY estimate by the MWD, and may be larger than 1,500 AFY. In fact, it was stated above that this Contractor estimates that the current groundwater extraction in storage unit 3 alone possibly exceeds 1,000 AFY.

The applications to construct the Schlesinger, Makarechian, and Hair wells were submitted during the ongoing severe drought that started in water year 2011-2012 (that is, September 1, 2011 through August 31, 2012). The number of well applications has surged in Montecito and the rest of the State of California during the current drought, concomitant with the reduction of surface-water sources. At the same time, many wells have gone dry as an increasing number of wells extract groundwater from the same groundwater bearing formations, whose natural recharge has been greatly or totally reduced during the current drought. The decline of hydraulic head in coastal groundwater sub-basins caused by intensified

groundwater extraction is the direct cause of seawater intrusion that contaminates otherwise freshwater-water coastal aquifers (Loáiciga, et al. 2012). Baseflow from aquifers to support streamflow in streams is reduced or terminated by falling groundwater levels as the aquifer-stream hydraulic connection is broken (Kram and Loáiciga, 2014). Hydraulic interference among neighboring wells increases the drawdown in the wells, which may lead to reduction of wells' yields and well failure (Loáiciga, 2004) as recently reported by the MWD's letter dated November 21, 2014 to the County of Santa Barbara asking for a moratorium on permitting of new wells in the MGWB.

The May 19, 2015, memorandum from the MWD's Engineering Manager to the Board of Directors presented groundwater-level data for Spring 2015 showing that the four active MWD wells that are sources of potable-water production had the levels listed in Table 1.

Table 1. Groundwater levels in the four MWD municipal wells, Spring 2015. The four featured wells lie within storage unit 3, the coastal sub-basin.

Well name	Groundwater level	Units
Amapola	-20	Feet below mean sea level
Ennisbrook 2	-26	Feet below mean sea level
Ennisbrook 5	-47	Feet below mean sea level
Paden 2	-58	Feet below mean sea level

The implications of the data shown in Table 1 for the purpose of protecting the water quality in storage unit 3 of the MGWB are further elaborated in section 5 (dealing with seawater intrusion in storage unit 3) of this report. The County of Santa Barbara's 2014 Groundwater Basins Status Report states that the groundwater level in the MGWB has been declining since the 1960s and are at historic low (see page 12 of the 2014 report). The water levels listed in Table 1 support that statement.

Figure 6 portrays measured rainfall in Montecito since water year 1925-1926. The last four water years (2011-2012 through 2014-2015) are marked in red in Figure 6. Rainfall during the current drought averaged 9.17 inches per year which is the lowest four-year average since 1925 in Montecito, where average annual rainfall

equals 19.91 inches. Droughts, defined by the Contractor as three or more consecutive years with below (long-term) average annual rainfall (see Loáiciga, 2005), are recurrent phenomena in Santa Barbara County, and in the Montecito area, in particular.

Figure 7 depicts drought recurrence in the City of Santa Barbara since 1867. The patterns of rainfall in the City of Santa Barbara and Montecito are almost identical, except for the fact that the Santa Barbara average annual rainfall is 18.01 inches, about 1.90 inches less than that in Montecito. It is seen in Figure 7 that there have been 12 droughts during the instrumental period. The average drought duration was 4.6 years and the longest drought lasted 9 years (in the second half of the 19th century).

The highly variable and drought-prone climate of Santa Barbara County must be taken into account in the management of Montecito's water resources. The rainfall data herein presented demonstrate that the current drought is average insofar as its duration is concerned.

Groundwater extraction in the MGWB by the four wells that are sources of potable water to the MWD rose rapidly, more than fivefold, as rainfall dwindled during the drought. Figure 8 depicts the combined annual groundwater extraction by the MWD's Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2. It is seen in Figure 8 that the MWD's four municipal wells extracted nearly 500 AFY in water years 2013-2014 and 2014-2015 from storage unit 3. The MWD extraction data shown in Figure 8 are at odds with Table 1 of the Santa Barbara County's 2014 Groundwater Basins Status Report which lists the MGWB as having an annual "draw" equal to 500 acre feet of groundwater, and zero surplus or overdraft. The County's 500 AFY represents a gross underestimation of the groundwater extraction in the MGWB. It was estimated above by this Contractor that groundwater extraction in storage unit 3 alone is close to about twice the County's basin-wide estimate of 500 AFY. The 2014 Groundwater Basins Status Report stated the following (in its page 12) concerning long-term measured groundwater levels in the MGWB: "The hydrograph from the Montecito Basin shows a consistent decline over the period of record (since the early 1960s) and, with the exception of a couple of data points which may not reflect accurate measurements, shows a historic low water elevation". This condition of long-term declining groundwater level (with

concomitant adverse impacts, as shown by this Contractor in this report) is called overdraft. Further confusion is created by the County of Santa Barbara's 2015 Environmental Thresholds and Guidelines Manual (ETGM) that lists in its Table 1, page 73, an overdraft MGWB equal to 426 AFY in the MGWB, in clear contradiction of the 2014 Status Report's contention that the MGWB has zero surplus or overdraft. Section 8 of this report demonstrates that the MGWB is in state of overdraft.

It is common for water purveyors and private well owners to increase groundwater extraction during droughts as they seek to compensate for reduced surface water sources and meet rising water use. Their strategy is to resort to groundwater storage to mitigate temporary shortfalls of surface water, with the expectation that rainfall will return to replenish aquifer storage and restore normalcy. This strategy is jeopardized when a drought lasts longer than usual, say, longer than three years in our area, because groundwater storage may be severely depleted, leading to well failures, heightened seawater intrusion, and other adverse impacts on groundwater resources. The strategy of increasing groundwater extraction during drought poses special risks in coastal groundwater sub-basins, such as storage unit 3 of the MGWB. Table 1 listed recent groundwater levels in the four MWD potable-production wells in storage unit 3 that are substantially below sea level. Seawater migrates in the direction of decreasing hydraulic head, that is, landward, as groundwater elevation is lowered below sea level by wells in a coastal sub-basin, storage unit 3 being a case in point. Pervasive seawater intrusion may render coastal aquifers useless as water sources for human, industrial, and irrigation uses unless desalination technology is deployed to remove salts from contaminated groundwater. In spite of the existence of technological fixes, their deployment raises a number of issues such as brine disposal, elevated energy and operational costs, the contamination of natural freshwater sources, and the violation of environmental safeguards (Loáiciga et al., 2012).

Section 5 of this report presents an analysis of seawater intrusion in storage unit 3 of the MGWB and deconstructs the fallacious notion that there is an offshore barrier to seawater intrusion along its southern perimeter. Section 5 provides evidence from studies that have established that natural seaward discharge of groundwater in the MGWB is needed to protect the coastal freshwater aquifer. Seaward discharge is not wasted freshwater as insinuated by consulting geologist

A. Simmons in an October 15, 2014, presentation to the Montecito Planning Commission and in an undated presentation to Commission staff. Instead, seaward discharge of groundwater reflects a natural condition necessary to preserve groundwater quality in storage unit 3.

This report focuses on the possible impacts that the three proposed and appealed wells (Schlesinger, Makarechian, Hair) could have in storage unit 3 of the MGWB. These wells share, for all practical purposes, nearly identical profiles in regards to their potential to (i) exacerbate groundwater-level decline near the coastline and contribute to seawater intrusion, and (ii) induce further well-interference that could impact existing wells. Potential adverse impacts on San Ysidro Creek's stream flow must be taken into account in the case of the Schlesinger well.

5. Seawater intrusion in storage unit 3 of the MGWB.

There have been several hydrogeologic studies of the South Coast groundwater basins of Santa Barbara County. A few of them specifically targeted the MGWB. Others assessed neighboring groundwater basins (the Carpinteria Groundwater Basin (CGWB), the Santa Barbara Groundwater Basin (SBGWB)) that share very similar conditions as those found in the MGWB insofar as the threat of sweater intrusion is concerned. The findings of a few of those hydrogeologic studies were pertinent to the Contractor's scope of work in the development of this report. It is not part of this report's scope to repeat a very large body of information already available elsewhere, but rather, to highlight critical previous knowledge relevant to its stated purpose, which has to do with determining possible hydrologic impacts of the proposed Schlesinger, Makarechian, and Hair wells. The following are excerpts from previous reports that touched on the issue of seawater intrusion in the MGWB or nearby basins:

(i). Upson, J. E. (1951). "Geology and ground-water resources of the south-coast basins of Santa Barbara County, California, with a section on surface-water resources, by H. G. Thomasson, Jr." U.S. Geological Survey (USGS) Water-Supply Paper 1108. This was the earliest USGS hydrogeologic investigation of groundwater basins of the south coast of Santa Barbara County. On page 3, Upson stated that the possibility of sea-water encroachment (herein called seawater intrusion) "exists along the shore west of Carpinteria and such encroachment will

doubtless occur if excessive pumping is continued, although there was no evidence of such contamination as of 1946".

(ii). Muir, K.S. (1968). "Groundwater reconnaissance of the Santa Barbara-Montecito Area, Santa Barbara County, California". US Geological Survey Water Supply Paper 1859A. This was the first USGS hydrogeologic report focused on the MGWB (it also surveyed the SBGWB). Muir stated on pages 1and 2 that: "Most groundwater in the Santa Barbara-Montecito area is suitable for general use. However, groundwater in some of the consolidated rocks and in the shallow unconsolidated deposits adjacent to the coast is too saline for most uses**.** Seawater intrusion has occurred in the Santa Barbara area and the western part of the Montecito area**".** On pages 23-24, Muir wrote that "the groundwater outflow to the ocean required to prevent seawater intrusion seems to be about 100-300 acre feet per year". Muir's Figure 2 (herein numbered as Figure 9) and Figure 3 (herein Figure 10) show early hydrogeologic interpretations of basin delineation and aquifer stratigraphy, respectively. These Figures are reproduced in this report because they contain useful conceptual understanding of potential seawater intrusion in the MGWB.

Figure 9 portrays an early delineation and interpretation of the MGWB, the SBGWB, and the RCF fault trending east-west about 1,000 feet offshore from the coastline in storage unit 3 of the MGWB. Geologic section E′-E is depicted in Figure 10. There is no physical separation between the MGWB and the SBGWB, as was stated in section 4 (see also the CDWR's (2003) Bulletin 118). Notice that storage unit 3 (which contains different, stratified, groundwater-bearing formations) extends under the sea floor until encountering the upthrown (U) side of the Rincon Creek fault. Seawater is in contact with the surficial, permeable, layers of the storage unit 3 in the area comprised between the coastline and the fault, and most likely with deeper deposits through submarine canyons eroded over geologic time by streams flowing through the RCF. In addition, fractures in consolidated rocks on and near the RCF allow the motion of submarine fluids (those below the sea floor) through the fault. The direction of flow depends on the hydraulic heads in the storage-unit 3 strata (aquifers). The flow is seaward as long as the hydraulic gradient drives groundwater flow towards the sea.

Muir's storage unit 4 shown in Figure 10 comprises part of what is now called storage unit 3 (the southern or coastal sub-basin) and all of storage unit 2 (the central sub-basin). Muir's storage unit 5 is currently known as storage unit 1 (the northern sub-basin). Groundwater flow is seaward as long as hydraulic head in the aquifer is sufficiently higher than the sea level on the coast. Otherwise the seawater wedge (red, dotted, line in Figure 10) advances landward, a phenomenon called seawater intrusion.

Figure 11 (Muir's 1968 Figure 4) depicts hydrogeologic conditions prevailing in storage unit 3 of the MGWB in 1964, when the water level (hydraulic head) near the coast had fallen below sea level. This, in Muir's opinion, caused seawater to move laterally and vertically in a landward direction, as depicted by the red arrows added by this Contractor.

(iii) Geotechnical Consultants, Inc. (1974). "Hydrogeologic Investigation of Montecito groundwater basins, Santa Barbara, County, California, for Montecito County Water District". This Contractor's review of pertinent literature revealed that the myth of a seawater barrier on the southern perimeter of the MGWB can be traced to the Geotechnical Consultants' (1974) report. The following excerpt was taken from the Geotechnical Consultants' (1974) report, page 21: "The other major fault, the east-west trending Rincon Creek Thrust, is known from oil field logs to be located approximately 1,000 ± feet offshore near Montecito (see geologic section A-A′, Plate A4.1). The southern side of the fault has been upthrown over the northern side with the fault dipping southwardly at angles ranging from 50 to 70 degrees; displacement is as much as 3,000 to 5,000 feet. Evidence from Carpinteria Basin reveals that the fault thrusts consolidated Tertiary rocks over late Pleistocene deposits, indicating relatively recent movement. <u>This condition also probably exists near Montecito and would tend to create a barrier to the seaward movement of groundwater or the landward movement of seawater [</u>emphasis added by this Contractor]. Hence, the trace of the fault is utilized as the southern boundary of Montecito Basin".

Geotechnical Consultants' (1974) interpretation of the Rincon Creek Fault (RCF) as a barrier to seawater intrusion influenced others. In a 1977 report entitled "Adequacy of the groundwater basins of Santa Barbara County" by the Santa Barbara County Water Agency (see page 7 of the report) the topic of seawater

intrusion into coastal basins was addressed. The 1977 report described the MGWB as having a "faulted barrier" to seawater intrusion.

What other authors call "connate" (brackish) groundwater in the MGWB (see Geotechnical Consultants, 1974) this Contractor interprets as the presence of a seawater-freshwater mixing zone on the north (downthrown) side of the RCF.

Furthermore, on page 39 of Geotechnical Consultants' (1974) report it is stated that: "All previous investigations, including that of the USGS, have indicated that the offshore Rincon Creek Thrust Fault is an effective barrier to seawater intrusion into the deeper water-bearing zones [emphasis added by this Contractor]. In spite of this statement, the GTC (1974) states on page 39 that: "Previous historical occurrences of seawater intrusion and degradation of water in wells located in the Carpinteria Basin-Toro Canyon Subunit do not appear to be as severe as wells located in Montecito Basin." On its page 39 the GTC (1974) report attributed the salinization of groundwater in the MGWB as follows: "the saline wedge apparently leaked into shallow deposits through the fault"

Figure 12 depicts a geologic section through the MGWB presented in Geotechnical Consultants' (1974) report that represents a revision of the earlier interpretation of storage units proposed by Muir (1968).

(iv). Hutchinson, C.W. (1979). "Groundwater Monitoring at Santa Barbara, California, Phase 1". US Geological Survey Open-file Report 79-923. This study was devoted to the portion of the SGWB that is contiguous to the western portion of the MGWB. On page 23 of this report it is written that: "Saltwater intrusion is a potentially serious problem in the Santa Barbara groundwater basin. It is important that the initial stages of seawater stages be recognized so that steps be taken to contain or reverse the situation. Chloride is the major anion of seawater and it is not readily absorbed to aquifer materials; therefore, it moves through the aquifer at about the same rate as groundwater. Increases in chloride concentration are probably the first indication of seawater intrusion in the aquifer. The chloride concentrations in samples collected from various zones tapped by the coastal monitoring wells (350 to 2,800 mg/L), significantly higher than in the municipal supply wells (25-130 mg/L), indicate possible saltwater intrusion". Figure 13 portrays a generic geologic section presented in Figure 2 of Hutchinson (1979)

where the seawater wedge is positioned on the northern side of the Rincon Creek Fault.

(v). Martin, P. (1984). "Groundwater monitoring at Santa Barbara, California, Phase 2". US Geological Survey Water Supply Report 2197. This was a continuation of the seawater-intrusion studies in the SBGWB started by the USGS in 1979. Page 1 of Martin's (1984) report states that:

"From July 1978 to January 1980, water levels in the southern part of the Santa Barbara ground-water basin declined more than 100 feet. These water-level declines resulted from increases in municipal pumping since July 1978. The increase in municipal pumping was part of a basin-testing program designed to determine the usable quantity of ground water in storage. The pumping, centered in the city less than 1 mile from the coast, has caused water-level declines to altitudes below sea level in the main water-bearing zones. As a result, the ground-water basin would be subject to saltwater intrusion if the study period pumpage were maintained or increased. Data indicate that saltwater intrusion has degraded the quality of the water yielded from six coastal wells. During the study period, the six coastal wells all yielded water with chloride concentrations in excess of 250 milligrams per liter, and four of the wells yielded water with chloride concentrations in excess of 1,000 milligrams per liter. Previous investigators believed that saltwater intrusion was limited to the shallow part of the aquifer, directly adjacent to the coast. The possibility of saltwater intrusion into the deeper water-bearing deposits in the aquifer was thought to be remote because an offshore fault truncates these deeper deposits so that they lie against consolidated rocks on the seaward side of the fault. Results of this study indicate, however, that ocean water has intruded the deeper water-bearing deposits, and to a much greater extent than in the shallow part of the aquifer. Apparently the offshore fault is not an effective barrier to saltwater intrusion. No physical barriers are known to exist between the coast and the municipal well field. Therefore, if the pumping rate maintained during the basin-testing program were continued, the degraded water along the coast could move inland and contaminate the municipal supply wells [emphasis added by this Contractor]. The time required for the degraded water to move from the coast to the nearest supply well is estimated, using Darcy's equation, to be about 20 years". Figure 14 shows a map of the Santa Barbara groundwater basin depicting the western side of the MGWB, which has similar

hydrogeologic conditions to those of the Santa Barbara groundwater basin. The separation between the Santa Barbara groundwater basin and the MGWB is purely an administrative boundary: there is no physical separation of the two basins.

The importance of Martin's (1984) study is that it was a controlled experiment of groundwater extraction that established that the offshore fault is neither a barrier to shallow seawater intrusion nor to deep seawater intrusion into the adjacent coastal basin.

(vi). Hoover, M. (1980). "Safe yield evaluation of the Montecito Basins and Toro Canyon Area". This was a study commissioned by the MWD to consulting geologist M. Hoover. Figure 15 presents a copy of Hoover's (1980) plate 14 depicting two wedges of salinized groundwater in the MGWB, one shallow wedge and one deep wedge. Figure 15 also shows wells previously cited in this Contractor's report as being active in storage unit 3, namely the Chase well and one of the Biltmore Hotel's wells. This Contractor posits that the brackish groundwater in the shallow and deeper wedges are not separated by freshwater, but, rather, are vertically connected as shown by the added dotted red line, whose exact location remains to be determined. The location of the seawater wedge could be most economically prospected with geophysical surveys.

It is relevant at this juncture to cite a written professional opinion dated May 13, 2008, by consulting geologist M. Hoover to Mr. Dave Ward of the Planning and Development Department of Santa Barbara County concerning a proposed well intended to supply landscape-irrigation water and laundry water to the Miramar Beach Resort and Bungalows project. The well would have been located in storage unit 3 of the MGWB. Geologist Hoover wrote in his opinion that: "There is a significant likelihood for seawater intrusion at the Miramar Hotel site. Over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel, and Toro Canyon have resulted in elevated chloride levels, a clear indication of seawater intrusion". The Miramar site is located about 1,500 feet west of the appealed Schlesinger well.

(vii). Slade, R.M. (1987). "Hydrogeologic assessment proposed water augmentation measures item No. 8 seaward migration of groundwater: for Montecito Water District". Slade's (1987) study assessed the feasibility of

developing additional groundwater supplies for the MWD by installing wells along the southern margin of storage unit 3 of the MGWB. Seawater intrusion was a key consideration of Slades's (1987) study. Slade's (1987) report addressed the role of the Rincon Fault Creek as a possible barrier to subsurface flow. It stated on pages 4 and 5 that: "Because bedrock is thrust upward on the southern side of the fault, it may create at least a partial barrier to seawater intrusion in the deeper aquifers of this storage unit; the shallow aquifer zone do remain, however, open to potential invasion by seawater". Furthermore, Slade (1987) stated: "There are unfortunately, no data whatsoever on the effectiveness and/or integrity of the Rincon Creek Thrust Fault as a continuous barrier to landward migration of seawater in the deeper, Santa Barbara Formation-type deposits". It is evident that hydrogeologist Slade was unaware of the Martin's (1984) USGS report that had established through experimental evidence that seawater intrusion had occurred deep through the Rincon Creek Fault in the neighboring SBGWB.

The Slade (1987) study recommended quantitative criteria ((a) and (b) below) to be observed to prevent seawater intrusion in storage unit 3 of the MGWB:

(a). A seaward hydraulic gradient not less than 1/100 in coastal aquifers;

(b). Groundwater levels in new wells must not be allowed to drop below about elevation + 5 feet (above mean sea level) to maintain a positive seaward gradient of fresh water.

The groundwater levels measured in the Spring 2015 at MWD's production wells, which are listed in Table 1, show that the wells' levels were at least 25 feet below the recommended safe elevation recommended by Slade (1987).

Slade (1987) calculated the groundwater discharge to the sea floor in storage unit 3 as being equal to 74 acre feet /year through the use of Darcy's law. He used a discharge thickness equal to 6 ft., a length of discharge zone equal to 11,000 feet (along the coastline), a hydraulic gradient of 1/100, and a hydraulic conductivity equal to 100 gpd/ft^2 (= 13.36 ft/day) in the calculation of the seaward groundwater discharge. It is noteworthy that the Slade's (1987) recommended groundwater discharge to the coastal zone in storage unit 3 is less than the 100 to 300 AFY recommended in Muir's (1968) study needed to prevent seawater intrusion into the

MGWB. Figure 16 shows the MGWB and its storage units delineated by Slade (1987).

The seaward groundwater discharge calculated by Slade (1987) is not water that would be wasted to the ocean, as implied by geologist Adam Simmons in an October 15, 2014, presentation to the Montecito Planning Commission and in an undated 2014 presentation to Commission staff while arguing in favor of permitting the proposed Schlesinger, Makarechian, and Hill wells. Rather, this groundwater discharge is maintained by seaward hydraulic gradient that prevents seawater intrusion into storage unit 3, a fact recognized decades ago by USGS hydrogeologist Muir (see Muir, 1968) and consulting hydrogeologist Slade (1987), who studied the MGWB, by USGS hydrogeologists Hutchinson (1979) and Martin (1984), who worked in the neighboring Santa Barbara groundwater basin, and, more recently, by this Contractor (see Loáiciga, 2014), who worked in the neighboring Carpinteria groundwater basin (CGWB).

(viii). Loáiciga, H.A. (2014). Review of the "Carpinteria Groundwater Basin Hydrogeologic Update and Groundwater Model Project: Final Report by Pueblo Water Resources Inc. June 2012". This was a review commissioned by the Carpinteria Valley Association, a non-profit citizens' group, to this Contractor to evaluate a report written by Pueblo Resources Inc. (PWR) in 2012 for the Carpinteria Water District (CWD) about various aspects of the Carpinteria Groundwater Basin (CGWB), which borders the MWGB along its western perimeter. This contractor also evaluated recent (that is, prior to 2014) hydrogeologic reports by Fugro Inc. to the CVWD. Figure 17 depicts a map of the CGWB, including the Rincon Creek Fault, its two groundwater storage units, and a few features added by this Contractor showing the direct contact of the aquifer in storage unit 1 of the CGWB with the ocean. Figure 18 presents hydrogeologic section B-B′ delineated in Figure 17. The Fugro Inc.'s 2012 and 2013 annual reports showed wells with high TDS (total dissolved solids) and chloride concentrations. For example, well number 4N/25W-19M1 was reported to have TDS equal to 2500 mg/L and chloride equal to 400 mg/L in the 2013 Fugro Inc. hydrogeologic report, as seen Figure 19.

(ix). This Contractor reviewed a dataset of chloride measurements made in wells of the MGWB by the USGS and the State of California. The measurements show that

wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The high chloride concentrations ranged between 312 mg/L to 1,220 mg/L, which are typical of groundwater contaminated with seawater. Two of the MWD's wells, Ennisbrook 2 and Ennisbrook 5, shown in Figure 2, exhibited high chloride concentrations in recent surveys. The former well had a chloride concentration equal to 540 mg/L in February 2014, and the latter well had a chloride concentration equal to 490 mg/L in May 2015. These chloride levels constitute evidence of seawater intrusion that is factual and pertinent to this report's evaluation of adverse impacts by new wells. Yet, it is stressed that water quality and water-level monitoring in the MGWB is inadequate. It seems appropriate to make measurements of various indicator chemicals in well water, including chloride among them. This should be done at least once a year, preferably in early Autumn following elevated groundwater extraction during Summer. Those measurements should be made principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the MWD. The County of Santa Barbara's 2014 Groundwater Basins Status report stated that the County maintains a well-monitoring cooperative program with the USGS. The program provides for annual monitoring of about 300 wells in Santa Barbara County. This Contractor recommends that wells in the MGWB be added to that cooperative monitoring program and actively sampled for groundwater level and water quality assessment.

The evidence reviewed in this section establishes that there is not such a thing as an impervious seawater barrier on the southern perimeter of the MGWB. This report's findings refute statements made by geologist Adam Simmons to the Montecito Planning Commission on October 15, 2014, and to the Commission staff in an undated presentation asserting that the Rincon Creek Fault "blocks seawater". This section's evaluation strongly suggests that applications for new well construction in storage unit 3 of the MGWB –including those for the three appealed wells- must demonstrate that they would not aggravate seawater intrusion in that part of the basin. The three appealed wells are very close (less than 400 feet) from the high-tide sea level in storage unit 3. Section 9 deals with the well interference and drawdown that would be caused by the appealed wells and

highlights the threats posed by these wells to exacerbating seawater intrusion in storage unit 3 of the MGWB.

6. The safe yield of the MGWB.

The CDWR's (2003) Bulletin 118 defined safe yield (= perennial yield = basin yield) as "the maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect".

The safe yield was defined in the ETGM of the County of Santa Barbara (revised July 2015) as follows:

"Safe yield (the same as Perennial Yield): the maximum amount of water which can be withdrawn from a groundwater basin (or aquifer) on an average annual basis without inducing a long-term progressive drop in water level".

The CDWR definition of safe yield is more comprehensive than that of the ETGM in the sense that it is not restricted to declining groundwater level, but, rather focuses on the avoidance of "adverse effect" as a defining condition for the safe yield. This Contractor considers declining groundwater level during long droughts as an adverse effect because this is the condition most likely to cause significant adverse impacts on coastal groundwater resources within the MGWB.

Another definition pertinent to this section is that of **representative climatic base period** used for safe yield determination. Pueblo Resources Inc. (2012) defined representative climatic based period as follows: "One which should represent long-term average hydrologic conditions, must include at least one period each of overall wet conditions and overall dry conditions relative to average annual conditions, and have an average precipitation that is close to the average precipitation for the entire period of record that subsumes the base period. In addition, the beginning of the base period should be an interval of relatively dry conditions to eliminate the potential for any transitory recharge water".

The safe yield of the MGWB has been estimated by previous authors. Muir (1968) estimated the safe yield to be about 2,500 AFY using a water-balance approach. Geotechnical Consultants (1974) revised downward Muir's 1968 estimate to 1,200 AFY, arguing that Muir's (1968) estimate of percolation to the MGWB was too high, being based on data from Blaney (1933) for Ventura County.

Hoover (1980) reported two estimates of the MGWB's safe yield. These estimates deserve scrutiny because one of them, the larger of the two, was accepted in the MWD's 1998 Groundwater Management Plan as its basin's safe yield. The first estimate of the safe yield was calculated using the base period 1950-1979, which, according to Hoover (1980) meets criteria set forth above for representative climatic base period. This first estimate was equal to 1,122 AFY. The approach followed to arrive at the 1,122 AFY safe yield estimate is based on a hydrologic budgeting method (see Pueblo Resources Inc., 2002), whereby a representative climatic based period is chosen and the safe yield is calculated as the average annual groundwater extraction plus (or minus) the average gain (or average reduction) of groundwater storage during the base period. In Hoover's (1980) calculations the average groundwater extraction and average gain of storage during the 1950-1979 were equal to 909 and 123 AFY, respectively, thus, the safe yield equals 1,122 AFY.

Hoover's (1980) second estimate of safe yield was equal to 1,650 AFY. The safe yield was arbitrarily made equal to the estimated amount of groundwater extraction in the MGWB in 1929, which equaled 1,658 AFY, and was rounded off to 1650 AFY (see Table 8 of Hoover, 1980). This Contractor believes that setting the safe yield equal to 1,650 AFY was a gross overestimation because it set the safe yield equal to the groundwater extraction during a dry year (1929) during which pumpage was unusually high and incompatible with a representative climatic base period. In fact, year 1929 fell during one of the driest periods in Santa Barbara County.

To prove this point, Table 2 presents data obtained from the MWD's 1998 Groundwater Management Plan, which remains current to this date (see Table 5 of the 2014 Groundwater Basins Status Report by the County of Santa Barbara). Table 2 lists the estimated groundwater extractions in the MGWB in various years. It is seen in Table 2 that year 1929 was the highest-pumpage year known prior to 1990.

Table 2. Groundwater extraction in selected years (source: MWD's Groundwater Management Plan, 1998, Table 3.7.1).

Year	Estimate groundwater extraction (AFY)
1929	1658
1954	1322
1962	872
1979	458
1980-1990	940

There are other reasons for rejecting Hoover's 1,650 AFY safe yield. They have to do with the climatic conditions in the 1920s, unsuitable for determining the safe yield. Figure 20 shows the cumulative difference of average rainfall from the long-term average annual rainfall in the MGWB during the instrumental period 1925-2015. The cumulative-difference graph is commonly used in the analysis of climatic conditions over time in a basin. It is seen in Figure 20 that year 1929 fell in a downward sloping part of the cumulative-difference graph. The period 1950-1979, on the other hand, exhibits a relatively dry beginning and encompasses periods of increasing and decreasing rainfall with an overall relatively steady pattern. Hoover (1980) rejected his estimate of the safe yield equal to 1,122 AFY derived for the representative climatic period 1950-1979 on the grounds that it encompassed wet periods during which there would be "rejected recharge", and, thus underestimated the safe yield. In fact, the accepted definition of a representative climatic period (written above) presumes the occurrence of both dry and wet periods, although it precludes the representative climatic period from beginning with a full groundwater basin. The fact that the cumulative-difference graph for the MGWB exhibits a declining trend prior to 1950 establishes that it was not likely to be full at the beginning of the 1950-1979 period.

Figure 21 reaffirms the arguments made about the proper choice of 1950-1979 as a representative climatic period and the inappropriate use of pumpage in year 1929 as the safe yield. Figure 21depicts the cumulative difference of annual rainfall from the long-term average annual rainfall in the City of Santa Barbara using the instrumental period. The City of Santa Barbara exhibits an almost identical temporal pattern to that of rainfall in Montecito. It is seen in Figure 21 that year

1929 fell in a long-term dry period that started in 1917 and ended in 1933. It is also evident from Figure 21 that the 1950-1979 period was preceded by dry years and later experienced increases and decreases of rainfall to end with a cumulative difference in 1979 approximately equal to the starting one in 1950.

The corollary of this analysis of the safe yield is as follows. Muir's (1968) overestimated percolation of rainfall in the MGWB and grossly inflated its safe yield. Geotechnical Consultants' 1974 revised downward Muir's (1968) safe-yield by about one half to 1,200 AFY. Hoover (1980) arrived at two estimates of the safe yield, 1,122 AFY and 1,650 AFY. The former estimate –this Contractor has proven above- was the correct one with the data available in 1980. The latter –herein proven to be an unjustified gross overestimation- was the one recommended by Hoover (1980) and adopted by the MWD. It is noteworthy that Hoover's (1980) Table 16 provided safe-yield estimates equal to 550, 100, 700, and 300 AFY for the storage units 1, 2, 3, and Toro Canyon, respectively, adding up to a basin-wide safe yield equal to 1,650 AFY in the MGWB. This Contractor did not find a quantitative description in Hoover (1980) about how the storage-unit safe yields were arrived at. The 2009 Groundwater Resources Section of the County of Santa Barbara's Conservation Element (page 10) assigned a safe yield equal to 1,215 AFY to the MGWB without explanation. The 2015 revision of the County of Santa Barbara's ETGM lists in its Table 1, under gross pumpage, a safe yield of the MGWB equal to 1,350 AFY, without explanation about its calculation. This Contractor uses Hoover's (1980) estimate of the safe yield equal to 1,122 AFY obtained from data for the representative climatic base period 1950-1979 in the remainder of this report because it is the best estimate of the safe yield of the MGWB so far reported.

The concept of safe yield is a valuable baseline number if it is accurately estimated and wisely applied as a management tool. It tells whether or not a groundwater basin is being used in a sustainable manner: one that assures long-term beneficial use without adverse impacts and economic hardship. On the other, hand, this Contractor and other professionals (see Lohman, 1979; Sophocleous 1997) have argued that sound management of groundwater basins requires adjustment as conditions change from wet or average climatic conditions to protracted drought conditions, because the safe yield, as demonstrated in this report, might not be safe when aquifer recharge is severely reduced during long droughts. Section 7 shows

how to adjust the safe yield in the MGWB during long droughts. This adjustment has direct bearing on the evaluation of the three appealed wells in storage unit 3.

Lohman (1979) wrote that: "The term "safe yield" has about as many definitions as the number of people who have defined it. There are questions as to the validity of the term, but if it is valid there remains the question as to who should determine it –groundwater hydrologists or groundwater managers?" Furthermore, Lohman wrote: "I have a definition which I taught at US Geological Survey Groundwater Short Courses beginning in 1952, namely: the amount of groundwater one can withdraw without getting into trouble. "Withdraw" may mean from flowing or pumped wells, and it may mean continuously, as for many industrial or municipal suppliers, or seasonal, as for irrigation. "Trouble" may mean anything under the sun, such as (1) running out of water, (2) drawing in salt water, or other undesirable water, (3) getting shot, or shot at, by an irate nearby well owner or landowner, (4) getting sued by a less irate neighbor, or (5) getting sued for depleting the flow of a nearby stream for which the water rights have been appropriated."

7. Revised safe yields of the MGWB's storage units.

This section presents revised safe yields of the MGWB's storage units. There has been a recognition within the hydrogeologic community in recent decades that sustainable groundwater use must be adaptive and respond to changing conditions that threaten groundwater basins, such as those that arise during long drought (see, for example Sophocleous, 1997; Loáiciga, 2006; Loáiciga, 2008). This section applies adaptive groundwater management to derive revised yields in the MGWB. The revised safe yields are used in developing accurate estimates of the remaining lives and the groundwater thresholds of significance in the storage units of the MGWB, with emphasis on storage unit 3, the coastal sub-basin of the MGWB where the three appealed wells are located. The approach followed to arrive at the revised safe yield relies on the concept of usable storage. Hydrogeologist R. Slade defined usable storage in his October 1991 report titled "Original Report and Addendum, Hydrogeologic Assessment: Determination of Groundwater in Storage Within the Montecito Water District" (prepared for the MWD) as follows: the volume of groundwater "having a satisfactory quality for prevailing beneficial uses and occurring in sufficient quantity in the underground reservoir to be available

without uneconomic yield or excessive drawdown". Slade (1991) reviewed previous hydrogeologic investigations in the MGWB (including those by Geotechnical Consultants (1974) and Hoover (1980)) and proposed usable storage estimates that depended on the status of a basin, that is, estimates of the usable storage were given for full-basin conditions (this is Slade's maximum usable groundwater in storage, prevailing in the Spring 1983) and for long-drought conditions (this is Slade's current usable groundwater in storage, prevailing in February/March 1991). Table 3 lists Slade's 1991 usable storages in storage units 1, 2, and 3, Toro Canyon, and in the MGWB (see Slade's (1991) Table 4).

Table 3. Slade's (1991) estimates of usable storage (columns (2) and (3)) in the MGWB.

Sub basin or storage unit (1)	Maximum Usable storage (full basin) (2)	Usable storage (long drought) (3)	Average usable storage (this report) (4)
	Acre feet	Acre feet	Acre feet
1	8,770	2,830	5,800
2	730	70	400
3	4,990	3,710	4,350
Toro Canyon	1,620	1,150	1,385
MGWB	16,110	7,760	11,935

Notice in Table 3 the very limited usable storage equal to 70 AFY during drought conditions in storage unit 2.

The revised safe yields are calculated based on (i) what this Contractor's has proven in section 6 to be the best estimate available of the MGWB's safe yield, that is 1,122 AFY, and (ii) scaling ratios that are applied to the basin-wide safe yield. The scaling ratios equal the average usable storage in each storage unit divided by the basin-wide average usable storage (11,935 AFY, see Table 3). The revised safe yield in each storage unit is then calculated by multiplying the storage unit's scaling ratio by the basin-wide safe yield. Table 4 lists the calculations.

Table 4. Calculation of the safe yield of the MGWB's storage units.

Sub basin (1)	Average usable storage (from Table 3) (2)	Weighting ratios (3)	Safe yield (4) = (3) x 1,122
	Acre feet		AFY
1	5,800	5,800/11,935 = 0.486	545
2	400	400/11,935 = 0.034	38
3	4,350	4,350/11,935 = 0.364	409
Toro Canyon	1,385	1,385/11,935 = 0.116	130
MGWB	11,935		1,122

The safe yields listed in Table 4 differ from those recommended in Hoover (1980) that were adopted by the MWD. Table 5 lists the two sets of safe yields for comparison purposes.

Table 5. Comparison of safe yields in the MGWB.

Sub basin	Safe yield (this report) (AFY)	Safe yield (recommended by Hoover, 1980, Table 16) (AFY)
1	545	550
2	38	110
3	409	700
Toro Canyon	130	300
MGWB	1,122	1,650

The revised safe yield in storage unit 3, equal to 409 AFY, is currently less than the amount extracted by the four MWD's municipal wells currently active, which, as shown in Figure 8, extracted about 500 AFY in the last two water years. To the MWD's pumpage one must add the private groundwater extraction, which was estimated in section 4 to be about 500 AFY, perhaps more than that. Therefore, it is very likely that the net overdraft in storage unit 3 is at least 1,000 - 409 = 591 AFY. The implications of this level of overdraft for the estimation of the

groundwater threshold of significance for new wells in storage unit 3 are explained in section 8.

8. Groundwater thresholds in the MGWB: implications for new wells in storage unit 3.

Several definitions are necessary for the development of this section. These definitions are from the County of Santa Barbara's Environmental Thresholds and Guidelines Manual (ETGM, revised July 2015). The ETGM contains a procedure for calculating the groundwater threshold of significance in alluvial basins of the County of Santa Barbara, which includes the storage units of the MGWB. The groundwater threshold of significance for new wells is the maximum amount that a new well is allowed to extract in an overdrafted basin. The ETGM lists the MGWB as an overdrafted basin. The groundwater threshold of significance provides, in the view of this Contractor, a baseline for limiting new groundwater extraction in an overdrafted basin. However, it must not be the only baseline. Instead, the site-specific impacts of any new proposed well must be evaluated prior to permitting it. These issues are elaborated upon below in the context of storage unit 3 and the three appealed wells.

"Available Storage (ETGM): the volume of water in a particular basin which can be withdrawn without substantial environmental effects. This storage reflects the amount of water in the basin on a long-term basis (a point on a long-term trend line) not the current storage level in the basin. The number is periodically updated by the Planning and Development Department and the County Water Agency as new information becomes available".

It is important to recognize the difference between the ETGM's available storage and Slade's (1991) definition of usable storage. The former has a long-term connotation, whereas the latter takes consideration of prevailing conditions in a groundwater basin that might limit the amount of groundwater that can be used beneficially, for example, by preventing seawater intrusion or losses of well yield. The ETGM's available storage is used by the County of Santa Barbara as a planning parameter in its method to determine groundwater thresholds on a long-term basis. Slade's (1991) usable storage is pertinent in the determination of groundwater thresholds that would protect groundwater basins' beneficial use

under all conditions, especially those that prevail during protracted drought. The adaptive nature of sound groundwater management was applied in section 7 to derive revised yields in the MGWB.

“Net Annual Overdraft (ETGM): is the amount by which average long-term demand on a basin exceeds the safe yield of the basin after allowances have been made for return flows. The "demand" figure will generally include commitments of supply such as approved projects not yet constructed with the estimated current level of pumpage”.

This Contractor’s definition of net annual overdraft is broader than that of the ETGM because it includes the amount by which groundwater extraction exceeds the safe yield during long droughts, and not simply during the loosely defined “long-term” periods. This broader definition is consistent with the adaptive approach to groundwater management that accounts for protracted significant departures from average climatic conditions.

“Groundwater Threshold of Significance (ETGM): is the point at which a project's estimated contribution to the overuse of groundwater in an alluvial basin or other aquifer is considered significantly adverse. The Groundwater Threshold Manual documents the methods used to establish the threshold values for groundwater extractions from the various alluvial basins and consolidated rock aquifers in Santa Barbara County. The California Supreme Court has ruled that an EIR must be prepared whenever it can be fairly argued on the basis of substantial evidence that a project may have a significant environmental impact. Implementation of the California Environmental Quality Act (CEQA) requires that a lead agency (such as the county) determine what constitutes a potentially significant effect. In the past, thresholds for the alluvial basins have been determined based on a fixed number of acre feet per year (AFY), a percentage of existing overdraft, or a percentage of safe yield. In the 2015 version of the Manual a new methodology developed by the County of Santa Barbara’s Planning and Development Department is used to calculate the groundwater threshold in an alluvial basin. A threshold was chosen for an idealized "Standard Reference Basin" based on a percentage loss of the remaining life of the available storage. Thresholds for the other basins are proportional to this value based on relative size and remaining life. This method was developed to simplify the calculations and

more clearly link the various threshold levels to the environmental circumstances specific to each basin. The idealized Standard Reference Basin has overdraft and storage characteristics similar to those of the Santa Ynez Uplands groundwater basin (SYUGWB). The Threshold of Significance for consolidated rock ("bedrock") aquifers is considered the amount of new pumpage by a proposed project which would place the aquifer in a state of overdraft. These criteria have remained the same since adoption of the first thresholds manual in 1983. The groundwater Thresholds of Significance apply to all projects subject to discretionary review by the County of Santa Barbara".

Figure 22 presents a map of the groundwater basins of Santa Barbara County, which includes the SYUGWB and the MGWB.

Table 3 in section 7 introduced Slade's (1991) estimates of the usable storage in the MGWB for full-basin conditions (this is Slade's maximum usable groundwater in storage, prevailing in the Spring 1983) and for long-drought conditions (this is Slade's current usable groundwater in storage, prevailing in February/March 1991). Table 2 (page 74) of the ETGM calculated the groundwater threshold in the MGWB (basin-wide estimate) to be equal to 4 AFY. The calculation was based on an arbitrary formula developed by County of Santa Barbara's geologist B. Baca in 1992 that includes weighting ratios and the consideration of an idealized standard reference groundwater basin (SRGWB) with characteristics similar to those of the Santa Ynez Uplands groundwater basin (SYUGWB, see map in Figure 22). Basically, the ETGM proposed that the SRGWB has a net groundwater overdraft and available storage equal to 2,000 AFY and 900,000 acre feet, respectively, so that the remaining life of the SRGWB equals 900,000/450 = 2,000 years. Next, the ETGM proposed that the threshold of significance in the SRGWB is such that it would reduce its remaining life by 3%. The formula to determine the threshold of significance (R) in the SRGWB is then:

$$\frac{900{,}000}{2{,}000+R} = 450 \cdot 0.97 \qquad (1)$$

From which the groundwater threshold of significance in the SRGWB is solved for:

$$R = \frac{900{,}000}{450 \cdot 0.97} - 2{,}000 = 61.856\ AFY \qquad (2)$$

The determination of groundwater thresholds of significance in alluvial basins in Santa Barbara County uses a formula that assigns weights equal to 0.75 and 0.25 to the ratio of the remaining life of an overdrafted basin to that of the SRGWB and to the ratio of the available storage in an overdrafted basin to that of the SRGWB, respectively. The last step in the calculation of the groundwater threshold of an alluvial basin is to multiply the result of the weighted formula by the threshold of significance of the SRGWB (R = 61.856 AFY), as follows:

$$threshold = \left(0.75\frac{remaining\ life}{450} + 0.25\frac{available\ storage}{900{,}000}\right) \cdot 61.856 \quad (3)$$

The ETGM assigned a net overdraft and available storage equal to 426 AFY and 16,000 acre feet to the MGWB. Therefore, the remaining life of the MGWB equals 16,000/426 = 37.559 years. The groundwater threshold for the MGWB is then:

$$threshold = \left(0.75\frac{37.559}{450} + 0.25\frac{16{,}000}{900{,}000}\right) \cdot 61.856 = 4.147\ AFY \quad (4)$$

which was rounded off to 4 AFY in the ETGM. Notice that formula (3) for the groundwater threshold in alluvial basins applies to overdrafted basins. Basins that are not overdraft have an indefinitely long remaining life, and, therefore, an undefined groundwater threshold.

The threshold given by formulas (3 and (5) is basin wide, even though there are substantial differences in the impacts that new wells might have depending on the storage unit in which they are installed. For example, new well applications in storage unit 1 of the MGWB would be treated in exactly the same manner as new applications in its storage unit 3, even though the former unit may experience well-yield losses but not seawater intrusion, whereas the latter unit may experience well-yield losses and seawater intrusion. New wells each with an extraction rate equal to 4 AFY could be approved because each well does not exceed the groundwater threshold of significance. Yet, the cumulative adverse impacts of well extraction in storage unit 3 could be irreversible. Another drawback of formula (3) for the groundwater threshold of significance is that it does not account for changes in climatic conditions affecting a basin. Thus, the groundwater threshold is calculated in exactly the same way when average climatic conditions prevail as when long drought prevails.

The following calculations show groundwater thresholds adjusted for drought conditions. Specifically, using the MWD's high estimate of private use equal to 1,000 AFY cited in section 4 of this report, plus the MWD potable groundwater production equal to about 500 AFY (see Figure 8) and non-potable groundwater production (estimated at 50 AFY by this Contractor), the overdraft in the MGWB would be 1550 AFY (total pumpage) - 1,122 AFY (the safe yield) = 428 AFY, which is very close to the ETGM's net overdraft equal to 426 AFY reported in its Table 1, page 73. In the absence of measurements need to quantify overdraft in each storage unit, this Contractor estimates them by applying ratios equal to the drought-impacted usable storages (column (3) in Table 3) over the MGWB's total drought-impacted usable storage (equal to 7,760 acre feet in Table 3) to the net, basin-wide, overdraft equal to 428 AFY. Table 6 shows the application of the ratios and the calculation of the net overdrafts in each storage unit during drought conditions.

Table 6. Calculation of net overdraft in each storage unit during drought periods. The basin-wide net groundwater overdraft = 428 AFY.

Sub basin or storage unit (1)	Usable storage (long drought) (2)	Weighting ratios (3)	Net overdraft in each storage unit (4) = (3) x 428
	Acre feet		AFY
1	2,830	2,830/7,760 = 0.365	156
2	70	70/7,760 = 0.009	4
3	3,710	3,710/7,760 = 0.478	205
Toro Canyon	1,150	1,150/7,760 = 0.148	63
MGWB	7,760		428

The values of drought-impacted usable storage (column (2) of Table 6) and the net overdraft in each storage unit (column (4) of Table 6) were applied to calculate the remaining life in each storage unit under drought conditions, which are listed in Table 7. The net overdraft in the storage units and MGWB used in Table 7 are those shown in column (4) of Table 6. The remaining life in each storage unit equals the usable storage divided by the next overdraft.

Table 7. Calculation of the remaining life in each storage unit during drought periods. The basin-wide net groundwater overdraft = 428 AFY.

Sub basin or storage unit (1)	Usable storage (long drought) (2)	Net overdraft in each storage unit (3)	Remaining life (4) = (2)/(3)
	Acre feet	AFY	Years
1	2,830	156	18.14
2	70	4	17.50
3	3,710	205	18.09
Toro Canyon	1,150	63	18.25
MGWB	7,760	428	18.13

The seemingly long remaining lives presented in Table 7 should be no solace to anyone because the actual total groundwater extraction in the MGWB is unknown, and, if, say, the total extraction during drought were 2,000 AFY instead of 1,550 AFY, the remaining lives shown in Table 7 would be shortened considerably.

The drought-impacted usable storages and the remaining lives listed in columns (2) and (4) of Table 7, respectively, were input into formula (3) to calculate the groundwater thresholds of significance under drought conditions. The results are listed in Table 8. Notice that the drought-impacted groundwater thresholds listed in Table 8 are about one half of the 4 AFY calculated for the MGWB in the ETGM. Yet, a 4 AFY withdrawal rate in a single well may be harmful given site-specific conditions in the storage units. A case in point in storage unit 3 is the intensely groundwater-mined area comprised between Fernald Point to the east, the Pacific Ocean to the south, Highway 101 to the north, and the Santa Barbara Cemetery to the west, where the cumulative impacts of new wells could cause irreversible damage to groundwater quality by seawater intrusion. In storage units 2 and 3 the main concerns are well-yield losses and stream depletion impacts. The former impact must be evaluated for each well application by conducting well-interference analyses of the type presented in section 9 of this report, the latter with streamflow-capture analyses.

Table 8. Groundwater thresholds of significance under drought conditions.

Sub-basin or storage unit	Usable storage	Net overdraft	Remaining life	Threshold
	acre feet	AFY	Years	AFY
1	2,830	156	18.14	1.9
2	70	4	17.50	1.8
3	3,710	205	18.09	1.9
Toro Canyon	1,150	63	18.25	1.9
MGWB	7,760	428	18.13	2.0

The groundwater threshold calculated for storage unit 3 in Table 8, which equals 1.9 AFY, is most likely an overestimate. This Contractor recalculates storage unit 3's groundwater threshold of significance under drought conditions. To achieve this we use a groundwater extraction in storage unit 3 equal to 1,000 AFY during drought, which was estimated in section 4. The safe yield of storage unit 3 equals 409 AFY (see calculations of revised safe yields in section 7). The net overdraft in storage unit 3 would then be 1,000 - 409 = 591 AFY. This would reduce the remaining life of storage unit 3 to 3,710/591 = 6.3 years. Recall that the drought-impacted usable storage in storage unit 3 equals 3,710 acre feet (see column 2 of Table 7). Using these values of remaining life and usable storage in equation (3) produces the following drought-impacted groundwater threshold of significance for storage unit 3:

$$threshold\ \ unit\ 3 = \left(0.75\frac{6.3}{450} + 0.25\frac{3{,}710}{900{,}000}\right) \cdot 61.856 \ = 0.71 \text{ AFY} \qquad (5)$$

The groundwater threshold equal to 0.71 AFY calculated in equation (5) would be the limiting extraction to be imposed on any of the three appealed wells. Furthermore, this Contractor recommends the evaluation of site-specific impacts of each well prior to approving their construction. Those site-specific impacts concern seawater intrusion, well interference, loss of well yield, and stream flow depletion. Site-specific impacts of groundwater extraction may reduce the groundwater threshold of significance to zero in storage unit 3, as shown in section 9.

The groundwater-threshold approach used by the County of Santa of Barbara in overdrafted alluvial basins for permitting new wells should not be applied in

isolation. Instead, it should be implemented in conjunction with the evaluation of site-specific impacts of each proposed well and the assessment of the current status of each storage unit. If significant adverse impacts would be caused by a new well then it should not be permitted, not even with a groundwater threshold equal to the calculated 0.71 AFY for storage unit 3 of the MGWB. The criteria proposed by Slade (1987) to protect against seawater intrusion are exemplary about effective ways to protect groundwater resources in storage unit 3 of the MGWB. Those criteria specified minimal seaward hydraulic gradient, minimal groundwater levels, and minimal seaward groundwater discharge to protect the coastal groundwater resource.

This section has shown that the MGWB and its components storage units are in a state of overdraft. The County of Santa Barbara's 2015 ETGM's groundwater thresholds section states that the MGWB is in overdraft. Perhaps the County of Santa Barbara has not issued an official declaration of overdraft for the MGWB – as geologist Adam Simmons declared in a presentation to the Montecito Planning Commission on October 15, 2014, and in an undated presentation to Commission staff- but the fact is that the key County document dealing with the assessment of basin overdraft, remaining life, and groundwater threshold of significance, that is, the 2015 ETGM, classifies the MGWB as being in a state of overdraft. This section has shown that the 2015 ETGM's estimate of overdraft in the MGWB is less than the actual extent of overdraft.

9. Drawdown and well interference in storage unit 3 of the MGWB.

This section presents calculations estimating the lowering of water levels (called drawdown) and well interference associated with the three appealed wells. Geologist Adam Simmons suggested pumping rates for the Hair and Makarechian wells of about 5 gpm in memorandum to Commission staff on May 11, 2015. A similar pumping rate was indicated by geologist Simmons for the Schlesinger well in another memorandum dated May 14, 2015, to Commission staff. This section evaluates the lowering of aquifer levels at the appealed-wells sites and in their vicinities, and takes into account the existence of active wells near the proposed new-wells sites. The effect on groundwater level by a new extraction well is to magnify the lowering of the groundwater level caused by existing wells. The existing wells, conversely, magnify the lowering of the groundwater level caused

by the new well. This mutual superposition of the influences on the groundwater level by neighboring wells is called well interference. Drawdown is the depth to which the hydraulic head or groundwater level is lowered in a well (or any other part of an aquifer) by groundwater extraction relative to the initial hydraulic head that would prevail if groundwater were not extracted from the aquifer (that is, relative to a baseline condition). Well interference is magnified when there are multiple wells extracting from the same aquifer because in that instance there is superposition of the drawdowns caused by all the wells.

This section presents calculations of drawdowns and well interference in the aquifer underlying the area encompassing the Makarechian and Hair wells (see Figure 3) and the Schlesinger well (see Figure 4), both in storage unit 3 of the MGWB. The aquifer tapped by the Chase well and several other nearby active wells is prototypical of an aquifer were well interference is taking place. The Chase well takes especial notoriety in this report because geologist Adam Simmons stated in a May 11, 2015, memorandum to Commission staff that "The proposed Hair Well (and nearby Makarechian Well) will likely be very similar in depth and design as the Chase Well". The similarity suggested by geologist Simmons is not surprising given that, by virtue of the closeness of the existing Chase well and the proposed Makarechian and Hair wells, they would be tapping the same groundwater-bearing formations. Figure 23 displays the design details of the Chase well, taken from a June 15, 1978, report from geologist Michael Hoover to Mr. and Mrs. Dan Chase. A drawdown and well interference analysis is also presented in this section for the Schlesinger well, which, according to geologist A. Simmons, would have characteristics similar to the Hair well (see memorandum from A. Simmons to Commission staff dated May 14, 2015).

Drawdown and well interference: the Hair and Makarechian wells. Geologist M. Hoover conducted pumping tests at the Chase well in 1978 and concluded that the transmissivity of the formations tapped by the well equaled 4800 gpd/ft (gallons per day per foot) = 642 ft^2/day. This was substantially larger than the transmissivity implied by hydrogeologist Slade's (1987) estimate of about 80 ft^2/day. Geologist Hoover's estimate of transmissivity was based on the Cooper-Jacob formula that approximates drawdown in confined aquifers with non-dimensional well variable $u = r^2 S/(4 T t) < 0.05$ (Fetter, 2001), where r = the radial distance from the center of the well to any point in the aquifer (r is measured on a

level plane), S = the storage coefficient of the aquifer, T = the transmissivity of the aquifer, and t = the elapsed time since pumping in the aquifer begins. We use an average value of transmissivity equal to (642+80)/2 = 361 ft^2/day to calculate drawdowns caused by the Hair and Makarechian wells.

The other aquifer property needed in calculating drawdown is the storage coefficient S. The storage coefficient was not estimated by geologist Hoover since he made measurements of drawdown in the installed Chase well instead of using a separate observation well. This Contractor's review of the pertinent literature revealed that the Pueblo Resources Inc.'s 2012 report to the CVWD estimated the storage coefficient in the CGWB to be on order of 6.6×10^{-4} in the confined area (storage unit 1 of the CGWB). One must keep in mind, however, that the groundwater bearing formations tapped by the Chase well are not completely confined, but, rather, they are semiconfined, because the formations above and between the screened and/or perforated intervals of the wells allow vertical flow of groundwater. This assertion is consistent with the CDWR's 2003 characterization of the aquifer in the southern part of storage unit 3 as a partially confined formation (see Bulletin 118).This Contractor interprets the hydraulic behavior of the Chase well aquifer as an intermediate between confined and unconfined conditions, and, therefore, assigns, a value S = 0.001in the analysis of drawdown reported below. Lowering the value of the storage coefficient would make the calculated drawdowns larger than those presented below. It is noteworthy that Slate's (1987) of transmissivity is closer to those reported by Pueblo Water Resources (2012) for the confined unit of the CGWB than to Hoover's (1978) calculated transmissivity. For these reasons, the calculated drawdown in the vicinity of the Chase well presented below must be interpreted as a lower bound to the actual drawdowns that might take place.

The Cooper-Jacob formula was employed in this report to approximate the drawdowns that would be caused by the appealed Schlesinger, Makarechian, and Hair wells, and by other existing wells in storage unit 3 of the MGWB. The Cooper-Jacob formula is given by the following expression:

$$drawdown \cong \frac{2.3\,Q}{4\pi\,T} log_{10}\left(\frac{2.25\,T\,t}{r^2 S}\right) \qquad (6)$$

in which Q denotes the well extraction rate, and all other variables were previously defined in this report. The choice of units in formula (6) must be consistent.

Figures 24 and 25 depict the calculated drawdown exerted by a well pumping at a rate of 5 and 10 gallons per minute (gpm), respectively, as a function of the elapsed time of pumping (t) and the radial distance from the pumping well (r). The calculations were made for distances r = 0.75, 100, 250, 500, and 1,000 feet from the well. The distance r = 0.75 feet corresponds to the zone of aquifer in contact with the exterior of the gravel pack surrounding the well screen. Continuous pumping for one year (365 days) at a rate of 5 gpm (10 gpm) is equivalent to extracting 8.1 (16.2) acre feet / year (AFY) from the aquifer. It is seen in Figures 24 and 25 that: (i) for a given time of elapsed groundwater extraction, the drawdown increases with decreasing distance from the pumping well, and (ii) for a given distance from the pumping well, the drawdown increases with increasing elapsed time of groundwater extraction

It can inferred From Figure 24 that if the Chase, Haber, Hair, and Makarechian wells were each pumping at 5 gpm continuously for 1 year (365 days) they would lower the groundwater level at a point on the coast and equidistant 500 ft from the wells by an amount equal to 4 x 1.50 = 6.0 feet. To this drawdown one must add that caused by the two Biltmore wells, which, according to Figure 25, extracting each 10 gpm continuously for 364 days would lower the groundwater level at a point on the coast equidistant 500 ft from the two wells by an amount equal to 2 x 3.0 = 6.0. Thus, the total decline of groundwater level on the coast caused by the six wells (Chase, Haber, Hair, Makarechian, and the two Biltmore wells) would be 6.0 + 6.0 = 12.0 ft. This magnitude of water-level decline would be sufficient to induce seawater intrusion as it would lower the aquifer's hydraulic head below sea level.

Another scenario of superposition is that where the drawdowns at the Hair and Makarechian wells are calculated from formula (6). Assuming that the Hair, Makarechian, Chase, and Haber wells are separated from each other by a distance equal to 250 feet (see Figure 3) one would obtain from Figure 24 that the superimposed drawdown at each well after one year of groundwater extraction would be 3 x 1.08 = 3.24 ft plus the drawdown at each well caused by its own extraction, in this case at a distance equal to the radius of the borehole ($r \cong 0.75$

feet). The latter drawdown from the Cooper-Jacob formula equals 4.26 ft. We must add, also, the drawdown caused at either the Hair or Makarechian wells by pumping at the two Biltmore wells, distant about 500 ft (see Figure 3). The drawdown caused by the two Biltmore wells is obtained from Figure 25 to be 2 x 3.0 = 6.0 ft. Therefore, the total drawdown at the Hair and Makarechian wells would be 3.24 + 4.26 + 6.0 = 13.50 ft. This magnitude of drawdown at the Hair and Makarechian wells would drive their water levels below sea level, and they most likely would be extracting saline water after some time of operation.

Drawdown: the Schlesinger well. The drawdown caused by the Schlesinger well is due to its own groundwater extraction and to the extraction at neighboring wells. In the absence of site-specific measurements of transmissivity we use Slade's (1987) recommended value of transmissivity equal to 80 ft^2/day. The storage coefficient remains at S = 0.001 used in the calculation of drawdowns at the Hair and Makarechian wells. Figure 26 displays the calculated drawdown caused by the Schlesinger well pumping at a rate equal to 5 gpm at distances r = 0.75, 100, 250, 500, and 1,000 ft and as a function of the elapsed time of groundwater extraction.

It was shown in Figure 4 that the Schlesinger well would be within the riparian corridor of San Ysidro Creek. It is estimated that the distance from the Schlesinger well to the nearest point on the San Ysidro Creek stream channel would be less than 100 ft. It is deduced from Figure 26 that the drawdown caused at San Ysidro Creek (r = 100 ft) by pumping continuously for 365 days at 5 gpm would be at least 8.41 ft. One must add to this drawdown the drawdown of aquifer levels by neighboring wells, whose rates are unknown. This level of drawdown is likely to reduce baseflow to San Ysidro Creek, a significant adverse impact to surface water resources in storage unit 3 that was not adequately addressed by consulting geologist A. Simmons in his May 14, 2015, memorandum to Commission staff. In the latter memorandum A. Simmons wrote that "The proposed well is situated at an elevation of approximately 23 feet above mean sea level with an estimated static water level of approximately 18 feet in depth. This swl is approximately 6 feet below the bottom of San Ysidro Creek and is therefore unlikely to cause any issues with any riparian corridor given the distance to the creek, depth of the concrete sanitary seal, and low yield of 5 gpm or less. Therefore the proposed well would have no or negligible impacts on any existing or proposed water wells and/or riparian corridors". Mr. Simmons's analysis of the Schlesinger's well impacts on

San Ysidro Creek was incorrect. Comparing the static water level at the Schlesinger well with the bottom of the San Ysidro Creek at an undetermined location is not meaningful. Figure 26 clearly shows that the drawdown that would be caused by the Schlesinger would propagate long distances from the well, capturing groundwater that could otherwise serve as baseflow to support stream flow in San Ysidro Creek when hydrologic conditions allow flow in the creek.

Other drawdowns of interest that would be caused by the Schlesinger well are those at his own location (r = 0.75 ft) and on the coastline (r = 250 ft). Figure 26 implies that these drawdowns would equal 17.76 and 6.65 ft, respectively. With these levels of drawdown the Schlesinger most likely would be pumping saline groundwater after some time of operation.

10. Conclusions.

This Contractor concludes that applications for new wells in storage unit 3 of the MGWB must demonstrate that proposed extraction of additional groundwater would not adversely impact the groundwater resources of this overdrafted basin. This report has shown that the groundwater threshold of significance in storage unit 3 equals 0.71 AFY according to the County of Santa Barbara's procedure and zero based on site-specific impacts. This report has proven that the Makarechian and Hair wells would pose significant adverse impacts in the areas of well interference and seawater intrusion. The Schlesinger would pose significant adverse impacts concerning seawater intrusion and stream depletion in San Ysidro Creek.

11. References.

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12. Appendix: Figures

2. List of Figures. The Appendix contains the following Figures.

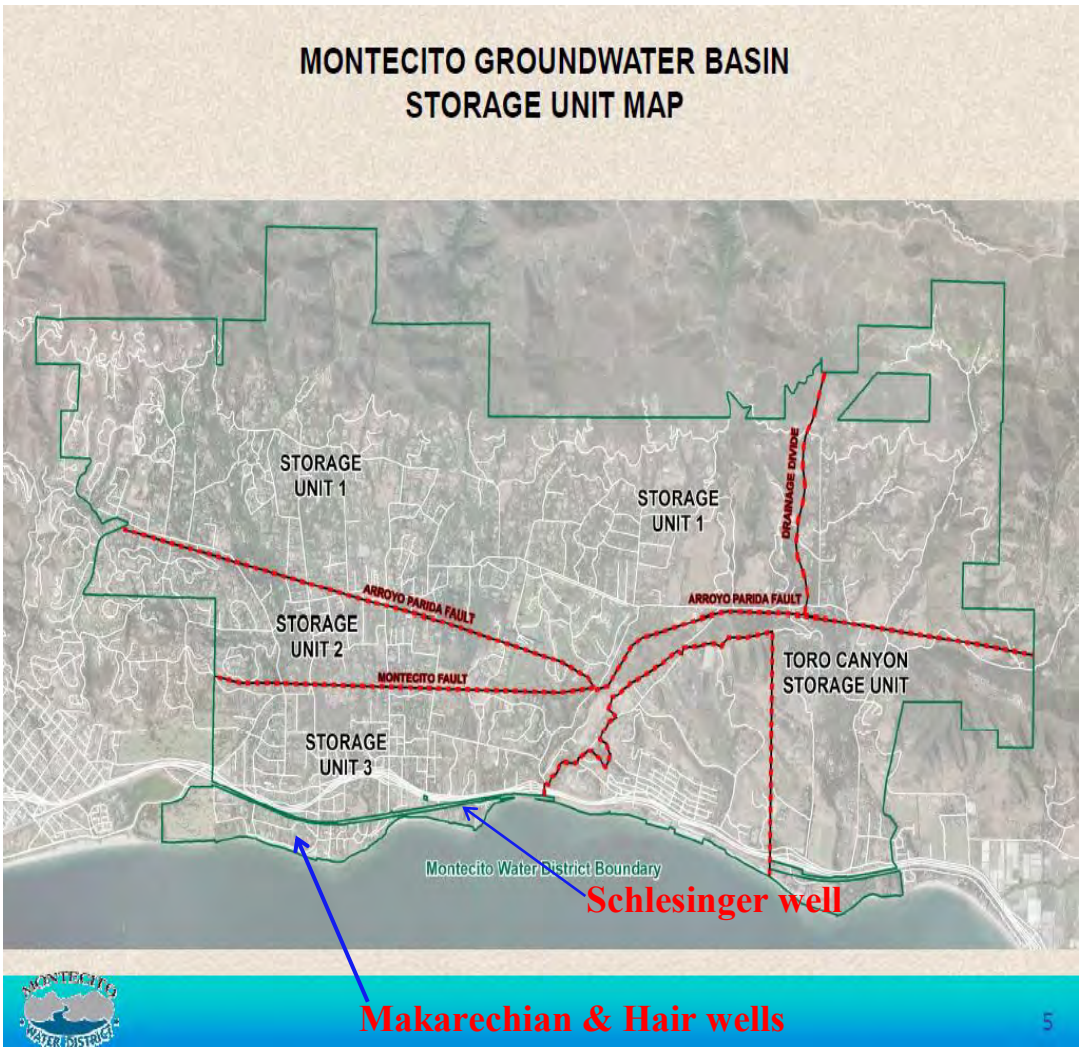

Figure 1. Map showing the boundaries of the MGWB and its components sub-basins or groundwater storage units. Source: presentation by officials from the MWD to the Montecito Planning Commission on November 19, 2014.

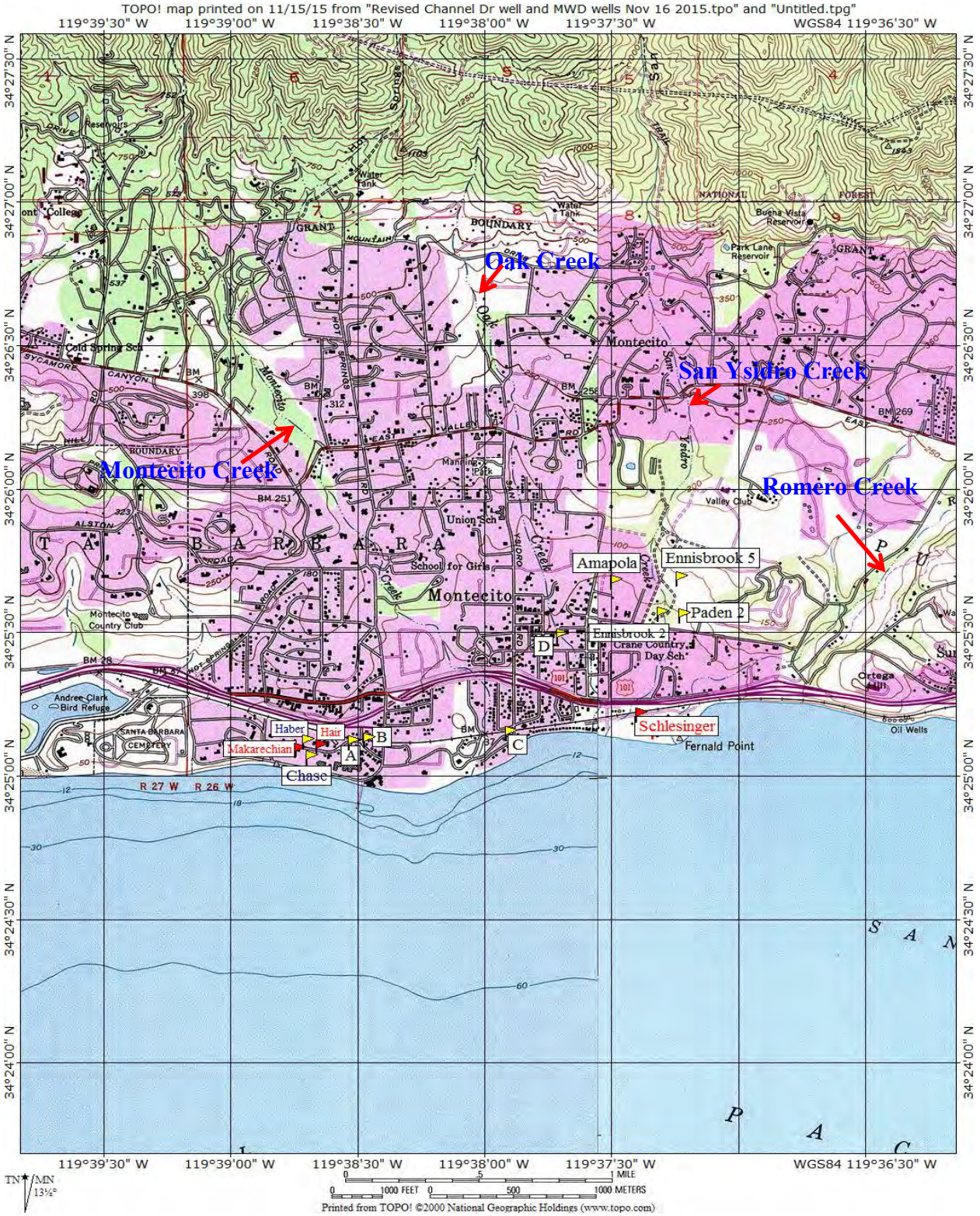

Figure 2. Map showing the approximate locations of the appealed Makarechian, Hair, and Schlesinger wells, and a few existing nearby wells.

Figure 3. Google image showing the approximate locations of the appealed Makarechian and Hair wells, the existing Chase, Haber wells, and two other private wells (A and B).

Figure 4. Google image showing the approximate location of the appealed Schlesinger well.

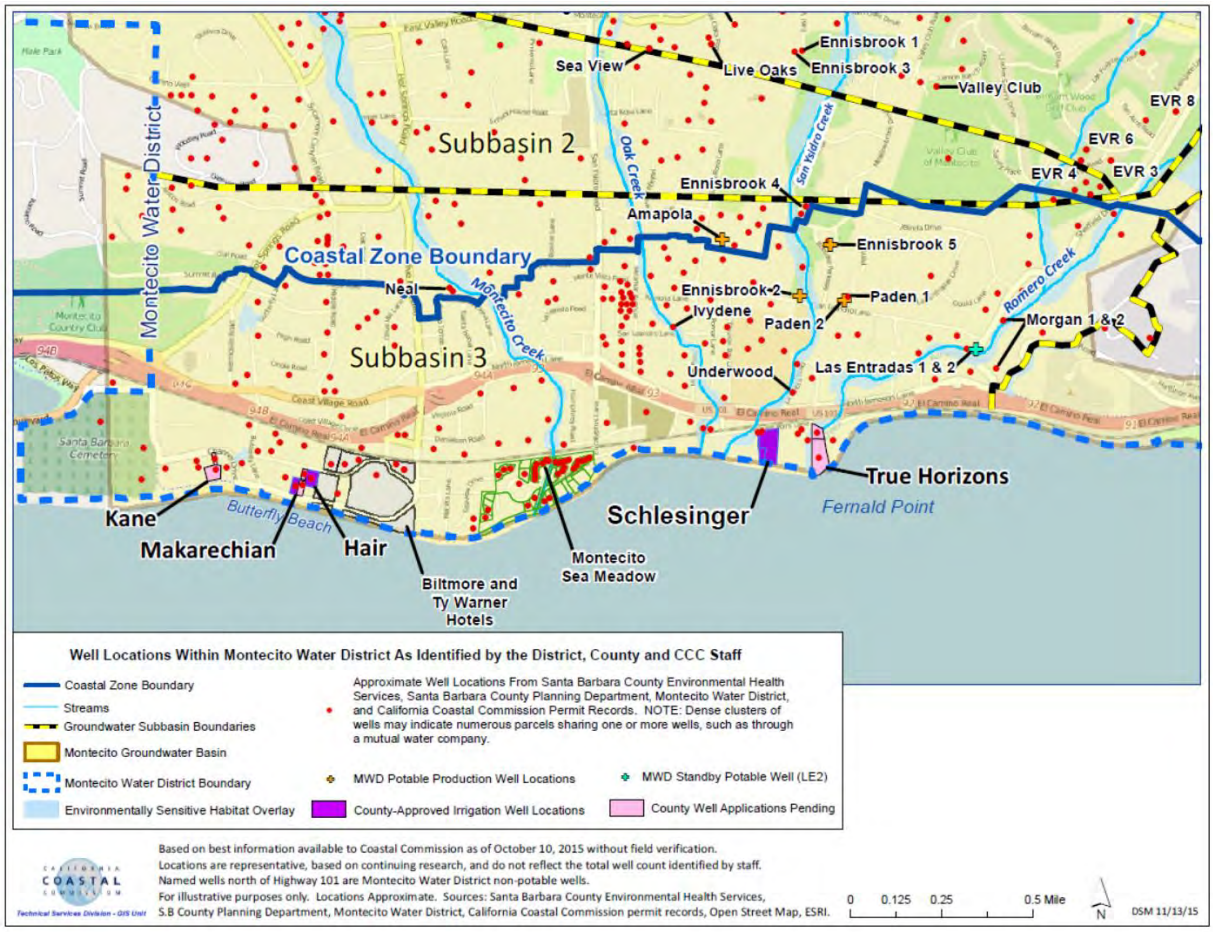

Figure 5. Approximate locations of wells permitted within storage unit 3 and the associated coastal zone (the latter under CCC jurisdiction). Source: California Coastal Commission.

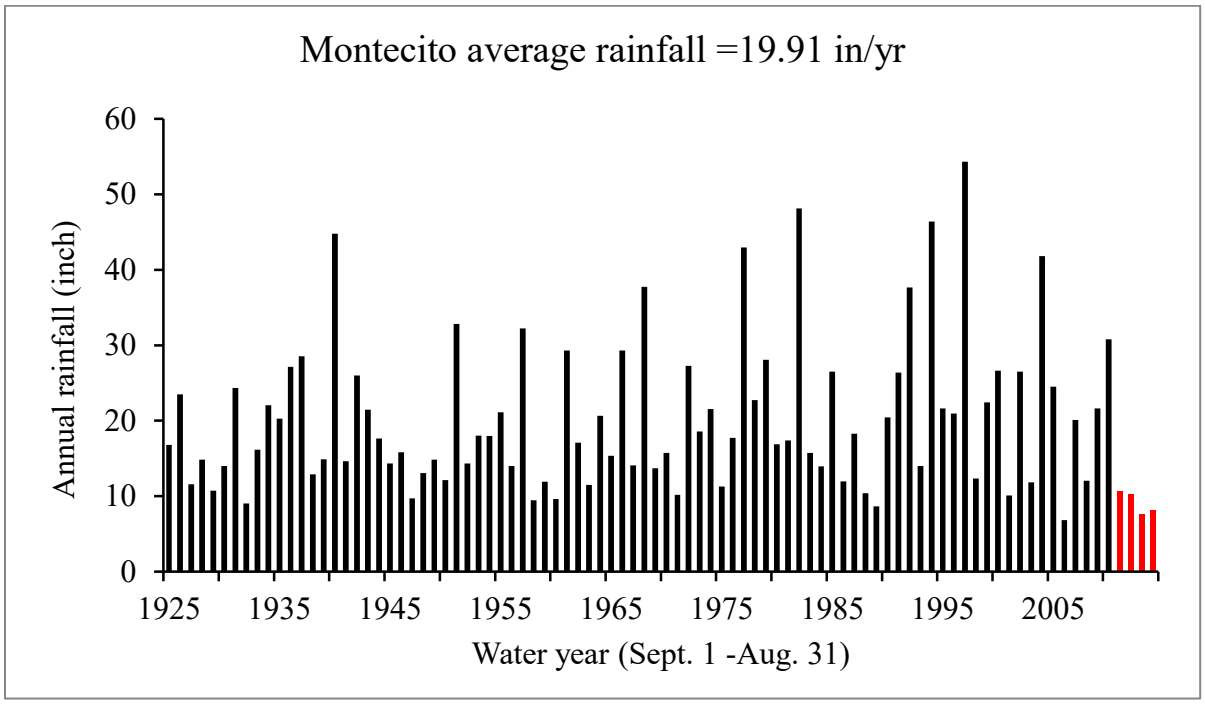

Figure 6. Annual rainfall in Montecito, California, since water year 1925-1926. The last four water-year rainfalls are shown in red.

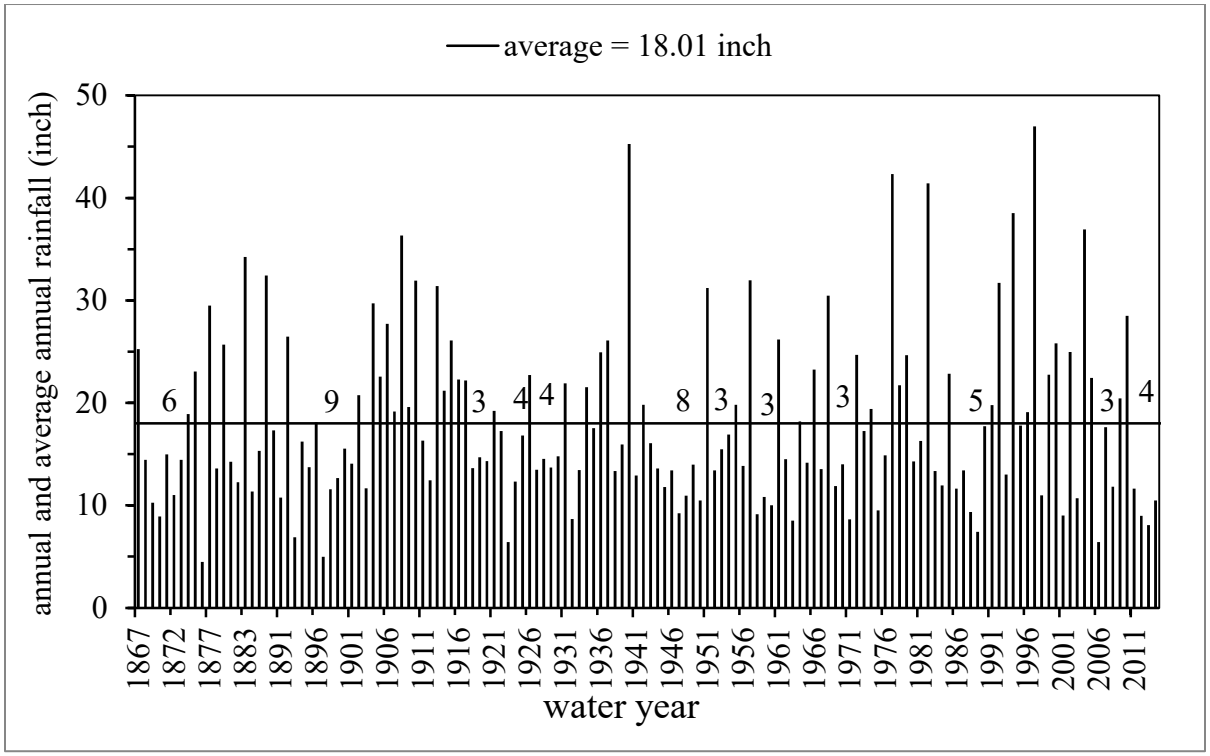

Figure 7. Annual rainfall in the City of Santa Barbara since 1867 showing the occurrence of 12 droughts whose durations are written above the average annual rainfall line (18.01 inch). The longest drought lasted 9 years.

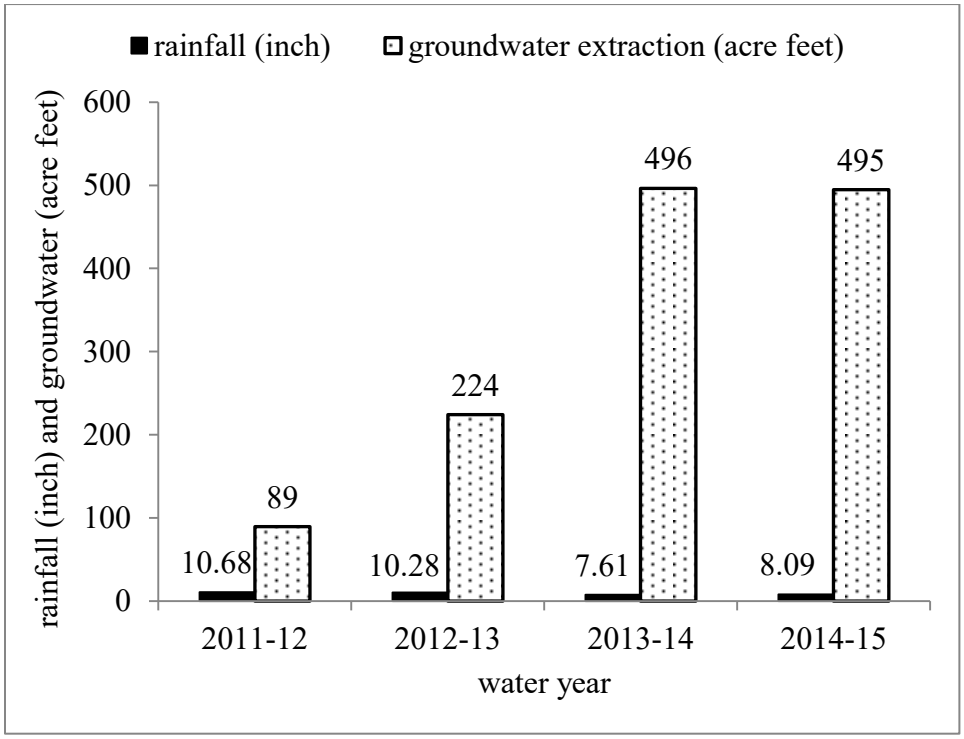

Figure 8. Combined groundwater extraction by the MWD's four wells that are sources to potable water after treatment (Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2) and annual rainfall in Montecito.

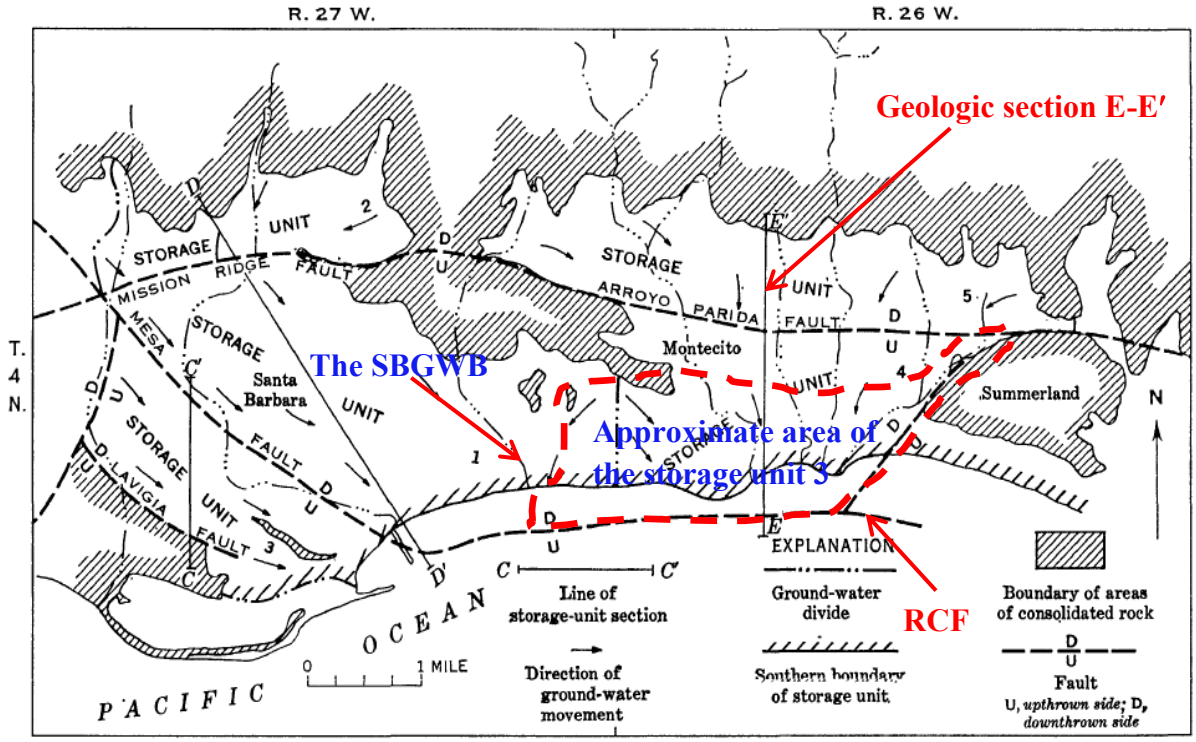

Figure 9. Copy of Muir's (1968) Figure 2, showing an early delineation and interpretation of the MGWB, the SBGWB, and the RCF fault trending east-west about 1,000 feet offshore from the coastline in storage unit 3 of the MGWB. Geologic section E′-E is depicted in Figure 10. Colored features were added by this Contractor.

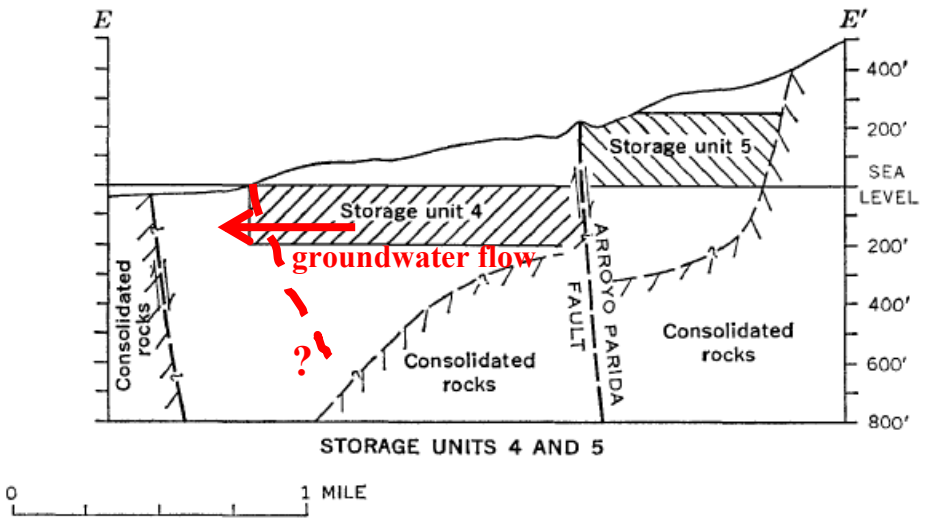

Figure 10. Copy of Muir's (1968) Figure 3 (section E-E′) with features in red added by this Contractor. The possible seawater front added on the southern perimeter of the MGWB is shown as a dashed red line.

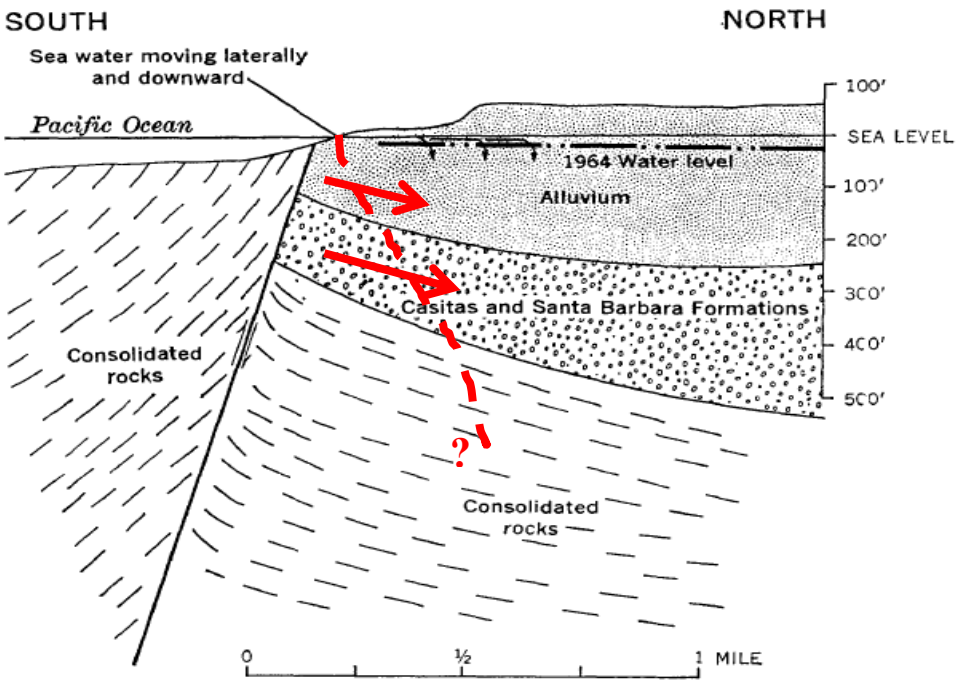

Figure 11. Copy of Muir's (1968) Figure 4 illustrating mechanism of seawater intrusion in storage unit 3 of the MGWB prevailing 1964. Features in red were added by this Contractor.

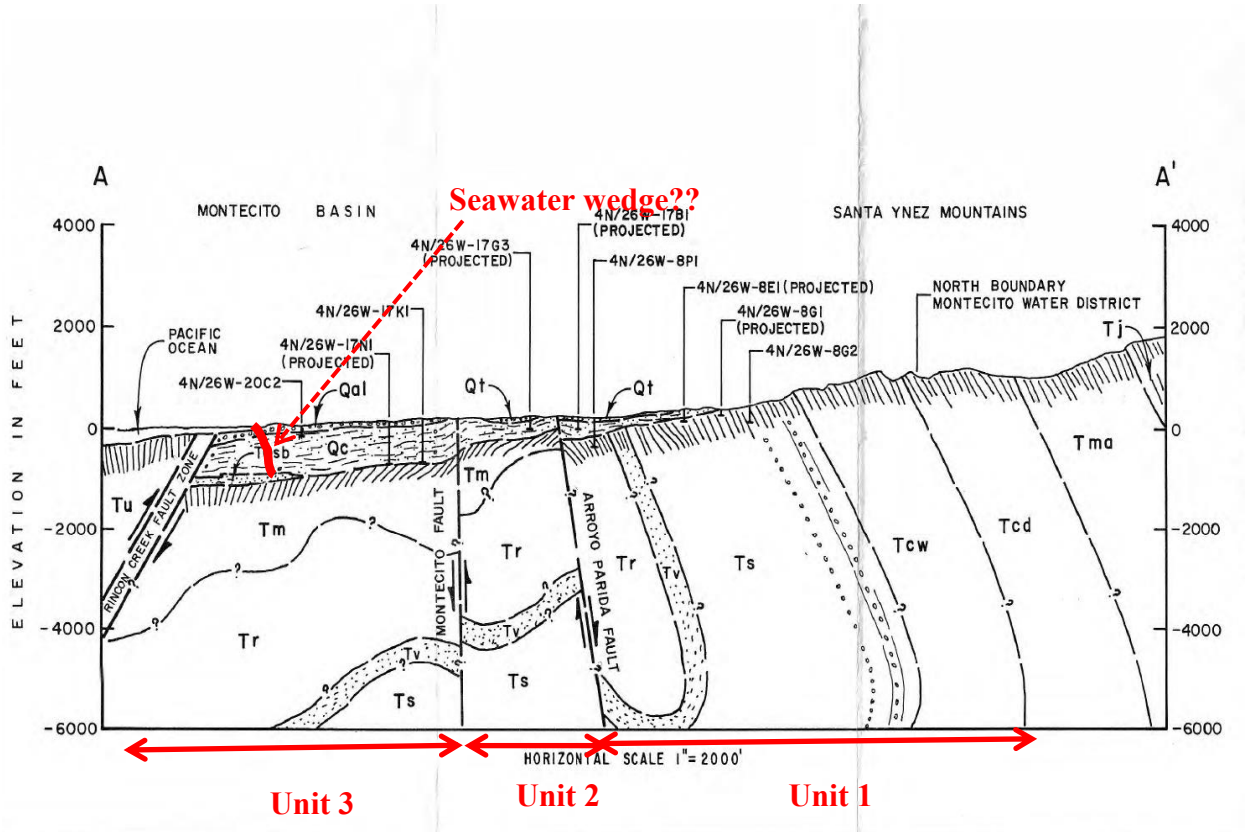

Figure 12. Copy of Geotechnical Consultant's (1974) plate 4.1. Geologic section of the MGWB. Red features were added by this Contractor. The red line depicts a plausible position of the seawater wedge. Notice the division of the MGWB into storage units 1, 2, and 3 defined by structural features (faults).

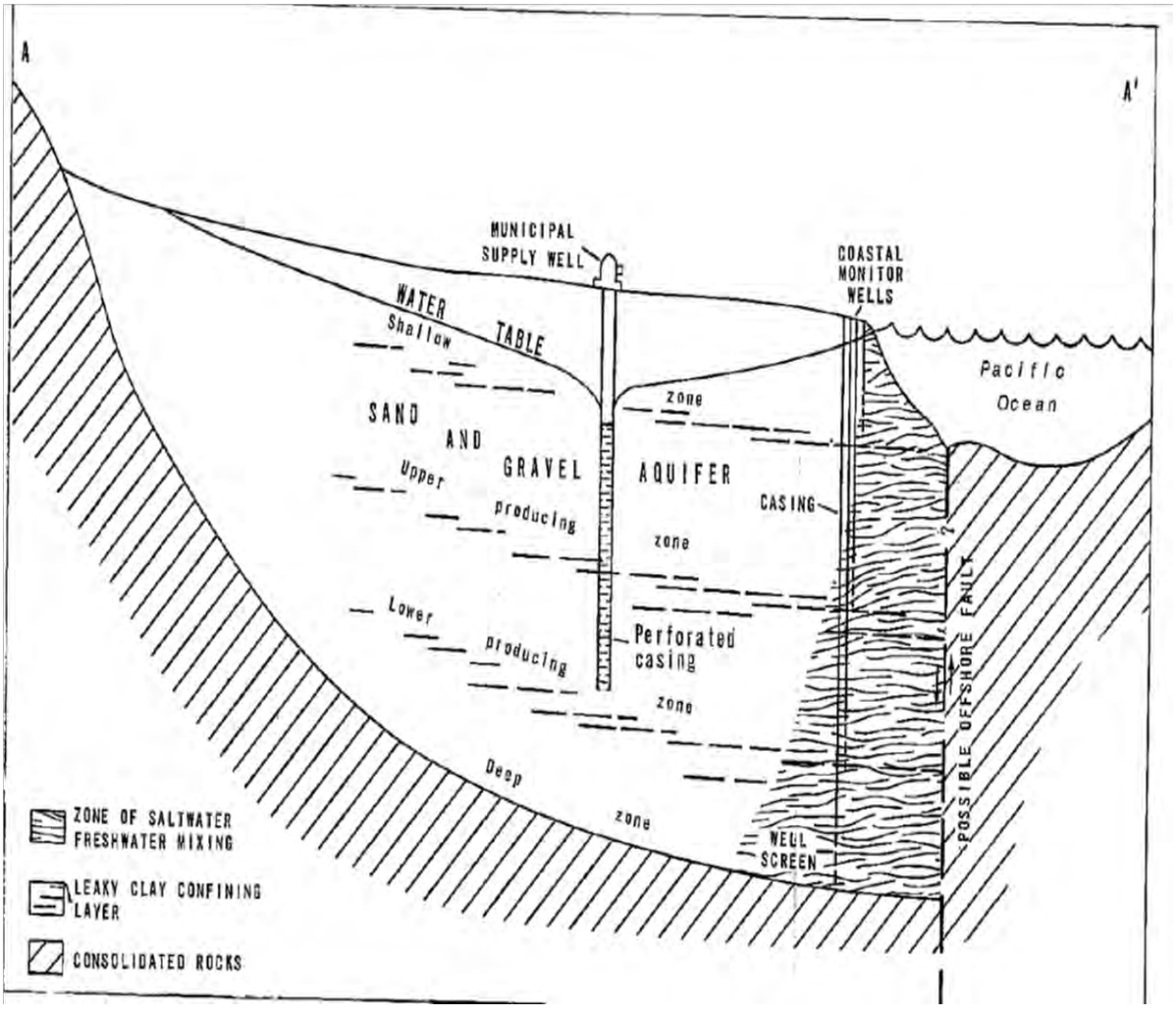

Figure 13. Copy of Hutchinson's (1979) Figure 2. Generic geologic section through the SBGWB. Notice the zone of seawater-freshwater mixing north of the western extension of the RCF.

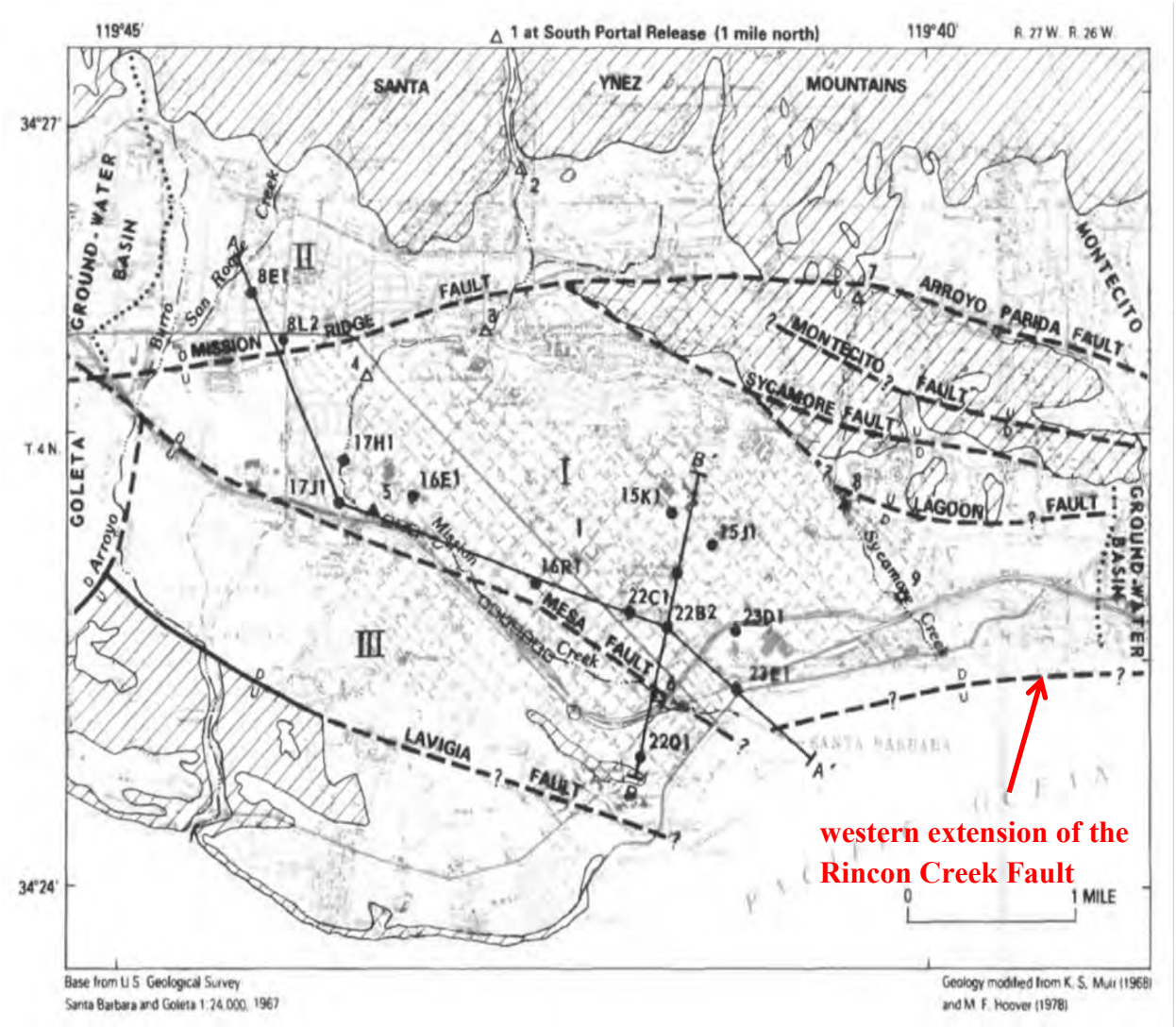

Figure 14. Copy of Martin's (1984) Figure 2. Map of the SBGWB depicting the western side of the MGWB and the western extension of the RCF. Features in red were added by this Contractor.

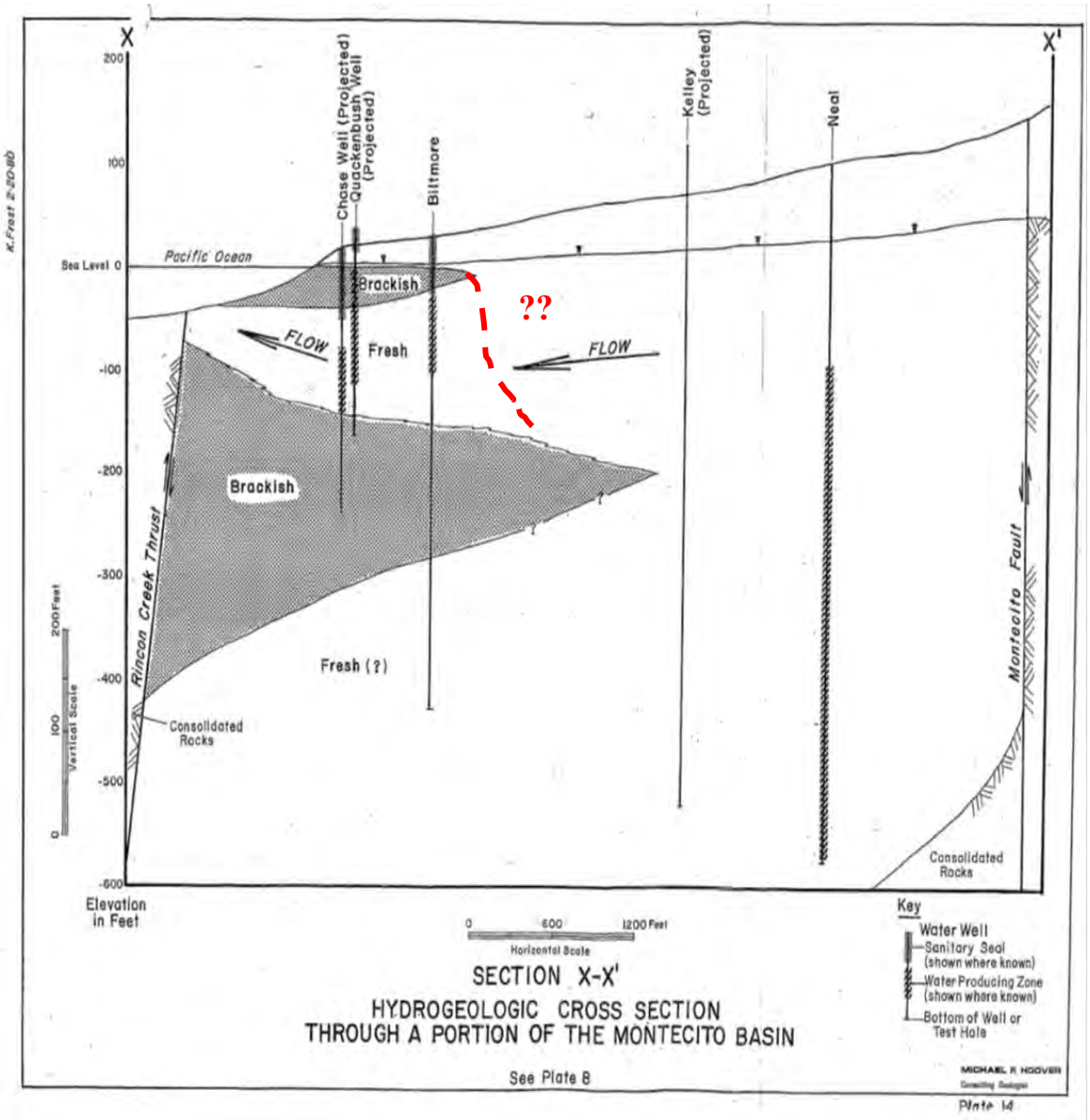

Figure 15. Copy of Hoover's (1980) hydrogeologic section Plate 14. Dotted red line depicts a plausible position of the seawater wedge, and was added by this Contractor.

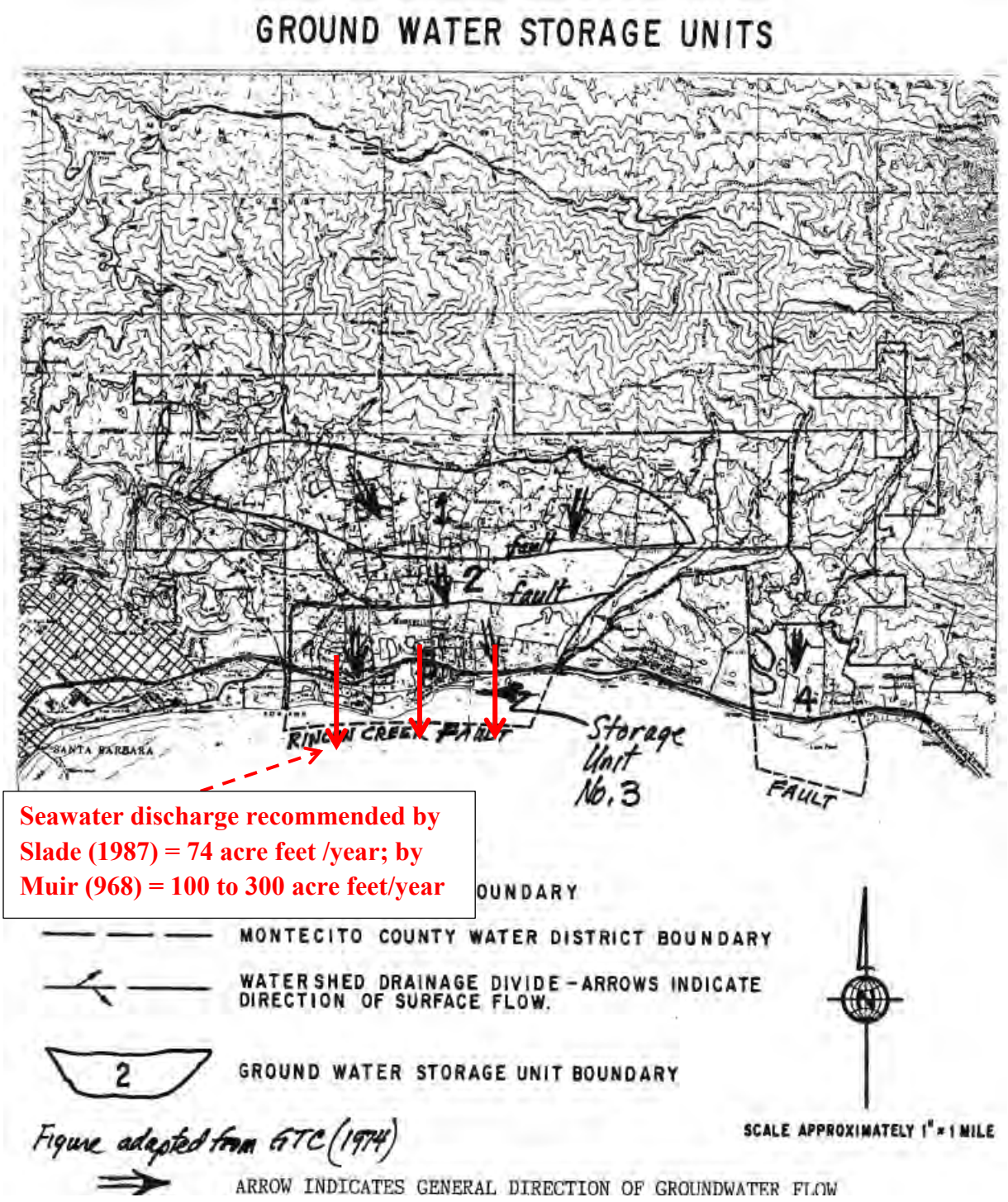

Figure 16. Copy of Slade's 1987 Figure 1 showing the MGWB and its storage units. Slade (1987) assessed potential seawater intrusion into storage unit 3 and recommended criteria to prevent it. The range of discharge recommended by Muir (1968) was 100 to 300 acre feet / year. Red features were added by this Contractor.

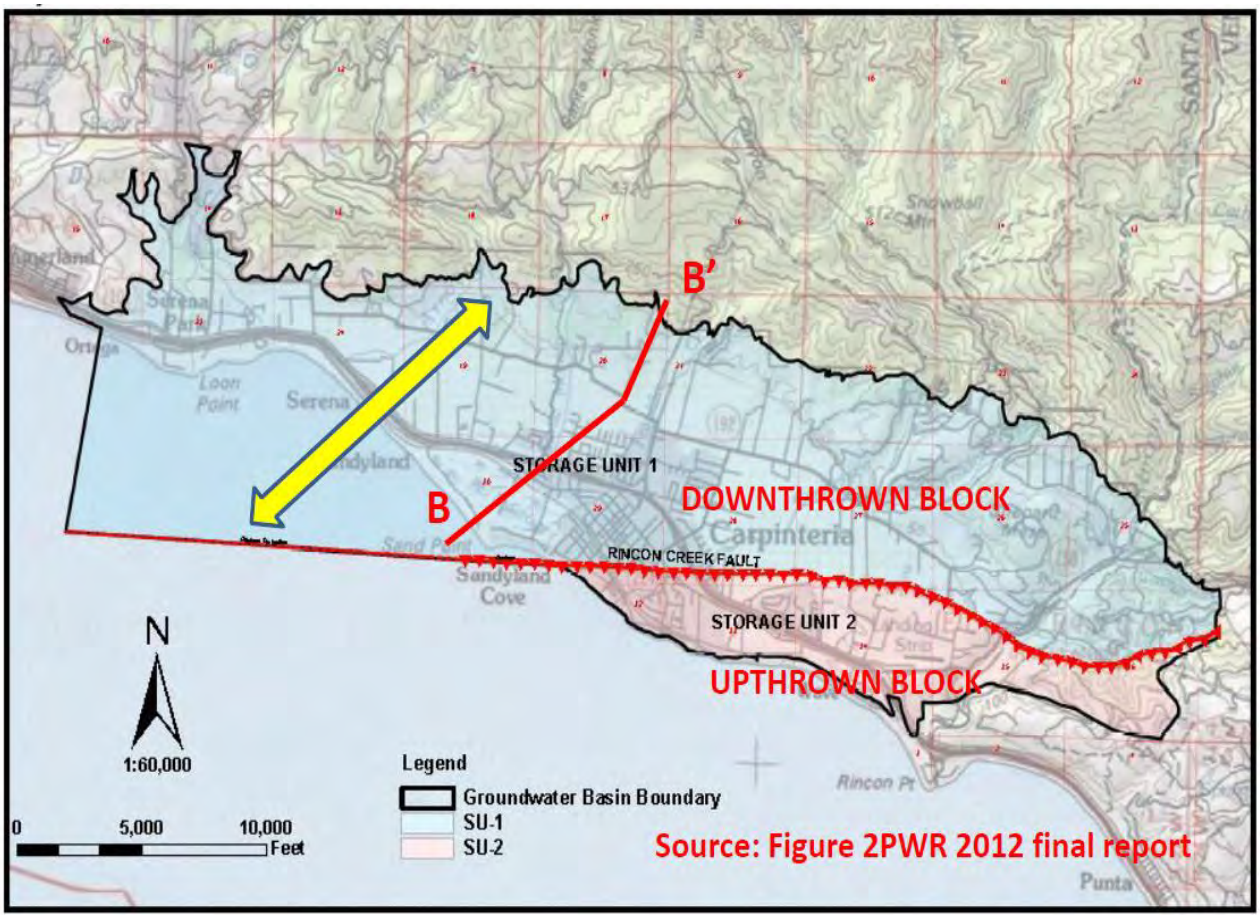

Figure 17. From Loáiciga (2014) showing the Carpinteria Groundwater Basin (CGWB) and zone of contact (highlighted by yellow, arrowed, line) between the CGWB's unit 1 and the ocean. The RCF continues westward and offshore towards the MGWB and the SBGWB. The hydrogeologic section B-B′ is depicted in Figure 18.

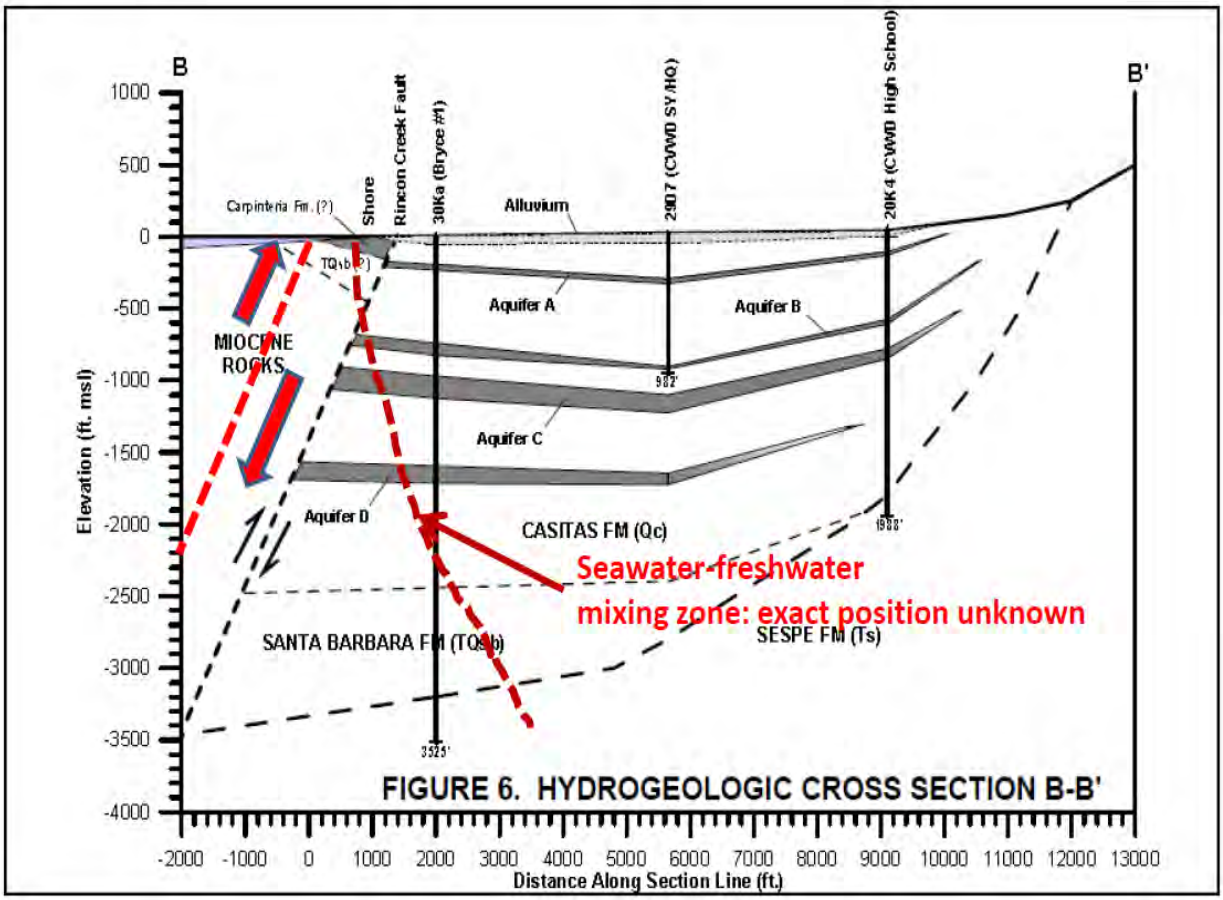

FIGURE 6. HYDROGEOLOGIC CROSS SECTION B-B'

Figure 18. From Loáiciga (2014). Hydrogeologic section B-B′ showing the four aquifers of the CGWB, including the Casitas formation that is prominent within the MGWB, and a few wells. The position of the RCF is the one shown as a dashed red line in the figure. Notice the similarity of the fault-aquifer-ocean interactions depicted in this figure and that shown in Figure 12 for the MGWB.

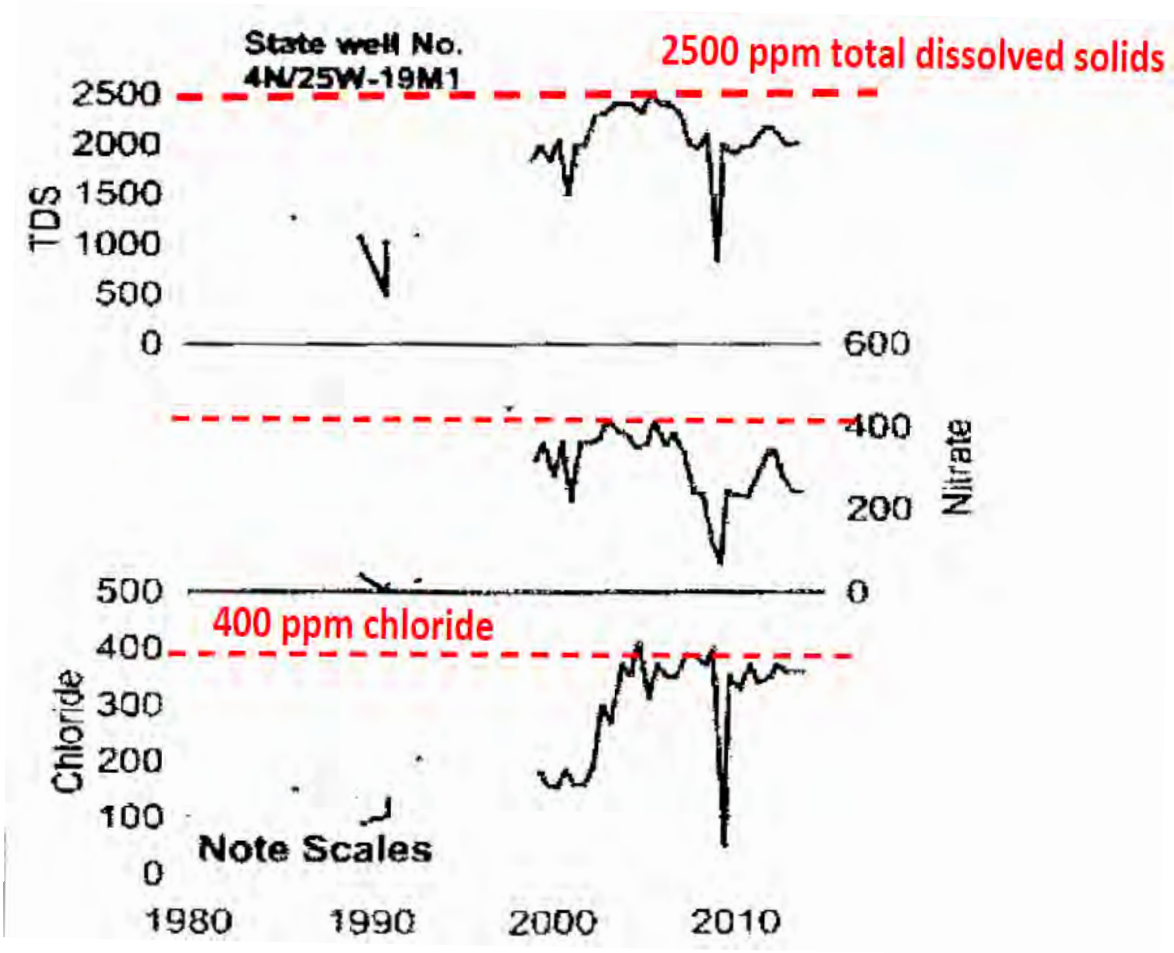

Figure 19. High concentration of TDS, chloride, and nitrate in well 4N/25W-19M1 located in storage unit 1 (the coastal sub-basin of the CGWB). Source: Fugro Inc.'s 2013 hydrogeologic report to the CWD.

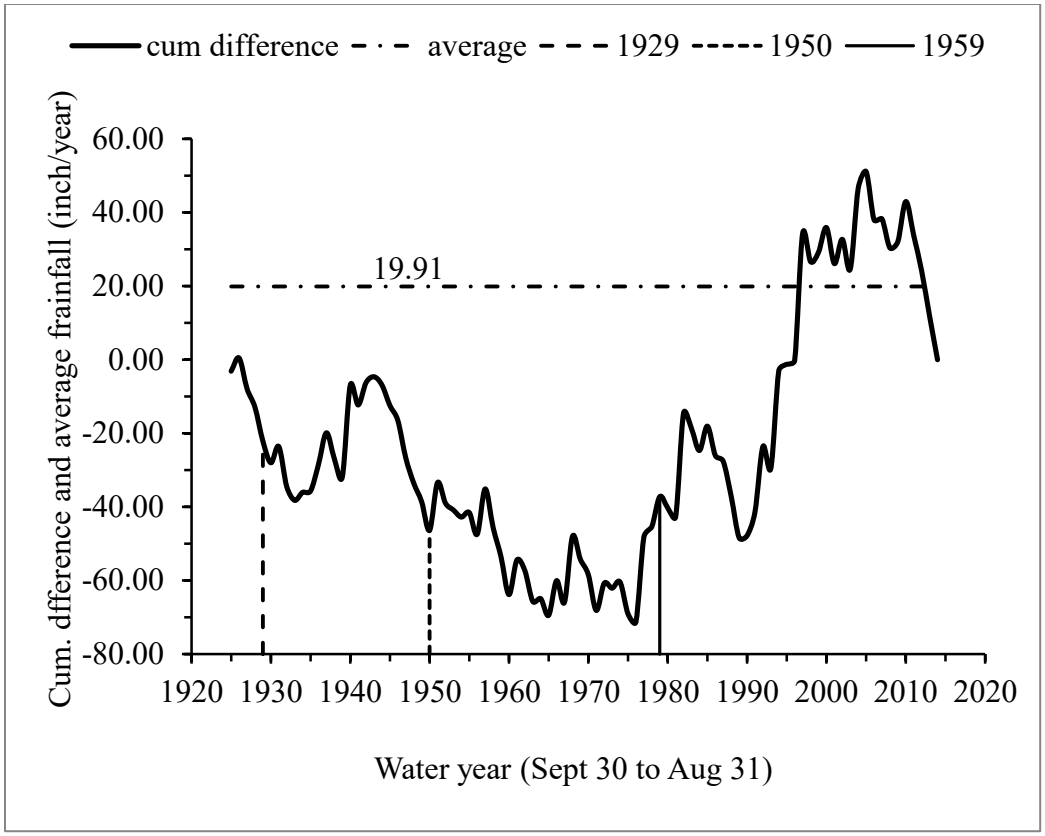

Figure 20. Cumulative difference of annual rainfall from long-term average annual rainfall in the MGWB.

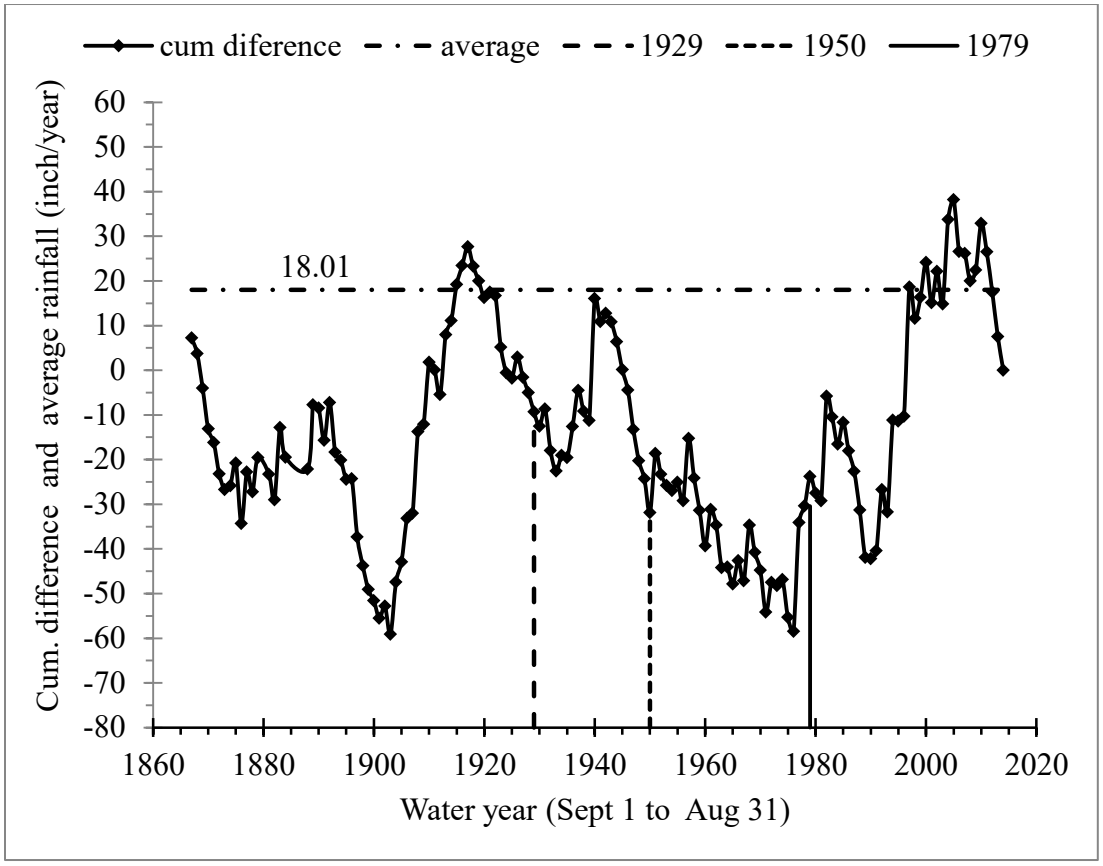

Figure 21. Cumulative difference of annual rainfall from long-term average annual rainfall in the City of Santa Barbara.

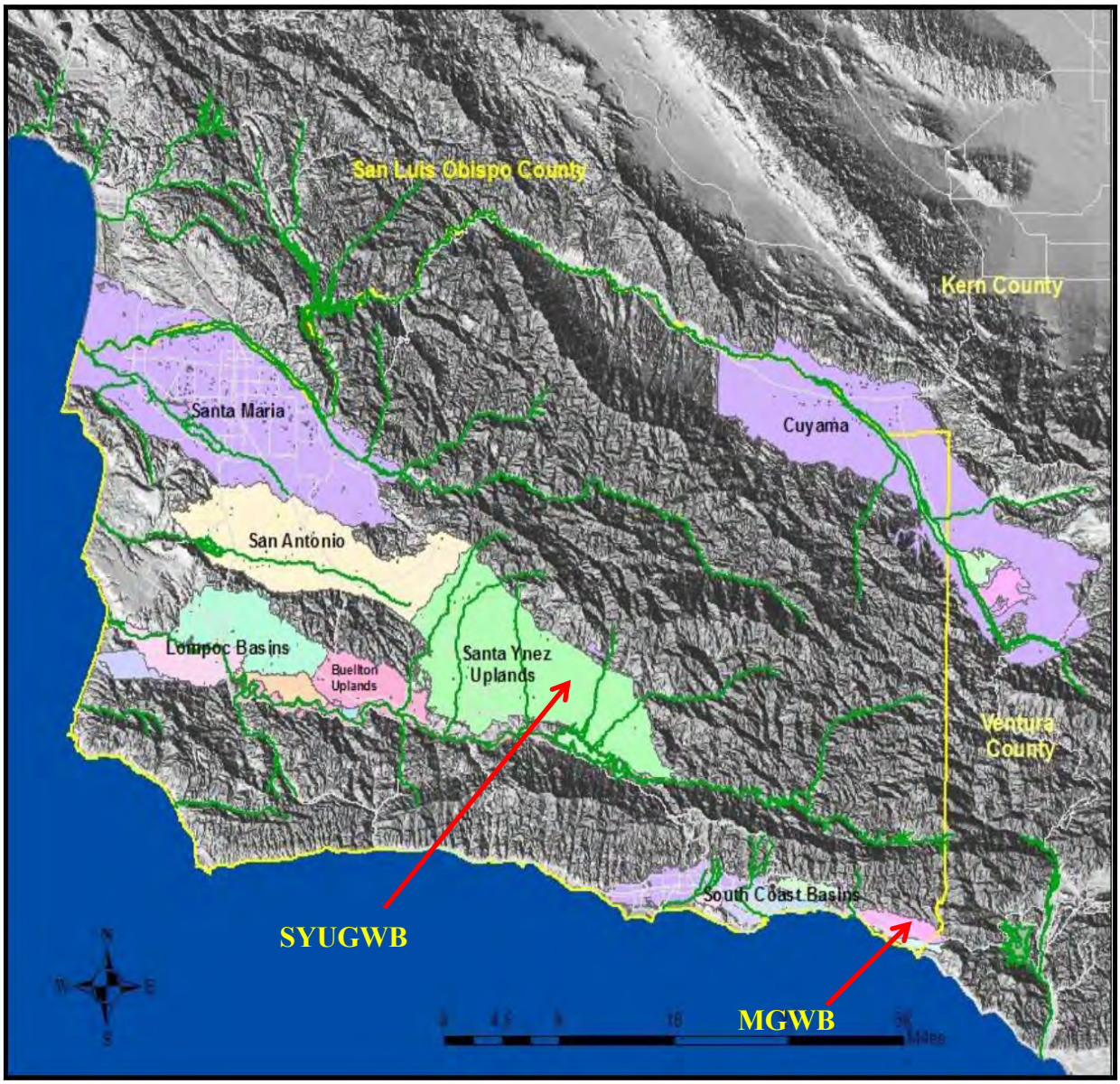

Figure 22. Map of groundwater basins of Santa Barbara County (Source: Groundwater Basins Status Report, County of Santa Barbara, 2011).

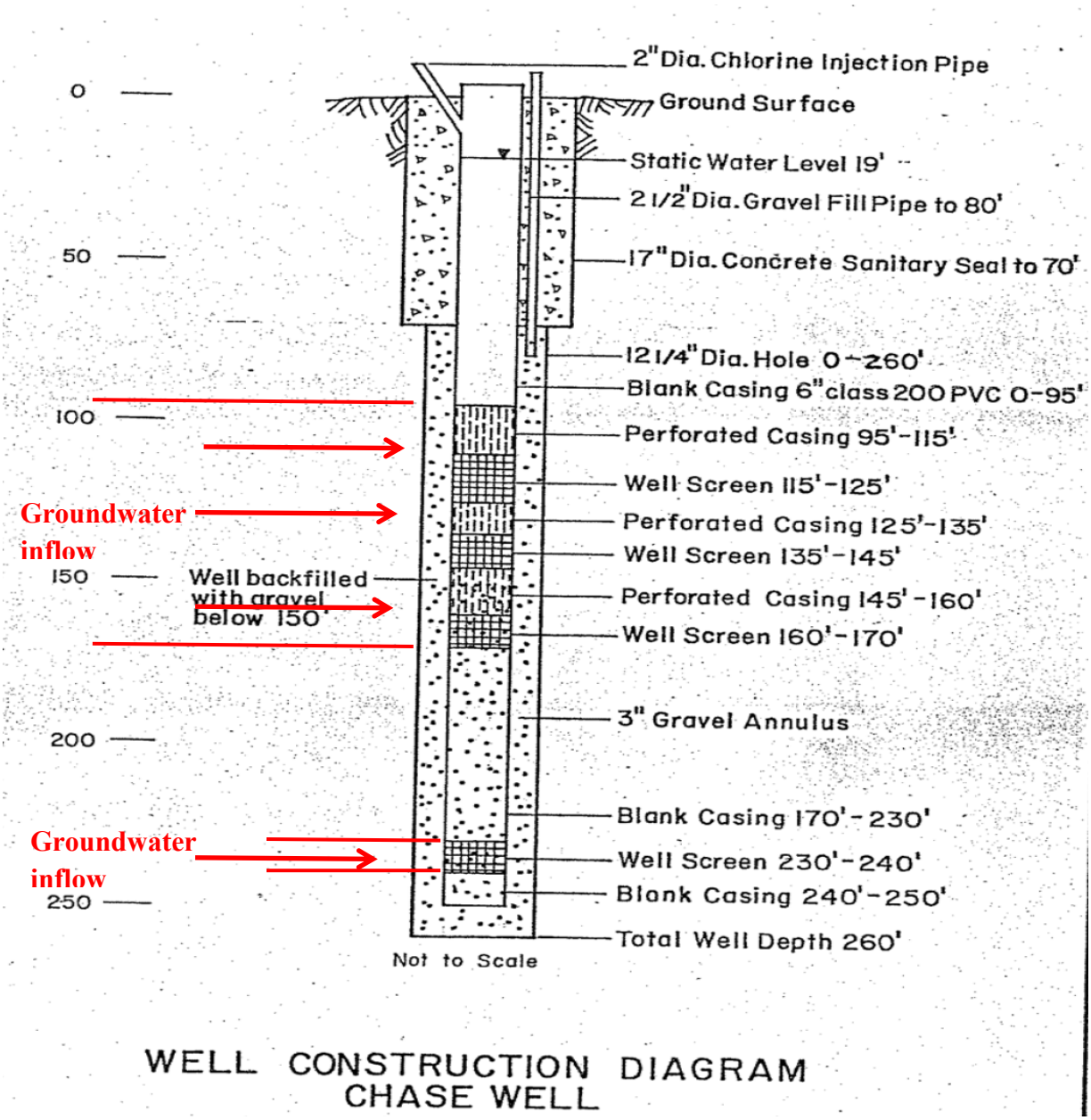

Figure 23. Well construction diagram of the Chase well, from a June 15, 1978, report by geologist M. Hoover to Mr. and Mrs. Dan Chase. Notice segments of the well where groundwater enters it, from depths 95 through 170 ft and from 230 through 240 ft.

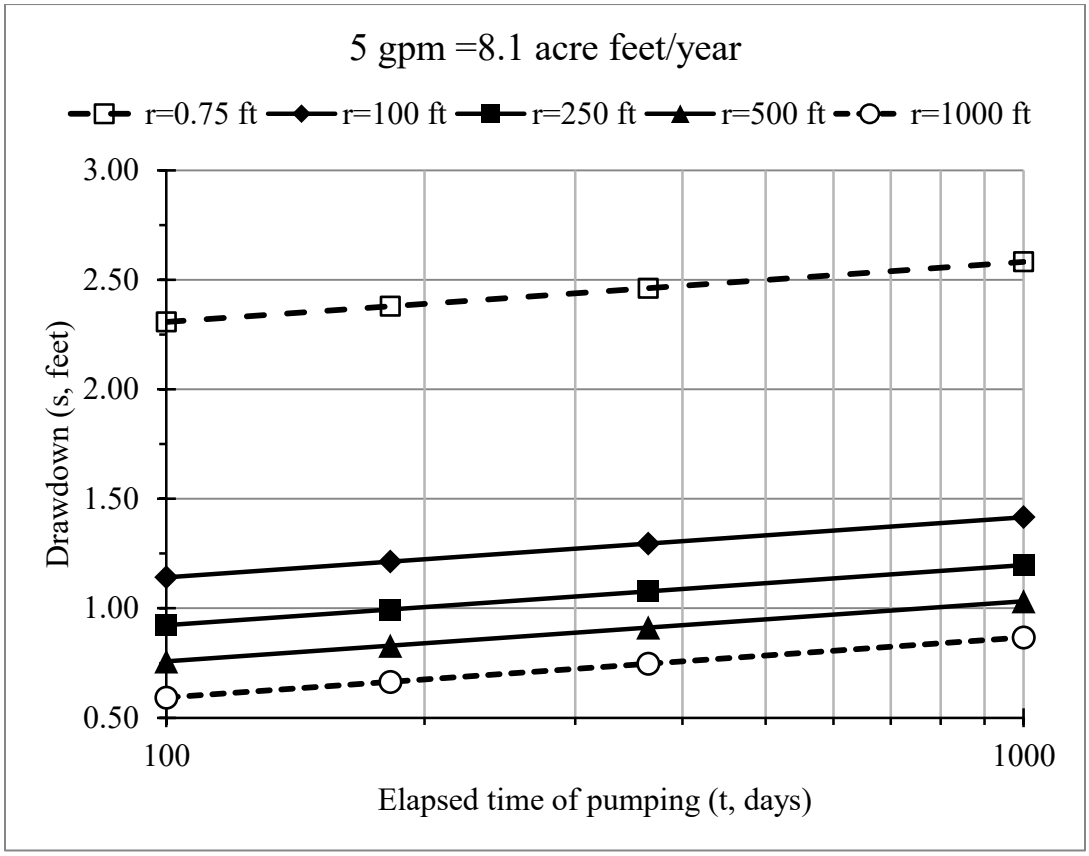

Figure 24. Calculated drawdowns for a pumping rate equal to 5 gpm as function of the elapsed time since pumping began and distance from the pumping well (the Chase, Makarechian, and Hair wells).

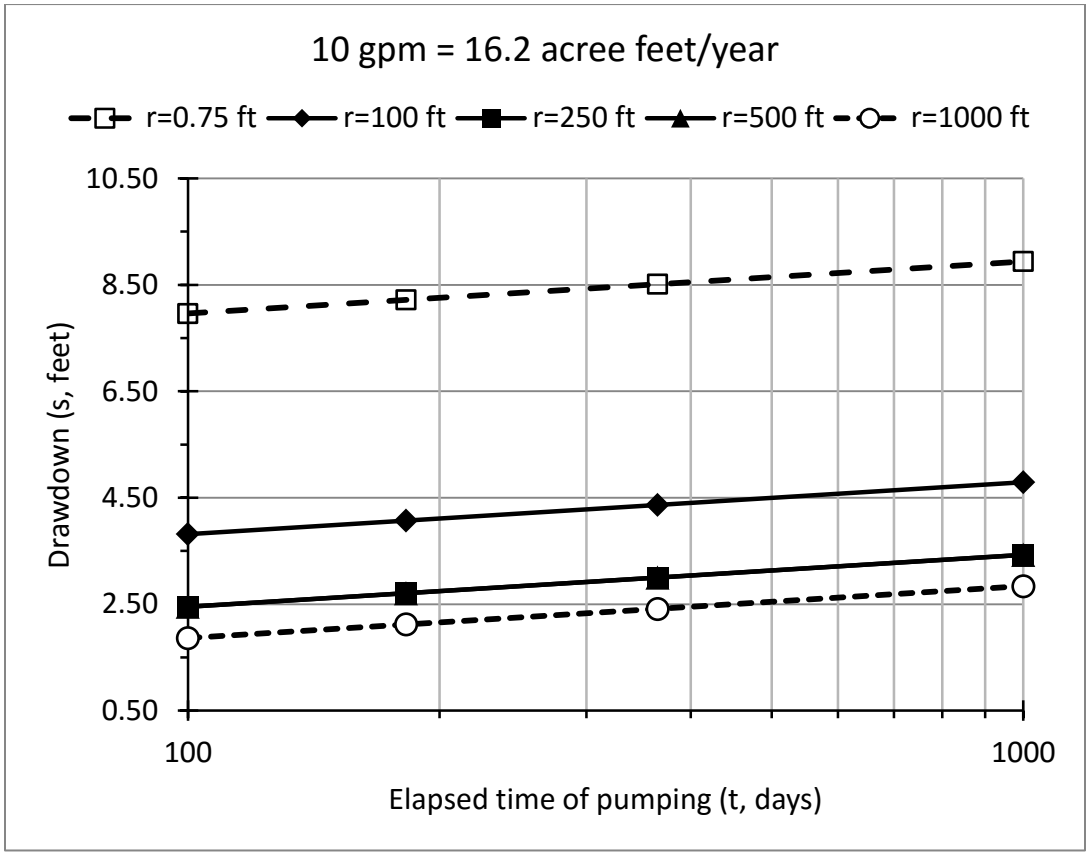

Figure 25. Calculated drawdowns for a pumping rate equal to 10 gpm as function of the elapsed time since pumping began and distance from the pumping well (the two Biltmore wells).

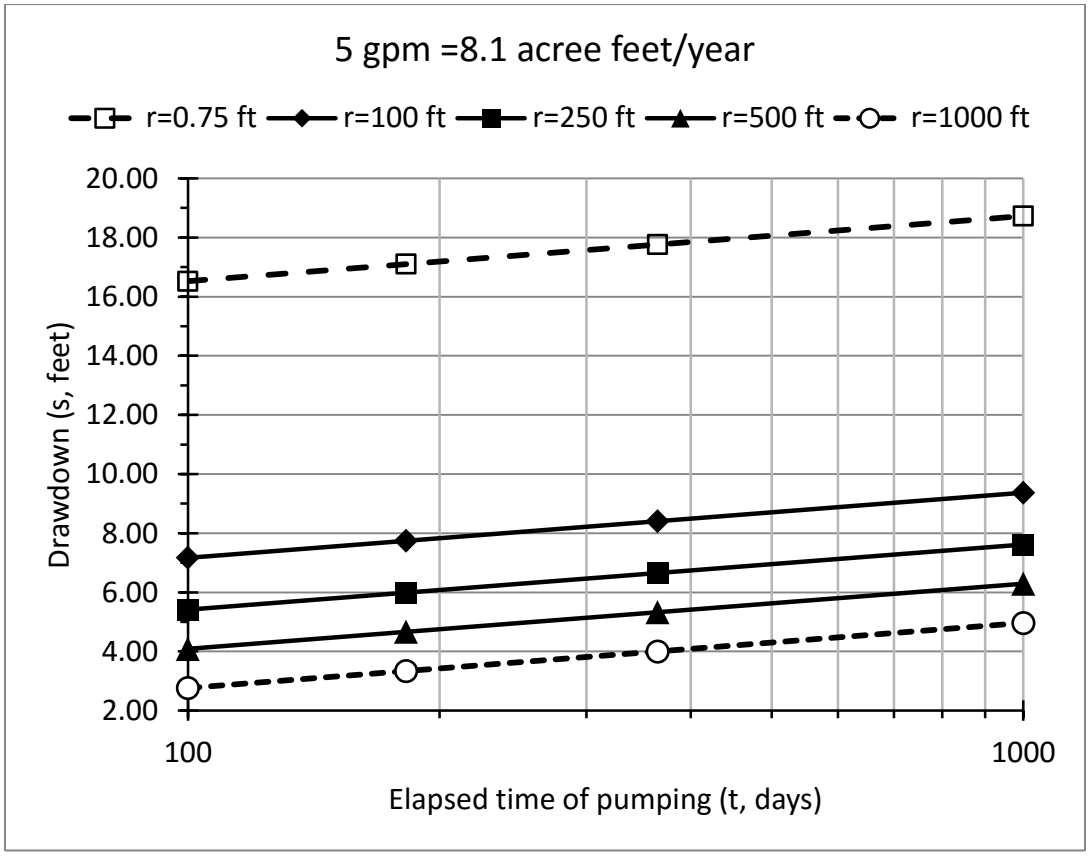

Figure 26. Calculated drawdowns for a pumping rate equal to 5 gpm as function of the elapsed time since pumping began and distance from the pumping well (Schlesinger well).

STATE OF CALIFORNIA -- THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

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POLICIES IN LOCAL COASTAL PROGRAMS REGARDING DEVELOPMENT SETBACKS AND MITIGATION RATIOS FOR WETLANDS AND OTHER ENVIRONMENTALLY SENSITIVE HABITAT AREAS

Performed Under Section 309
(Coastal Zone Enhancement Grants Program)
of the Coastal Zone Management Act

January 2007

Exhibit 7
Dr. Jonna Engel's Study Regarding
Development Setbacks
A-4-STB-14-0060

TABLE OF CONTENTS

Introduction

Local Coastal Programs (LCPs) are prepared by local governments and reflect the unique local characteristics of both natural resources and individual coastal communities. Each LCP includes a land use plan and measures to implement the plan, such as zoning ordinances. Following adoption by a city council or county board of supervisors, an LCP is submitted to the Coastal Commission for review for consistency with Coastal Act requirements. After an LCP has been approved, the Commission's coastal permitting authority over most new development is transferred to the local government, which applies the requirements of the LCP in reviewing proposed new developments. (Cal.Pub.Res. Code §§ 30500, et seq.)

LCPs contain the ground rules for development and protection of coastal resources in the 74 coastal cities and counties. Therefore, LCPs need to provide strong policies for the protection of marine and freshwater wetlands and terrestrial Environmentally Sensitive Habitat Areas (ESHA)[1] Many LCPs identify particular habitat types as ESHA and some LCPs include generalized maps of ESHA. However, LCPs should always provide for site-specific assessments of ESHA, regardless of other LCP provisions that identify or map particular habitats as ESHA. Ultimately, ESHA must always be determined by assessing the existing conditions on a site, based on current knowledge of the functions and rarity of species and habitats. Strong policies relating to development setbacks (spatial buffers) around sensitive terrestrial habitats and marine and fresh water wetlands are essential. Policies that require mitigation for projects that impact wetlands and other sensitive habitats are also needed.

The purpose of this report is to document and assess the resource protection policies in the Local Coastal Programs that currently exist in the state of California. To this end, Coastal Commission staff reviewed every Local Coastal Program in California and collected the policies that relate to spatial buffers around protected habitats and to mitigation for impacts to such habitats. This information was organized by district and Local Coastal Program and is contained in Table 1. A summary presentation is contained in Table 2. The purpose of this report is to enable district offices to review the status of their policies in relation to those in other districts and to identify city and county Local Coastal Plans that need revision and updating in order to adequately protect wetlands and terrestrial environmentally sensitive habitats.

[1] "Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. (Cal.Pub.Res. Code § 30107.5)

Buffer Policies

The general trend for commission buffer standards is that older LCPs have more general and less restrictive requirements (smaller buffer dimensions), whereas more recent LCPs have stricter (larger buffer dimensions) and more detailed policies. Even the stricter, recent LCP buffer policies still fall short of buffer distances recommended in the scientific literature (see Appendix C). The majority of city and county LCPs contain buffer policies that include a minimum required distance between a particular type of ESHA and development. A subset of the LCP's with buffer polices for ESHA have additional policies that allow for case-by-case alterations of the buffer dimensions, including an increased buffer width when the ESHA in question is particularly sensitive (Tables 1 and 2).

The most consistent buffer dimension required across city and county LCPs is 100 feet for wetlands. The majority of LCPs state that a 100-foot buffer is the minimum standard and that especially sensitive wetland habitats may require a larger buffer. A number of the LCP wetland buffer policies include the caveat that a smaller buffer may be allowed in cases where the "applicant can demonstrate that a smaller buffer will protect the resources of the habitat area." "Wetland" is a catchall term that includes both saltwater and freshwater habitats. Wetlands include sloughs, estuaries, lagoons, salt marshes, eelgrass beds, fresh water marshes, ponds, lakes, seasonal marshes, and vernal pools. The consistent 100-foot buffer requirement for wetlands comes from LCPs incorporating the recommendation put forth in the commission's 1981 "Statewide Interpretive Guidelines for Wetlands and other Wet, Environmentally Sensitive Habitats". Section VIIB (Standards for siting development adjacent to environmentally sensitive habitat areas - Criteria for establishing buffer areas) of the guidelines states that:

> The width of a buffer area will vary depending upon the analysis. The buffer area should be a minimum of 100 feet for small projects on existing lots (such as one single family home or one commercial building) unless the applicant can demonstrate that 100 feet is unnecessary to protect the resources of the habitat area. If the project involves substantial improvements or increased human impacts, such as a subdivision, a much wider buffer area should be required. For this reason the guideline does not recommend a uniform width. The appropriate width will vary with the analysis based upon the standards.

The LCP exceptions to the 100-foot wetland buffer policy are found in Crescent City and Fort Bragg which require 50 feet, San Luis Obispo County Bay Area Plan and Long Beach (Los Cerritos Wetlands) which both require 25 feet, and San Clemente which includes a wetland ESHA category but does not provide a numeric buffer. The most protective buffer policies for wetlands occur in the Humboldt County, Big Sur Coast, and Morro Bay LCP's. Humboldt County's wetland buffer policies state that "Outside an urban limit line, the setback shall be between 100 feet and 200 feet depending upon the size and sensitivity of the wetland, drainage boundaries, vegetation, adjacent uses, and the potential impacts of the project on the wet habitat values. The precise width of the setback shall be sufficient to prevent significant effects to the wetland." And "Within an urban limit line, the setback shall be either 100' or the average setback of existing

development immediately adjacent as determined by the "string line method". Big Sur Coast's LCP requires a 150-foot wetland buffer. The Morro Bay LCP requires a 250-foot wetland buffer for the review area. The smallest wetland buffer requirement, 25 feet, occurs in the San Luis Obispo County LCP Bay Area Plan and the Long Beach (Los Cerritos Wetlands) LCP.

The Sonoma County LCP creates confusion by having conflicting wetland buffer policies;

- LUP Policy III-25: Prohibit construction of agricultural, commercial, industrial, and residential structures within 100' of wetlands.

- LUP Policy III-26: Prohibit construction of agricultural, commercial, industrial, and residential structures within 300' of wetlands unless wetlands would not be affected by such construction.

Local Coastal Programs also commonly contain buffer provisions for riparian habitats. Many terms are used for riparian habitats in the various city and county LCPs: riparian areas, riparian vegetation systems, riparian corridors, riparian vegetation, creeks and streams, creeks, and stream habitats. In most of the LCPs riparian habitats are a stand-alone category, but in several of the LCPs this habitat type is lumped in with other ESHA types. Several LCPs distinguish between perennial and intermittent creeks and streams and require larger buffers for perennial waterways. Other LCPs distinguish between rural and urban riparian habitats and require wider buffers for the rural, presumably more pristine habitats. The range of riparian habitat buffer dimensions is from 20 feet in the San Luis Obispo Estero Area Plan to 150 feet in the North Coast and Carmel Area sub-areas of Monterey County, Carmel City, and the Big Sur Coast LCPs. One hundred feet and 50 feet are common riparian buffer dimension policies, however 35 feet is required in the Capitola LCP and the Oceanside LCP requires a 75-foot buffer for the San Luis Rey River.

General ESHA is a term used by many LCPs. "General ESHA" is similar to the term "wetlands" in that it is a catchall category for a whole suite of environmentally sensitive terrestrial habitats and species. The LCP trend is that the more recent LCPs identify a greater number of specific types of ESHA whereas older LCPs lump environmentally sensitive habitats into the general ESHA category while singling out only a few ESHA types for specific buffer policies. In the various LCPs, general ESHA includes a variety of special vegetation types (e.g., native grasslands, oak woodlands, Monterey Pine Forest, maritime chaparral, and Torrey Pine Forest), and habitat for individual rare or important species (e.g., oak trees, Santa Cruz Long-toed salamander, monarch butterflies, and burrowing owls) (see Appendix A).

A number of LCPs have buffer standards for "General ESHA", "Other ESHA", or "Other". This is very important because it enables local governments to protect species and habitats that may be discovered or listed after an LCP has been certified. A small number of LCPs have an ESHA category for rare, threatened and endangered habitats, plants, and animals. While "General ESHA" categories capture rare, threatened and endangered habitats, plants, and animals, an ESHA

category specific to rare, threatened and endangered habitats, plants and animals, does not necessarily capture “General ESHA”. The most restrictive “General ESHA” policies are in the Mendocino County, Sonoma County, Morro Bay, San Buenaventura (Sensitive Habitat Overlay Zone), and Malibu City LCP’s which require 100-foot buffers. An example is the Sonoma County LCP general ESHA policy which states: “Generally requires minimum 100' buffer for ESHA, streams, and wetlands, but also provides policy basis for requiring greater buffers on a case-by-case basis when necessary to protect habitat”.

A large number of LCPs identify specific ESHA types but do not have a general ESHA category. The LCP’s that fall into this category are:

> Crescent City, Humboldt County, Trinidad City, Arcata, Half Moon Bay, San Mateo County, Santa Cruz County, Capitola, Watsonville (sub-area A, C, R), Monterey County (sub areas Big Sur Coast, Carmel Area, Del Monte Forest, North County – these all have an “other terrestrial habitats” category but not “General ESHA”), Pacific Grove, Pismo Beach, Grover Beach, Ventura County, Oxnard City, Los Angeles County, Newport Beach, Laguna Niguel, Dana Point, San Diego County/San Dieguito, Del Mar, National City, Chula Vista, and Imperial Beach.

This is worrisome because if additional ESHA is discovered, the LCP does not provide for its protection. Even more alarming are those LCPs that do not have ESHA policies at all. The LCPs that fall into this category include:

> San Francisco, Seaside, Guadalupe City, El Segundo, Manhattan Beach (“No ESHA in coastal zone”), Redondo Beach Coastal Zone 1 (“No ESHA in coastal zone”), Marina del Rey (“No ESHA identified”), Palos Verdes Estates, Rancho Palos Verdes, Long Beach (sub areas: Alamitos Bay, Marine Stadium, Colorado Lagoon, Sims Pond), Irvine City, Aliso Viejo, and Coronado.

While it may be the case that ESHA does not presently exist in these jurisdictions, these LCPs do not provide for its future discovery (future ESHA identification is highly plausible).

Many LCPs require buffers for particular types of ESHA but do not cite a specific buffer dimension. In some instances all that the policy states is “numeric buffer not available”. In other instances the policy will state that a numeric buffer is not available and go on to provide general requirements. The appropriate buffer dimension for the respective ESHA and development in question is left to the discretion of the local government planners and contract biologists or CDFG biologists.

Buffer dimensions that stand out occur in Sonoma County which requires a 600-foot buffer for heron rookeries and in Carpinteria which requires a 300-foot buffer for trees supporting nesting raptors. The City of San Diego requires 300 feet from any nesting site of Cooper's hawks, 1,500 feet from known locations of the southern pond turtle, 900

feet from any nesting sites of northern harriers, 4,000 feet from any nesting sites of golden eagles, and 300 feet from any occupied burrow of burrowing owls.

Mitigation Ratio Policies

A mitigation ratio is the ratio of the area of habitat provided for mitigation to the area of habitat that is impacted by development. Mitigation generally takes the form of habitat restoration and protection in perpetuity. Mitigation ratios commonly vary from 1:1 to 4:1, depending on the circumstances.

Most city and county LCPs lack formal mitigation ratio policies; only 25% of the certified LCPs have mitigation ratio policies. In those that do, the prevailing mitigation ratio standards are as follows:

- 4:1 for wetlands including salt marshes and vernal pools;
- 3:1 for riparian habitats, rare habitat types, or habitats that support rare species;
- 2:1 and
- 1:1 for other ESHA and coastal resources, including coastal sage scrub and southern mixed chaparral.

For example, the Malibu LCP requires that adverse impacts in wetlands be mitigated at a 4:1 ratio for vernal pools and salt marshes and at a 3:1 ratio in seasonal wetlands, freshwater marshes and riparian areas. Long Beach requires 4:1 replacement for salt marshes and 3:1 replacement for riparian habitats. And Carlsbad policies are 4:1 for vernal pools and 3:1 for riparian areas.

Where LCP mitigation ratio policies exist, they are determined by taking into account the necessary habitat and vital processes required by the respective ESHA residing in that area. For example, in the Newport Beach LCP policy, coastal sage scrub occupied by the endangered California gnatcatchers and ["AND" OR "OR']significant populations of other rare species are mitigated at a ratio of 3:1 whereas coastal sage scrub not hosting rare species is mitigated for on a 2:1 ratio.

Mitigation ratios are intended to replace lost habitat, account for temporal losses of habitat, and compensate for the loss of ecological functions that result when restoration efforts are only partially successful. The fact that most LCPs do not have mitigation ratio policies may reflect thinking along the lines of "development in ESHA is not permitted and therefore mitigation ratios for such development is unnecessary". However, this is not the case. Currently, there are permitted uses and takings overrides that occur in ESHA that need to be mitigated. This is something that should be amended as soon as possible in city and county LCPs where development impacts ESHA.

Conclusions

The primary objective of this report is to collate and review state-wide buffer and mitigation ratio policies contained in Local Coastal Programs. This should help to identify outdated LCPs and aid in establishing state-wide consistency for resource protection. The information in Appendix C provides some scientific background that should assist in developing protective and defensible buffer practices. Through the process of preparing this report, several important issues regarding LCP buffer and mitigation ratio policies have become apparent.

First, it is extremely important that all Environmentally Sensitive Habitat Areas be identified and protected. Listing particular rare species and vegetation types is not sufficient. There must also be policies that insure that a site-specific ESHA analysis takes place at the time of proposed development. This is necessary because both the actual abundance and condition and our scientific understanding of species is constantly changing, growing, and improving. Without an accurate delineation of ESHA, policies regarding buffers and mitigation cannot be effective.

Given the commission's mandate to protect, preserve, and enhance the natural resources found along the California coastline, appropriate buffer and mitigation ratio policies are of utmost importance. This report demonstrates that across the state LCP buffer polices fall short of the buffer dimensions recommended in the scientific literature. Although it is often not feasible to establish buffers as wide as is recommended in the scientific literature (e.g., 450-foot wetland buffers, 900 feet between human disturbance and nesting herons), the Commission can work toward updating LCP policies that are clearly inadequate by increasing the width of protective buffers. Updates in the right direction would be LCP policies requiring 100-foot buffers for all wetland and riparian habitat types with caveats to allow for larger buffers for especially sensitive areas and smaller buffers for especially low impact development. Regarding other terrestrial ESHA buffers, policies requiring buffer widths less than 50 feet should be reviewed and in most cases increased to a minimum of 50 feet. In some cases, 100 feet or wider will be warranted.

Finally, LCPs are conspicuously lacking mitigation ratio policies to direct mitigation and restoration when ESHA is impacted. Unfortunately, there is little scientific literature that could form the basis for specific ratios. However, there have been a number of studies in recent years that have evaluated the success of restoration projects that were undertaken to mitigate for development impacts. In general, these projects have not accomplished their goals, suggesting that mitigation ratios greater than 1:1 are necessary.

APPENDIX A

HABITATS IDENTIFIED AS ESHA IN LOCAL COASTAL PROGRAM BY DISTRICT

North Coast: (Del Norte, Humboldt, Mendocino Counties)

Habitats: Wetlands (including estuaries, sloughs, gulches), riparian systems, creeks, offshore rocks, intertidal areas, and sea cliffs/coastal bluffs, and CNND listed habitats

Individual species: Rare, threatened, endangered plants and animals, and waterbird rookeries

North Central Coast: (Sonoma, Marin, San Francisco, San Mateo Counties)

Habitats: Wetlands, riparian systems (rivers, creeks, streams), coastal bluffs, dune and sandy bluffs, and CNND listed habitats

Individual species: Rare, threatened, and endangered plants and animals, heron rookeries

Central Coast: (Santa Cruz, Monterey, San Luis Obispo Counties)

Habitats: Wetlands (including lagoons, estuaries, vernal pools), riparian systems, rivers, streams, creeks, Santa Cruz cypress groves, oak woodlands, marine mammal rookery and haul-out zones, rocky points, intertidal and subtidal zones, marine habitats, dune habitats, coastal bluff, coastal sage scrub, chaparral, native grasslands, butterfly habitat, wildlife corridors, “other terrestrial habitats”, and CNND listed habitats.

Individual species: Rare, threatened, and endangered plants and animals including Ohlone tiger beetle, tidewater goby, burrowing owl, California brown pelican, monarch butterfly, pigeon guillemot, black swift, Santa Cruz tarplant, peregrine falcon, white-tailed kite, snowy plover, Santa Cruz long-toed salamander, black legless lizard, raptor nesting trees, individual oak trees, nesting shorebirds, seabird nesting and roosting areas, waterbird rookeries

South Central Coast: (Santa Barbara, Ventura, Los Angeles (Malibu/Santa Monica Mtns Segment) Counties)

Habitats: "General ESHA", wetlands (including lagoons, estuaries, vernal pools), riparian systems, riparian scrub, lakes, streams, creeks, oak woodlands, woodlands, coastal sage scrub, chaparral, native grasslands, butterfly habitat, wildlife corridors, "other terrestrial habitats", dune habitats, coastal bluffs, beaches, marine mammal rookery and haul-out zones, rocky points, intertidal and subtidal zones, tidepools, habitat used by sensitive, rare, threatened or endangered species, and CNND listed habitats.

Individual species: Rare, threatened, and endangered plants and animals, harbor seal rookery and haul out zones, native trees,

South Coast: (Los Angeles and Orange Counties)

Habitats: "General ESHA", wetlands (seasonal wetlands, vernal pools, freshwater marshes, salt marshes, eelgrass beds), riparian areas, coastal sage scrub, southern maritime chaparral, southern mixed chaparral, maritime succulent scrub, native grasslands, marine and tidal areas of special biological, beaches, and CNND listed habitats.

Individual species: Rare, threatened, and endangered plants and animals, California gnatcatcher

San Diego: (San Diego County)

Habitats: "Other ESHA", sensitive biological resources, wetlands (vernal pools, other seasonal wetlands, lagoons, salt marshes), riparian areas, beaches, sensitive coastal bluffs, coastal sage scrub, southern maritime chaparral, southern coastal bluff scrub, maritime succulent scrub, native grassland, oak woodlands, steep hillsides, other rare native vegetation, and CNND listed habitats.

Individual species: Rare, threatened, endangered plants and animals

APPENDIX B

DEVELOPMENT BUFFERS FOR THE PROTECTION OF WETLANDS AND TERRESTRIAL ENVIRONMENTALLY SENSITIVE HABITAT AREAS

The American Heritage Dictionary definition of buffer is “one that lessens, absorbs, or protects against the shock of an impact; to deaden the shock of”. A buffer[2], in the context of the California Coastal Commission (CCC), is a barrier, “safe zone”, or bordering strip of natural habitat or land between ESHA and development or human disturbance.

Buffers are important for preserving the integrity and natural function of individual species and habitats. The purpose of a buffer is to create a zone where there will be little or no human activity. The purpose of a buffer is to “cushion” species and habitats from disturbance and allow native species to go about their “business as usual”. The CCC document; “Statewide Interpretive Guidelines for Wetlands and other Wet, Environmentally Sensitive Habitats“ (1981) states that a buffer area is essential open space between development and ESHA. The guidelines go on to say that the existence of this open space ensures that the type and scale of development proposed will not significantly degrade the habitat area. The fact that a buffer area is not itself a part of the ESHA, but a “buffer” or “screen” that protects the habitat area from adverse environmental impacts caused by development is clarified by the guidelines.

A primary function of buffers is to protect against human and domestic animal disturbance, that is, to keep disturbance at a distance. Human activity immediately adjacent to sensitive species and habitats can produce disturbance in the form of noise pollution (machinery, voices, music, construction, etc.), light pollution (artificial lighting, shading, and canopy removal) and foot traffic. Just the presence of humans is disturbing and disruptive to the normal functioning of many wild animals. Domestic animals are often associated with development, and cats and dogs may hunt and otherwise disturb native organisms including pollinators, other insects, amphibians, reptiles, birds, and mammals. Additionally, landscaping irrigation around development can negatively impact the natural community and application of herbicides or pesticides for landscaping or building maintenance may be extremely harmful to native habitats. Buffers act as a barrier to both excessive water and anthropogenic chemicals. Buffers also protect against invasive plant and animal species that are often associated with humans and development. Such invasive species arrive on car tires (both during and after construction), fill soils, construction materials, and in myriad other ways throughout

[2] “Buffer,” “buffer zone,” and “setback” are used interchangeably by the Commission and all three equivalent terms are found in LCPs.

the life of the development. Buffers may enable invasive species detection and eradication before they invade sensitive habitats.

Protection from disturbance allows organisms to engage in the business of making a living and utilizing the ecosystem services that an intact, natural habitat provides. Pair bonding, mating, nesting or denning, foraging and feeding, rearing and feeding young, predator/prey interactions, and traveling are some of the behavioral aspects that may be negatively influenced by the stress of human and animal disturbance inherent in many types of development. A primary objective of buffers is to provide conditions where organism's normal behavior patterns are disturbed as little as possible. Buffers may also expand corridors for plant and animal dispersal and movement and reduce habitat fragmentation

A buffer is a zone that can provide ecosystem services including soil stabilization, interception of eroded materials, absorption of runoff and pollutants (pesticides, herbicides, etc.), treatment of runoff (filter mechanism), fixation of nitrogen, and storage of nutrients. Buffers can serve to slow the rate of storm water flow and encourage infiltration. In addition buffers serve to accommodate human errors in the practice of habitat delineation. Buffers also provide complementary habitat, such a source of upland pollinators for some wetland species and important foraging habitat for many birds that occupy ESHA.

APPENDIX C

PEER REVIEWED BUFFER RESEARCH

The width of a buffer needed to protect adjacent environmentally sensitive resources is a difficult number to determine. To date, most research concerned with buffers and movement corridors has taken place in wetland and riparian habitats. In addition, there have been a number of studies that have focused on the requirements of individual species, particularly rare plants, amphibians, and birds. While research in this area continues to grow, there is still much work to be done, especially for non-wetland habitats and individual plant and animal species, rare or otherwise.

The determination of appropriate buffer widths is particularly difficult because of the complexity of biological systems and the fact that individual species each have specific habitat requirements. Buffer determinations require the study of the natural history of the species and the natural processes important in maintaining the system in which that species occurs. Much research has focused on the use of buffers to reduce impacts of specific land uses such as silviculture, agriculture, and recreation. Buffer effectiveness is often measured using biological, chemical, and physical components to assess habitat and species impacts (Wong and McCuen 1982; Phillips 1989). Methodologies include monitoring water quality and quantity, examining plant and animal species distribution and abundance, monitoring habitat quality, quantity and compositions, and measuring levels of human use (Shisler et al. 1987, Shisler 1990, Zeigler 1988).

In 1988, the Habitat Management Division of the Washington State Department of Wildlife produced a report that examined buffer dimensions essential for fish and wildlife. The recommendations that came out of the report included minimum buffers of 61m (200 feet) for forested wetlands and 91m (300 feet) for non-forested wetlands such as salt marshes. The report noted that buffers associated with sensitive soils and wildlife species may need to be larger (Zeigler 1988). Palfrey and Bradley (1988), in their buffer area study, and Porter (1980), recommend a minimum buffer width of 100' from the edge of tidal and non-tidal wetlands.

Semlitsch (1998) surveyed the literature for distances from shorelines that are biologically important for wetland fauna because this information is critical for delineation of wetland buffer zones, and thus for the conservation of semi-aquatic organisms. He found that the mean distance salamanders were found from the edge of aquatic habitats was 125.3m (407 feet for adults of six species and 69.6m (226 feet) for juveniles of two of these species. Semlitsch assumed that the mean distance encompasses 50% of the population so a buffer zone encompassing 95% of the population would extend 164.3m (534 feet) from a wetland's edge into the terrestrial habitat. Data from other amphibians suggest that this buffer zone is applicable to a range of species, but caution should be taken for taxa suspected to move about more.

Semlitsch emphasizes that wetland managers and policymakers must recognize the special needs of semi-aquatic organisms during their entire life cycle, not just during the breeding season. To maintain viable populations and communities of salamanders, attention must be directed to the terrestrial areas peripheral to all wetlands.

Continuing with this research, Semlitsch and Brodie (2003) looked at the use of terrestrial habitat by 65 species of wetland associated amphibians and reptiles. They found that core habitat from the edge of the wetland or riparian site ranged from 159m (517 feet) to 290m (942 feet) for amphibians and from 127m to 289m (413 ft. – 939 ft.) for reptiles. They recommend that the minimum and maximum core habitat values, depending on the level of protection needed, be used in establishing "biologically meaningful buffers for wetland and riparian habitats." In establishing a buffer zone, they apply a 50-m (162 feet) "terrestrial buffer" in addition to the core habitat buffer. So that an actual buffer zone would be the core habitat plus the 50-m (163 feet) terrestrial buffer. Semlitsch and Brodie conclude that large areas of terrestrial habitat surrounding wetlands are critical for maintaining biological diversity.

A number of studies have been undertaken that examine the effectiveness of riparian buffers. It is generally accepted that 30-60m (97.5-195 feet) wide riparian buffer strips will effectively protect water resources through physical and chemical filtration processes (Lee & Samuel 1976; Phillips 1989; Davies & Nelson 1994; Brosofske et al. 1997). For the purposes of filtering nitrogen compounds Wenger and Fowler (2000) determined that "the most effective buffers are at least 30m (97.5 feet) or 100 feet wide composed of native forest, and are applied to all streams, including small ones." The buffer requirements for riparian systems are not as well studied or understood. Spackman and Hughes (1995) studied the distribution of plant and bird species in relation to variable riparian buffer dimensions within several riparian systems. They found that to include 90% of streamside plants, the minimum buffer ranged from 10m (32.5 feet) to 30m (97.5 feet), depending on the stream, whereas minimum buffers of 75m (250 feet) to 175m (570 feet) were needed to include 90% of the bird species. Interestingly, virtually all non-native and ruderal plant species were restricted to the immediate streamside suggesting that annually flooded zones may serve as refugia and dispersal corridors for these groups. From their work they concluded that the distribution of species along streams varies by taxon, stream, and location of the high water mark and that "the use of a standard corridor width to conserve species is a very poor substitute for individual, stream-specific assessments of species distributions".

Haegen and DeGraaf (1996) studied predation on artificial nests located in a forested riparian buffer strip. From their work they concluded that "managers should leave more than or equal to 150m (490-foot) buffer strips along riparian zones to reduce edge-related nest predation, especially in landscapes where buffer strips are an important component of the existing mature forest".

In areas managed for timber, riparian areas are often protected with unharvested forested buffers. However, it is unclear whether these buffers contribute to the floral and faunal diversity of riparian areas. Perkins and Hunter (2006) studied the effects of riparian timber management on several species of amphibians native to riparian habitats in western Maine. They found that wood frogs (*Rana sylvatica*), eastern red-

backed salamanders (*Plethodon cinereus*), and spotted salamanders (*Ambystoma maculatum*) were sensitive to timber harvesting while American toads (*Bufo americanus*) were either unaffected or increased in abundance post harvest. They concluded that buffers ranging in width from 11 to 35m (40-110 feet) were important to preserving amphibian species sensitive to harvesting impacts.

Peak and Thompson (2006) compared species richness and densities of breeding songbirds among narrow (55-95m) and wide (400-530m) forested-riparian areas with adjacent grassland-shrub buffer strips and narrow and wide forested-riparian areas without adjacent grassland-shrub buffer strips, in northeastern Missouri, USA. More bird species occurred in wide than in narrow forested-riparian areas. Wide forested-riparian areas provided breeding habitat for more bird species than narrow forested-riparian areas, especially forest area-sensitive species. The addition of grassland-shrub buffer strips adjacent to forested-riparian areas increased species richness in those areas.

The effects on breeding birds of three stream zone widths (narrow 15-25m, medium 30-40m, and wide 50-95m) were studied in young pine (*Pinus spp*.) plantations in eastern Texas by Dickson et al. in 1995. Bird abundance was generally positively related to stream zone width. Narrow stream zones were inhabited mainly by species associated with young brush stands and habitat edge. Bird species frequenting the wide zones were mostly those associated with mature pine-hardwood and bottomland hardwood stands in the South. Species found in the medium zones were a mix of species associated with narrow and wide zones. Dickson et al. found that medium and wide stream zones maintain a greater number of species of birds in local communities and benefits species associated with mature forest.

Odonata dragonfly species are major predators in terrestrial and aquatic ecosystems that are particularly sensitive to human disturbance. Samways and Steytler (1996) studied a number of dragonfly species' distribution patterns and concluded that buffer dimensions of at least 20m to 30m (65 to 97.5 feet) would provide protection from disturbance for dragonflies along rivers in riparian habitats in South Africa.

Human disturbance has been shown to negatively impact the reproductive success of colonial nesting waterbirds through egg and nestling mortality, nest evacuation, lowered nestling body mass and slower growth, premature fledging, and modified adult behavior. Rodgers and Smith (1995) studied 15 species of colonial waterbirds at 17 colonies in north and central Florida to determine appropriate set-backs for colony protection. They examined several types of human disturbance, including walking and recreational boating. Walking elicited greater flushing distances than boating. Rodgers and Smith's results led them to conclude that wading birds required 100m (330-foot) set-backs while mixed tern/skimmer colonies required 180m (590-foot) set-backs.

Richardson and Miller (1997) reviewed buffer zone widths necessary for protecting nesting raptors from human distances. They present recommendations for 11 species of raptors (osprey, Cooper's hawk, northern goshawk, sharp-shinned hawk, golden eagle, red-tailed hawk, ferruginous hawk, bald eagle, prairie falcon, peregrine falcon, and American kestrel. The suggested buffer zones range from 50 to 1600m (164 to 5250 feet). The minimum buffer zone listed for prevention of human disturbance is

200m (656 feet). Craig (1998) presents recommendations for nest and perch buffer zones for six species of raptors found in Colorado (bald eagle, golden eagle, osprey, ferruginous hawk, red-tailed hawk, Swainson's hawk, peregrine falcon, prairie falcon, goshawk, American kestrel, merlin, rough-legged hawk, and burrowing owl). For the majority of nesting hawks Craig recommends a 1/4mile (400m (1310 feet)) buffer between nests and "surface occupancy" or human occupation. Only the burrowing owl has a lower buffer recommendation: 1/16mile. Perch buffer distances range from 75 to 300m (250 to 980 feet).

APPENDIX D

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Table 1
State-wide Buffer (Setback) and Mitigation Ratio Policies

Abbreviation definitions:
ESHA - Environmentally sensitive habitat
N/A - Not Applicable to this area
Numeric buffer N/A - Habitat variety exists, though no numeric standard or policy is proposed
LCP - Local Coastal Plan
LUP - Land Use Plan
IP - Implementation Plan
CZO - Coastal Zone Ordinance

	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
NORTH COAST	**Del Norte County Certified LCP 10/12/83**		**Wetlands**	**LUP VII.D.4.f.** 100' buffer. A buffer of less than 100' may be utilized where it can be determined that there is no adverse impact on the wetland.	
			Offshore Rocks; Intertidal Areas; Estuaries; Riparian Vegetation Systems; Sea Cliffs; and Coastal Sand Dunes	**LUP VII.D.4.f.** Development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which could significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.	
	Crescent City Certified LCP 3/1/83		**Wetland Habitats**	**LUP ESHA/W&MR Policy 4 & CZZR Sections 17.72.030.A and B of Chapter 17.72:**50' buffer	
	Humboldt County Certified LCP 1/0/86		**Wetlands and estuaries**	**Policy 6a.** No land use or development shall be permitted in areas adjacent to coastal wetlands, called wetland buffer areas, which degrade the wetland or detract from the natura resource value. Wetland buffer area shall be defined as: - The area between a wetland and the nearest paved road, or the 40' contour line, whichever is the shortest distance. or, - 250' from the wetland, where the nearest paved road or 40' contour exceed this distance. - Transitional agricultural lands designated agriculture exclusive shall be excluded from the wetland buffer. **Policy 6c.** Within an urban limit line, the setback shall be either 100' or the average setback of existing development immediately adjacent as determined by the "string line method". **Policy 6d.** Outside an urban limit line, the setback shall be between 100' and 200' depending upon the size and sensitivity of the wetland, drainage boundaries, vegetation, adjacent uses, and the potential impacts of the project on the wet habitat values. The precise width of the setback shall be sufficient to prevent significant effects to the wetland.	**Policy 6 f.** All new development within the wetland buffer shall include the following mitigation measures: - Not more than 25% of the lot surface shall be effectively impervious.
	Trinidad City Certified LCP 2/3/80		**Riparian Vegetation**	**LUP #15:** 100' buffer	
	Arcata Certified LCP 10/10/87; Certified LUP 1995		**Creeks**	**Policy III-6:** New development and redevelopments shall maintain or restore a natural vegetation buffer strip along all designated streams. This buffer strip shall be subject to the following definitions: Creek Zone - the area that is 25' outward from the top of bank, or the area bounded by the FEMA Flood Zone A line, whichever is greater, except that in no case will the creek zone on either side of a creek be wider than 100' from the avg. low flow line of that creek.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
NORTH COAST	**Eureka Certified LCP 7/26/84**		**Rivers, creeks, sloughs, gulches and assoc. riparian habitats**	**LUP 6.A.19:** Minimum of 100', unless applicant can demonstrate that a smaller buffer will protect the resources of the habitat area. If necessary to protect the ESHA, the City may require a buffer greater than 100'.	
			Wetlands and estuaries including riparian areas and vegetated dunes	**LUP 6.A.19 Policy -** same as above	
			Indian Island, Daby Island, and the Woodley Island wildlife area	**LUP 6.A.19 Policy -** same as above	
			Waterbird rookeries and habitat for all rare or endangered species	**LUP 6.A.19 Policy -** same as above	
			Grazed or farmed wetlands (i.e., diked former tidelands)	**LUP 6.A.19 Policy -** same as above	
	Mendocino County Certified LCP 10/10/92		**General ESHA**	**Policy 3.1-7:** All buffers shall be a minimum of 100' in width and shall be larger if necessary to protect the resources of the particular habitat area from significant degradation caused by the proposed development. No buffers may be less than 100' unless the applicant can demonstrate, after consultation with the CDFG and city planning staff that 100' is not necessary. No buffer area may be less than 50' in width.	**1:1** Mitigation measures, such as planting riparian vegetation, shall be required to replace the protective values of the buffer area on the parcel.
	Fort Bragg A Certified LCP 2/26/88		**General ESHA - Intertidal and marine areas, coastal bluffs, wetlands, and riparian habitats**	**Policy IX-5:** A buffer area adequate to prevent significant adverse impacts to identified environmentally sensitive habitat areas and at least 50' in width shall be provided in all developments.	**Policy IX-5:** Buffer areas and mitigation measures adequate to minimize habitat disruption shall be required.

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
NORTH COAST	Fort Bragg A Certified LCP 2/26/88		**Special vegetation**	**Policy IX-6:** Buffer areas and mitigation measures adequate to minimize habitat disruption shall be required.	
			Riparian	**E. 29.** 100'. Buffer shall extend from the outer edge of the canopy of riparian vegetation.	
			Wetlands	**E. 29.** 100'. Buffer shall extend from the upland edge of the wetland.	
			Coastal bluff	**E. 29.** 100'. Buffer shall extend from the top of bluff.	
			Rare plants	**E. 29. 100'.** Buffer shall extend from the outer edge of the plants that comprise the rare plant community.	
			Riparian (Arena Creek)	**Policy E. 5.** Minimum of 100' from the outward edge of riparian vegetation on each side of the creek.	
			Mountain Beaver Area (Arena Creek)	500' from the centerline of the creek.	
			Other	**Section 5.24**. Mitigation for noise generating projects within 500' of occupied habitat shall include the following restrictions from Dec. 15 through June 15. A. The action and related activities shall be greater than 100' from the occupied habitat.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
NORTH CENTRAL	Sonoma County Certified LCP 12/2/81		General ESHA	**Administrative Manual Attachment M:** Allows access paths and fences necessary to protect habitat and similar uses that have beneficial effects or no significant adverse effects to be located within ESHA buffers. Generally requires minimum 100' buffer for ESHA, streams, and wetlands, but also provides policy basis for requiring greater buffers on a case-by-case basis when necessary to protect habitat.	
			Riparian	**LUP Policy III-9:** Development prohibited within riparian corridor or 100' from lowest line of vegetation whichever is greater. **LUP Policy III-13:** Use of pesticides and herbicides prohibited within riparian corridor or 100' from lowest line of vegetation whichever is greater.	
			Wetland Habitats	**LUP Policy III-25:** Prohibit construction of agricultural, commercial, industrial, and residential structures within 100' of wetlands. **LUP Policy III-26:** Prohibit construction of agricultural, commercial, industrial, and residential structures within 300' of wetlands unless wetlands would not be affected by such construction. **Administrative Manual Attachment J:** Reduced wetland and riparian buffers allowed with Commission ED approval where: - other developed lots or roads exist between proposed development and habitat, or - "topography is such that it is highly unlikely that development could affect the wetland."	
			Coastal Bluffs	**LUP Policy III-47:** Prohibit development within 100' of bluff edge.	
			Heron Rookeries	**LUP Policy III-66:** Prohibit development within 600' of heron rookeries.	
	Marin County Certified LCP 6/3/81		Wetlands	**LUP Unit 1, Ch. 2, Policy 18:** To the maximum extent feasible, a buffer strip, a minimum of 100' in width, shall be maintained in natural condition along the periphery of all wetlands as delineated by the CDFG and in accordance with Section 30121 of the Coastal Act and with the criteria developed by the USFWS. No uses other than those dependent upon the resources shall be allowed within the buffer strip. **LUP Unit 2, Ch. 2, Policy 4(d):** A buffer strip 100' in width, minimum, as measured landward from the edge of the wetland, shall be established along the periphery of all wetlands. Where appropriate, the required buffer strip may be wider based upon the findings of the supplemental report required in (e). Development activities and uses in the wetland buffer shall be limited to those specified in (a) and (b) above.	

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NORTH CENTRAL	Marin County Certified LCP 6/3/81		Riparian (streams)	**LUP Unit 1, Ch. 2, Policy 3:** A riparian protection area and a stream buffer area shall be established for all streams within Unit I. The riparian protection area shall include all existing riparian vegetation on both sides of the stream. The stream buffer area shall extend a minimum of 50' from the outer edge of the riparian vegetation, but in no case shall be less than 100' from the banks of the stream. **LUP Unit 2, Ch. 2, Policy 3(c):** Buffers to protect streams from the impacts of adjacent uses shall be established for each stream in Unit II. The stream buffer shall include the area covered by riparian vegetation on both sides of the stream and the area 50' landward from the edge of the riparian vegetation. In no case shall the stream buffer be less than 100' in width, on either side of the stream, as measured from the top of the stream banks.	
			Dune and Sandy Beach	**LUP Unit 1, Ch. 2, Policy 20.** Development of other shorefront lots within the Stinson Beach and Seadrift areas shall assure preservation of the natural sand dune formations in order to protect environmentally sensitive dune habitat and vegetation and to maintain the natural protection from wave run-up that such natural dunes provide. Where no dunes are evident, any new development on shorefront lots shall be setback behind the first line of terrestrial vegetation to the maximum extent feasible, in order to minimize the need for protective works, to protect sandy beach habitat, and to provide a buffer area between private and public use areas in order to protect both the scenic and visual character of the beach, and the public right of access to the use and enjoyment of dry sand areas.	
			Wildlife Nesting and Roosting Areas	**LUP Unit 1, Ch. 2, Policy 23:** Development adjacent to wildlife nesting and roosting areas shall be setback a sufficient distance to minimize impacts on the habitat area. Such development activities shall be timed so that disturbance to nesting and breeding wildlife is minimized and shall, to the extent practical, use native vegetation for landscaping.	
			Other ESHA	**LUP Unit 2, Ch. 2, Policy 5(b) and (d):** Other sensitive habitats include habitats of rare or endangered species and unique plant communities. Development in such areas may only be permitted when it depends upon the resources of the habitat area. Development adjacent to such areas shall be setback a sufficient distance to minimize impacts on the habitat area. Public access to sensitive habitat areas, including the timing, intensity, and location of such access, shall be controlled to minimize disturbance to wildlife. Fences, roads, and structures which significantly inhibit wildlife movement, especially access to water shall be avoided.	

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NORTH CENTRAL	**San Francisco City/Co. Certified LCP 3/14/86**			**No ESHA Policies**	
	Daly City Certified LCP 3/14/84		**General ESHA**	**LUP Habitat Area Policy 2**: Minimum 10' buffer required for designated ESHA at Mussel Rock Park, Daisaku Ikeda Canyon, and Thornton State Beach.	
	Pacifica Certified LCP 6/7/94		**General ESHA**	**Zoning Code Section 9-4.4302(f):** "Buffer" shall mean an area of land adjacent to primary habitat, which may include secondary habitat as defined by a qualified biologist or botanist, and which is intended to separate primary habitat areas from new development in order to ensure that new development will not adversely affect the San Francisco garter snake and wetlands habitat areas.	
	Half Moon Bay Certified LCP 4/10/96		**Riparian (and Wetlands)**	**LUP Policy 3-11 Riparian Buffer Policy:** 50' buffer for perennial streams and 30' buffer for intermittent streams. Buffer measured from limit of riparian vegetation. Where no vegetation exists, measure from bank edge for perennial streams and center of intermittent streams. 100' buffer for lakes, ponds, and other wet areas except for man-made ponds and reservoirs used for agricultural purposes. **LUP Policy 3-12 Exceptions to Riparian Buffer Policy:** Riparian buffer may be reduced to 20' where no feasible alternative exists that would allow development on the site. No riparian buffer required for crop growing, grazing, or timber harvesting.	
			Rare plants	**LUP Policy 3-31:** Rare Plant Buffer Policy: 50' buffer for any "rare plant population."	

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NORTH CENTRAL	San Mateo County Certified LCP 4/1/81		Wetlands	**LUP 7.18:** Buffer zones shall extend a minimum of 100' landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50' only where: - no alternative development site or design is possible; and - adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the CDFG. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.	
			Riparian corridors	**LUP Policy 7.11:** a. On both sides of riparian corridors, from the limit of riparian vegetation extend buffer zones 50' outward for perennial streams and 30' outward for intermittent streams. b. Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50' from the predictable high water point for perennial streams and 30' from the midpoint of intermittent streams. c. Along lakes, ponds, and other wet areas, extend buffer zones 100' from the high water point except for man-made ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.	

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CENTRAL COAST	Santa Cruz County Certified LCP 1/13/83		Riparian corridors	**LUP 5.2.1:** Designates and defines the following areas as riparian corridors: (a) 50' from the top of a distinct channel or physical evidence of high water mark of a perennial stream; (b) 30' from the top of a distinct channel or physical evidence of high water mark of an intermittent stream as designated on the General Plan maps and through field inspection of undesignated intermittent and ephemeral streams; (c) 100' of the high water mark of a lake, wetland, estuary, lagoon, or natural body of standing water; (d) The landward limit of a riparian woodland plant community; (e) Wooded arroyos within urban areas. [Note: a buffer policy in the sense that it defines these things as corridors (aka: buffers) and requires buffers from them – see also 5.2.4 and 5.2.5]	
				LUP 5.2.4. Require a buffer setback from riparian corridors in addition to the specified distances found in the definition of riparian corridor. This setback shall be identified in the Riparian Corridor and Wetland Protection ordinance and established based on stream characteristics, vegetation and slope. Allow reductions to the buffer setback only upon approval of a riparian exception. Require a 10' separation from the edge of the riparian corridor buffer to any structure.	
			Wetlands	**LUP 5.2.5:** Prohibit development within the 100' riparian corridor of all wetlands. **16.32.0090(a)(11):** For Wetlands, Estuaries and Lagoons: 100' buffer measured from the high-water mark shall be required. Distance between structures and wetland shall be maximized. **LUP 5.7.2:** Prohibit installation of septic tanks or leach fields within 100' of all natural waterways including perennial or intermittent streams, seasonal water channels and natural bodies of standing water. An exception may be made for the repair of existing systems, if the 100' setback cannot be maintained, and adequate provisions are made for water quality protection.	
			Nesting Shorebirds	**LUP 5.3.2:** Discourage all activities within 100' of shorebird nesting sites during mating season (March-July). **16.32.0090(a)(9):** For Cliff Nesting Areas: 50' buffer from bluff top at or above nesting area shall be required.	
			SC Long-toed salamander	**16.32.0090(b)(1):** For areas adjacent to SC long toed salamander habitat: Grading or filling within drip line of 24" or larger diameter trees shall be avoided.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	**Santa Cruz County Certified LCP 1/13/83**		**SC Cypress Groves**	**16.32.0090(b)(2):** For Santa Cruz Cypress Groves: A minimum 50' buffer between cypress communities and location of development shall be required.	
	Santa Cruz City Certified LCP 5/9/85		**General ESHA**	**24.14.020.4 Setback Requirements** - General. In its review of a development proposal, the zoning board may require building setbacks greater than those required by the zoning district in which a project is located, if it determines that the additional setback is necessary to achieve the purposes set forth in Section 24.14.010 of Part 1, Conservation Regulations. **24.14.010. Purpose:** The purpose and intent of the conservation regulations is to protect the public health, safety and community welfare; and to otherwise preserve the natural environmental resources of the city of Santa Cruz in areas having significant and critical environmental characteristics. The conservation regulations have been developed in general accord with the policies and principles of the General Plan, as specified in the Environmental Quality Element, the Safety Element of the General Plan, and the Local Coastal Program, and any adopted area or specific plans. It is furthermore intended that the conservation regulations accomplish the following:	
				1. Minimize cut, fill, earthmoving, grading operations, and other such man-made effects on the natural terrain; 2. Minimize water runoff and soil erosion caused by human modifications to the natural terrain; 3. Minimize fire hazard and risks associated with landslides and unstable slopes by regulating development in areas of steep canyons and arroyos and known landslide deposits; 4. Preserve riparian areas and other natural habitat by controlling development near the edge of ponds, streams, or rivers; 5. Encourage developments which use the desirable, existing features of land such as natural vegetation, climatic characteristics, viewsheds, possible geologic and archaeological features, and other features which preserve a land's identity; 6. Maintain and improve to the extent feasible existing water quality by regulating the quantity and quality of runoff entering local watercourses; 7. Maintain and improve to the extent feasible existing air quality by achieving or exceeding state air quality guidelines; 8. Serve as part of the Local Coastal Implementation Plan of the Local Coastal Program.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	Santa Cruz City Certified LCP 5/9/85		Creeks and Wetlands	**Environmental Quality Policy 4.2.2:** 100' setback from the center of a watercourse for riparian areas and 100' from the edge of the wetland. Include all riparian vegetation within the setback requirements, even if it extends more than 100' from the watercourse or if there is no defined watercourse present. ***The proposed citywide creeks and wetlands plan LCP amendment would change the above requirements to be specific for each reach of each creek and each wetland***	
			Sensitive species (Ohlone Tiger Beetle, Tidewater Goby, Burrowing Owl, California Brown Pelican, Monarch Butterfly, Pigeon Guillemot, Black Swift, Santa Cruz Tarplant, Peregrine Falcon)	**LCP EQ Policy 4.5:** Continue the protection of rare, endangered, sensitive and limited species and the habitats supporting them as shown in Map EQ-9 or as identified through th planning process or as designated as part of the environmental review process. (See Map EQ-9). **LCP EQ Policy 4.5.3:** Protect Monarch butterfly over-wintering sites and ensure adequate buffering of these sites.	
	Capitola Certified LCP 4/13/90		Soquel Creek	**Zoning Code Sections 17.95.020(A)(B):** A. No new development shall be permitted within the banks of Soquel Creek and lagoon. B. New development shall be setback at least 35' from the western shoreline of Soquel Creek lagoon.	
			Riparian Vegetation	**Zoning Code Sections 17.95.030(B)(C):** B. A minimum 35' setback from the outer edge of riparian vegetation shall be required for al new development. On the heavily developed east side of the lagoon and creek, the setbac requirement shall be measured from the bank of Soquel Creek. C. The applicant shall be required to retain a qualified professional to determine the locatio of the outer edge of riparian vegetation on the site and to evaluate the potential impact of development on riparian vegetation.	
			Butterfly Habitat	**Zoning Code Sections 17.95.060(B)(C).** There is no specific buffer setback, just requirements to site and design new development to prevent significant impacts to butterfly habitat and to require the applicant to retain a qualified professional to determine the location of the outer edge of the monarch habitat and to report to the City potential impacts and mitigation measures for proposed development.	

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CENTRAL COAST	Watsonville Certified LCP 11/15/88	Area A	Riparian	Minimum setback from riparian habitat = 50'	
		Area C	Riparian	Minimum setback for all development or agricultural activity from riparian habitat = 100'. Appropriate native trees, shrubs, and grasses shall be planted in the required setback area, consistent with a landscape plan prepared by a qualified wetland biologist, wherever development is adjacent to an ESHA, in such a manner as to provide a visual screen, impede human access and enhance bird roosting and nesting.	
			Wetland	Minimum setback from wetland or transitional zone = 100' or to the edge of the development envelope depicted on LUP Figure 2A, whichever is greater. Appropriate native trees, shrubs, and grasses shall be planted in the required setback area, consistent with a landscape plan prepared by a qualified wetland biologist, wherever development is adjacent to an ESHA, in such a manner as to provide a visual screen, impede human access and enhance bird roosting and nesting.	
		Area R	Riparian	Minimum setback for all development or agricultural activity from riparian habitat = 100'. Appropriate native trees, shrubs, and grasses shall be planted in the required setback area, consistent with a landscape plan prepared by a qualified wetland biologist, wherever development is adjacent to an ESHA, in such a manner as to provide a visual screen, impede human access and enhance bird roosting and nesting.	
			Wetland	Minimum setback from wetland or transitional zone = 100' or to the edge of the development envelope depicted on LUP Figure 2A, whichever is greater. Appropriate native trees, shrubs, and grasses shall be planted in the required setback area, consistent with a landscape plan prepared by a qualified wetland biologist, wherever development is adjacent to an ESHA, in such a manner as to provide a visual screen, impede human access and enhance bird roosting and nesting.	
		Area E	General ESHA	50' setback of all development from ESHA as identified herein or in the County LCP.	

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CENTRAL COAST	Monterey County	Big Sur Coast Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	**LUP Policy 3.3.3.B.5:** The coastal lagoon and estuary buffer area shall, at a minimum, include all areas within 150' of the landward extent of hydrophytic vegetation or the average high water mark if no such vegetation exists. Development in the adjacent buffer area shall be limited to the minimum required to support low-intensity recreational, scientific or educational uses. CIP Section 20.145.020.GG states that in general, the boundary betwee "wetlands" and "estuary" is the line of extreme low water.	
				CIP Section 20.145.040.C.2.f: Development within the buffer area shall be limited to the minimum required to support low-intensity recreational, scientific, or educational uses, and may be permitted only if: - significant adverse habitat impacts can be prevented through appropriate site planning, design, siting and other measures, as determined through the biological survey prepared fo the project; - the decision-making body finds that approval of the development does not establish a precedent for continued land development which, on a cumulative basis, could degrade the adjacent coastal lagoon or estuary habitat.	
				The buffer area shall include, at a minimum, all area within 150' of the landward extent of either the hydrophytic vegetation or the average high water mark where no such vegetation exists. Upon recommendation in the biological survey prepared for the project, the buffer area may be wider than the minimum 150' where necessary to assure protection and long-term maintenance of the coastal lagoon and estuary habitat. The buffer area shall be mapped by the biologist, and as a condition of approval, shall be placed in open space easement.	
			Streams and rivers	**LUP: Policy 3.3.3(4):** Setbacks of 150' on each side of the streambank shall be required for all streams to protect riparian plant communities unless a narrower corridor can be demonstrated to be sufficient to protect existing vegetation and provide for restoration of previously disturbed vegetation. **CIP: Section20.145.040.C.1.d:** All development shall be set 150' back from each bank of perennial and intermittent streams. The decision-making body may allow a reduction in the required setback if it has been conclusively demonstrated in the biological survey that the reduced setback is sufficient to protect existing riparian vegetation.	
			Other terrestrial habitats	**LUP:** No specific setbacks. CIP Section 20.145.040.B.5 & 6 same as for North County IP (except precludes subdivisions that create a new building site completely w/in an environmentally sensitive area).	**LUP:** No specific mitigation ratios required. CIP Section 20.145.060.D.6 requires 1:1 mitigation ratio for tree replacement; but has no specific mitigation ratio for total habitat area that is impacted.

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CENTRAL COAST	Monterey County	Carmel Area Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	**LUP Policy 2.3.4.Wet.1:** A setback of 100' from the edge of all coastal wetlands shall be provided and maintained in open space use. No new development shall be allowed in this setback area. The edge of wetlands shall be pursuant to Policy 2.3.3.5 (regarding field surveys), based on the wetlands definition in Policy 2.3.3.1 (lands which may be covered periodically or permanently with shallow water and include saltwater marshes, fresh water marshes, open or closed brackish water marshes, swamps, mudflats and fens) and using the U.S. Fish and Wildlife Service's classification of Wetlands and Deep Water Habitats of the United States.	
				As an exception, an additional right-turn lane from Carmel Valley Road onto northbound Highway 1 shall be allowed if it can be demonstrated that there is no reasonable alternative public safety and welfare require the project, all reasonable measures have been taken to avoid and minimize impacts, all reasonable measures have been taken to mitigate unavoidable impacts, and it can be demonstrated that the impacts will not result in a significant disruption of critical habitat values or affect the long-term survival of a species. Compensatory mitigation shall be established off-site. Mitigation shall be designed to accommodate, where possible, a 150' setback for coastal wetlands.	
				CIP Section 20.146.020.NN definition of wetlands includes: In cases of uncertainty, the U.S. Fish and Wildlife Services classification of Wetlands and Deep Water Habitats shall be followed in determining the precise boundary of the wetland. **CIP Section 20.146.040.C.3.a:** Same as first two sentences of Carmel LUP Policy 2.3.4.Wetland.1.	
			Streams and rivers	**LUP: Policy 2.3.4. Riparian 1:** Riparian plant communities shall be protected by establishing setbacks consisting of a 150' open space buffer zone on each side of the bank of perennial streams and 50' on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater. No new development, including structural flood control projects, shall be allowed within the riparian corridor. **CIP: Section 20.146.040.C.2.c:** Same as LUP.	
			Gowen cypress habitat	**LUP:** Development proposed near Gowen cypress habitat shall be setback a minimum of 100' to protect this sensitive resource. No development should be allowed in this buffer area, and the natural vegetation should be retained. A maintenance program should be established for the Gowen cypress habitat.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	Monterey County	Carmel Area Certified LCP 1/12/88	Other terrestrial habitats	**CIP Section 20.146.040.B.3** Requires that land uses adjacent to environmentally sensitive habitats be compatible with the long-term maintenance of the resource. New land uses are considered compatible only in a situation in which the proposal incorporates necessary site planning and design features, which protect habitat impacts and do not set precedent for continued land development with potential to degrade the habitat. New development adjacent to environmentally sensitive habitats shall be allowed at densities determined compatible with the long-term protection and maintenance of these areas. Precludes further subdivision of parcels totally within these areas and requires development to be designed so that sensitive habitat area remains intact and undisturbed. For projects in or adjacent to these areas, the County is required to refer project to CDFG for evaluation of impacts from development and suggested mitigations for those impacts.	**LUP:** No specific mitigation ratios required. **LUP Policy 2.3.4.Wetland.1:** Allows for off-site compensatory mitigation for one specific road project. **LUP Policy 4.4.3.D.9:** Says that the Carmel River Inn should not disturb existing riparian vegetation but if any is disturbed during construction it shall be replaced with equivalent materials on a 5:1 basis. **CIP Section 20.146.060.D.6:** Requires 1:1 mitigation ratio for tree replacement; but has no specific mitigation ratio for total habitat area that is impacted.
			Riparian Corridors and other Terrestrial Wildlife Habitats	**LUP Chp. 2.3.4.** Except as provided herein, riparian plant communities shall be protected by establishing setbacks consisting of a 150' open space buffer zone on each side of the bank of perennial streams and 50' on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater. No new development, including structural flood control projects, shall be allowed within the riparian corridor. However, improvements to existing dikes and levees shall be allowed if riparian vegetation damage can be minimized and at least an equivalent amount and quality of replacement vegetation is planted. In addition, exceptions may be made for carefully sited recreational trails. The setback requirement may be modified if it can be demonstrated that a narrower corridor is sufficient to protect existing riparian vegetation. Riparian vegetation is an association of plant species which typically grows adjacent to freshwater courses and needs or tolerates a higher level of soil moisture than dryer upland vegetation.	
				As an exception, the construction of an additional right-turn lane from Carmel Valley Road onto northbound Highway 1 shall be allowed if it can be demonstrated that there is no reasonable alternative, public safety and welfare require the project, all reasonable measures have been taken to avoid and minimize impacts, all reasonable measures have been taken to mitigate unavoidable impacts, and it can be demonstrated that the impacts will not result in a significant disruption of critical habitat values or affect the long-term survival of a species. Compensatory mitigation shall be established off-site. Mitigation shall be designed to accommodate, where possible, a 50' setback for intermittent streams, and a 100' setback for perennial streams.	

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CENTRAL COAST	Monterey County	Carmel Area Certified LCP 1/12/88	Riparian Corridors and other Terrestrial Wildlife Habitats	**Carmel Area CIP Section 20.146.040.C.2.c.** Riparian plant communities shall be protected by establishing setbacks consisting of a 150' open space buffer zone on each side of the bank of perennial streams and 50' on each side of the bank of intermittent streams or the extent of riparian vegetation, whichever is greater. The setback requirement may be modified if it can be demonstrated that a narrower corridor is sufficient to protect existing riparian vegetation. Staff may require that this determination of the setback and/or extent of riparian vegetation be made by a qualified biologist. (Ref. Policy 2.3.4. Riparian Corridors and Other Terrestrial Wildlife Habitats Policy #l).	
		Del Monte Forest Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	**LUP Policy 27:** States that a setback of 100' from the landward edge of wetlands and from the mean high water line of the ocean shall be provided. No landscape alterations will be allowed in this setback area unless accomplished in conjunction with restoration and enhancement and unless it is demonstrated that no significant disruption of environmentally sensitive habitat will result. **LUP Policy 93.4:** States that where golf course tees, greens, fairways, paths, bridges, and public access ways are developed within 100' of the restored riparian and wetland areas at Spanish Bay, they shall be designed to avoid any significant disruption (from construction and future use) of such areas; other developments should be located beyond this 100' wetland buffer area. **CIP Section 20.147.040.C.3.a** Same as DMF Policy 27.	
			Streams and rivers	**LUP Policy 24:** Protects riparian plant communities with a required 100' buffer from the centerline of intermittent streams where they occur or outer edge of the vegetation whichever is greater; narrower setback may be acceptable with biologic report; no policies for perennial streams; no provision if there is no riparian plant community. **CIP: Section 20.147.040.C.2:** Same as LUP.	

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CENTRAL COAST	**Monterey County**	**Del Monte Forest Certified LCP 1/12/88**	**Other terrestrial habitats**	**LUP:** No general setback policy, but some specific setback recommendations in Chapter 7, OSAC Plan. **CIP Section 20.147.040.B.1:** Requires a minimum 100' open space buffer when development is proposed on lands immediately adjoining areas shown to contain environmentally sensitive habitat. Within buffer zones, residential uses on existing legal lots of record, setback a minimum of 20' from the limit of riparian vegetation, are allowed only if no other feasible alternative exists and only if no other building site exists on the parcel. Uses permitted in the buffer zone shall be required to: a) minimize removal of vegetation; b) conform to natural topography to minimize erosion potential; c) make provisions (such as catch basins) to keep run-off and sedimentation from exceeding pre-development levels; d) replant where appropriate with native and non-invasive exotic species; e) prevent discharge of toxic substances, such as fertilizers and pesticides, into the riparian corridor; and, f) require motorized machinery to be kept to less than 45 DBA at any wetland boundary.	**LUP Policy 12:** Requires mitigation with no specific ratios; refers to OSAC Plan; LUP Ch. 7 OSAC Plan has 1:1 replacement for Gowen Cypress at NCGA Golf Course. **CIP Section 20.147.040.B.2:** Same as DMF LUP.
	Monterey County	**North County Certified LCP 1/12/88**	**Coastal lagoons, estuaries, and wetlands**	**LUP Policy 2.3.3.B.4:** States that a setback of 100' from the landward edge of vegetation of all coastal wetlands shall be provided and maintained in open space use. No permanent structures except for those necessary for resource-dependent use which cannot be located elsewhere shall be constructed in the setback area. Prior to approval of all proposed structures in the setback area, it must be demonstrated that the development does not significantly disrupt the habitat resource. An exception to the 100' setback is provided to approximately 12 existing permanent structures located within the 100' setback on the west side of Moro Cojo Slough west of Highway 1. Replacement of these structures may be considered subject to field surveys by qualified individuals or agencies with recommended mitigation measures to ensure protection of sensitive habitats.	

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CENTRAL COAST	Monterey County	North County Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	**CIP Section 20.144.040.c.2.d:** States that all development shall be set a minimum of 100' back from the landward edge of vegetation associated with coastal wetlands. As an exception, permanent structures necessary for recreational, scientific, or educational use of the habitat may be permitted within the setback area where it is demonstrated that: 1) the structure cannot be located elsewhere; and, 2) the development does not significantly disrupt or adversely impact the habitat as determined in the biological survey prepared for the project. As a further exception, the permanent structures along Moss Landing Road on the west side of Moro Cojo Slough which are located within the 100' setback, may be replaced. Where development is proposed on any portion of a parcel containing area within a l00' setback of the landward edge of coastal wetland vegetation, the setback area shall be placed in an open space easement as a condition of project approval.	
			Streams and rivers	**LUP Policy 2.3.3(B)(1):** States that riparian plant communities shall be protected by establishing setback requirements consisting of 150' on each side of the bank of perennial streams, and 50' on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater. In all cases, the setback must be sufficient to prevent significant degradation of the habitat area. The setback requirement may be modified if it can be conclusively demonstrated by a qualified biologist that a narrower corridor is sufficient or a wider corridor is necessary to protect existing riparian vegetation from the impacts of adjacent use. **CIP: Section 20.144.0040.B.2.b**: Same as LUP, but allows for wider setback if justified.	
			Other terrestrial habitats	**LUP:** No specific policies addressing setbacks from terrestrial ESHA. **CIP Section 20.144.040(2) & (3):** Precludes development & new land uses or subdivision of land on parcels within 100' of environmentally sensitive habitats, where there would be a adverse impact to the long-term maintenance of the environmentally sensitive habitat, as determined through a biological survey. Projects shall only be approved where sufficient conditions such as siting, location, design, setbacks, and size will mitigate impacts. **Subsection 5:** Subdivisions containing an environmentally sensitive habitat area shall incorporate techniques such as clustering, appropriate setbacks from the habitat, building envelopes, and conservation easements, in order to mitigate adverse impacts to the habitat. Precludes subdivisions that are completely within an environmentally sensitive area.	**LUP:** No specific mitigation ratios required. **CIP Section 20.144.050.C:** Requires 1:1 mitigation ratio for tree replacement; but has no specific mitigation ratio for total habitat area that is impacted.

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	Marina Certified LCP 12/17/82		ESHA (General)	Numeric Buffer N/A. General Requirements = (1) Primary habitat areas shall be protected and preserved. All development must be sited and designed so as not to interfere with the natural functions of such habitat areas.	
			Dune Habitats		
			Vernal Pools	Despite their seasonal nature the Vernal Ponds are considered to be coastal wetlands. A 100' riparian setback shall be established from the edge of all wetland vegetation.	
			Wetland Habitats	A 100' riparian setback shall be established from the edge of all wetland vegetation.	
	Sand City Certified LCP 3/14/84		ESHA (General)	Numeric Buffer N/A. General Requirements = (1) Require field surveys by qualified biologis in order to determine exact locations of ESHA and to recommend mitigation measures to minimize habitat impacts.	
			Dune Habitats		
	Seaside Certified LUP 1983			No ESHA buffer or mitigation ratio policies.	
	Monterey City Certified LUPs only	Cannery Row Community Plan Certified LUP 2004*	Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A. General Requirements = (1) Support CDFG regulations controlling spear fishing and kelp harvesting as well as efforts to monitor and manage sea otter populations.	
			Rocky Points & Intertidal Zones	Numeric Buffer N/A. General Requirements = (1) protect intertidal and tidepool habitat through signing as a condition of shoreline development; (2) require sensitive shoreline restoration and maintenance as a condition for any grading, excavation, demolition, or construction in conjunction with shoreline development.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	Monterey City	Del Monte Community Plan Certified LUP 2003	**ESHA (General)**	Numeric Buffer N/A. General Requirements = (1) All environmentally sensitive habitat shall be protected, (2) a resource survey shall be prepared to establish protocols for all sensitive species including dune plants, snowy plover, black legless lizard, and marine mammals.	
			Dune Habitats	Numeric Buffer N/A. General Requirements = (1) Environmentally sensitive dune habitat shall be protected from development and fragmentation through: a) encouraging retention of open space via DR and OSE, b) limiting landform disturbance and vegetation removal to the minimum amount necessary, c) requiring appropriate mitigation such as setbacks, buffers, native landscape plans, drainage controls, and restoration plans, d) eliminating non-natives and revegetation with native plant species, e) requiring grading permit for > 50 cu yards of grading. A dune restoration plan shall be required in all new projects and include preservation goals, site survey, restoration area, planting plan, eradication of non-native, schedules maintenance and monitoring, performance criteria, and contingency measures.	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A. General Requirements = (1) Support CDFG regulations controlling spear fishing and kelp harvesting as well as efforts to monitor and manage sea otter populations.	
			Native Grasslands	Numeric Buffer N/A. General Requirements = (1) Coordinate with US Navy to preserve native dune grasses south of former wastewater treatment plant.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. oak trees, sensitive plant species)	Numeric Buffer N/A. General Requirements = (1) New development shall be sited to preserve native oak, pine, and cypress trees.	Removal of any significant tree (> 12" in diameter) will be allowed only in cases where life, property, or existing access is immediately threatened or where a diseased tree represents a threat of infection to surrounding trees.
			Rocky Points & Intertidal Zones	Numeric Buffer N/A. General Requirements = (1) Require sensitive shoreline restoration and maintenance as a condition for any grading, excavation, demolition, or construction in conjunction with shoreline development.	
			Subtidal	Numeric Buffer N/A. General Requirements = (1) New development shall not result in the degradation of coastal waters caused by polluted runoff or landscape alteration that adversely impacts the quality, quantity, and flow dynamics of coastal waters.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	Monterey City	Harbor Community Plan Certified LUP 2003	ESHA (General)	Numeric Buffer N/A. General Requirements = (1) A resource survey shall be prepared to establish protocols for all sensitive species including dune plants, snowy plover, black legless lizard, and marine mammals.	
			Dune Habitats	Numeric Buffer N/A. General Requirements = (1) City shall control pubic access in sand dune habitats to prevent damage from human use; (2) Interpretive signing and litter control shall be required; (3) Prohibit vehicles, dogs off leash, and fires; (4) Restoration of dune habitat shall occur under supervision of a qualified dune biologist and shall include eradication of non-native plants and revegetation with native coastal plant including Erigonum parvilfolium (buckwheat).	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A. General Requirements = (1) Support CDFG regulations and efforts to monitor and manage sea otter populations.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Numeric Buffer N/A. General Requirements = (1) The US Army shall be encouraged to preserve the remaining coast live oak community on the Presidio property. New development should not occur within 100' from the top of the creek bank or edge of riparian vegetation whichever is greater.	
			Rocky Points & Intertidal	Numeric Buffer N/A. General Requirements = (1) Require sensitive shoreline restoration and maintenance as a condition for any grading, excavation, demolition, or construction in conjunction with shoreline development, (2) Require informational /educational signing as a condition on permits.	
			Subtidal	Numeric Buffer N/A. General Requirements = (1) New development shall not result in the degradation of coastal waters caused by polluted runoff or landscape alteration that adversely impacts the quality, quantity, and flow dynamics of coastal waters.	
		Skyline Community Plan Certified LUP 2004	ESHA (General)	Numeric Buffer N/A. Avoid any significant disruption of environmentally sensitive habitat area in the Skyline planning area. A site specific survey shall be conducted by a qualified botanist to determine the presence of sensitive plants and animal habitats and shall recommend performance standards, building locations, lot setbacks, driveway widths, grading and landscaping as needed to minimize building site impacts. Scenic or conservation easements covering the undeveloped portions of any private parcels shall be dedicated. New land uses shall be limited to those that are dependent on the resources. Removal of indigenous vegetation and land disturbance shall be restricted to the minimum amount necessary to accommodate development.	

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CENTRAL COAST	Monterey City	Skyline Community Plan Certified LUP 2004	Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Numeric Buffer N/A.	General Requirements = (1) Removal of any significant Monterey Pine trees (living tree more than 12" in diameter/38" in circumference) shall be in accordance with the forest management plan for the site. Such a plan shall be prepared prior to any non-emergency tree removal; (2) Bishop Pine, retain all trees; (3) Coast Live Oak, same criteria as for Monterey Pine; (4) All tree removal shall be subject to the above specific forest management criteria except where life, property, or existing road access is threatened, or where a tree is determined by a qualified professional forester to be diseased or damaged to such a degree that it becomes a hazard to life, property, road access, or the rest of the forest as determined by the City.
			Wildlife Corridors	Numeric Buffer N/A. General Requirements = (1) Where feasible, contiguous areas or corridors of native vegetation shall be retained within development in order to meet the needs of wildlife and to provide a means of access to adjoining or nearby areas of undisturbed open space habitat.	
	Pacific Grove Certified LUP 1989		Butterfly Trees	Numeric Buffer N/A. General Requirements = (1) Ensure new development in proximity to butterfly trees will not adversely affect butterflies or habitat.	
			Dune Habitats	Numeric Buffer N/A. General Requirements = (1) Development within any area mapped as extreme, high, or moderate sand dune sensitivity as shown on the habitat sensitivity map will be required to prepare a botanical survey; (2) Where botanical survey identifies populations of endangered species, all new development shall be sited and designed to cause the least possible disturbance to the endangered plants and their habitat.	
			Wildlife Corridors	Numeric Buffer N/A. General Requirements = (1) New development shall be deed restricted to include provision that restricts fencing to that which would not impact the free passage of native wildlife.	

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CENTRAL COAST	Carmel City Certified LCP 10/14/04		ESHA (General)	30'	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. oak trees, sensitive plant species)	Numeric Buffer N/A. General Requirements = (1) New development shall be sited and designed to avoid or minimize significant adverse effects to the forest. (2) No grading, compaction of soils, construction of building walls or placement of impermeable surfaces within 6' of significant trees; (3) Establish a 30' buffer along the perimeter of Mission Trails Natural Preserve.	
			Stream Habitats	Numeric Buffer N/A. General Requirements = (1) New development shall be setback from the upland edge of riparian vegetation a minimum of 100'; (2) Establish a 100' buffer measured from the edge of the riparian habitat where fertilizers, pesticides, herbicides, or other chemicals are prohibited; (3) In Pescadero Canyon establish a 50' setback or more (measured from the waterline of the creek) based on site-specific biological and soil conditions.	
			Wetland Habitats	New development shall be setback from the upland edge of riparian vegetation a minimum of 100'.	
	San Luis Obispo County Certified LCP 7/8/87		ESHA (General)	**Policy 1 - Land Uses Within or Adjacent to ESHA.** New development within or adjacent to locations of ESHA (within 100' unless sites further removed would significantly disrupt the habitat) shall not significantly disrupt the resource. Within an existing resource, only those uses dependent on the resources shall be allowed within the area**[IMPLEMENTED PURSUANT TO SECTIONS 23.07.170-178 OF THE CZLUO].** **Policy 3 – Habitat Restoration.** The County or Coastal Commission should require the restoration of damaged habitats as a condition of approval when feasible. Detailed wetlands restoration criteria are discussed in Policy 11.**[IMPLEMENTED PURSUANT TO SECTIONS 23.07.170 OF THE CZLUO].**	
				Policy 4 – No Land Divisions in Association with ESHA. No division of parcels having ESHA within them shall be permitted unless it can be found that the buildable area (s) are entirely outside the minimum standard setback required for that habitat (100' for wetlands, 50' from urban streams, 100' from rural streams). These building areas (envelopes) shall be recorded on the subdivision or parcel map. **[IMPLEMENTED PURSUANT TO SECTIONS 23.07.170 OF THE CZLUO].**	

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CENTRAL COAST	San Luis Obispo County Certified LCP 7/8/87		Wetlands	**Policy 5 – Protection of ESHA.** Coastal wetlands are recognized as ESHA. The natural ecological functioning and productivity of wetlands and estuaries shall be protected, preserved and where feasible, restored. **[IMPLEMENTED PURSUANT TO SECTIONS 23.07.170-178 OF THE CZLUO].** **Policy 16 – Adjacent Development.** Development adjacent to coastal wetlands shall be sited and designed to prevent significant impacts to wetlands through noise, sediment, or other disturbances. Development shall be located as far from the wetland as feasible, consistent with other habitat values on the site.**[IMPLEMENTED PURSUANT TO SECTIONS 23.07.172 OF THE CZLUO].**	
				Policy 17 – Wetland Buffer. In new development, a buffer strip shall be required and maintained in natural condition along the periphery of all wetlands. This shall be a minimum of 100 feet in width measured from the upland extent of the wetland unless a more detailed requirement for a greater or lesser amount is included in the LUE or the LUO would allow for adjustment to recognize the constraints which the minimum buffer would impose upon existing subdivided lots. If a project involves substantial improvements or increased human impacts, necessitating a wide buffer area, it shall be limited to utility lines, pipelines, drainage and flood control facilities, bridges and road approaches to bridges, and roads when it can be demonstrated that: a) alternative routes are infeasible or more environmentally damaging, and b) the adverse environmental effects are mitigated to the maximum extent feasible. Access paths and/or fences necessary to protect habitats may also be permitted.	
				The minimum buffer may be adjusted by the county if minimum setback would render the parcel physically unusable for the principally permitted use. To reduce the minimum setback standards, it must be found that the development cannot be designed to provide fo the standard. When such reductions are permitted, the minimum standards shall be reduced only to the point at which the PPU, modified as much as practical from a design standpoint, can be accommodated. At no point shall this buffer be less than 25'. **[IMPLEMENTED PURSUANT TO SECTIONS 23.07.172 OF THE CZLUO].**	
				Policy 18 – Wetland Buffers Less than 100'. For buffers less than 100' (per Policy 15) mitigation measures to ensure wetland protection shall be required, and shall include (wher applicable) vegetative screening, landscaping with native vegetation, drainage controls and other such measures. When the minimum buffer is adjusted, it shall be done on a case-by-case basis only after the investigation of the following factors: a. Soil type and stability of development site, including susceptibility to erosion; b. Slope of land adjacent to the wetlan and ability to use natural topographic features to locate development; c. Types and amount of vegetation and its value as wildlife habitat; and, d. Type and intensity of proposed uses, lot size and configuration, and the location of existing development.**[IMPLEMENTED PURSUANT TO SECTIONS 23.07.172 OF THE CZLUO].**	

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CENTRAL COAST	San Luis Obispo County Certified LCP 7/8/87		Coastal Streams	**Policy 20 – Coastal Streams and Riparian Vegetation.** Coastal streams and adjoining riparian vegetation are ESHA and the natural hydrological system and ecological function of coastal streams shall be protected and preserved. **[IMPLEMENTED AS A STANDARD AND PURSUANT TO SECTIONS 23.07.172 OF THE CZLUO].**	
				Policy 28 – Buffer Zone for Riparian Habitats. In rural areas (outside the USL) a buffer setback zone of 100' shall be established between any new development (including new agricultural development) and the upland edge of riparian habitats. In urban areas this minimum standard shall be 50' except where a lesser buffer is specifically permitted. The buffer zone shall be maintained in natural condition along the periphery of all streams. Permitted uses within the buffer strip shall be limited to passive recreational, educational or existing non-structural agricultural develops in accordance with adopted BMP's.	
				Other uses that may be found appropriate are limited to utility lines, pipelines, drainage and flood control facilities, bridges and road approaches to bridges to cross a stream and roads when it can be demonstrated that: 1) alternative routes are infeasible or more environmentally damaging and 2) adverse environmental effects are mitigated to the maximum extent feasible. Lesser setbacks on existing parcels may be permitted if application of the minimum setback standard would render the parcel physically unusable for the principal permitted use. In allowing a reduction in the minimum setbacks, they shall be reduced only to the point at which a PP use (as modified as much as practical from a design standpoint) can be accommodated. **[IMPLEMENTED AS A STANDARD AND PURSUANT TO SECTIONS 23.07.174 OF THE CZLUO].**	
		CZLUO	ESHA (General)	**23.07.170 Environmentally Sensitive Habitats:** The provisions of this section apply to development proposed within or adjacent to (within 100' of the boundary of) an Environmentally Sensitive Habitat as defined by Chapter 23.11 of this title and as mapped by the Land Use Element combining designation maps.	
			Wetlands	**23.07.172 Wetlands:** Development proposed within or adjacent to (within 100' of the upland extent of) a wetland area shown on the Environmentally Sensitive Habitat Maps sha satisfy the requirements of this section to enable issuance of a land use or construction permit. These provisions are intended to maintain the natural ecological functioning and productivity of wetlands and estuaries and where feasible, to support restoration of degraded wetlands. **23.07.172(d) Wetland setbacks**: New development shall be located a minimum of 100' from the upland extent of all wetlands, except as provided by subsection d(2). If the biological report required by Section 23.07.170 (Application Content) determines that such setback will provide an insufficient buffer from the wetland area, and the applicable approva body cannot make the finding required by Section 23.07.170b, then a greater setback may be required.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	San Luis Obispo County Certified LCP 7/8/87	CZLUO	Wetlands	(1) Permitted uses within wetland setbacks: Within the required setback buffer, permitted uses are limited to passive recreation, educational, existing non-structural agricultural development in accordance with best management practices, utility lines, pipelines, drainage and flood control of facilities, bridges and road approaches to bridges to cross a stream and roads when it can be demonstrated that: (i) Alternative routes are infeasible or more environmentally damaging. (ii) Adverse environmental effects are mitigated to the maximum extent feasible.	
				(2) Wetland setback adjustment: The minimum wetland setback may be adjusted through Minor Use Permit approval (but in no case shall be less than 25'), provided that the following findings can be made: (i) The site would be physically unusable for the principal permitted use unless the setback is reduced; (ii) The reduction is the minimum that would enable a principal permitted use to be established on the site after all practical design modifications have been considered; (iii) That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to Section 23.04.118a of this title.	
				(3) Requirements for wetland setback adjustment: Setbacks established that are less than 100' consistent with this section shall include mitigation measures to ensure wetland protection. Where applicable, they shall include landscaping, screening with native vegetation and drainage controls. The adjustment shall not be approved until the approval body considers the following: (i) Site soil types and their susceptibility to erosion; (ii) A review of the topographic features of the site to determine if the project design and site location has taken full advantage of natural terrain features to minimize impacts on the wetland; (iii) The biologists report required by Section 23.07.170 shall evaluate the setback reduction request and identify the types and amount of vegetation on the site and its value as wildlife habitat in maintaining the functional capacity of the wetland; (iv) Type and intensity of proposed development; and, (v) Lot size and configuration and location of existing development.	
			Coastal Streams	**23.07.174(d) – Riparian Setbacks.** New development shall be setback from the upland edge of riparian vegetation the maximum amount feasible. In the urban areas (inside the URL) this setback shall be a minimum of 50'. In the rural areas (outside the URL) this setback shall be a minimum of 100'. A larger setback will be preferable in both the urban and rural areas depending on parcel configuration, slope, vegetation types, habitat quality, water quality, and any other environmental consideration. These setback requirements do not apply to non-structural agricultural developments that incorporate adopted nest management practices in accordance with LUP Policy 26 for Environmentally Sensitive Habitats.	

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CENTRAL COAST	San Luis Obispo County Certified LCP 7/8/87	CZLUO	Coastal Streams	(1) Permitted uses within the setback: Permitted uses are limited to those specified in Section 23.07.172d(1) (for wetland setbacks), provided that the findings required by that section can be made. Additional permitted uses that are not required to satisfy those findings include pedestrian and equestrian trails, and non-structural agricultural uses. All permitted development in or adjacent to streams, wetlands, and other aquatic habitats shall be designed and/or conditioned to prevent loss or disruption of the habitat, protect water quality, and maintain or enhance (when feasible) biological productivity. Design measures t be provided include, but are not limited to: (i) Flood control and other necessary instream work should be implemented in a manner than minimizes disturbance of natural drainage courses and vegetation; and (ii) Drainage control methods should be incorporated into projects in a manner that prevents erosion, sedimentation, and the discharge of harmful substances into aquatic habitats during and after construction.	
				(2) Riparian habitat setback adjustment: The minimum riparian setback may be adjusted through Minor Use Permit approval, but in no case shall structures be allowed closer than 100' from a stream bank, and provided the following findings can first be made: (i) Alternative locations and routes are infeasible or more environmentally damaging; and (ii) Adverse environmental effects are mitigated to the maximum extent feasible; and (iii) The adjustment is necessary to allow a principal permitted use of the property and redesign of the proposed development would not allow the use with the standard setbacks; and (iv) The adjustment is the minimum that would allow for the establishment of a principal permitted use.	
	San Luis Obispo County Certified LCP in 7/8/87	North Coast Area Plan	ESHA (General)	**Combining Designations - Sensitive Resource Areas (SRA's)** 1. Site Planning - Development Plan Projects. Projects requiring Development Plan approval are to concentrate proposed uses in the least sensitive portions of properties. Native vegetation is to be retained as much as possible. 2. Site Design - Development and recreational uses, especially on bluff top, shall be designed and situated to minimize adverse impacts on marine resources. Access shall be permitted when compatible with protection of marine resources.	
			Coastal Streams	**Van Gordon Creek (SRA).** Standards 8 and 9 apply only to the recreation category at Van Gordon Creek, in addition to previous standards for recreation category. 9. Site Planning - Development shall be setback and buffered from the riparian vegetation along Van Gordon and "Warren" Creeks for a minimum of l00'. Uses within the buffer area shall be limited to passive recreation, (including nature study, and educational and scientific research). No permanent structures shall be allowed within the buffer. Fences and signs to limit access to the buffer and sensitive habitat area shall be constructed with any recreational development.	
				Arroyo de la Cruz (SRA) - The following standard applies to development in or adjacent to Arroyo de la Cruz: 6. Limitation On Use - No development is permitted unless it is agriculturally related, for water diversion projects, coastal access ways, or water wells and impoundments.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	San Luis Obispo County Certified LCP in 7/8/87	North Coast Area Plan	Terrestrial Habitats	**Combining Designations - Sensitive Resource Areas (SRA's)** 3. Habitat Protection – Piedras Blancas Dunes (SRA). Development of the Piedras Blancas Dunes for visitor-serving use shall include a habitat protection program and where feasible provide habitat restoration. Development shall be restricted to existing building areas. Changes in use shall identify public parking areas, trail locations, and types of visitor-serving use. Monterey Pine Forest (SRA) - The following standards apply to the Monterey Pine Forest areas. 4. Clustering. Clustering shall be required for new subdivisions or large scale development projects within forested areas. Where feasible, new development shall be restricted to slopes less than 20%. 5. Tree Preservation. Where development requires removal of Monterey pines greater than six inches in diameter, replacement of native stock will be required.	
		Estero Area Plan	ESHA (General)	**Combining Designations - Sensitive Resource Areas (SRA's)** 1. Site Planning - Development Plan Projects. Projects requiring Development Plan approval are to concentrate proposed uses in the least sensitive portions of properties. Native vegetation is to be retained as much as possible. 2. Site Design - Development and recreational uses, especially on bluff top, shall be designed and situated to minimize adverse impacts on marine resources. Access shall be permitted when compatible with protection of marine resources.	
			Wetlands	**Sweet Springs and Cuesta-by-the-Sea Marsh (SRA)** 2. Wetland Setback. If acquisition is not completed, a buffer area to be determined by the detail survey of the property by a qualified biologist will be required to be retained in a natural condition. This should be dedicated to the appropriate public agency or secured through open space easements. Development shall be clustered to minimize impacts on the surrounding wetland (Whitehole). Morro Bay (SRA). 5. Wetland Setbacks. The following setbacks shall be required to provide appropriate separation between development and the wetland. Setback established here supersede the 100' setback requirement by the Coastal Zone Land Use Ordinance. However, in no case shall a setback be adjusted pursuant to Section 23.07.172 of the CZLUO to less than the following standards. Setbacks are measured between the upland extent of the wetland vegetation and development.	
				The minimum setbacks are as follows: a. For the area west of Tract 316 (APN 74-022-03): To be determined by the Coastal Zone Land Use Ordinance; b. For Tract 316 (Butte Drive Neighborhood): 50'; c. For the area between Butte Drive and Pecho Road: On the lots located between Butte Drive and Pecho Road all structures shall be located a minimum of 100' from the wetland and its riparian area. d. For the area between Pecho Road and Doris Avenue which is the south half of Cuesta Inlet (Blocks 4 and 5 Cuesta-by-the-Sea Tracts): 75'; e. For the area comprising the north half of Cuesta Inlet (Blocks 13, 14, and 35 of Cuesta-by-the-Sea Tract): 50 feet; f. For the area between Doris Avenue northeast to Tract 40 near First Street: 75'; g. For lots within Tract 40: 75' except where adjusted down to no closer than 50' from the wetland pursuant to Section 23.07.112d(2) of the CZLUO; h. For the area east and northeast of Tract 40: 50' except where adjusted pursuant to Section 23.07.172d(2) of the CZLUO. In no case shall development occur closer than 25' from the mean high tide line.	

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CENTRAL COAST	San Luis Obispo County Certified LCP in 7/8/87	Estero Area Plan	Coastal Streams	**Cayucos urban area standards:** 1. Setbacks - Coastal Streams. Development shall be setback from the following coastal streams the minimum distance established below. Such setbacks shall be measured from the outer limits of riparian vegetation or the top of the stream bank where no riparian vegetation exists. This may be adjusted through the procedure provided in the Coastal Zone Land Use Ordinance. **Cayucos Creek:** 25' from either bank. Little Cayucos Creek: 20' from either bank. Old Creek: 50' from either bank. Willow Creek: 20' from either bank north of Ocean Avenue.	
				7. Setbacks - Studio Drive at Willow Creek. Residential development on the eastern portion of APN 64-275-24 (Tract 1078) (Schmitz) shall be setback and buffered from Willow Creek a minimum of 50' and shall not allow development within the 100 year flood plain. An development shall be clustered so as to minimize habitat and scenic/visual quality impacts. RESIDENTIAL SUBURBAN: The following standards apply only to lands within the Residential Suburban land use category. 2. Setbacks. Maintain a minimum building setbac of 50' for development on lots adjacent to riparian areas along Los Osos Creek and Eto Lake.	
			Terrestrial Habitats	**Morro Bay Kangaroo Rat Habitat (SRA).** 9. Setbacks. New subdivisions adjacent to public holdings on the western fringe are to provide a 25' building setback to buffer the sensitive resource and habitat areas.	
		San Luis Bay Area Plan	ESHA (General)	**Combining Designations - Sensitive Resource Areas (SRA's)** 1. Site Planning - Development Plan Projects. Projects requiring Development Plan approval are to concentrate proposed uses in the least sensitive portions of properties. Native vegetation is to be retained as much as possible. 2. Site Design - Development and recreational uses, especially on bluff top, shall be designed and situated to minimize adverse impacts on marine resources. Access shall be permitted when compatible with protection of marine resources.	
			Wetlands	**Oceano Lagoon (SRA)** 4. Permit Requirement. All uses shall require Site Plan approval unless Development Plan approval is required by the Coastal Zone Land Use Ordinance. The site shall be surveyed by a qualified biologist to determine the extent of the wetlands and riparian vegetation on site or on surrounding parcels and to recommend necessary mitigations including minimum setbacks, site restoration, etc. Setbacks shall be a minimum of 25' from the established wetlands or riparian vegetation.	
			Coastal Streams	**San Luis Obispo Creek Estuary (SRA)** 12. New Development. Any improvements in the flood plain shall investigate changes to allow free fish migration up and down the stream.	

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CENTRAL COAST	San Luis Obispo County Certified LCP in 7/8/87	South County Area Plan	Coastal Streams	**Santa Maria River (SRA)** 12. Setbacks Requirement. Oil field tailings and debris shall not be located within 100' of the wetland. Existing tailings and debris shall be removed.	
			Terrestrial Habitats	**Black Lake Canyon Setbacks.** Maintain at least a 20' building setback from the rim of the canyon. Guadalupe Dunes. 8. Habitat Protection. Natural buffer areas for sensitive habita areas shall be identified and fenced, consistent with the provisions of CDP No. 4-82-30A and the stabilized dune areas. Habitat enhancement programs shall be undertaken for the following areas including programs such as stabilization of the dunes with appropriate nativ vegetation to protect encroachment on wetlands and surrounding agricultural land: a. Dune Lakes b. Coreopsis Hill c. Oso Flaco Lake d. Little Oso Flaco Lake. Fences or other techniques shall be maintained where needed to preclude vehicular access in such areas.	
	Morro Bay Certified LCP 10/24/84	Morro Bay Certified CZO 1997	ESHA (General)	The minimum buffer for estuaries, restricted areas and all other environmentally sensitive habitat areas shall be 100'. In some habitat areas, a buffer greater than that called for in a particular section shall be required if an initial study and/or environmental impact report prepared according to CEQA indicates that such buffers are necessary for the protection of the habitat values.	
			Dune Habitats	The minimum buffer for sand dunes shall be 100' in non-urban areas and 50' in urban areas	
			Stream Habitats	The minimum buffer for streams shall be 100' in non-urban areas and 50' in urban areas.	
			Wetland Habitats	The minimum buffer surrounding wetlands shall be 100'; review area: minimum of 250'.	
		Morro Bay Certified LUP 1982	ESHA (General)	Buffering setback areas a minimum of 100' from sensitive habitat areas shall be required. In some habitat areas setbacks of more than 100' shall be required if environmental assessment results in information indicating a greater setback is necessary for protection.	
			Dune Habitats	A buffer strip, a minimum of 50' in width in urban areas and 100' in non-urban areas shall be maintained between the dune habitat and adjacent development.	
			Stream Habitats	A minimum buffer strip along all streams shall be required as follows: 1) a minimum buffer strip of 100' in rural areas; 2) a minimum buffer strip of 50' in urban areas.	
			Wetland Habitats	The buffer area shall be 100' around all wetland areas except where biologist identify the need for a greater buffer to protect the overall wetland system or a particular resource.	

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CENTRAL COAST	Pismo Beach Certified LCP 4/13/84	Pismo Beach Certified CZO 1983; Certified LUP 1992	Butterfly Trees	Any form of development adjacent to the critical area of the butterfly habitat at the State Park property shall have a minimum setback of 50' from the habitat area or as otherwise provided in the GP/LCP. LUP policy: Development in the park adjacent to the butterfly habitat shall have a minimum setback of 50'.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Numeric Buffer N/A. General Requirements = (1) A tree protection zone shall be established for each tree that may be affected by the proposed development. The extent of this zone shall be calculated as one foot of radius for each inch of trunk diameter (measured 4.5' above natural grade).	
			Stream Habitats Pismo Creek	Numeric Buffer N/A. No significant disruption of riparian vegetation will be permitted. A minimum riparian buffer area shall be identified for each riparian habitat area at the time of development review. The minimum width of the buffer area shall be as identified by the biotic resources management plan and generally not less than 25'. Pismo Creek (west bank) minimum buffer width = 100' (Cypress St north to city limit), 25' (Cypress St to the ocean). Pismo Creek (east bank) 100' (Hwy 101 north to city limit) , 50' (Hwy 101 to Dolliver St), 25' (Dolliver to the ocean).	
			Wetland Habitats - Pismo Marsh	The wetland buffer for Pismo Marsh shall be 100', measured from the landward-most edge of the riparian vegetation or, if there is no riparian vegetation, from the top of the marsh bank.	
	Grover Beach Certified LCP 2/9/84		Pismo Lake and Meadow Creek (Northeastern Branch)	3. A natural buffer area shall be established between the riparian habitat area of Meadow Creek and the adjacent upland areas to the south. This buffer zone shall be of sufficient width to provide essential open space between the environmentally sensitive habitat area and any development. The actual width of this buffer shall be determined by precise ecological studies which define and measure the functional capacity of the Meadow Creek ecosystem. Development upland of the ESHA and its adjacent buffer shall be sited and designed to prevent impacts which would significantly degrade the Meadow Creek and downstream Pismo Lake environs, and shall be compatible with the continuance of those habitat areas. 9(b). No development shall occur within 50' of the dripline of a solid canopy oak woodland. 9(c). Areas of Shagbark Manzanita shall be left intact with other associated shrubs undisturbed. A buffer of natural vegetation 25' thick shall be maintained around the area of Shagbark Manzanita.	
			Meadow Creek (Western Branch)	5. There shall be a minimum 50' buffer, or other appropriate buffer established by a habitat restoration plan approved by the CDFG on both sides of the portion of Meadow Creek north of Grand Avenue. The purpose of this buffer is to protect and enhance the habitat values and filtration capabilities of Meadow Creek while recognizing that for most of its length north of Grand Avenue there is existing development on both sides of the creek.	

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SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	CZO For All Areas Certified 8/82	**ESHA (General)**	New development within 100' of ESHA shall be required to provide for setbacks or undeveloped buffer zones from these habitats. Significant biological communities shall not be fragmented into small non-viable pocked areas	**DevStd BIO-GV-22.2:** A minimum replacement ratio of 2:1 shall be required for significant native habitat areas eliminated. The area to be restored, acquired, or dedicated for permanent protective easement shall be of comparable biological value to that which is destroyed.
			Butterfly Trees	Development shall be setback a minimum of 50' from butterfly trees; butterfly trees shall not be removed except for serious threat to life or property; butterfly trees shall not be pruned during roosting or nesting season.	
			Dune Habitats	Numeric Buffer N/A. General Requirement = Disturbance or destruction of any dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if re-vegetation is made a condition of approval. Use restricted to: resource dependent, scientific, educational, light recreational uses; and in certain cases sand mining or oil drilling.	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A. General Requirements = (1) MMR/HG shall not be altered or disturbed by recreation, industrial or any other uses during reproductive seasons; (2) recreational activities near marine mammal rookery/hauling grounds shall be monitored to ensure continued viability.	
			Native Grasslands	Numeric Buffer N/A. General Requirements = (1) grazing shall be managed to protect native grasslands and (2) development shall be sited and designed to protect native grasslands.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Numeric Buffer N/A. General Requirements = (1) oak trees shall be protected; (2) development shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads and structures, runoff, and erosion on native vegetation; (3) grading and paving shall not adversely affect root zone aeration and stability of native trees (4) when sites are graded/developed, significant amounts of native vegetation shall be preserved.	
			Rocky Points & Intertidal	Numeric Buffer N/A. General Requirements = (1) no unauthorized vehicles on adjacent beaches; (2) only light recreational uses on adjacent beaches; and (3) shoreline structures should be sited or routed to avoid significant rocky points or intertidal.	
			Seabird Nesting and Roosting	Numeric Buffer N/A. General Requirement = Recreational activities near areas used for roosting and nesting shall be controlled to avoid disturbance of the population.	
			Stream Habitats	100' in rural areas; 50' in urban areas; These minimum buffers may be adjusted upward or downward based on specific case-by-case factors. Riparian vegetation shall be protected and shall be included in the buffer. Where vegetation previously removed, the buffer will allow for re-establishment of riparian vegetation; Uses limited to: public trails, dams, flood control projects where no other alternative.	
			Subtidal	Numeric Buffer N/A. General Requirement = Naples Reef shall be maintained primarily as a site for scientific research and education. Recreational and commercial uses as long as no depletion of marine resources.	

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SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	CZO For All Areas Certified 8/82	Vernal Pool	Numeric Buffer N/A. Presumably 100' wetland buffer applies but it is listed separately. General requirements = (1) no grass cutting w/in vernal pool or w/in 5' or greater to protect vernal pool; (2) no mosquito control except for severe nuisance; and (3) development shall be sited and designed to avoid vernal pool sites.	
			Wetland Habitats	100' buffer shall be maintained in natural condition along the periphery of all wetlands, except for lots which abut the Carpinteria Slough. Uses restricted to same as Coastal Act.	
			White-Tailed Kite	Numeric Buffer N/A. General Requirements = (1) no development within area used for roosting or nesting; (2) recreational use of roosting/nesting area shall be limited to walking, bird watching; (3) development around roosting/nesting shall be setback sufficiently to minimize impacts to the habitat area; (4) on More Mesa ravine plant community shall be preserved and the max. feasible area shall be retained as grassland.	
		Summerland Community Plan Certified 1993*	ESHA (General)	New development within 100' of ESHA shall be required to provide for setbacks or undeveloped buffer zones from these habitats. Significant biological communities shall not be fragmented into small non-viable pocked areas.	
			Butterfly Trees	50': Any construction, grading or development within 200' of known or historic butterfly roosts shall be prohibited between Nov 1 and April 1 (some exceptions); Monarch butterfly roosting habitat shall be preserved and protected. Trimming or clearing of vegetation within 50' buffer may occur only with review and approval of Planning Dept.	
			Dune Habitats	Numeric Buffer N/A. General Requirements = Disturbance or destruction of any dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if re-vegetation is made a condition of approval. Use restricted to: resource dependent, scientific, educational, light recreational uses; and in certain cases sand mining or oil drilling.	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A. General Requirements = (1) MMR/HG shall not be altered or disturbed by recreation, industrial or any other uses during reproductive seasons; (2) recreational activities near MMR/HG shall be monitored to ensure continued viability.	
			Native Grasslands	Numeric Buffer N/A. General Requirements = (1) grazing shall be managed to protect native grasslands and (2) development shall be sited and designed to protect native grasslands.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	All new development within 100' of ESHA, including oak woodlands and coastal sage scrub shall be required to provide for setbacks or undeveloped buffer zones from these habitats.	

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SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Summerland Community Plan Certified 1993*	Rocky Points & Intertidal	Numeric Buffer N/A. General Requirements = (1) no unauthorized vehicles on adjacent beaches; (2) only light recreational uses on adjacent beaches; and (3) shoreline structures should be sited or routed to avoid significant rocky points or intertidal.	
			Seabird Nesting and Roosting	Numeric Buffer N/A. General Requirements = Recreational activities near areas used for roosting and nesting shall be controlled to avoid disturbance of the population.	
			Specimen Trees (incl. known raptor nesting or key roosting sites)	Numeric Buffer N/A. General requirements = (1) trees preserved to the maximum extent feasible; (2) if not feasible, a replacement planting program required.	
			Stream Habitats	All new development within 100' of ESHA, including riparian or willow woodlands, shall be required to provide for setbacks or undeveloped buffer zones from these habitats.	
			Subtidal	Numeric Buffer N/A. General Requirements = Naples Reef shall be maintained primarily as a site for scientific research and education. Recreational and commercial uses as long as no depletion of marine resources.	
			Vernal Pool	Numeric Buffer N/A. Presumably 100' wetland buffer applies but it is listed separately. General requirements = (1) No grass cutting w/in VP or w/in 5' or greater to protect VP; (2) no mosquito control except for severe nuisance; and (3) development shall be sited and designed to avoid VP sites.	
			Wetland Habitats	100' buffer shall be maintained in natural condition along the periphery of all wetlands, except for lots which abut the Carpinteria Slough. Uses restricted to same as Coastal Act.	
			White-Tailed Kite	Numeric Buffer N/A. General Requirements = (1) no development within area used for roosting or nesting; (2) recreational use of roosting/nesting area shall be limited to walking, bird watching; (3) development around roosting/nesting shall be setback sufficiently to minimize impacts to the habitat area; (4) on More Mesa ravine plant community shall be preserved and the max. feasible area shall be retained as grassland.	
			Wildlife Corridors	In rural areas, new development shall provide for “escape routes", for wildlife where appropriate and shall not interrupt major wildlife travel corridors.	
		Montecito Community Plan Certified 1993	ESHA (General)	New development w/in 100' of ESHA shall be required to include setbacks or undeveloped buffer zones from these habitats as part of the proposed development except where buffer would preclude reasonable use of parcel. The following communities shall be protected as ESHA: riparian woodland corridors, monarch butterfly roosts, sensitive native flora, coastal sage scrub.	

Table 1
State-wide Buffer (Setback) and Mitigation Ratio Policies

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Montecito Community Plan Certified 1993	**Butterfly Trees**	50': Any construction, grading or development within 200' of known or historic butterfly roosts shall be prohibited between Nov 1 and April 1 (some exceptions); Monarch butterfly roosting habitat shall be preserved and protected. Trimming or clearing of vegetation within 50' buffer may occur only with review and approval of Planning Dept.	
			Dune Habitats	Numeric Buffer N/A. General Requirements = Disturbance or destruction of any dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if re-vegetation is made a condition of approval. Use restricted to: resource dependent, scientific, educational, light recreational uses; and in certain cases sand mining or oil drilling.	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A. General Requirements = (1) MMR/HG shall not be altered or disturbed by recreation, industrial or any other uses during reproductive seasons; (2) recreational activities near MMR/HG shall be monitored to ensure continued viability.	
			Native Grasslands	Numeric Buffer N/A. General Requirements = (1) grazing shall be managed to protect native grasslands and (2) development shall be sited and designed to protect native grasslands.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Minimum 25' buffer around oak woodland. Oak woodlands are stands of oaks & other trees native to oak woodlands which form a closed canopy of a min. of 1 acre and are not surrounded by or heavily influenced by urban development (and where the understory has not been permanently disturbed. Grading and other site preparation activities shall not be allowed w/in 6' of an oak woodland except where preclude reasonable use. Min. 10' vegetated buffer from coastal sage scrub. Areas of 1 or more acres of coastal sage scrub shall be preserved to the maximum extent feasible. Development shall avoid impacts to coastal sage scrub that would isolate, interrupt, or cause a break in a contiguous habitat which would disrupt animal movement patterns, seed dispersal routes, or increase vulnerability of species to weed invasion or local extirpations such as fire, flooding, disease.	
			Rocky Points & Intertidal	Numeric Buffer N/A. General Requirements = (1) no unauthorized vehicles on adjacent beaches; (2) only light recreational uses on adjacent beaches; and (3) shoreline structures should be sited or routed to avoid significant rocky points or intertidal.	
			Seabird Nesting and Roosting	Numeric Buffer N/A. General Requirements = Recreational activities near areas used for roosting and nesting shall be controlled to avoid disturbance of the population.	
			Specimen Trees (incl. known raptor nesting or key roosting sites)	A buffer (as determined by Planning Dept on a case-by-case basis) shall be established around trees serving as raptor nesting sites or key roosting sites except in cases where such a buffer would preclude reasonable use of the parcel.	

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SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Montecito Community Plan Certified 1993	Stream Habitats	100' in rural areas; 50' in urban areas; These min. buffers may be adjusted upward or downward based on specific case-by-case factors. Riparian vegetation shall be protected as part of a stream or creek buffer.	
			Subtidal	Numeric Buffer N/A. General Requirements = Naples Reef shall be maintained primarily as a site for scientific research and education. Recreational and commercial uses as long as no depletion of marine resources.	
			Vernal Pool	Numeric Buffer N/A. Presumably 100' wetland buffer applies but it is listed separately. General requirements = (1) No grass cutting w/in VP or w/in 5' or greater to protect VP; (2) no mosquito control except for severe nuisance; and (3) development shall be sited and designed to avoid VP sites.	
			Wetland Habitats	100' buffer shall be maintained in natural condition along the periphery of all wetlands, except for lots which abut the Carpinteria Slough. Uses restricted to same as Coastal Act.	
			White-Tailed Kite	Numeric Buffer N/A. General Requirements = (1) no development within area used for roosting or nesting; (2) recreational use of roosting/nesting area shall be limited to walking, bird watching; (3) development around roosting/nesting shall be setback sufficiently to minimize impacts to the habitat area; (4) on More Mesa ravine plant community shall be preserved and the max. feasible area shall be retained as grassland.	
			Wildlife Corridors	In rural areas and where major wildlife corridors are present in urban areas, new development shall not interrupt major wildlife travel corridors.	
		Goleta Community Plan Certified 1994	ESHA (General)	New development w/in 100'. of ESHA shall be required to include setbacks or undeveloped buffer zones from these habitats consistent with those detailed in specific habitat protection policies as part of the proposed development except where buffer would preclude reasonable use of parcel. The following communities shall be protected as ESHA: riparian woodland corridors, monarch butterfly roosts, sensitive native flora, coastal sage scrub, oak woodlands, vernal pools, native grasslands, wetlands, raptor/turkey vulture roosts, critical wildlife habitat. Significant biological communities shall not be fragmented into small non-viable pocked areas.	
			Butterfly Trees	50': Any construction, grading or development within 200' of known or historic butterfly roosts shall be prohibited between Nov 1 and April 1 (some exceptions); Monarch Butterfly roosting habitat shall be preserved and protected. Trimming or clearing of vegetation within 50' buffer may occur only with review and approval of Planning Dept.	
			Dune Habitats	Numeric Buffer N/A. General Requirements = Disturbance or destruction of any dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if re-vegetation is made a condition of approval. Use restricted to: resource dependent, scientific, educational, light recreational uses; and in certain cases sand mining or oil drilling.	

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SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Goleta Community Plan Certified 1994	**Marine Mammal Rookery & Hauling Grounds**	Numeric Buffer N/A. General Requirements = (1) MMR/HG shall not be altered or disturbed by recreation, industrial or any other uses during reproductive seasons; (2) recreational activities near MMR/HG shall be monitored to ensure continued viability.	
			Native Grasslands	Min. 10' vegetated buffer from native grasslands; Development shall avoid impacts to native grasslands that would isolate, interrupt, or cause a break in a contiguous habitat which would disrupt animal movement patterns, seed dispersal routes, or increase vulnerability of species to weed invasion or local extirpations such as fire, flooding, disease.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	25' buffer from native woodlands in urban and inner rural areas and existing developed rural neighborhoods; 50' buffer from native woodlands in areas zoned Mountainous-Goleta; General Requirements = development or vegetation clearing should be avoided within the woodland and buffer to the extent feasible; Minimum 10' vegetated buffer from coastal sage scrub. Areas of one or more acres of coastal sage scrub shall be preserved to the maximum extent feasible. Development shall avoid impacts to coastal sage scrub that would isolate, interrupt, or cause a break in a contiguous habitat which would disrupt animal movement patterns, seed dispersal routes, or increase vulnerability of species to weed invasion or local extirpations such as fire, flooding, disease.	
			Rocky Points & Intertidal	Numeric Buffer N/A. General Requirements = (1) no unauthorized vehicles on adjacent beaches; (2) only light recreational uses on adjacent beaches; and (3) shoreline structures should be sited or routed to avoid significant rocky points or intertidal.	
			Seabird Nesting and Roosting	Numeric Buffer N/A. General Requirements = Recreational activities near areas used for roosting and nesting shall be controlled to avoid disturbance of the population.	
			Specimen Trees (incl. known raptor nesting or key roosting sites)	A buffer (as determined by Planning Dept on a case-by-case basis) shall be established around trees serving as raptor nesting sites or key roosting sites except in cases where such a buffer would preclude reasonable use of the parcel.	
			Stream Habitats	25' from edge of riparian veg or top of bank, whichever is further, for non-structural agricultural expansion where evidence of historic legal agricultural use within the previous ten-year period; 50' from top of bank for new agricultural buildings; 50' from top-of-bank or edge of riparian veg, whichever is further for development w/in urban, inner rural and existing developed rural neighborhoods. 200' from edge of existing riparian veg on parcels zoned Mountainous-Goleta. These min. buffers may be adjusted upward or downward based on specific case-by-case factors.	
			Subtidal	Numeric Buffer N/A. General Requirements = Naples Reef shall be maintained primarily as a site for scientific research and education. Recreational and commercial uses as long as no depletion of marine resources.	

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SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Goleta Community Plan Certified 1994	Vernal Pool	Numeric Buffer N/A. Presumably 100' wetland buffer applies but it is listed separately. General requirements = (1) No grass cutting within vernal pool or within 5' or greater to protect vernal pool; (2) no mosquito control except for severe nuisance; and (3) development shall be sited and designed to avoid vernal pool sites.	
			Wetland Habitats	100' buffer shall be maintained in natural condition along the periphery of all wetlands, except for lots which abut the Carpinteria Slough. Uses restricted to same as Coastal Act.	
			White-Tailed Kite	Numeric Buffer N/A. General Requirements = (1) no development within area used for roosting or nesting; (2) recreational use of roosting/nesting area shall be limited to walking, bird watching; (3) development around roosting/nesting shall be setback sufficiently to minimize impacts to the habitat area; (4) on More Mesa ravine plant community shall be preserved and the max. feasible area shall be retained as grassland.	
			Wildlife Corridors	In rural areas and where major wildlife corridors are present in urban areas, new development shall not interrupt major wildlife travel corridors.	
		Toro Canyon Plan Certified 2004	ESHA (General)	Significant biological communities not designated ESHA should not be fragmented into small non-viable pocked areas. The conversion of vacant land in ESHA, ESHA buffer, or on slopes over 30% to new crop, orchard, vineyard, or other agricultural use shall not be permitted. Existing, legally established agricultural uses shall be allowed to continue.	
			Butterfly Trees	50' from any side of the habitat.	
			Dune Habitats	Numeric Buffer N/A. General Requirements = Disturbance or destruction of any dune vegetation shall be prohibited, unless no feasible alternative exists, and then only if re-vegetation is made a condition of approval. Use restricted to: resource dependent, scientific, educational, light recreational uses; and in certain cases sand mining or oil drilling.	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A. General Requirements = (1) MMR/HG shall not be altered or disturbed by recreation, industrial or any other uses during reproductive seasons; (2) recreational activities near MMR/HG shall be monitored to ensure continued viability.	
			Native Grasslands	25' vegetated buffer from native grassland.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	25' from edge of canopy of coast live oak forests; 20' vegetated buffer from coastal sage scrub.	

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SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Toro Canyon Plan Certified 2004	**Rocky Points & Intertidal**	Numeric Buffer N/A. General Requirements = (1) no unauthorized vehicles on adjacent beaches; (2) only light recreational uses on adjacent beaches; and (3) shoreline structures should be sited or routed to avoid significant rocky points or intertidal.	
			Seabird Nesting and Roosting	Numeric Buffer N/A. General Requirements = Recreational activities near areas used for roosting and nesting shall be controlled to avoid disturbance of the population.	
			Specimen Trees (incl. known raptor nesting or key roosting sites)	Non-native trees and forests (e.g, eucalyptus groves and windrows) that provide known raptor nesting or major and recurrent roosting sites shall be protected.	
			Stream Habitats	100' in Rural areas and 50' in Urban, Inner-rural areas, and Existing Developed Rural Neighborhoods (EDRN)/Rural Neighborhoods, as measured from the outer edge of the canopy or the top of creek bank, whichever is greater. These min. buffers may be adjusted upward or downward based on specific case-by-case factors.	
			Subtidal	Numeric Buffer N/A. General Requirements = Naples Reef shall be maintained primarily as a site for scientific research and education. Recreational and commercial uses as long as no depletion of marine resources.	
			Vernal Pool	Numeric Buffer N/A. Presumably 100' wetland buffer applies but it is listed separately. General requirements = (1) No grass cutting w/in VP or w/in 5' or greater to protect VP; (2) no mosquito control except for severe nuisance; and (3) development shall be sited and designed to avoid VP sites.	
			Wetland Habitats	100'	
			White-Tailed Kite	Numeric Buffer N/A. General Requirements = (1) no development within area used for roosting or nesting; (2) recreational use of roosting/nesting area shall be limited to walking, bird watching; (3) development around roosting/nesting shall be setback sufficiently to minimize impacts to the habitat area; (4) on More Mesa ravine plant community shall be preserved and the max. feasible area shall be retained as grassland.	
			Wildlife Corridors	Development shall not interrupt major wildlife travel corridors.	
	Guadalupe City Certified LCP 5/9/91 - 50 acres, 1/2 of a single parcel			No policy or standards	No policy or standards
	City of Goleta No Certified LCP			No policy or standards	No policy or standards

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	**UCSB Certified LRDP 1990**		**Wetlands**	100'	
	UCSB (LRDP Amendment 1-06, Approved but not yet officially certified by UCSB)		**Wetlands**	Buffer of 100' for everywhere but North parcel where 25'. Lost wetlands or wetlands with less than 100' buffer shall be mitigated at 4:1 ratio. 1:1 of this ratio can occur in place in case of just reduced buffer. Mitigation must be onsite if feasible.	Lost wetlands or wetlands with less than 100' buffer shall be mitigated at 4:1 ratio. 1:1 of this ratio can occur in place in case of just reduced buffer. Mitigation must be onsite if feasible.
			ESHA - Including Riparian, Coastal Bluff Scrub, Native Grasslands, Monarch Butterfly Aggregation or Significant Roosting Areas; Dune Habitat; Beaches; etc.	Buffer 100' except North Parcel where is 10' for native grassland, 50' for riparian, and 25' from monarch habitat. Lost ESHA or ESHA with less than a 100' buffer shall be mitigated at 3:1 ratio. 1:1 of this ratio can occur in place in case of just reduced buffer. Mitigation must be onsite if feasible.	Lost ESHA or ESHA with less than a 100' buffer shall be mitigated at 3:1 ratio. 1:1 of this ratio can occur in place in case of just reduced buffer. Mitigation must be onsite if feasible.
	Santa Barbara City No Certified LCP	**Buffer Policies: LUP and CZO Certified 1981 and 1986 respectively**	**Stream Habitats**	The city shall require a setback buffer for native vegetation between the top of bank and any proposed project. This setback will vary depending upon the conditions of the site and the environmental impact of the proposed project. A 25' setback is generally encouraged. Development shall not be permitted within 25' of the top of bank of Mission Creek or the Central Drainage Channel. Setbacks for Sycamore Creek and Arroyo Burro Creek shall be assessed in the future.	
			Wetland Habitats	Numeric Buffer N/A.	
			ESHA (General)	Remaining coastal perennial grasslands, Goleta Slough, environmentally sensitive habitat areas, and trees of horticultural value shall be preserved and protected.	
		Buffer Policies: Goleta Slough Component LUP and IP Certified 1982 and 1991 respectively	**Wetland Habitats**	A buffer strip a minimum of 100' in width shall be maintained in a natural condition along the periphery of the wetland communities as identified on the habitat map for Goleta Slough and which include open water, coastal salt marsh, salt flats, seasonal wetland meadow, riparian woodland, shrub-scrub thicket, and wetland transitional habitats. Existing facilities shall be retained and maintained in a normal fashion.	
		Mitigation Ratios: LUP and CZO Certified 1981 and 1986 respectively	**Stream Habitats**		Any tree removed within the creek setback area shall be replaced on a 2:1 basis with an appropriate species except trees removed which are deemed a hazard by flood control do not have to be replaced

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SOUTH CENTRAL COAST	Carpinteria Certified LCP 1/6/82	CZO Certified 1/6/82	**Butterfly Habitat**	Minimum 50'	
			ESHA (General)	ESHA Overlay district that applies to all parcels designated ESHA, any parcel that meets the criteria for ESHA, and all parcels located within 250' of a parcel so designated or determined to be ESHA.	
			Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)	Numeric Buffer N/A. Oak trees shall be protected. All land use activities shall be carried out in such a manner as to avoid damage to native oak trees. Structures shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads or structures, run-off and erosion on native vegetation. In particular, grading and paving shall not adversely affect root zone aeration and stability of native trees.	
			Rocky Points & Intertidal Areas	Numeric Buffer N/A. Limits activities on public beaches that include or are adjacent to such areas to light recreational use. Prohibits unauthorized vehicles on beaches adjacent to intertidal areas. Permitted shoreline structures must avoid rocky points and intertidal areas	
			Creeks and Riparian Habitats	Superseded by creeks preservation program standards.	
			Subtidal Reef	Numeric Buffer N/A. The marine resources of Carpinteria Reef shall be protected.	
			Wetland Habitats	100' buffer shall be maintained in natural condition along the upland limit of all wetlands. No structures other than those required to support light recreational, scientific, and educational uses shall be permitted within the setback, where such structures are consistent with all other wetland development policies and where all feasible measures have been taken to prevent adverse impacts.	
		Updated LUP Certified 2002	**Butterfly Habitat**	Minimum setback 50' from the dripline of butterfly trees. Adjacent development shall be designed and setback far enough to protect the quality of the habitat.	
			Carpinteria Bluffs (windrows)	Minimum 10' setback from the dripline of windrow trees. Development shall not result in compacting of soil or other potential damage to the trees' root system or water source.	
			Carpinteria Bluffs (other)	Preserve all coastal bluff scrub habitat designated as open space with an appropriate buffer.	
			Habitat used by Sensitive, Rare, Threatened or Endangered Species	New development in or adjacent to habitat shall be setback sufficiently far as to minimize impacts on the habitat area.	

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SOUTH CENTRAL COAST	Carpinteria Certified LCP 1/6/82	Updated LUP Certified 2002	**Nesting and Roosting Trees used by Sensitive, Rare, Threatened or Endangered Raptors on the Carpinteria Bluffs or on parcels adjacent to Carpinteria Creek**	Minimum setback of 300'. In addition, the maximum feasible area surrounding nesting and roosting sites shall be retained in grassland and to the extent feasible shall be sufficient to provide adequate forage for nesting success. New development in or adjacent to trees shall be setback sufficiently far as to minimize impacts on the habitat area.	
			ESHA (General)	ESHA Overlay district that applies to all parcels designated ESHA, any parcel that meets the criteria for ESHA, and all parcels located within 250' of a parcel so designated or determined to be ESHA.	
			Harbor Seal Rookery & Hauling Grounds	Minimum 35' buffer area on beach around any animal or area where seals have congregated year round. 750' buffer on either side of the area during pupping season (Dec 1 - May 31) or such greater period as is established by Council Resolution. Minimum 30' setback from the edge of the bluff overlooking the hauling grounds for trails and gathering areas to reduce the visibility of humans and human movement along the bluff edge, except for a designated screen/blind.	
			Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)	Numeric Buffer N/A. Oak trees and oak woodlands, as well as walnut, sycamore, and other native trees, shall be protected through appropriate development standards. Structures shall be sited and designed to minimize the impact of grading, paving, construction of roads, runoff and erosion on native vegetation.	
			Rocky Points & Intertidal Areas	Numeric Buffer N/A. Limits activities on public beaches that include or are adjacent to such areas to light recreational use (e.g., hiking, biking, and jogging). Prohibits vehicles on beaches except for emergency or lifeguard services. Such vehicular activities shall avoid sensitive habitat areas to the maximum extent feasible. Prohibits the encroachment of above-ground structures, except for public health and safety purposes (such as lifeguard facilities) and recreational facilities of a temporary nature (e.g. volleyball nets) on any dry sandy beach. Permitted piers, groins, breakwaters, drainages, seawalls, pipelines, and other shoreline structures must avoid significant rocky points and intertidal areas. Stringline standard for private beachfront development.	

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SOUTH CENTRAL COAST	Carpinteria Certified LCP 1/6/82	Updated LUP Certified 2002	Creeks and Riparian Habitats	50' from the top of the upper bank of creeks or the existing edge of riparian vegetation (dripline), whichever is further. This setback may be increased to account for site-specific conditions. The following factors shall be used to determine the extent of an increase in setback requirements: soil type and stability of the stream corridor; how surface water filters into the ground; types and amount of riparian vegetation and how such vegetation contributes to soil stability and habitat value; slopes of the land on either side of the stream; location of the 100 year floodplain boundary; consistency with other applicable adopted plans, conditions, regulations and/or policies concerning protection of resources. Disaster rebuilds of existing structures within setback allowed; must be of the same or lesser size and in the same general footprint; reconstructions must be started within 24 months of time of damage.	
				The following development is allowed within the setback: fish and wildlife habitat improvements, development necessary for flood control purposes (where no other method to protect existing structures in the floodplain is feasible and where protection is necessary for public safety); and bridges and trails (where no alternative route is feasible and, when supports are located within setbacks, such locations minimize impacts on critical habitat).	
			Subtidal Reef	Numeric Buffer N/A. Protect the marine resources of the Carpinteria tidepools and reef and other rocky reefs and intertidal areas.	
			Wetland Habitats	100' buffer shall be maintained in natural condition along the upland limit of all wetlands. No structures other than those required to support light recreational, scientific, and educational uses shall be permitted within the setback, where such structures are consistent with all other wetland development policies and where all feasible measures have been taken to prevent adverse impacts. The minimum setback may be adjusted upward to account for site-specific conditions affecting avoidance of adverse impacts.	
		Previous LUP Certified in 1980	Wetland Habitats	100' buffer shall be maintained in natural condition along the upland limit of all wetlands. No structures other than those required to support light recreational, scientific, and educational uses shall be permitted within the setback, where such structures are consistent with all other wetland development policies and where all feasible measures have been taken to prevent adverse impacts.	
			ESHA (General)	ESHA Overlay district that applies to all parcels designated ESHA, any parcel that meets the criteria for ESHA, and all parcels located within 250' of a parcel so designated or determined to be ESHA.	

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SOUTH CENTRAL COAST	Carpinteria Certified LCP 1/6/82	Previous LUP Certified in 1980	**Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)**	Numeric Buffer N/A. Oak trees shall be protected. All land use activities shall be carried out in such a manner as to avoid damage to native oak trees. Structures shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads or structures, runoff and erosion on native vegetation. In particular, grading and paving shall not adversely affect root zone aeration and stability of native trees.	
		Updated LUP Certified 2002	**Rocky Points & Intertidal Areas**	Numeric Buffer N/A**.** Limits activities on public beaches that include or are adjacent to such areas to light recreational use. Prohibits unauthorized vehicles on beaches adjacent to intertidal areas. Permitted shoreline structures must avoid rocky points and intertidal areas	
			Subtidal Reef	Numeric Buffer N/A. The marine resources of Carpinteria Reef shall be protected.	
		Creeks Preservation Program Certified 2004	**Habitat used by Sensitive, Rare, Threatened or Endangered Species**	New development in or adjacent to habitat shall be setback sufficiently far as to minimize impacts on the habitat area.	
			Nesting and Roosting Trees used by Sensitive, Rare, Threatened or Endangered Raptors on the Carpinteria Bluffs or on parcels adjacent to Carpinteria Creek	Minimum setback of 300'. In addition, the maximum feasible area surrounding nesting and roosting sites shall be retained in grassland and to the extent feasible shall be sufficient to provide adequate forage for nesting success. New development in or adjacent to trees shal be setback sufficiently far as to minimize impacts on the habitat area.	
			Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)	Minimum 50' setback from edge of riparian canopy (dripline) as described under Creeks and Riparian Habitat below.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Carpinteria Certified LCP 1/6/82	Bluffs Master Program Certified 1996	Carpinteria Bluffs (windrows)	10' buffer, measured from the dripline, around open space areas containing tamarisk and eucalyptus windrows.	
			Carpinteria Bluffs (other)	25' buffer around open space areas on the Carpinteria Bluffs containing existing coastal sage scrub habitat. The buffer may be reduced to 20' for the area of coastal sage scrub adjacent to the riparian habitat in Bluffs Area II, provided the equivalent square footage of habitat to equal the 25' buffer is compensated for through in-kind restoration of coastal sage scrub within the Bluffs. Light recreation, revegetation projects, and specifically permitted trail development allowed within buffer zones.	
			Harbor Seal Rookery & Hauling Grounds	Minimum 35' buffer area on beach around any animal or area where seals have congregated year round. 750' buffer on either side of the area during pupping season (Dec 1 - May 31) or such greater period as is established by Council Resolution. Minimum 30' setback from the edge of the bluff overlooking the hauling grounds for trails and gathering areas to reduce the visibility of humans and human movement along the bluff edge, except for a designated screen/blind. Dogs not permitted within the bluff top and beach buffer zones.	
			Rocky Points & Intertidal Areas	Numeric Buffer N/A. Limits activities on public beaches that include or are adjacent to such areas to light recreational use. Prohibits unauthorized vehicles on beaches adjacent to intertidal areas. Permitted shoreline structures must avoid rocky points and intertidal areas	
	Ventura County Certified LCP 10/26/83	North Coast	Tidepools and Beaches	**Coastal Area Plan (North Coast), A.7.** The adopted State "Guidelines for Wetlands and Other Wet, Environmentally Sensitive Habitats" will be used when analyzing any projects that may impact or alter tidepools.	**Coastal Area Plan (North Coast), A.3.** Shoreline protection structures, such as revetments, seawalls, groins, or breakwaters, are allowed when they are necessary to protect existing developments, coastal-dependent land use, and public beaches. Any structures built under these conditions will incorporate mitigation measures that reduce intertidal or nearshore habitat losses and impacts on local shoreline and sand supply.
			Creek Corridors	**Coastal Area Plan (North Coast), B.1.** All projects on land either in a stream or creek corridor or within 100' of such corridor (buffer area), shall be sited and designed to prevent impacts which would significantly degrade riparian habitats, and shall be compatible with th continuance of such habitats.	Statewide Interpretive Guidelines for Wetlands and other Wet, Environmentally Sensitive Habitats (1981). Policy VI. B. 1. All channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible to minimize adverse environmental effects.
		Central Coast	Coastal Dunes	Numeric buffer N/A.	
			Wetlands	**Coastal Area Plan (Central Coast), B.1.** All projects on land either in a designated wetland or within 100' of such designation, shall be sited and designed to prevent impacts which would significantly degrade the viability of the wetland. The purposes of such projects shall be limited to those in Section 30233 (a) of the Coastal Act.	**Coastal Area Plan (Central Coast), B.4.** Habitat mitigation will include, but not be limited to, timing of the project to avoid disruption of breeding and/or nesting of birds and fishes, minimal removal of native vegetation, reclamation or enhancement as specified in the California Coastal Commission 'Interpretive Guidelines for Wetlands" and a plan for spoils consistent with Policy B.5.

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SOUTH CENTRAL COAST	Ventura County Certified LCP 10/26/83	Central Coast	Wetlands	**Coastal Area Plan (Central Coast), B.1.** All projects on land either in a designated wetland or within 100' of such designation, shall be sited and designed to prevent impacts which would significantly degrade the viability of the wetland. The purposes of such projects shall be limited to those in Section 30233 (a) of the Coastal Act.	Statewide Interpretive Guidelines for Wetlands and other Wet, Environmentally Sensitive Habitats (1981). Policy IV. D. b. If the project involves diking or filling of a wetland, required minimum mitigation measures are the following: 1. If an appropriate restoration site is available, the applicant shall submit a detailed restoration plan which includes provisions for purchase and restoration of an equivalent area of equal or greater biological productivity and dedication of the land to a public agency or otherwise permanently restricts its use for open space purposes. The site shall be purchased before the dike or fill development may proceed. **Policy D. b. 2.** The applicant may, in some cases, be permitted to open equivalent areas to tidal action or provide other sources of surface water. This method of mitigation would be appropriate if the applicant already owned filled, diked areas which themselves were not environmentally sensitive habitat areas but would become so, if such areas were opened to tidal action or provided with other sources of surface water. **Policy D. b. 3.** However, if no appropriate restoration sites under option 1 and 2 are available, the applicant shall pay an in-lieu fee of sufficient value to an appropriate public agency for the purchase and restoration of an area of equivalent productive value, or equivalent surface area.
	Ventura County Certified LCP 10/26/83	South Coast	Coastal Dunes	Numeric buffer N/A.	
			Tidepools	**Coastal Area Plan (South Coast), A.6.** The adopted State "Guidelines for Wetlands and Other Wet, Environmentally Sensitive Habitats" will be used when analyzing any projects that may impact or alter tidepools.	**Coastal Area Plan (South Coast), A.4.** Shoreline protection structures, such as revetments, seawalls, groins, or breakwaters, are allowed when they are necessary to protect existing developments, coastal-dependent land use, and public beaches. Any structures built under these conditions will incorporate mitigation measures that reduce intertidal or nearshore habitat losses and impacts on local shoreline and sand supply.
			Creek Corridors	**Coastal Area Plan (South Coast), C.2.** All projects on land either in a stream or creek corridor or within 100' of such corridor (buffer area), shall be sited and designed to prevent impacts which would significantly degrade riparian habitats, and shall be compatible with th continuance of such habitats.	Statewide Interpretive Guidelines for Wetlands and other Wet, Environmentally Sensitive Habitats (1981). Policy VI. B. 1. All channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible to minimize adverse environmental effects.

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SOUTH CENTRAL COAST	Ventura County Certified LCP 10/26/83	South Coast	Santa Monica Mountains	**Coastal Area Plan (South Coast), D.6.** All identified ESHA and/or slopes over 30% shall be permanently maintained in their natural state through an easement or other appropriate means and shall be recorded on the final tract or parcel map or on a grant deed as a deed restriction submitted with the final map. Development shall not be permitted in areas over 30% slope.	
			Mugu Lagoon and San Nicholas Island		**Coastal Area Plan (South Coast), E.3.** Projects which adversely impact habitat should include mitigation measures such as timing of the project to avoid disruption of breeding and/or nesting of birds and fishes , minimal removal of native vegetation, reclamation or enhancement programs.
	San Buenaventura Certified LCP 1/2/84	CZO Certified 1982	Streams/Riparian Habitat	**Sensitive Habitat Overlay Zone:** Minimum 100' buffer from the boundaries of sensitive habitat areas.	
			ESHA (General)	Same as above.	
	San Buenaventura Certified LCP 1/2/84	LUP Certified 1990	Streams/Riparian Habitat	100' setback from the top of the banks of blue-line streams, as identified in Figure 6.3-1 of the Comprehensive Plan Update Master EIR (April 1989).	
			ESHA (General)	Establishes Sensitive Habitat Overlay Zone, to include wetlands, dune vegetation, natural vegetation buffers, and riparian habitats. Requires buffers but does not specify size. Designated Sensitive Habitat Areas include the Alessandro Lagoon, the Spinnaker Lagoon, and the Ventura River mouth.	
		Downtown Specific Plan Certified 1994	Streams/Riparian Habitat	100' setback and buffer from riparian habitats or the maximum setback feasible as determined by the City Council or their designee at a public hearing. Only in very limited circumstances should a setback and buffer of less than 100' be allowed. Driveways and walkways shall be excluded from the 100' setback. The setbacks of buildings and all development, including driveways and walkways, shall be required to minimize impacts, unless it can be demonstrated by a resource specialist that other environmental mitigation methods would be effective.	

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SOUTH CENTRAL COAST	**Oxnard City Certified LCP 4/10/85; Certified LUP 1982/2000**		**Wetlands, Estuaries. Streams, Riparian Habitats, Lakes**	**Section 3.2.2.** A buffer of 100' in width shall be provided adjacent to all resource protection areas. The buffer may be reduced to a minimum of 50' only if it can be demonstrated that the large buffer is unnecessary to protect the resources of the habitat area. All proposed development shall demonstrate that the functional capacity of the resource protection area is maintained. The standards to determine the appropriate width of the buffer area are: 1) Biological significance of the area, 2) Sensitivity of species to disruption, 3) Susceptibility to erosion, 4) Use of natural and topographic features to locate development, 5) Parcel configuration and location of existing development, 6) Type and scale of development proposed, 7) Use of existing cultural features to locate buffer zones	**Section 3.2.2.** Wetland Mitigation - Acre-for-acre basis
	Port Hueneme Certified LCP 11/28/84	**J Street Canal**	**ESHA (General)**	**LCP Amendment No. 1-98. Policy 5.b.** The west bank of the "J" Street Canal may have eroded and encroached into Hueneme Beach Park. All diking, dredging, and filling activities that may occur along the western bank of the "J" Street Canal in the City of Port Hueneme shall conform to the provisions of Sections 30233 and 30607.1 of the Coastal Act to address the marine environment, riparian habitat, and adjacent wetlands. In addition, a buffer strip, a minimum of 100' in width shall be maintained from the "J" Street Canal wherein no permanent structures shall be permitted except structures of minor nature, such as fences, interpretive signs or viewing platforms, and existing unpaved access roads.	
	L.A. Co./Malibu Mtns. No Certified LCP			No Buffer Policies.	No Mitigation Ratio Policies.
	Malibu City Certified LCP 9/13/02		**Wetlands, Streams/Riparian, Woodlands, Coastal Bluffs, Coastal Sage Scrub, Chaparral, Other**	**Section 4.6.** Minimum of 100' buffer from each. However, in the Point Dume area, new development shall be designed to avoid encroachment on slopes of 25% grade or steeper.	**Section 4.8.** Wetland Mitigation - Adverse impacts will be mitigated at a ratio of 3:1 for seasonal wetlands, freshwater marsh and riparian areas, and at a ratio of 4:1 for vernal pools and saltmarsh, unless the applicant provides evidence establishing, and the City finds, that creation or restoration of a lesse area of wetlands will fully mitigate the adverse impacts of the dike or fill project

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SOUTH CENTRAL COAST	**Malibu City Certified LCP 9/13/02**		**Native Trees**	**Section 4.6.** Minimum of 100' buffer from each. However, in the Point Dume area, new development shall be designed to avoid encroachment on slopes of 25% grade or steeper.	Where the removal of native trees cannot be avoided through the implementation of project alternatives or where development encroachments into the protected zone of native trees results in the loss or worsened health of the trees, mitigation measures shall include, at a minimum, the planting of replacement trees on-site, if suitable area exists on the project site, at a ratio of 10 replacement trees for every 1 tree removed. Where on-site mitigation is not feasible, off-site mitigation shall be provided through planting replacement trees or by providing an in-lieu fee. based on the type, size and age of the tree(s) removed.

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SOUTH COAST	Los Angeles County	Santa Catalina Island Certified LCP 1/9/90	Marine and tidal areas of special biological significance	25' from MHTL or beach	No policy or standard
			Catalina Harbor	100m (meter) buffer	No policy or standard
			Significant Ecological Areas	Most of island covered by an open space conservation easement managed by The Catalina Conservancy	No policy or standard
			Riparian areas	100'	No policy or standard
	Los Angeles City No Certified LCP			No ESHA buffers policies	No Mitigation Ratio Policies.
	Los Angeles City	Venice Beach No Certified LCP	Beach	No policy or standard	No policy or standard
			Canals	10' - 15'	
			Ballona Lagoon	East bank - 40'; West bank - 10' - 25'	
	Santa Monica No Certified LCP; LUP			No ESHA buffers policies	No Mitigation Ratio Policies.
	El Segundo Certified LCP 12/4/82			No ESHA buffers policies	No Mitigation Ratio Policies.

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SOUTH COAST	**Manhattan Beach Certified LCP 5/12/95**		**No ESHA in coastal zone**	No policy or standard	No policy or standard
	Hermosa Beach No Certified LCP; LUP		**No ESHA identified in the City.**	No policy or standard	No policy or standard
	Redondo Beach	**Coastal Zone 1 Certified LCP 9/1103**	**No ESHA in coastal zone**	No policy or standard	No policy or standard
	Redondo Beach	**Coastal Zone 2 - "Heart of the City" No Certified LCP**		No policy or standard	No policy or standard
	Marina del Rey/Ballona Certified LCP 12/13/90		**No ESHA identified.**	No policy or standard	No policy or standard
	Torrance No Certified LCP				

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SOUTH COAST	**Playa Vista No Certified LCP**		**Wetland**	**Pending:** Two LCP modifications related to wetland/ESHA: 100' buffer between wetlands and environmentally sensitive habitat areas and development 50' structural setback from the buffer area. Buffer and setbacks do not apply to the existing gas company facility and to those portions of the bluffs south of Cabora Drive extending from approx. the dedicated, unimproved right-of-way of Hastings Ave. westerly to Zayanta Dr. and from Falmouth Ave. westerly to Pershing Dr. Within 100' of the 209 acre Habitat Management Area (ecological support areas, combined with the wetlands, the buffers and the site for the interpretive center) there is a height limit o 35' and a structural setback of 50', except as noted above.	No mitigation ratios
	Palos Verdes Estates Certified LCP 12/12/91			No buffer policies	
	Rancho Palos Verdes Certified LCP 4/27/83			No buffer policies	
	Long Beach Certified LCP 5/21/81	**Alamitos Bay**		No policy or standard	No policy or standard
		Marine Stadium			
		Colorado Lagoon			
		Sims Pond			
		SEADIP Subarea 29		100' from wetlands; 50' from riparian	4:1 for saltmarsh; 3:1 for riparian
		Los Cerritos Wetlands		25' from wetland (not certified)	1:1 (not certified)

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SOUTH COAST	**Avalon Certified LCP 5/21/81**		**Wrigley Botanical Gardens**	No policy or standard	No policy or standard
	Orange County	**Newport Coast**	**General ESHA**	Newport Coast LCP (Orange County) covers an area that has extensive CSS, gnatcatcher habitat, and some wetlands and riparian areas. The LCP does not contain specified buffers or mitigation ratios except riparian habitat = 50' setback from the edge of the habitat.. The LCP is a project specific document and the areas of open space and areas for development were negotiated and impacts to ESHA were authorized and offset with the dedication of a large open space area.	
	Seal Beach No Certified LCP, LUP, or IP			No policy or standard	No policy or standard
	Huntington Beach Certified LCP 3/15/84		**Wetlands**	Minimum 100': However a lesser buffer may be permitted if existing development or site configuration precludes a 100' buffer or conversely a greater buffer zone may be required if substantial development or significant increased human impacts are anticipated.	No numerical standard identified.
			Other ESHA	No numerical standard identified	"No net loss" at a minimum (i.e. 1:1)
	Costa Mesa No Certified LCP, LUP, or IP			No policy or standard	No policy or standard
	Newport Beach (No Certified LCP or IP; Certified LUP 02/8/06)		**Terrestrial ESHA**	Minimum buffer width of 50' wherever possible; smaller buffers may be allowed only where can be demonstrated that a 50' wide buffer is not possible due to site specific circumstances and that the proposed narrower buffer would be amply protective of the biological resources.	
			Coastal Sage Scrub		2:1
			Coastal Sage Scrub occupied by California gnatcatchers or significant populations of other rare species		3:1

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SOUTH COAST	Newport Beach No Certified LCP or IP; Certified LUP 2/8/06		Southern Maritime chaparral		3:1
			Maritime succulent scrub		3:1
			Native grassland		3:1
			Southern mixed chaparral		1:1
			Wetlands	Minimum 100' wherever possible; smaller wetland buffers may be allowed only where it can be demonstrated that a 100' wide buffer is not possible due to site specific constraints and the proposed narrower buffer would be amply protective of the wetland	No less than 2:1
			Seasonal wetlands		3:1
			Freshwater marsh		3:1
			Riparian		3:1
			Vernal pools		4:1
			Saltmarsh		4:1
			Eelgrass		1.2:1
	Irvine City Certified LCP 3/2/82	UC Irvine not certified	Wetlands	No policy or standard	
	Laguna Beach Certified LCP 1/13/93		General ESHA	**8G:** When subdivision or fuel modification proposals are situated in areas designated as "High Value" habitats on the Biological Values Maps and where these are confirmed by subsequent on-site assessment, require that these habitats be preserved to the greatest extent possible.	
				8H: When subdivision or fuel modification proposals are situated in areas designated as "Very High Value" habitats on the Biological Values Maps and where these are confirmed b subsequent on-site assessment, require that these habitats be preserved and, when appropriate, that mitigation measures be enacted for immediately adjacent areas.	

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SOUTH COAST	Laguna Beach Certified LCP 1/13/93		General ESHA	**8I:** Environmentally Sensitive Areas (ESA's) as defined in Section 30107.5 of the California Coastal Act shall be identified and mapped on a Coastal ESA Map. The following areas shall be designated as Environmentally Sensitive Areas: those areas shown on the Biological Resource Values Maps in the Open Space/Conservation Element as "Very High" habitat value, and streams on the Major Watersheds and Drainage Courses Map which are also streams as identified on the USGS 7.5 Minute Quadrangle Series and any other areas which contain environmentally sensitive habitat resources as identified through an on-site biological assessment process, including areas of "High" and "Moderate" habitat value on the Biological Resources Values Maps and areas which meet the definition of ESA's in Section 30107.5 of the Coastal Act, including streams, riparian habitats, and areas of open coastal waters, including tidepools, areas of special biological significance, habitats of rare or endangered species, near-shore reefs and rocky intertidal areas and kelp beds.	
				8J: Detailed biological assessments shall be required for all new development proposals located within areas designated as Environmentally Sensitive Areas on the Coastal ESA Map. To protect these resources, the following shall be required: 1. No new development proposals shall be located in areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map except for uses dependent upon such resources. 2. When new development proposals are situated in areas adjacent to areas designated as "Environmentally Sensitive Areas" on the Coastal ESA Map and where these are confirmed by subsequent on-site assessment, require that development be designed and sited to prevent impacts which would significantly degrade such areas.	
				3. Where development is proposed on an existing subdivided lot which is otherwise developable (i.e., able to be served by utilities and access, and on slopes able to accommodate development consistent with City provisions on slope/density, grading, hazards, subdivisions and road access), and is consistent with all other policies of this Land Use Plan except for its location entirely within an identified ESA as confirmed by a site-specific assessment, the following shall apply:	
				a) Resource Management uses including estuaries, nature centers and other similar scientific or recreational uses are permitted subject to a Conditional Use Permit to assure that uses are sited and designed to prevent degradation of the resource value; or alternatively; b) Transfer of a density bonus to another property in the vicinity able to accommodate increased density consistent with the policies of the Land Use Plan concurrent with the recordation of an open space easement or other similar instrument over the habitat area of the parcel.	

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SOUTH COAST	Laguna Beach Certified LCP 1/13/93		General ESHA	c) Existing dwellings shall be designated as nonconforming uses but shall be allowed to be rebuilt or repaired if damaged or destroyed by natural disaster provided however, that the floor area, height and bulk of the structure not exceed that of the destroyed structure by more than 10 %; and d) No new parcels shall be created which are entirely within a Coastal ESA or which do not contain a site where development can occur consistent with the ESA policies of this Plan.	
				8K: As a condition of new development in South Laguna, require the identification of environmentally sensitive areas, including chaparral and coastal sage scrub. Intrusion into these areas for wildlands fuel modification programs should not be permitted.	
				9C: a) Streams on the Major Watershed and Drainage Courses Map which are also "blue-line" streams as identified on the USGS 7.5 Minute Quadrangle Series, shall be identified and mapped on the Coastal Environmentally Sensitive Areas Map of the Land Use Plan. For these streams, a minimum setback of 25' from the top of the stream banks shall be required in all new developments.	
				A greater setback may be necessary in order to protect all riparian habitat based on a site-specific assessment. No disturbance of major vegetation, or development, shall be allowed within the setback area. This provision shall not apply to channelized sections of streams without significant habitat value. Where development is proposed on an existing subdivided lot which is otherwise developable consistent with all City ordinances and other policies of this Plan except that application of this setback would result in no available building site on the lot, the setback may be reduced provided it is maintained at a width sufficient to protect all existing riparian habitat on the site and provided all other feasible alternative measures, such as modifications to the size, siting and design of any proposed structures, have been exhausted.	
				b) Require a setback of a minimum of 25' measured from the centerflow line of all natural drainage courses other than streams referenced in 9-C (a) above. Such setback shall be increased upon the recommendation of the City Engineer and environmental planner through the environmental review process. However, a variance may be given in special circumstances where it can be proven that design of a proposed structure on an affected lo will preserve, enhance or restore the significance of the natural watercourse. At no time shall grubbing of vegetation, elimination of trees, or disturbance of habitat be allowed within the setback area before or after construction.	

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SOUTH COAST	**Aliso Viejo Certified LCP 9/29/83**			No ESHA policies	
	Laguna Niguel Certified LCP's for South Laguna & Aliso Creek 11/14/90		**Riparian Vegetation**	All development except for public trails shall maintain a 100' setback from riparian vegetation. Public trails may be located within the riparian setback only if located and constructed so as to permanently protect riparian vegetation. Development shall maintain a minimum 50' setback from any public trails.	
	Dana Point Certified LCP 9/13/89		**Wetland**	City's coastal wetland resources, a minimum 100' buffer area around all identified wetlands shall be provided as part of all allowable development within or adjacent to wetlands, unless both the California Department of Fish and Game and the U.S. Fish and Wildlife Service provide a written determination that a lesser buffer will provide adequate protection..	
	San Clemente No Certified LCP; Certified LUP 1996		**General ESHA**	General policies requiring identification and protection of ESHA including using buffers and setbacks, however, no numerical standard identified.	
			Wetland	Same as above.	
			Coastal Sage Scrub	Not less than 15' from CSS vegetation.	No numerical standard identified
			Riparian Vegetation	Not less than 50' from riparian vegetation.	No numerical standard identified

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SAN DIEGO COAST	**San Diego County/San Dieguito No Certified LCP**		**Lagoons and Riparian Habitat**	Ecological Resource Area (ERA) designation applies to lagoons and riparian habitat and their adjacent uplands, extending to 100' upland of the 100-year floodplain; uses within ERA limited to those allowed in wetlands per Section 30233. No specific buffer or mitigation ratio policies.	
	Oceanside Certified LCP 3/11/86	**City of Oceanside**	**Sensitive habitat areas including wetlands, riparian areas, and rare and endangered plants**	**LCP Policy II. B. 1.** A buffer zone shall be established around all sensitive habitats. The buffer zone shall be generally 100' for small projects on existing lots. If the project requires substantial improvements or increased human impacts, a much wider buffer area shall be required. Likewise, a reduced buffer area will be considered if, in consultation with the State Department of Fish and Game it can be demonstrated that 100' is unnecessary to protect the resources of the habitat area. The biological significance of adjacent lands, sensitivity of species to disturbance, and susceptibility of parcel to erosion shall all be factors taken into consideration in the determination of the adequate width of the buffer zone. Such evaluations shall be made on a case-by-case basis. Where feasible, existing cultural features, such as roads and dikes, should be used to buffer habitat area.	**LCP Policy II. B.** The following mitigation measures are intended to protect sensitive habitat areas from adverse environmental impacts caused by adjacent development. Any development proposed in an undeveloped area within a distance of up to 500 feet from a sensitive habitat area will be considered adjacent to that habitat area. All required mitigation measures will be provided at applicants expanse.
				For a wetland, the buffer area should be measured from the landward edge of the wetland. For a watercourse, the buffer zone should be measured from the landward edge of riparian vegetation of, if no vegetation exists, from the top edge of the bank. No principal structures shall be permitted within a buffer zone. Development shall be limited to access paths, fences necessary to protect the habitat area and similar developments which have beneficial effects or no significant adverse effects.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SAN DIEGO COAST	Oceanside Certified LCP 3/11/86	San Luis Rey River LUP Supplement & Implementation Phase for the San Luis Rey River – State Hwy 76	General ESHA and Riparian habitat	**A. Biological Resources. 5.** A 75' wide buffer area will be constructed if possible between the expressway and the riparian habitat along the river by over-covering the rip rap boulders on the downslope with top soil and planting native vegetation.	**A. Biological Resources.** 2. Mitigation shall be provided for any destruction of riparian habitat or other environmentally sensitive habitat on an in-kind, one-acre-replaces to one-acre-destroyed, basis. Replacement species shall be maintained through a management program for a period of five years following replanting to assure successful revegetation; should any portion of the revegetation plan prove unsuccessful, replanting shall be provided within the five year management period.
			Wetlands	**A. Biological Resources. 10.** A buffer strip adequate to protect coastal wetlands shall be provided around the perimeter of all areas, and shall be maintained in a natural state. Such buffers shall generally be of 100' in width unless a more narrow area is determined adequate for resource protection in consultation with the CDFG.	
	Carlsbad Certified LCP - major amendment 2003 - HMP		Coastal sage scrub	20'	**2:1** Mitigation (including onsite preservation) for coastal sage scrub occupied by the California gnatcatcher, and **1:1** for unoccupied coastal sage scrub, mixed coastal sage scrub/chaparral and chaparral other than southern maritime chaparral.
			Other rare native vegetation: southern maritime chaparral, southern coastal bluff scrub, maritime succulent scrub, and native grassland	20'	**3:1** For Southern maritime chaparral, southern coastal bluff scrub, maritime succulent scrub and native grassland.
			Riparian areas	50'; if a riparian area is associated with steep slopes (>25%), the 50' buffer shall be measured from the top of the slope.	3:1
			Oak woodlands	20'	
			Vernal pools, other seasonal wetlands, and saltmarsh	100'	4:1

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SAN DIEGO COAST	Carlsbad Certified LCP - major amendment 2003 - HMP		Steep slopes	For steep slopes not associated with a riparian area, and for non-steep areas (<25%) with native vegetation, a minimum 20 ' buffer shall be required. For steep slopes, the buffer shall be measured from the top of the slope. No development may be located within the buffer except as otherwise specified herein. However, if brush management is required for fire protection, Zone 3 (to a maximum of 20') may be located within the buffer area if allowed by the fire management authority.	
			Other	No development, grading or alterations, including clearing of vegetation, shall occur in the buffer area, except for: fuel modification Zone 3 to a maximum of 20' for upland and non-riparian habitat. No fuel mod shall take place within 50' of riparian areas, wetlands, or oak woodland. Recreation trails and public access pathways may be permitted in the required buffer area within the 15' closest to the adjacent developable area, provided that the construction of the trails and/or pathways and their proposed uses are consistent with the preservation goals for adjacent habitat, and that appropriate measures are taken for their physical separation from sensitive areas alterations.	The second HMP addendum provides that in the coastal zone, there will be no net loss of coastal sage scrub, maritime succulent scrub, southern maritime chaparral, southern mixed chaparral, native grassland, or oak woodland.
	Encinitas Certified LCP 5/11/95		Lagoon Wetlands	**Resource Management Policy 10.6/Implementation Plan Section 30.34.040B3**- 100' - Buffers may be reduced if the applicant demonstrates the wetland resources will be protected based on site specific information after consultation with USFWS and CDFG.	**Resource Management Policy 10.6** For wetlands, minimum greater than 1:1 when permitted use and unavoidable. Goal is no net loss.
			Riparian Wetlands	**Resource Management Policy 10.6/Implementation Plan Section 30.34.040B3**- 50'. Buffers may be reduced if the applicant demonstrates the wetland resources will be protected based on site specific information after consultation with USFWS and CDFG.	
			Other ESHA		**Resource Management Policy 10.5RM Policy 10.5.** All new development shall be designed to be consistent with multi-species and multi-habitat preservation goals and requirements as established in the statewide Natural Communities Conservation Planning (NCCP) Act. Compliance with these goals and requirements shall be implemented in consultation with the United States Fish and Wildlife Service and California Department of Fish and Game.

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SAN DIEGO COAST	**Solana Beach No Certified LCP**				
	Del Mar Certified LCP 9/11/01		**Wetlands**	**I.P. Regulation 30.52.060** prohibits encroachments onto steep slopes, the only area of the City that has native upland habitat. There are some exceptions for constrained lots and public works projects. **I.P. Regulation 30.53.100** requires 100' wetland buffers, with a provision to reduce them to a 50' minimum if recommended by CDFG.	
	City of San Diego IP effective 1/2000		**Sensitive biological resources**	**San Diego Municipal Code - Regulation 143.0141.** a). State and federal law precludes adverse impacts to wetlands or listed non-covered species habitat. The applicant shall confer with the U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service and/or California Department of Fish and Game before any public hearing for the development proposal. The applicant shall solicit input from the Resource Agencies on impact avoidance, minimization, mitigation and buffer requirements, including the need for upland transitional habitat. The applicant shall, to the maximum extent feasible, incorporate the Resource Agencies' recommendations prior to the first public hearing. Grading or construction permits shall not be issued for any project that impacts wetlands or Listed non-covered species habitat until all necessary federal and state permits have been obtained.	
				b.) Outside and inside the MHPA, impacts to wetlands, including vernal pools in naturally occurring complexes, shall be avoided. A wetland buffer shall be maintained around all wetlands as appropriate to protect the functions and values of the wetland. In the Coastal Overlay Zone the applicant shall provide a minimum 100' buffer, unless a lesser or greater buffer is warranted as determined through the process described in 143.0141(a). Mitigation for impacts associated with a deviation shall achieve the goal of no-net=loss and retain in-kind functions and values.	
			Steep hillsides	**SDMC 143.0142 a). 2.** outside of the MHPA, the allowable development area includes all portions of the premises without steep hillsides. Steep hillsides shall be preserved in their natural state, except that development is permitted in steep hillsides if necessary to achieve a maximum development area of 25% of the premises.	

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SAN DIEGO COAST	City of San Diego IP effective 1/2000		Steep hillsides	**SDMC 143.0142 a).** 3. Outside of the MHPA and outside the Coastal Overlay Zone, up to an additional 15% development area is permitted only as follows and as long as the total development area does not exceed 40% of the premises, pursuant to the Steep Hillside Guidelines in the Land Development Manual.	
				SDMC 143.0142 a).4. E. In the approval of any Coastal Development Permit for a subdivision, and any other division of land, including lot splits, no encroachment into steep hillsides containing sensitive biological resources, or mapped as Viewshed or Geologic Hazard on Map C-720 shall be permitted, and the decision maker shall require a minimum 30' setback for Zone 1 brush management for coastal development from such steep hillsides.	
			Sensitive coastal bluffs	**SDMC 143.0143 f.** All development including buildings, accessory structures, and any additions to existing structures shall be setback at least 40' from the coastal bluff edge except as follows:	
				SDMC 143.0143 f. 1). The City Manager may permit structures to be located between 25' and 40' from the bluff edge where the evidence contained in a geology report indicates that the site is stable enough to support the development at the proposed distance from the coastal bluff edge and the project can be designed so that it will not be subject to or contribute to significant geologic instability throughout the anticipated life span of the primary structures, and no shoreline protection is required.	
			Other	Any development inside the MHPA which identifies the occurrence of the following species must include an impact avoidance area of 300' from any nesting site of Cooper's hawk (*Accipiter cooperii*), 1,500' from known locations of the southern pond turtle (*Clemmys marmorata pallida*), 900' from any nesting sits of northern harriers (*Circus cyaneaus*), 4,000' from any nesting sites of golden eagles (*Aquila chrysaetos*), and 300' from any occupied burrow of burrowing owls (*Speotyto cunicularia hypugaea*).	

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SAN DIEGO COAST	**Coronado Certified LUP 1/11/84**			No ESHA buffer or mitigation ratio policies	
	National City Certified LCP 4/9/91; LUP updated 1988, 1998		**Wetlands**	100' set back from landward edge of wetland. 100' buffer may be increased or decreased in consultation with the CDFG. **National City Harbor District Specific Area Plan - Policy 3.3.3.3 b**. All habitat buffer, landscaping, and/or revegetation plans for areas within 200' of Paradise Marsh and other delineated wetlands shall be prepared in consultation with the USFWS and CDFG, and with respect to habitat buffer plans, shall be prepared according to all habitat buffer standards set forth in Section 3.4. **City of National City - 3.3.3.1 a.** (Updated in 1998) New development is generally required to maintain at least a 100' setback from Paradise Marsh and the Harbor District's delineated wetlands mapped in Figure 3.1. **National City Harbor District Specific Area Plan - Policy 3.3.3.7. d.** In Subarea B, to the west of Paradise Marsh, north of 32nd Street, all habitable structures shall be set back at least 200' from the Paradis Marsh/National Wildlife Refuge boundary, and shall be steeped back, consistent with the height limits set forth in Chp. 4, not to exceed 35', to minimize visibility from the marsh floor.	
	Chula Vista Certified LCP 9/27/85; Certified LUP 1993		**Wetlands**	**Policy EM.1.G** Midbayfront North/Northwest Interface Area. Wetland Buffer - 100' plus Primary Zone Buffer at 100' with variable height berm to prevent visual disturbance of wildlife in refuge (200 ft. total), Public Park (active) Width varies - additional 100' minimum prior to residential use.	
	Imperial Beach Certified LCP 9/26/84		**Tijuana River Natural Estuarine Research Reserve**	**CO-5 Estuary. A).** Assist in the implementing the Estuaries Resource protection program which includes the following development restrictions: "A buffer area will be established for each development adjacent to wetlands. The width of a buffer area will vary depending upon an analysis. The buffer area should be a minimum of 100' unless the applicant can demonstrate to the satisfaction of the CDFG and USFWS that 100' is unnecessary to protect the resources of the habitat area. If the project involves substantial improvements or increased human impacts, such as a subdivision, a wider buffer area may be required. For a wetland, the buffer area should be measured from the landward edge of the wetland."	

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NORTH COAST	Del Norte County Certified LCP 10/12/83		Wetlands	100'	
			Offshore Rocks; Intertidal Areas; Estuaries; Riparian Vegetation Systems; Sea Cliffs; and Coastal Sand Dunes	Numeric Buffer N/A	
	Crescent City Certified LCP 3/1/83		Wetland Habitats	50'	
	Humboldt County Certified LCP 1/0/86		Wetlands and estuaries	Between 100' and 200'	Not more than 25% of the lot surface shall be effectively impervious.
	Trinidad City Certified LCP 2/3/80		Riparian Vegetation	100'	
	Arcata Certified LCP 10/10/87; Certified LUP 1995		Creeks	Numeric Buffer N/A	
	Eureka Certified LCP 7/26/84		Rivers, creeks, sloughs, gulches and assc. riparian habitats	Minimum of 100'. If necessary to protect the ESHA, the City may require a buffer greater than 100'.	
			Wetlands and estuaries including riparian areas and vegetated dunes	Minimum of 100'. If necessary to protect the ESHA, the City may require a buffer greater than 100'.	
			Indian Island, Daby Island, and the Woodley Island wildlife area	Minimum of 100'. If necessary to protect the ESHA, the City may require a buffer greater than 100'.	
			Waterbird rookeries and habitat for all rare or endangered species	Minimum of 100'. If necessary to protect the ESHA, the City may require a buffer greater than 100'.	
			Grazed or farmed wetlands (i.e., diked former tidelands)	Minimum of 100'. If necessary to protect the ESHA, the City may require a buffer greater than 100'.	
	Mendocino County Certified LCP 10/10/92		General ESHA	100', no less than 50'	1:01
	Fort Bragg A Certified LCP 2/26/88		General ESHA - Intertidal and marine areas, coastal bluffs, wetlands, and riparian habitats	At least 50'	Numeric mitigation ratio N/A
			Special vegetation	Numeric Buffer N/A	

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NORTH COAST	Point Arena Certified LCP 2/3/81		General ESHA	Minimum of 100'. No buffer area may be less than 50'	
			Riparian	100'	
			Wetlands	100'	
			Coastal bluff	100'	
			Rare plants	100'	
			Riparian (Arena Creek)	100'	
			Mountain Beaver Area (Arena Creek)	500' from the centerline of the creek	
			Other		Mitigation for noise generating projects within 500' of occupied habitat shall include the following restrictions from Dec. 15 through June 15. A. The action and related activities shall be greater than 100' from the occupied habitat.

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
NORTH CENTRAL COAST	Sonoma County Certified LCP 12/2/81		General ESHA	Minimum of 100'	
			Riparian	Development prohibited within riparian corridor or 100' from lowest line of vegetation whichever is greater.	
			Wetland Habitats	100'	
			Coastal Bluffs	100'	
			Heron Rookeries	600'	
	Marin County Certified LCP 6/3/81		Wetlands	100'	
			Riparian (streams)	The stream buffer area shall extend a minimum of 50' from the outer edge of the riparian vegetation, but in no case shall be less than 100' from the banks of the stream.	
			Dune and Sandy Beach	Numeric Buffer N/A	
			Wildlife Nesting and Roosting Areas	Numeric Buffer N/A	
			Other ESHA	Numeric Buffer N/A	
	San Francisco City/Co. Certified LCP 3/14/86			No ESHA Policies	
	Daly City Certified LCP 3/14/84		General ESHA	Minimum 10' buffer required for designated ESHA at Mussel Rock Park, Daisaku Ikeda Canyon, and Thornton State Beach.	
	Pacifica Certified LCP 6/7/94		General ESHA	Numeric Buffer N/A	
	Half Moon Bay Certified LCP 4/10/96		Riparian (and Wetlands)	50' buffer for perennial streams and 30' buffer for intermittent streams. 100' buffer for lakes, ponds, and other wet areas except for man-made ponds and reservoirs used for agricultural purposes. Riparian buffer may be reduced to 20' where no feasible alternative exists that would allow development on the site.	
			Rare plants	50'	

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NORTH CENTRAL COAST	San Mateo County Certified LCP 4/1/81		Wetlands	100' landward from the outermost line of wetland vegetation. This setback may be reduced to no less than 50' only where (1) no alternative development site or design is possible; and (2) adequacy of the alternative setback to protect wetland resources is conclusively demonstrated by a professional biologist to the satisfaction of the County and the CDFG. A larger setback shall be required as necessary to maintain the functional capacity of the wetland ecosystem.	
			Riparian corridors	50' outward for perennial streams and 30' outward for intermittent streams. b. Where no riparian vegetation exists along both sides of riparian corridors, extend buffer zones 50' from the predictable high water point for perennial streams and 30' from the midpoint of intermittent streams. c. Along lakes, ponds, and other wet areas, extend buffer zones 100' from the high water point except for manmade ponds and reservoirs used for agricultural purposes for which no buffer zone is designated.	

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CENTRAL COAST	Santa Cruz County Certified LCP 1/13/83		Riparian corridors	50' from the top of a distinct channel or physical evidence of high water mark of a perennial stream; (b) 30' from the top of a distinct channel or physical evidence of high water mark of an intermittent stream as designated on the General Plan maps and through field inspection of undesignated intermittent and ephemeral streams; (c) 100' of the high water mark of a lake, wetland, estuary, lagoon, or natural body of standing water; (d) The landward limit of a riparian woodland plant community; (e) Wooded arroyos within urban areas.	
			Wetlands	100'	
			Nesting Shorebirds	Discourage all activities within 100' of shorebird nesting sites during mating season (March-July). For Cliff Nesting Areas: 50' buffer from bluff top at or above nesting area shall be required.	
			SC Long-toed salamander	Numeric Buffer N/A	
			SC Cypress Groves	50'	
	Santa Cruz City Certified LCP 5/9/85		General ESHA	Numeric Buffer N/A	
			Creeks and Wetlands	100'	
			Sensitive species (Ohlone Tiger Beetle, Tidewater Goby, Burrowing Owl, California Brown Pelican, Monarch Butterfly, Pigeon Guillemot, Black Swift, Santa Cruz Tarplant, Peregrine Falcon)	Numeric Buffer N/A	

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CENTRAL COAST	Capitola Certified LCP 4/13/90		Soquel Creek	No new development shall be permitted within the banks of Soquel Creek and lagoon. New development shall be setback at least 35' from the western shoreline of Soquel Creek lagoon.	
			Riparian Vegetation	35'	
			Butterfly Habitat	Numeric Buffer N/A	
	Watsonville Certified LCP 11/15/88	Area A	Riparian	Minimum 50'	
		Area C	Riparian	100'	
			Wetland	100'	
		Area R	Riparian	100'	
			Wetland	100'	
		Area E	General ESHA	50'	
	Monterey County	Big Sur Coast Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	150'	
			Streams and rivers	150'	
			Other terrestrial habitats	Numeric Buffer N/A	1:1 mitigation ratio for tree replacement
		Carmel Area Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	100'	
			Streams and rivers	150' open space buffer zone on each side of the bank of perennial streams and 50' on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater.	
			Gowen cypress habitat	100'	
			Other terrestrial habitats	Numeric Buffer N/A	Carmel River Inn should not disturb existing riparian vegetation but if any if disturbed during construction it shall be replaced with equivalent materials on a 5:1 basis. 1:1 mitigation ratio for tree replacement;
			Riparian Corridors and other Terrestrial Wildlife Habitats	150' open space buffer zone on each side of the bank of perennial streams and 50' on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater.	
		Del Monte Forest Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	100'	
			Streams and rivers	100'	
			Other terrestrial habitats	Minimum 100' open space buffer when development is proposed on lands immediately adjoining areas shown to contain environmentally sensitive habitat. Within buffer zones, residential uses on existing legal lots of record, setback a minimum of 20' from the limit of riparian vegetation, are allowed only if no other feasible alternative exists and only if no other building site on the parcel.	1:1 replacement for Gowen Cypress at NCGA Golf Course

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CENTRAL COAST	Monterey County	North County Certified LCP 1/12/88	Coastal lagoons, estuaries, and wetlands	100'	
			Streams and rivers	150' on each side of the bank of perennial streams, and 50' on each side of the bank of intermittent streams, or the extent of riparian vegetation, whichever is greater.	
			Other terrestrial habitats	100'	1:1 mitigation ratio for tree replacement
	Marina Certified LCP 12/17/82		ESHA (General)	Numeric Buffer N/A	
			Dune Habitats	Numeric Buffer N/A	
			Vernal Pools	100'	
			Wetland Habitats	100'	
	Sand City Certified LCP 3/14/84		ESHA (General)	Numeric Buffer N/A	
			Dune Habitats	Numeric Buffer N/A	
	Seaside Certified LUP 1983			No ESHA buffer or mitigation ratio policies	
	Monterey City Certified LUPs only	Cannery Row Community Plan Certified LUP 2004*	Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Rocky Points & Intertidal Zones	Numeric Buffer N/A	
	Monterey City	Del Monte Community Plan Certified LUP 2003	ESHA (General)	Numeric Buffer N/A	
			Dune Habitats	Numeric Buffer N/A	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Native Grasslands	Numeric Buffer N/A	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. oak trees, sensitive plant species)	Numeric Buffer N/A	Removal of any significant tree (> 12" in diameter) will be allowed only in cases where life, property, or existing access is immediately threatened or where a diseased tree represents a threat of infection to surrounding trees.
			Rocky Points & Intertidal Zones	Numeric Buffer N/A	
			Subtidal	Numeric Buffer N/A	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	Monterey City	Harbor Community Plan Certified LUP 2003	ESHA (General)	Numeric Buffer N/A	
			Dune Habitats	Numeric Buffer N/A	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	The US Army shall be encouraged to preserve the remaining coast live oak community on the Presidio property. New development should not occur within 100' from the top of the creek bank or edge of riparian vegetation whichever is greater.	
			Rocky Points & Intertidal	Numeric Buffer N/A	
			Subtidal	Numeric Buffer N/A	
		Skyline Community Plan Certified LUP 2004	ESHA (General)	Numeric Buffer N/A	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Numeric Buffer N/A	(1) removal of any significant Monterey pine trees (living tree more than 12" in diameter / 38" in circumference) shall be in accordance with the forest management plan for the site. Such plan shall be prepared prior to any non-emergency tree removal; (2) Bishop Pine, retain all trees; (3) Coast Live Oak, same criteria as for Monterey pine.
			Wildlife Corridors	Numeric Buffer N/A	
	Pacific Grove Certified LUP 1989		Butterfly Trees	Numeric Buffer N/A	
			Dune Habitats	Numeric Buffer N/A	
			Wildlife Corridors	Numeric Buffer N/A	
	Carmel City Certified LCP 10/14/04		ESHA (General)	30'	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. oak trees, sensitive plant species)	No grading, compaction of soils, construction of building walls or placement of impermeable surfaces within 6' of significant trees Establish a 30' buffer along the perimeter of Mission Trails Natural Preserve.	
			Stream Habitats	Minimum of 100'; In Pescadero Canyon establish a 50' setback	
			Wetland Habitats	100'	
	San Luis Obispo County Certified LCP 7/8/87		ESHA (General)	100' for wetlands, 50' from urban streams, 100' rural streams	
			Wetlands	100'	
			Coastal Streams	100'	

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State-wide Buffer (Setback) and Mitigation Ratio Policies

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	San Luis Obispo County Certified LCP in 7/8/87	CZLUO	ESHA (General)	Numeric Buffer N/A	
			Wetlands	100'	
			Coastal Streams	In the urban areas (inside the URL) this setback shall be a minimum of 50'. In the rural areas (outside the URL) this setback shall be a minimum of 100'.	
	San Luis Obispo County Certified LCP in 7/8/87	North Coast Area Plan	ESHA (General)	Numeric Buffer N/A	
			Coastal Streams	100'	
			Terrestrial Habitats	Numeric Buffer N/A	
	San Luis Obispo County Certified LCP in 7/8/87	Estero Area Plan	ESHA (General)	Numeric Buffer N/A	
			Wetlands	For Tract 316 (Butte Drive Neighborhood): 50'; c. For the area between Butte Drive and Pecho Road: On the lots located between Butte Drive and Pecho Road all structures shall be located a minimum of 100' from the wetland and its riparian area. d. For the area between Pecho Road and Doris Avenue which is the south half of Cuesta Inlet (Blocks 4 and 5 Cuesta-by-the-Sea Tracts): 75'; e. For the area comprising the north half of Cuesta Inlet (Blocks 13, 14, and 35 of Cuesta-by-the-Sea Tract): 50 feet; f. For the area between Doris Avenue northeast to Tract 40 near First Street: 75'; g. For lots within Tract 40: 75' except where adjusted down to no closer than 50' from the wetland pursuant to Section 23.07.112d(2) of the CZLUO; h. For the area east and northeast of Tract 40: 50' except where adjusted pursuant to Section 23.07.172d(2) of the CZLUO. In no case shall development occur closer than 25' from the mean high tide line.	
			Coastal Streams	Cayucos Creek: 25' from either bank. Little Cayucos Creek: 20' from either bank. Old Creek: 50' from either bank. Willow Creek: 20' from either bank north of Ocean Avenue.	
				50'	
			Terrestrial Habitats	Morro Bay Kangaroo Rat Habitat (SRA) - 25'	
	San Luis Obispo County Certified LCP in 7/8/87	San Luis Bay Area Plan	ESHA (General)	Numeric Buffer N/A	
			Wetlands	25'	
			Coastal Streams	Numeric Buffer N/A	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
CENTRAL COAST	San Luis Obispo County Certified LCP in 7/8/87	South County Area Plan	Coastal Streams	100'	
			Terrestrial Habitats	20'	
	Morro Bay Certified LCP 10/24/84	Morro Bay Certified CZO 1997	ESHA (General)	100'	
			Dune Habitats	100' in non-urban areas and 50' in urban areas.	
			Stream Habitats	100' in non-urban areas and 50' in urban areas.	
			Wetland Habitats	100'; review area: minimum of 250'.	
	Morro Bay Certified LCP 10/24/84	Morro Bay Certified LUP 1982	ESHA (General)	Minimum of 100'	
			Dune Habitats	50' in urban areas; 100' in rural areas	
			Stream Habitats	1) a minimum buffer strip of 100' in rural areas; 2) a minimum buffer strip of 50' in urban areas.	
			Wetland Habitats	100'	
	Pismo Beach Certified LCP 4/13/84	Pismo Beach Certified CZO 1983; Certified LUP 1992	Butterfly Trees	50'	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	A tree protection zone shall be established for each tree that may be affected by the proposed development. The extent of this zone shall be calculated as one foot of radius for each inch of trunk diameter (measured 4.5' above natural grade).	
			Stream Habitats Pismo Creek	Minimum of 25'. Pismo Creek (west bank) minimum buffer width = 100' (Cypress St north to city limit), 25' (Cypress St to the ocean). Pismo Creek (East bank) 100' (Hwy 101 north to city limit), 50' (Hwy 101 to Dolliver St), 25' (Dolliver to the ocean).	
			Wetland Habitats - Pismo Marsh	100'	
	Grover Beach Certified LCP 2/9/84		Pismo Lake and Meadow Creek (Northeastern Branch)	No development shall occur within 50' of the dripline of a solid canopy oak woodland. Areas of Shagbark Manzanita shall be left intact with other associated shrubs undisturbed. A buffer of natural vegetation 25' thick shall be maintained around the area of Shagbark Manzanita.	
			Meadow Creek (Western Branch)	50'	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	CZO For All Areas Certified 8/82	**ESHA (General)**	100'	2:1
			Butterfly Trees	50'	
			Dune Habitats	Numeric Buffer N/A	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Native Grasslands	Numeric Buffer N/A	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Numeric Buffer N/A	
			Rocky Points & Intertidal	Numeric Buffer N/A	
			Seabird Nesting and Roosting	Numeric Buffer N/A	
			Stream Habitats	Minimum 100' in rural areas; Minimum 50' in urban areas	
			Subtidal	Numeric Buffer N/A	
			Vernal Pool	Presumably 100' wetland buffer applies but it is listed separately.	
			Wetland Habitats	100'	
		Summerland Community Plan Certified 1993*	**ESHA (General)**	100'	
			Butterfly Trees	50'	
			Dune Habitats	Numeric Buffer N/A	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Native Grasslands	Numeric Buffer N/A	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	100'	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Summerland Community Plan Certified 1993*	Rocky Points & Intertidal	Numeric Buffer N/A	
			Seabird Nesting and Roosting	Numeric Buffer N/A	
			Specimen Trees (incl. Known raptor nesting or key roosting sites)	Numeric Buffer N/A	
			Stream Habitats	100'	
			Subtidal	Numeric Buffer N/A	
			Vernal Pool	100'	
			Wetland Habitats	100'	
			White-Tailed Kite	Numeric Buffer N/A	
			Wildlife Corridors	Numeric Buffer N/A	
	Santa Barbara County Certified LCP 8/11/82	Montecito Community Plan Certified 1993	ESHA (General)	Numeric Buffer N/A	
			Butterfly Trees	50'	
			Dune Habitats	Numeric Buffer N/A	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Native Grasslands	Numeric Buffer N/A .	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	Minimum. 25'.	
			Rocky Points & Intertidal	Numeric Buffer N/A	
			Seabird Nesting and Roosting	Numeric Buffer N/A	
			Specimen Trees (incl. Known raptor nesting or key roosting sites)	Numeric Buffer N/A	
			Stream Habitats	100' in rural areas; 50' in urban areas.	
			Subtidal	Numeric Buffer N/A	
			Vernal Pool	100'	
			Wetland Habitats	100'	
			White-Tailed Kite	Numeric Buffer N/A	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Montecito Community Plan Certified 1993	Wildlife Corridors	Numeric Buffer N/A	
		Goleta Community Plan Certified 1994	ESHA (General)	Numeric Buffer N/A	
			Butterfly Trees	50'	
			Dune Habitats	Numeric Buffer N/A	
			Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Native Grasslands	Minimum 10' vegetated buffer from native grasslands.	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	25' buffer from native woodlands in urban and inner rural areas and existing developed rural neighborhoods; 50' buffer from native woodlands in areas zoned MountainousGolMin. 10' vegetated buffer from coastal sage scrub. Areas of one or more acres of coastal sage scrub shall be preserved to the maximum extent feasible.	
			Rocky Points & Intertidal	Numeric Buffer N/A	
			Seabird Nesting and Roosting	Numeric Buffer N/A	
			Specimen Trees (incl. Known raptor nesting or key roosting sites)	Numeric Buffer N/A	
			Stream Habitats	25' from edge of riparian veg or top of bank, whichever is further, for non-structural agricultural expansion where evidence of historic legal ag use within the previous ten-year period; 50' from top of bank for new ag buildings; 50' from top-of-bank or edge of riparian veg, whichever is further for development w/in urban, inner rural and existing developed rural neighborhoods. 200' from edge of existing riparian veg on parcels zoned Mountainous-Gol.	
			Subtidal	Numeric Buffer N/A	
			Vernal Pool	100'	
			Wetland Habitats	100'	
			White-Tailed Kite	Numeric Buffer N/A	
			Wildlife Corridors	Numeric Buffer N/A	
			ESHA (General)	Numeric Buffer N/A	
			Butterfly Trees	50'	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Santa Barbara County Certified LCP 8/11/82	Goleta Community Plan Certified 1994	Dune Habitats	Numeric Buffer N/A	
		Toro Canyon Plan Certified 2004	Marine Mammal Rookery & Hauling Grounds	Numeric Buffer N/A	
			Native Grasslands	25'	
			Native Plant Communities (coastal sage scrub, chaparral, coastal bluff, oak woodland & indiv. Oak trees, sensitive plant species)	25'	
			Rocky Points & Intertidal	Numeric Buffer N/A	
			Seabird Nesting and Roosting	Numeric Buffer N/A	
			Specimen Trees (incl. Known raptor nesting or key roosting sites)	Numeric Buffer N/A	
			Stream Habitats	100' in Rural areas and 50' in Urban.	
			Subtidal	Numeric Buffer N/A	
			Vernal Pool	100'	
			Wetland Habitats	100'	
			White-Tailed Kite	Numeric Buffer N/A	
			Wildlife Corridors	Numeric Buffer N/A	
	Guadalupe City Certified LCP 5/9/91 - 50 acres, 1/2 of a single parcel.			No buffer policies.	
	City of Goleta	No Certified LCP			
	UCSB Certified LRDP 1990		Wetlands	100'	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	**UCSB (LRDP Amendment 1-06, Approved but not yet officially certified by UCSB)**		**Wetlands**	Buffer of 100' for everywhere but North parcel where 25'.	Lost wetlands or wetlands with less than 100' buffer shall be mitigated at 4:1 ratio. 1:1 of this ratio can occur in place in case of just reduced buffer. Mitigation must be onsite if feasible.
			ESHA - Including Riparian, Coastal Bluff Scrub, Native Grasslands, Monarch Butterfly Aggregation or Significant Roosting Areas; Dune Habitat; Beaches; etc.	Buffer 100' except North Parcel where is 10' for native grassland, 50' for riparian, and 25' from monarch habitat. Lost ESHA or ESHA with less than a 100' buffer shall be mitigated at 3:1 ratio. 1:1 of this ratio can occur in place in case of just reduced buffer. Mitigation must be onsite if feasible.	Lost ESHA or ESHA with less than a 100' buffer shall be mitigated at 3:1 ratio. 1:1 of this ratio can occur in place in case of just reduced buffer. Mitigation must be onsite if feasible.
	Santa Barbara City No Certified LCP	**Buffer Policies: LUP and CZO Certified 1981 and 1986 respectively**	**Stream Habitats**	25'	
			Wetland Habitats	N/A	
			ESHA (General)	Numeric Buffer N/A	
		Buffer Policies: Goleta Slough Component LUP and IP Certified 1982 and 1991 respectively	**Wetland Habitats**	100'	
		Mitigation Ratios: LUP and CZO Certified 1981 and 1986 respectively	**Stream Habitats**		Any tree removed within the creek setback area shall be replaced on a 2:1 basis with an appropriate species except trees removed which are deemed a hazard by flood control do not have to be replaced.
	Carpinteria Certified LCP 1/6/82	**CZO Certified 1/6/82**	**Butterfly Habitat**	Minimum 50'	
			ESHA (General)	Numeric Buffer N/A	
			Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)	Numeric Buffer N/A	
			Rocky Points & Intertidal Areas	Numeric Buffer N/A	
			Creeks and Riparian Habitats	Superceded by creeks preservation program standards.	
			Subtital Reef	Numeric Buffer N/A	
			Wetland Habitats	100'	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Carpinteria Certified LCP 1/6/82	Updated LUP Certified 2002	**Butterfly Habitat**	50'	
			Carpinteria Bluffs (windrows)	Minimum 10' setback from the dripline of windrow trees.	
			Carpinteria Bluffs (other)	Numeric Buffer N/A	
			Habitat used by Sensitive, Rare, Threatened or Endangered Species	Numeric Buffer N/A	
			Nesting and Roosting Trees used by Sensitive, Rare, Threatened or Endangered Raptors on the Carpinteria Bluffs or on parcels adjacent to Carpinteria Creek	300'	
			ESHA (General)	Numeric Buffer N/A	
			Harbor Seal Rookery & Hauling Grounds	Minimum 35' buffer area on beach around any animal or area where seals have congregated year round. 750' buffer on either side of the area during pupping season (Dec. 1 - May 31) or such greater period as is established by Council Resolution. Minimum 30' setback from the edge of the bluff overlooking the hauling grounds.	
			Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)	Numeric Buffer N/A	
			Rocky Points & Intertidal Areas	Numeric Buffer N/A	
			Creeks and Riparian Habitats	50'	
			Subtital Reef	Numeric Buffer N/A	
			Wetland Habitats	100'	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	Carpinteria Certified LCP 1/6/82	Previous LUP Certified in 1980	Wetland Habitats	100'	
			ESHA (General)	Numeric Buffer N/A	
			Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)	Numeric Buffer N/A	
			Rocky Points & Intertidal Areas	Numeric Buffer N/A	
			Subtidal Reef	Numeric Buffer N/A	
	Carpinteria Certified LCP 1/6/82	Creeks Preservation Program Certified 2004	Habitat used by Sensitive, Rare, Threatened or Endangered Species	Numeric Buffer N/A	
			Nesting and Roosting Trees used by Sensitive, Rare, Threatened or Endangered Raptors on the Carpinteria Bluffs or on parcels adjacent to Carpinteria Creek	300'	
			Significant Native Plant Communities (coastal sage scrub, riparian scrub, coastal bluff scrub, and native oak woodland)	50'	
	Carpinteria Certified LCP 1/6/82	Bluffs Master Program Certified 1996	Carpinteria Bluffs (windrows)	10' buffer, measured from the dripline	
			Carpinteria Bluffs (other)	25' buffer around open space areas on the Carpinteria Bluffs containing existing coastal sage scrub habitat. The buffer may be reduced to 20' for the area of coastal sage scrub adjacent to the riparian habitat in Bluffs Area II, provided the equivalent square footage of habitat to equa the 25' buffer is compensated for through in-kind restoration of coastal sage scrub within the Bluffs. Light recreation, revegetation projects, and specifically permitted trail development allowed within buffer zones.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	**Carpinteria Certified LCP 1/6/82**	**Bluffs Master Program Certified 1996**	**Harbor Seal Rookery & Hauling Grounds**	Minimum 35' buffer area on beach around any animal or area where seals have congregated year round. 750' buffer on either side of the area during pupping season (Dec. 1 - May 31) or such greater period as is established by Council Resolution. Minimum 30' setback from the edge of the bluff overlooking the hauling grounds.	
			Rocky Points & Intertidal Areas	Numeric Buffer N/A	
	Ventura County Certified LCP 10/26/83	**North Coast**	**Tidepools and Beaches**	Coastal Area Plan (North Coast), A.7. The adopted State "Guidelines for Wetlands and Other Wet, Environmentally Sensitive Habitats" will be used when analyzing any projects that may impact or alter tidepools.	
			Creek Corridors	Coastal Area Plan (North Coast), B.1. All projects on land either in a stream or creek corridor or within 100' of such corridor (buffer area), shall be sited and designed to prevent impacts which would significantly degrade riparian habitats, and shall be compatible with the continuance of such habitats.	
		Central Coast	**Coastal Dunes**	Numeric Buffer N/A	
			Wetlands	Coastal Area Plan (Central Coast) , B.1. All projects on land either in a designated wetland or within 100' of such designation, shall be sited and designed to prevent impacts which would significantly degrade the viability of the wetland. The purposes of such projects shall be limited to those in Section 30233 (a) of the Coastal Act.	
		South Coast	**Coastal Dunes**	Numeric Buffer N/A	
			Tidepools	Coastal Area Plan (South Coast), A.6. The adopted State "Guidelines for Wetlands and Other Wet, Environmentally Sensitive Habitats" will be used when analyzing any projects that may impact or alter tidepools.	
			Creek Corridors	Coastal Area Plan (South Coast), C.2. All projects on land either in a stream or creek corridor or within 100' of such corridor (buffer area), shall be sited and designed to prevent impacts which would significantly degrade riparian habitats, and shall be compatible with the continuance of such habitats.	

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH CENTRAL COAST	**Ventura County Certified LCP 10/26/83**	**South Coast**	**Santa Monica Mountains**	Coastal Area Plan (South Coast), D.6. All identified ESHA and/or slopes over 30% shall be permanently maintained in their natural state through an easement or other appropriate means and shall be recorded on the final tract or parcel map or on a grant deed as a deed restriction submitted with the final map. Development shall not be permitted in areas over 30% slope.	
			Mugu Lagoon and San Nicholas Island		
	San Buenaventura Certified LCP 1/2/84	**CZO Certified 1982**	**Streams/Riparian Habitat**	100'	
			ESHA (General)	100'	
	San Buenaventura Certified LCP 1/2/84	**LUP Certified 1990**	**Streams/Riparian Habitat**	100'	
			ESHA (General)	Numeric Buffer N/A	
	San Buenaventura Certified LCP 1/2/84	**Downtown Specific Plan Certified 1994**	**Streams/Riparian Habitat**	100'	
	Oxnard City Certified LCP 4/10/85; Certified LUP 1982/2000		**Wetlands, Estuaries. Streams, Riparian Habitats, Lakes**	100'	1:1
	Port Hueneme Certified LCP 11/28/84	**J Street Canal**	**ESHA (General)**	100'	
	L.A. Co./Malibu Mtns.	**No Certified LCP**			
	Malibu City Certified LCP 9/13/02		**Wetlands, Streams/Riparian, Woodlands, Coastal Bluffs, Coastal Sage Scrub, Chaparral, Other**	100'. In Point Dume area, new development shall be designed to avoid encroachment on slopes of 25% grade or steeper.	3:1 for seasonal wetlands, freshwater marsh and riparian areas, and at a ratio of 4:1 for vernal pools and saltmarsh
			Native Trees		10 replacement trees for every 1 tree removed. Where on-site mitigation is not feasible, off-site mitigation shall be provided through planting replacement trees or by providing an in-lieu fee based on the type, size and age of the tree(s) removed.

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH COAST	Los Angeles County	Santa Catalina Island (Certified LCP 1/9/90)	Marine and tidal areas of special biological significance	25' from MHTL or beach	No policy or standard
			Catalina Harbor	100'	No policy or standard
			Significant Ecological Areas	Numeric Buffer N/A	No policy or standard
			Riparian areas	100'	No policy or standard
	Los Angeles City	No Certified LCP; LUP		No buffer, setback, or mitigation ratio policies	
	Los Angeles City	Venice Beach No Certified LCP	Beach	No policy or standard	No policy or standard
			Canals	10' - 15'	No policy or standard
			Ballona Lagoon	East bank - 40'; West bank - 10' - 25'	No policy or standard
	Santa Monica	No Certified LCP; LUP		No buffer, setback, or mitigation ratio policies	
	El Segundo Certified LCP 12/4/82			No buffer, setback, or mitigation ratio policies	
	Manhattan Beach Certified LCP 5/12/95		No ESHA in coastal zone	No policy or standard	No policy or standard
	Hermosa Beach	No Certified LCP; LUP, has no ESHA identified in the City			

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LCP - Local Coastal Plan
LUP - Land Use Plan
IP - Implementation Plan
CZO - Coastal Zone Ordinance

	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH COAST	Redondo Beach	Coastal Zone 1 Certified LCP 9/1103	No ESHA in coastal zone		
		Coastal Zone 2 - "Heart of the City" No Certified LCP			
	Marina del Rey/Ballona Certified LCP 12/13/90			No buffer, setback, or mitigation ratio policies	
	Torrance	No Certified LCP			
	Playa Vista No Certified LCP		Wetland	100' buffer between wetlands and environmentally sensitive habitat areas and development. 50' structural setback from the buffer area. Buffer and setbacks do not apply to the existing gas company facility and to those portions of the bluffs south of Cabora Drive extending from approx. the dedicated, unimproved right-of-way of Hastings Ave. westerly to Zayanta Dr. and from Falmouth Ave. westerly to Pershing Dr. Within 100' of the 209 acre Habitat Management Area (ecological support areas, combined with the wetlands, the buffers and the site for the interpretive center) there is a height limit of 35' and a structural setback of 50', except as noted above.	No mitigation ratios
	Palos Verdes Estates Certified LCP 12/12/91			No buffer policies	
	Rancho Palos Verdes Certified LCP 4/27/83			No buffer policies	

TABLE 2 - Summary Table
State-wide Buffer (Setback) and Mitigation Ratio Policies

Abbreviation definitions
ESHA - Environmentally sensitive habitat
N/A - Not Applicable to this area
Numeric Buffer N/A - Habitat variety exists, though no numeric standard or policy is proposed
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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH COAST	Long Beach Certified LCP 5/21/81	Alamitos Bay		No policy or standard	No policy or standard
		Marine Stadium		No policy or standard	No policy or standard
		Colorado Lagoon		No policy or standard	No policy or standard
		Sims Pond		No policy or standard	No policy or standard
		SEADIP Subarea 29		100' from wetlands; 50' from riparian	4:1 for saltmarsh; 3:1 for riparian
		Los Cerritos Wetlands		25' from wetland (not certified)	1:1 (not certified)
	Avalon Certified LCP 5/21/81		Wrigley Botanical Gardens	No policy or standard	No policy or standard
	Orange County		Riparian habitat	50'	
	Seal Beach	No Certified LCP, LUP, or IP			
	Huntington Beach Certified LCP 3/15/84		Wetlands	100'	No numerical standard identified.
			Other ESHA	No numerical standard identified	"No net loss" at a minimum (i.e. 1:1)
	Costa Mesa	No Certified LCP, LUP, or IP			
	Newport Beach No Certified LCP or IP; Certified LUP 2/8/06		Terrestrial ESHA	50'	
			Coastal Sage Scrub		2:1
			Coastal Sage Scrub occupied by California gnatcatchers or significant populations of other rare species		3:1
			Southern Maritime chaparral		3:1
			Maritime succulent scrub		3:1
			Native grassland		3:1
			Southern mixed chaparral		1:1

TABLE 2 - Summary Table

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SOUTH COAST	Newport Beach No Certified LCP or IP; Certified LUP 2/8/06		Wetlands	100'	No less than 2:1
			Seasonal wetlands		3:1
			Freshwater marsh		3:1
			Riparian		3:1
			Vernal pools		4:1
			Saltmarsh		4:1
			Eelgrass		1.2:1
	Irvine City Certified LCP 3/2/82	UC Irvine not certified	Wetlands	No policy or standard	
	Laguna Beach Certified LCP 1/13/93		Streams	25'	
	Aliso Viejo Certified LCP 9/29/83			No ESHA policies	
	Launa Niguel Certified LCP's for South Laguna & Aliso Creek 11/14/90		Riparian Vegetation	100' setback from riparian vegetation. Development shall maintain a minimum 50' setback from any public trails	
	Dana Point Certified LCP 9/13/89		Wetland	100'	
	San Clemente No Certified LCP; Certified LUP 1996		General ESHA	Numeric Buffer N/A	
			Wetland	Numeric Buffer N/A	
			Coastal Sage Scrub	15'	No numerical standard identified
			Riparian Vegetation	50'	No numerical standard identified

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SAN DIEGO	San Diego County/San Dieguito No Certified LCP		Lagoons and Riparian Habitat	Numeric Buffer N/A	
	Oceanside Certified LCP 3/11/86	City of Oceanside	Sensitive habitat areas including wetlands, riparian areas, and rare and endangered plants	100'	No numerical standard identified
	Oceanside Certified LCP 3/11/86	San Luis Rey River LUP Supplement and Implementation Phase for the San Luis Rey River – State Hwy 76	General ESHA and Riparian habitat	75'	1:1
			Wetlands	100'	
	Carlsbad Certified LCP - major amendment 2003 - HMP		Coastal sage scrub	20'	2:1 Mitigation (including onsite preservation) for coastal sage scrub occupied by the California gnatcatcher, and 1:1 for unoccupied coastal sage scrub, mixed coastal sage scrub/chaparral and chaparral other than southern maritime chaparral.
			Other rare native vegetation: southern maritime chaparral, southern coastal bluff scrub, maritime succulent scrub, and native grassland	20'	3:1 For Southern maritime chaparral, southern coastal bluff scrub, maritime succulent scrub and native grassland.
			Riparian areas	50'; if a riparian area is associated with steep slopes (>25%), the 50' buffer shall be measured from the top of the slope.	3:1
			Oak woodlands	20'	
			Vernal pools, other seasonal wetlands, and saltmarsh	100'	4:1

TABLE 2 - Summary Table

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SAN DIEGO	Carlsbad Certified LCP - major amendment 2003 - HMP		Steep slopes	For steep slopes not associated with a riparian area, and for nonsteep areas (<25%) with native vegetation, a minimum 20 ' buffer shall be required.	
			Other	No development, grading or alterations, including clearing of vegetation, shall occur in the buffer area, except for: fuel modification Zone 3 to a maximum of 20' for upland and non-riparian habitat. No fuel mod shall take place within 50' of riparian areas, wetlands, or oak woodland. Recreation trails and public access pathways may be permitted in the required buffer area within the 15' closest to the adjacent developable area, provided that the construction of the trails and/or pathways and their proposed uses are consistent with the preservation goals for adjacent habitat, and that appropriate measures are taken for their physical separation from sensitive areas.	Numeric mitigation ratio N/A
	Encinitas Certified LCP 5/11/95		Lagoon Wetlands	100'	1:1
			Riparian Wetlands	50'	1:1
			Other ESHA	Numeric Buffer N/A	
	Solana Beach	No Certified LCP			
	Del Mar Certified LCP 9/11/01		Wetlands	100'	
	City of San Diego IP effective 1/2000		Sensitive biological resources	Numeric Buffer N/A	
			Wetlands	100'	
			Steep hillsides	Steep hillsides shall be preserved in their natural state, except that development is permitted on steep hillsides if necessary to achieve a maximum development area of 25% of the premises. Minimum 30' setback for Zone 1 brush management for coastal development from such steep hillsides.	
			Sensitive coastal bluffs	Setback at least 40'	
			Other	300' from any nesting site of Cooper's hawk, 1,500' from known locations of the southern pond turtle, 900' from any nesting sits of northern harriers, 4,000' from any nesting sites of golden eagles, and 300' from any occupied burrow of burrowing owls.	

TABLE 2 - Summary Table

State-wide Buffer (Setback) and Mitigation Ratio Policies

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	CITY/COUNTY	SUB-AREA	ESHA CATEGORY	BUFFER POLICIES	MITIGATION RATIO POLICIES
SAN DIEGO	**Coronado Certified LUP 1/11/84**			No buffer, setback, or mitigation ratio policies	
	National City Certified LCP 4/9/91; LUP updated 1988, 1998		**Wetlands**	100'	
	Chula Vista Certified LCP 9/27/85; Certified LUP 1993		**Wetlands**	Wetland Buffer - 100' plus Primary Zone Buffer at 100' with variable height berm to prevent visual disturbance of wildlife in refuge (200 ft. total), Public Park (active) Width varies - additional 100' minimum prior to residential use.	
	Imperial Beach Certified LCP 9/26/84		**Tijuana River Natural Estuarine Research Reserve**	100'	

4-STB-14-0965

County of Santa Barbara
Planning and Development
Glenn S. Russell, Ph.D., Director
Dianne Black, Assistant Director

NOTICE OF FINAL ACTION

October 28, 2014

On October 15, 2014 Santa Barbara County took final action on the appealable development described below:

☑ Appealable Coastal Development Permit [14CDH-00000-00007]

Project Agent:
Sophie Calvin
P.O. Box 50716
Santa Barbara, CA 93150
(805) 969-0559

Property Owner:
Mrs. Arnold Schlesinger
9595 Wilshire Blvd. #710
Beverly Hills, CA 90212
(310) 367-5902

Project Description: The proposed project is for a Coastal Development Permit to allow construction of a new private water well to be used for on-site irrigation.

Location: The project involves AP No. 007-374-006, located at 1685 Fernald Point Lane, in the Montecito Community Plan area, First Supervisorial District, Santa Barbara County, California.

The receipt of this letter and the attached materials start the 10 working day appeal period during which the County's decision may be appealed to the Coastal Commission. Appeals must be in writing to the appropriate Coastal Commission district office.

Please contact J. Ritterbeck, the case planner at (805) 568-3509 if you have any questions regarding the County's action or this notice.

J. Ritterbeck

J. Ritterbeck, Project Planner

Oct. 28, 2014
Date

Attachments:
Final Action Letter dated October 22, 2014

cc: Sophie Calvin, P.O. Box 50716, Santa Barbara, CA 93150
Mrs. Arnold Schlesinger, 9595 Wilshire Blvd. #710, Beverly Hills, CA 90212

Exhibit 8
Final Local Action Notice
A-4-STB-14-0060

123 E. Anapamu Street, Santa Barbara, CA 93101 • Phone: (805) 568-2000 • FAX: (805) 568-2030
624 West Foster Road, Santa Maria, CA 93455 • Phone: (805) 934-6250 • FAX: (805) 934-6258
www.sbcountyplanning.org

COUNTY OF SANTA BARBARA
CALIFORNIA

MONTECITO PLANNING COMMISSION

COUNTY ENGINEERING BUILDING
123 E. ANAPAMU STREET
SANTA BARBARA, CALIFORNIA 93101-2058
PHONE: (805) 568-2000
FAX: (805) 568-2030

October 22, 2014

Sophie Calvin
P.O. Box 50716
Santa Barbara, CA 93150

MONTECITO PLANNING COMMISSION
HEARING OF OCTOBER 15, 2014

RE: Schlesinger Private Water Well; 14CDH-00000-00007

Hearing on the request of Sophie Calvin, agent for the applicant, Mrs. Arnold Schlesinger, to consider Case No. 14CDH-00000-00007 [application filed on April 16, 2014] for a Coastal Development Permit in compliance with Section 35-169 of the Article II Coastal Zoning Ordinance, on property zoned 1-E-1, to allow construction of a new private water well; and to determine the project is exempt from CEQA pursuant to Section 15303 of the State Guidelines for the Implementation of the California Environmental Quality Act. The application involves AP No. 007-374-006, located at 1685 Fernald Point Lane, in the Montecito Community Plan area, First Supervisorial District. (Continued from 9/17/14)

Dear Ms. Calvin:

At the Montecito Planning Commission hearing of October 15, 2014, Commissioner Overall moved, seconded by Commissioner Phillips and carried by a vote of 3 to 1 (Brown no; Burrows absent) to:

1. Make the required findings for approval of the project, including CEQA findings, as specified in Attachment 1 of the staff memorandum, dated October 7, 2014;

2. Determine that the project is exempt from CEQA pursuant to Section 15303 of the CEQA Guidelines, as specified in Attachment 3 of the staff memorandum, dated October 7, 2014; and

3. Approve the project, case number 14CDH-00000-00007, subject to the Conditions of Approval, as specified in Attachment 2 of the staff memorandum, dated October 7, 2014, and as revised at the hearing of October 15, 2014.

At the Montecito Planning Commission hearing of October 15, 2014, the following changes were made to Attachment 2, Conditions of Approval.

8. **Wells-01 Meter Records:** ~~The water well used onsite shall be monitored by the use of an hourly flow meter that will record data for reporting bi-annually (May 15-June 1 and November 15-December 1). Static water level shall be recorded at the same time as the water production is recorded.~~ A flow meter that meets Montecito Water District (MWD) requirements shall be installed on the well. MWD shall have access two times per year to monitor and obtain water samples and other available information about the well.
   PLAN REQUIREMENTS: The Owner/Applicant shall record ~~an agreement subject to P&D approval which agrees to the above condition and describes any future mitigation necessary should water quality degrade~~ a Right of Entry for the benefit of the MWD to allow the District to perform required monitoring.
   TIMING: The ~~agreement~~ Right of Entry shall be recorded with the County Recorder prior to issuance of the Coastal Development Permit.
   ~~MONITORING: The Owner/Applicant shall submit readings from meters to P&D Permit Compliance Monitoring staff and the Montecito Water District every six months for the life of the project. P&D shall review reports and determine if future action is necessary.~~

20. **Backflow Device Required.** A backflow device shall be installed at the Montecito Water District meter in accordance with Water District requirements and shall be enrolled in the District's Cross Connection Protection program.

The attached findings and conditions reflect the Montecito Planning Commission's actions of October 15, 2014.

The action of the Montecito Planning Commission on this project may be appealed to the Board of Supervisors by the applicant or any aggrieved person adversely affected by such decision. To qualify as an aggrieved persons the appellant, in person or through a representative, must have informed the Montecito Planning Commission by appropriate means prior to the decision on this project of the nature of their concerns, or, for good cause, was unable to do so.

Appeal applications may be obtained at the Clerk of the Board's office. The appeal form must be filed along with any attachments to the Clerk of the Board. In addition to the appeal form a concise summary of fifty words or less, stating the reasons for the appeal, must be submitted with the appeal. The summary statement will be used for public noticing of your appeal before the Board of Supervisors. The appeal, which shall be in writing together with the accompanying applicable fee must be filed with the Clerk of the Board of Supervisors within the 10 calendar days following the date of the Montecito Planning Commission's decision. In the event that the last day for filing an appeal falls on a non-business of the County, the appeal may be timely filed on the next business day. This letter or a copy should be taken to the Clerk of the Board of Supervisors in order to determine that the appeal is filed within the allowed appeal period. **The appeal period for this project ends on Monday, October 27, 2014 at 5:00 p.m.**

Final action by the County on this project may be appealed to the Coastal Commission by the applicant, an aggrieved person, as defined above, or any two members of the Coastal Commission within the 10 working days following the date the County's Notice of Final Action is received by the Coastal Commission.

Sincerely,

Dianne M. Black

Dianne M. Black
Secretary to the Montecito Planning Commission

cc: Case File: 14CDH-00000-00007
Montecito Planning Commission File
Shana Gray, California Coastal Commission, 89 S. California Street, Suite 200, Ventura, CA 93001
Montecito Association, P.O. Box 5278, Montecito, CA 93150
Owner: Mrs. Arnol Schlesinger, 9595 Wilshire Blvd. #710, Beverly Hills, CA 90212
Supervisor Carbajal, First District
County Chief Appraiser
County Surveyor
Fire Department
Flood Control
Community Services Department
Public Works
Environmental Health Services
APCD
Commissioner Eidelson
Commissioner Burrows
Commissioner Phillips
Commissioner Overall
Commissioner Brown
Brian Pettit, Deputy County Counsel
J. Ritterbeck, Planner

Attachments: Attachment 1 – Findings for Approval
Attachment 2 – Approved Coastal Development Permit w/ Conditions of Approval

DMB/dmv

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ATTACHMENT 1

FINDINGS FOR APPROVAL

1.0 CEQA FINDINGS

The project is categorically exempt from environmental review under the California Environmental Quality Act (CEQA), pursuant to Section 15303 [New Construction or Conversion of Small Structures] of the State CEQA Guidelines. See Attachment 3 for a more detailed discussion.

2.0 ADMINISTRATIVE FINDINGS

In compliance with Section 35-169.5.2 of the Article II Zoning Ordinance, prior to the approval or conditional approval of an application for a Coastal Development Permit subject to Section 35-169.4.2, the review authority shall first make all of the following findings:

1. **The proposed development conforms:**

   a. **To the applicable provisions of the Comprehensive Plan, including the Coastal Land Use Plan;**

   The project will be in compliance with Coastal Act Policy 30251 and Local Coastal Plan Policy 4-4, which require that scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance and that new structures be compatible with the scale and character of the surrounding neighborhood. The proposed water well will be constructed in proportion (size, bulk, scale and height) to the surrounding development and consistent with the applicable Article II zoning requirements for the E-1 zone. The project will also be in compliance with Coastal Act Policy 30211, which requires that development not interfere with the public's right of access to the sea.
   Additionally, the project will be in compliance with Local Coastal Plan Policy 2-4, which states that:

   "Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available."

   The private water well is proposed to service existing landscaping on the subject parcel, not new development. Also, given the nature of the proposed development (i.e., the private water well), it does not make sense to construe the policy as requiring that the well be serviced by a public water district; in this case, the Montecito Water District. For both of these reasons, the project can be found consistent with Policy 2-4.

   b. **With the applicable provisions of this Article or the project falls within the limited exceptions allowed under Section 35-161 (Nonconforming Use of Land, Buildings and Structures).**

   The subject property is located within a coastal, urban, developed neighborhood in the E-1 zone district. Pursuant to Article II, Section 35-71.1:

   "The purpose of this district is to reserve appropriately located areas for family living at a reasonable range of population densities consistent with sound standards of public health, welfare, and safety. It is the intent of this district to protect the residential characteristics of an area and to promote a suitable environment for family life."

   The water well will be consistent with surrounding residential development and uses. Furthermore, the development will be located in an interior area of the lot and will be constructed within an area of existing ornamental landscaping and in close proximity to other hardscape features, including a concrete pad for pool equipment. Therefore, the proposed project will be consistent with the purpose and intent of the E-1 zone.

2. **The proposed development is located on a legally created lot.**

   The subject parcel is considered to be a legally created lot for planning purposes as it is currently developed with an existing single-family dwelling and has been validated by prior issuance of County Building Permits. Therefore, this finding can be made.

3. **The subject property and development on the property is in compliance with all laws, rules and regulations pertaining to zoning uses, subdivisions, setbacks and any other applicable provisions of this Article, and any applicable zoning violation enforcement fees and processing fees have been paid. This subsection shall not be interpreted to impose new requirements on legal nonconforming uses and structures in compliance with Division 10 (Nonconforming Structures and Uses).**

   The property is in compliance with all laws, rules and regulations pertaining to uses within the E-1 zone district, subdivisions, required setbacks and all other applicable provisions of Article II, the Coastal Zoning Ordinance. Therefore this finding can be made.

4. **The proposed development will not significantly obstruct public views from any public road or from a public recreation area to, and along the coast.**

   The proposed water well would be constructed on a portion of the site that is already developed with other hardscape features, including a detached garage and existing driveway. All proposed components of the project are below the roof-line of the existing dwelling and would not add any new adverse effects to existing views from the beach to the mountains. Additionally, as proposed, the project would not obstruct any public views from a public recreation area to, and along the coast. Therefore, this finding can be made.

5. **The proposed development is compatible with the established physical scale of the area.**

   The project would be similar in size and scope to other projects that have been constructed in the surrounding residential area and would not exceed allowable ambient noise levels. Therefore, the proposed development would be compatible with the established physical scale of the area, and this finding can be made.

6. **The proposed development will comply with the public access and recreation policies of this Article and the Comprehensive Plan including the Coastal Land Use Plan.**

   No public access to any recreation areas would be affected by the proposed project. As such, the proposed project will be in compliance with all applicable public access and recreation policies of Article II and the Comprehensive Plan, including the Coastal Land Use Plan and the Montecito Community Plan. Therefore, this finding can be made.

7. **In compliance with Sec. 35-60.5, adequate public services and resources shall be available to serve the proposed development.**

   The parcel will continue to be served by the Montecito Water District, the Montecito Sanitary District and the Montecito Fire Department. Access to the site will continue to be provided off of Hill Road. The limited shallow-well extraction of groundwater from the Montecito Basin by the water well will have a *de minimis* effect on the groundwater basin. Therefore, this finding can be made.

ATTACHMENT 2

Approved Coastal Development Permit w/ Conditions of Approval

COUNTY OF SANTA BARBARA

Planning and Development

www.sbcountyplanning.org

COASTAL DEVELOPMENT PERMIT NO: 14CDH-00000-00007

Project Name:	SCHLESINGER PRIVATE WATER WELL
Project Address:	1685 FERNALD POINT LN, SANTA BARBARA, CA 93108
A.P.N.:	007-374-006
Zone:	1-E-1

The Montecito Planning Commission hereby approves and intends to issue this Coastal Development Permit for the development described below, based upon the required findings and subject to the attached terms and conditions.

APPROVAL DATE:	10/15/2014
LOCAL APPEAL PERIOD BEGINS:	10/16/2014
LOCAL APPEAL PERIOD ENDS:	10/27/2014

APPEALS: The approval of this Coastal Development Permit may be appealed to the Board of Supervisors by the applicant, or an aggrieved person. The written and accompanying fee must be filed with the Planning and Development Department at either at 123 East Anapamu Street, Santa Barbara or 624 West Foster Road, Suite C, Santa Maria, or the Clerk of the Board of Supervisors at 105 Anapamu Street, Santa Barbara, by 5:00 p.m. on or before the appeal period end date identified above.

The final action by the County on this Coastal Development Permit may be appealed to the California Coastal Commission after the appellant has exhausted all local appeals. Therefore a fee is not required to file an appeal of this Coastal Development Permit.

To receive additional information regarding this project and/or to view the application and plans, please contact J. Ritterbeck at 123 East Anapamu Street, Santa Barbara, 93101, by email at jritterb@co.santa-barbara.ca.us, or by phone at (805)568-3509.

PERMIT ISSUANCE: This permit shall not issue prior to the expiration of the appeal period, or if appealed, prior to the final action on the appeal by the decision-maker (see Article II, Section 35-182 (Appeals)); nor shall this permit issue until all prior-to-issuance conditions have been satisfied or any other necessary approvals have been obtained. If final action is appealable to the California Coastal Commission, this permit shall not issue until 10 working days following the date of receipt by the California Coastal Commission of the County's Notice of Final Action during which time an appeal of the action may be filed in compliance with Article II, Section 35-182 (Appeals). If an appeal is filed with the California Coastal Commission, this permit shall not issue prior to the final action on the appeal by the California Coastal Commission.

PROJECT DESCRIPTION SUMMARY: Installation of a new private water well for on-site irrigation of existing landscaping.

PROJECT SPECIFIC CONDITIONS: See Attachment "A"

ASSOCIATED CASE NUMBERS: None

PERMIT COMPLIANCE CASE: Not Applicable

BOARD OF ARCHITECTURAL REVIEW (BAR): Not Applicable

WARNING! THIS IS NOT A BUILDING/GRADING PERMIT.

TERMS OF PERMIT ISSUANCE:

Work Prohibited Prior to Permit Issuance. No work, development, or use intended to be authorized pursuant to this approval shall commence prior to issuance of the Coastal Development Permit and/or any other required permit. (e.g., building permit).

Date of Permit Issuance. This permit shall be issued and deemed effective on the date signed and indicated below.

Time Limit. The approval of this Coastal Development Permit shall be valid for one year from the date of approval. Failure to obtain a required construction, demolition, or grading permit and to lawfully commence development within two years of permit issuance shall render this Coastal Development Permit null and void.

NOTE: **Issuance of a permit for this project does not allow construction or use outside of the project description, or terms or conditions; nor shall it be construed to be an approval of a violation of any provision of any County policy, ordinance or other governmental regulation.**

OWNER/APPLICANT ACKNOWLEDGMENT: Undersigned permittee acknowledges receipt of this approval and agrees to abide by all terms and conditions thereof.

/

Print Name | Signature | Date

Planning and Development Department Approval by:

/

Planner | Date

Planning and Development Department Issuance by:

/

Planner | Date

ATTACHMENT A: CONDITIONS OF APPROVAL

Project Description

1. **Proj Des-01 Project Description:** This Coastal Development Permit is based upon and limited to compliance with the project description and all conditions of approval set forth below, specified plans and agreements included by reference, as well as all applicable County rules and regulations.
   The project description is as follows:

   The proposed project is for a Coastal Development Permit to allow construction of a new private water well to be used for on-site irrigation of existing landscaping. The parcel will continue to be served by the Montecito Water District, the Montecito Fire Department, and Montecito Sanitary District. Access to the site will continue to be provided off of Fernald Point Lane. The property is a 2.54-acre parcel zoned 1-E-1 and shown as Assessor's Parcel Number 007-374-006, located at 1685 Fernald Point Lane in the Montecito Community Plan area, First Supervisorial District.

   Any deviations from the project description, exhibits or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval will constitute a violation of permit approval.

2. **Proj Des-02 Project Conformity:** The grading, development, use, and maintenance of the property, the size, shape, arrangement, and location of the structures, parking areas and landscape areas, and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval thereto. All plans (such as Landscape and Tree Protection Plans) must be submitted for review and approval and shall be implemented as approved by the County.

Conditions By Issue Area

3. **Aest-10 Lighting:** Aest-10 Lighting. The Owner/Applicant shall ensure any exterior night lighting installed on the project site is of low intensity, low glare design, minimum height, and shall be hooded to direct light downward onto the subject lot and prevent spill-over onto adjacent lots. The Owner/Applicant shall install timers or otherwise ensure lights are dimmed after 10 p.m.
   PLAN REQUIREMENTS: The Owner/Applicant shall incorporate these requirements and show locations and height of all exterior lighting fixtures on all building plans.
   TIMING: Lighting shall be installed in compliance with this measure prior to Final Building Inspection Clearance.
   MONITORING: P&D shall review the proposed lighting for compliance with this measure prior to issuance of the Coastal Development Permit. P&D staff shall inspect structures upon completion to ensure that exterior lighting fixtures have been installed consistent with these requirements.

4. **CulRes-09 Stop Work at Encounter:** The Owner/Applicant and/or their agents, representatives or contractors shall stop or redirect work immediately in the event archaeological remains are encountered during grading, construction, landscaping or other construction-related activity. The Owner/Applicant shall retain a P&D approved archaeologist and Native American representative to evaluate the significance of the find in compliance with the provisions of Phase 2 investigations of the County Archaeological Guidelines and funded by the Owner/Applicant.

PLAN REQUIREMENTS: This condition shall be printed on all building and grading plans.
MONITORING: P&D permit processing planner shall check plans prior to approval of first building permit and B&S inspection staff shall spot check in the field throughout grading and construction.

5. **Noise-02 Construction Hours:** With the exception of the well drilling, the Owner /Applicant, including all contractors and subcontractors shall limit construction activity, including equipment maintenance and site preparation, to the hours between 7:00 a.m. and 4:30 p.m., Monday through Friday. No construction shall occur on weekends or State holidays. Non-noise generating construction activities such as plumbing, electrical, drywall and painting, which do not include the use of compressors, tile saws, or other noise-generating equipment are not subject to these restrictions. Any subsequent amendment to the Comprehensive General Plan, applicable Community or Specific Plan, or Zoning Code noise standard upon which these construction hours are based shall supersede the hours stated herein.
PLAN REQUIREMENTS: The Owner/Applicant shall provide and post a sign stating these restrictions at all construction site entries.
TIMING: Signs shall be posted prior to commencement of construction and maintained throughout construction.
MONITORING: The Owner/Applicant shall demonstrate that required signs are posted prior to grading/building permit issuance and pre-construction meeting. Building inspectors and permit compliance staff shall spot check and respond to complaints.

6. **Noise-04 Equipment Shielding-Construction:** Stationary construction equipment that generates noise which exceeds 65 dBA at the project boundaries shall be shielded with appropriate acoustic shielding to P&D's satisfaction and shall be located as far as possible from from adjacent occupied residences.
PLAN REQUIREMENTS: The Owner/Applicant shall designate the equipment area with appropriate acoustic shielding on building and grading plans.
TIMING: Equipment and shielding shall be installed prior to construction and remain in the designated location throughout construction activities.
MONITORING: The Owner/Applicant shall demonstrate that the acoustic shielding is in place prior to commencement of construction activities. P&D staff shall perform site inspections throughout construction to ensure compliance.

7. **Parking-02 Onsite Construction Parking:** All construction-related vehicles, equipment staging and storage areas shall be located onsite and outside of the road right of way. The Owner/Applicant shall provide all construction personnel with a written notice of this requirement and a description of approved parking, staging and storage areas. The notice shall also include the name and phone number of the Owner/Applicant's designee responsible for enforcement of this restriction.
PLAN REQUIREMENTS: Designated construction personnel parking, equipment staging and storage areas shall be depicted on project plans submitted for review prior to Coastal Development Permit issuance.
TIMING: A copy of the written notice shall be submitted to P&D permit processing staff prior to issuance of Coastal Development Permit. This restriction shall be maintained throughout construction.
MONITORING: P&D and Building and Safety shall confirm the availability of designated onsite areas during construction, and as required, shall require re-distribution of updated notices and/or refer complaints regarding offsite parking to appropriate agencies.

Project Specific Conditions

8. **Wells-01 Meter Records:** A flow meter that meets Montecito Water District (MWD) requirements shall be installed on the well. MWD shall have access two times per year to monitor and obtain water samples and other available information about the well.
   PLAN REQUIREMENTS: The Owner/Applicant shall record a Right of Entry for the benefit of the MWD to allow the District to perform required monitoring.
   TIMING: The Right of Entry shall be recorded with the County Recorder prior to issuance of the Coastal Development Permit.

County Rules and Regulations

9. **Rules-02 Effective Date:** This Coastal Development Permit shall become effective upon the expiration of the applicable appeal period provided an appeal has not been filed. If an appeal has been filed, the planning permit shall not be deemed effective until final action by the review authority on the appeal, including action by the California Coastal Commission if the planning permit is appealed to the Coastal Commission. [ARTICLE II § 35-169].

10. **Rules-03 Additional Permits Required:** The use and/or construction of any structures or improvements authorized by this approval shall not commence until the all necessary planning and building permits are obtained. Before any Permit will be issued by Planning and Development, the Owner/Applicant must obtain written clearance from all departments having conditions; such clearance shall indicate that the Owner/Applicant has satisfied all pre-construction conditions. A form for such clearance is available from Planning and Development.

11. **Rules-05 Acceptance of Conditions:** The Owner/Applicant's acceptance of this permit and/or commencement of use, construction and/or operations under this permit shall be deemed acceptance of all conditions of this permit by the Owner/Applicant.

12. **Rules-10 CDP Expiration:** The approval or conditional approval of a Coastal Development Permit shall be valid for one year from the date of action by the Montecito Planning Commission. Prior to the expiration of the approval, the review authority who approved the Coastal Development Permit may extend the approval one time for one year if good cause is shown and the applicable findings for the approval required in compliance with Section 35-169.5 can still be made. A Coastal Development Permit shall expire two years from the date of issuance if the use, building or structure for which the permit was issued has not been established or commenced in conformance with the effective permit. Prior to the expiration of such two year period the Director may extend such period one time for one year for good cause shown, provided that the findings for approval required in compliance with Section 35-169.5, as applicable, can still be made.

13. **Rules-20 Revisions to Related Plans:** The Owner/Applicant shall request a revision for any proposed changes to approved plans. Substantial conformity shall be determined by the Director of P&D.

14. **Rules-23 Processing Fees Required:** Prior to issuance of first building permit, the Owner/Applicant shall pay all applicable P&D permit processing fees in full as required by County ordinances and resolutions.

15. **Rules-30 Plans Requirements:** The Owner/Applicant shall ensure all applicable final conditions of approval are printed in their entirety on applicable pages of grading/construction or building plans

submitted to P&D or Building and Safety Division. These shall be graphically illustrated where feasible.

16. **Rules-32 Contractor and Subcontractor Notification:** The Owner/Applicant shall ensure that potential contractors are aware of County requirements. Owner / Applicant shall notify all contractors and subcontractors in writing of the site rules, restrictions, and Conditions of Approval and submit a copy of the notice to P&D compliance monitoring staff.

17. **Rules-33 Indemnity and Separation:** The Owner/Applicant shall defend, indemnify and hold harmless the County or its agents or officers and employees from any claim, action or proceeding against the County or its agents, officers or employees, to attack, set aside, void, or annul, in whole or in part, the County's approval of this project. In the event that the County fails promptly to notify the Owner / Applicant of any such claim, action or proceeding, or that the County fails to cooperate fully in the defense of said claim, this condition shall thereafter be of no further force or effect.

18. **Rules-35 Limits:** This approval does not confer legal status on any existing structures or uses on the property unless specifically authorized by this approval.

19. **Rules-37 Time Extensions-All Projects:** The Owner / Applicant may request a time extension prior to the expiration of the permit or entitlement for development. The review authority with jurisdiction over the project may, upon good cause shown, grant a time extension in compliance with County rules and regulations, which include reflecting changed circumstances and ensuring compliance with CEQA. If the Owner / Applicant requests a time extension for this permit, the permit may be revised to include updated language to standard conditions and/or mitigation measures and additional conditions and/or mitigation measures which reflect changed circumstances or additional identified project impacts.

Other

20. **Backflow Device Required.:** A backflow device shall be installed at the Montecito Water District meter in accordance with Water District requirements and shall be enrolled in the District's Cross Connection Protection program.

CALIFORNIA COASTAL COMMISSION
South Central Coast District Office
89 South California Street, Suite 200
Ventura, California 93001-2801
(805) 585-1800 FAX (805) 641-1732
www.coastal.ca.gov

COMMISSION NOTIFICATION OF APPEAL

DATE: November 17, 2014

TO: J Ritterbeck
County of Santa Barbara
123 E. Anapamu Street
Santa Barbara, CA 93101

FROM Deanna Christensen

RE: **Commission Appeal No. A-4-STB-14-0060**

Please be advised that the coastal development permit decision described below has been appealed to the California Coastal Commission pursuant to Public Resources Code Sections 30603 and 30625. Therefore, the decision has been stayed pending Commission action on the appeal pursuant to the Public Resources Code Section 30623.

Local Permit #: 14CDH-00000-00007

Applicant(s): Arnold Schlesinger

Description: Allow construction of a new private water well to be used for on-site irrigation.

Location: 1685 Fernald Point Lane

Local Decision: Approval With Special Conditions

Appellant(s): California Coastal Commission, California Coastal Commission

Date Appeal Filed: 11/13/2014

The Commission appeal number assigned to this appeal is A-4-STB-14-0060. The appeal is scheduled for the December 10-12, 2014 Commission hearing. Within 5 working days of receipt of this Commission Notification of Appeal, copies of all relevant documents and materials used in the County of 's consideration of this coastal development permit must be delivered to the South Central Coast District Office of the Coastal Commission (California Administrative Code Section 13112). Please include copies of plans, relevant photographs, staff reports and related documents, findings (if not already forwarded), all correspondence, and a list, with addresses, of all who provided verbal testimony.

A Commission staff report and notice of the hearing will be forwarded to you prior to the hearing. If you have any questions, please contact Deanna Christensen at the South Central Coast District Office.

cc: Sophie Calvin
Arnold Schlesinger

Exhibit 9
Appeal No. A-4-STB-14-0060

CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT OFFICE
89 SOUTH CALIFORNIA STRET, SUITE 200
VENTURA, CA 93001-4508
VOICE (805) 585-1801 FAX (805) 641-1732

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT

Please Review Attached Appeal Information Sheet Prior To Completing This Form.

SECTION I. Appellant(s)

Name: Commissioner Dayna Bochco and Commissioner Jana Zimmer

Mailing Address: California Coastal Commission, 89 S. California Street, Suite 200

City: Ventura, CA Zip Code: 93001 Phone: 805-585-1800

SECTION II. Decision Being Appealed

1. Name of local/port government:

County of Santa Barbara

2. Brief description of development being appealed:

Construction of a new private water well to be used for on-site irrigation.

3. Development's location (street address, assessor's parcel no., cross street, etc.):

1685 Fernald Point Lane, Montecito (APN 007-374-006)

4. Description of decision being appealed (check one.):

☐ Approval; no special conditions

☒ Approval with special conditions:

☐ Denial

Note: For jurisdictions with a total LCP, denial decisions by a local government cannot be appealed unless the development is a major energy or public works project. Denial decisions by port governments are not appealable.

TO BE COMPLETED BY COMMISSION:

APPEAL NO: A-4-STB-14-0060

DATE FILED: 11/13/14

DISTRICT: South Central Coast

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 2)

5. Decision being appealed was made by (check one):

- ☐ Planning Director/Zoning Administrator
- ☐ City Council/Board of Supervisors
- ☒ Planning Commission
- ☐ Other

6. Date of local government's decision: October 15, 2014

7. Local government's file number (if any): 14CDH-00000-00007

SECTION III. Identification of Other Interested Persons

Give the names and addresses of the following parties. (Use additional paper as necessary.)

a. Name and mailing address of permit applicant:

Mrs. Arnold Schlesinger
9595 Wilshire Blvd #710
Beverly Hills, CA 90212

b. Names and mailing addresses as available of those who testified (either verbally or in writing) at the city/county/port hearing(s). Include other parties which you know to be interested and should receive notice of this appeal.

(1) Sohpie Calvin
P.O. Box 50716
Santa Barbara, CA 93150

(2)

(3)

(4)

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 3)

SECTION IV. Reasons Supporting This Appeal

PLEASE NOTE:

- Appeals of local government coastal permit decisions are limited by a variety of factors and requirements of the Coastal Act. Please review the appeal information sheet for assistance in completing this section.
- State briefly **your reasons for this appeal**. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)
- This need not be a complete or exhaustive statement of your reasons of appeal; however, there must be sufficient discussion for staff to determine that the appeal is allowed by law. The appellant, subsequent to filing the appeal, may submit additional information to the staff and/or Commission to support the appeal request.

See Attached

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 4)

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

K Bocko

Signature of Appellant(s) or Authorized Agent

Date: 11/13/14

Note: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby
authorize _____
to act as my/our representative and to bind me/us in all matters concerning this appeal.

_____
Signature of Appellant(s)

Date: _____

1685 Fernald Pt.

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 4)

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

Signature of Appellant(s) or Authorized Agent

Date: Nov 13 2014

Note: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby
authorize _____
to act as my/our representative and to bind me/us in all matters concerning this appeal.

Signature of Appellant(s)

Date: _____

Schlesinger – 1685 Fernald Point Lane (Montecito, Santa Barbara County)
Section IV. Reasons Supporting The Appeal

Appeal of decision by Santa Barbara County granting a coastal development permit for the construction of a new private water well to be used for irrigation of existing onsite landscaping on a property that is developed with an existing single family residence located at 1685 Fernald Point Lane in Montecito, Santa Barbara County, based on the grounds that it is inconsistent with the County of Santa Barbara's Local Coastal Program (LCP) policies regarding water resources, cumulative impacts, energy consumption, protection of agriculture and other priority land uses where limited public services or public works capacity exists, and related policies and provisions, including provisions requiring that a coastal development permit application be supported by adequate information, as described below.

Land Use Plan Policy 1-1 states that all Chapter 3 policies of the Coastal Act have been incorporated in their entirety in the certified County Land Use Plan as guiding policies.

Section 30231 of the Coastal Act states:

> **The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, minimizing alteration of natural streams.**

Section 30241 of the Coastal Act states:

> **The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following (in pertinent part):**
>
> **a. By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban uses.**
> **b. By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.**
> **c. By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.**
> **d. By developing available lands not suited for agriculture prior to the conversion of agricultural lands.**
> **e. By assuring that public service and facility expansions and non-agricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.**
> **f. By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b) of this section, and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.**

Section IV. Reasons Supporting The Appeal

Section 30250(a) of the Coastal Act states:

> **(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases, for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.**

Section 30253 of the Coastal Act states, in part:

> **New development shall:**
>
> **(d) Minimize energy consumption and vehicle miles traveled.**

Section 30254 of the Coastal Act states:

> **New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this Division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal-dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.**

Land Use Plan Policy 1-4 states:

> **Prior to the issuance of a coastal development permit, the County shall make the finding that the development reasonably meets the standards set forth in all applicable land use plan policies.**

Land Use Plan Policy 2-2 and Article II Zoning Ordinance Section 35-60.1, which state:

> **The long term integrity of groundwater basins or sub-basins located wholly within the coastal zone shall be protected. To this end, the safe yield as determined by competent hydrologic evidence of such a groundwater basin or sub-basin shall not be exceeded except on a temporary basis as part of a conjunctive use or other program managed by the appropriate water district. If the safe yield of a groundwater basin or sub-basin is found to be exceeded for reasons other than a conjunctive use program, new development, including land division and other use dependent upon private wells, shall not be permitted if the net increase in water demand for the development causes basin safe yield to be exceeded, but in no case shall any existing lawful parcel be denied development of one single family residence. This policy shall not apply to appropriators or overlying property owners who wish to develop their property using water to which they are legally entitled pursuant to an adjudication of their water rights.**

Land Use Plan Policy 2-3 and Article II Zoning Ordinance Section 35-60.2, which state:

> **In the furtherance of better water management, the County may require applicants to install meters on private wells and to maintain records of well extractions for use by the appropriate water district.**

Land Use Plan Policy 2-4 and Article II Zoning Ordinance Section 35-60.3, which state:

> **Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available.**

Land Use Plan Policy 2-5 and Article II Zoning Ordinance Section 35-60.4, which state:

> **Water-conserving devices shall be used in all new development.**

Land Use Plan Policy 2-6 and Article II Zoning Ordinance Section 35-60.5, which state, in part:

> **Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available public or private services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the land use plan or zoning maps.**

The State of California is currently facing one of the most severe droughts on record. In January 2014, the Governor declared a drought State of Emergency and asked that officials throughout the state take all necessary actions to prepare for water shortages. Accordingly, the Montecito Water District (MWD) adopted Ordinance No. 92 on February 11, 2014, which declared a water shortage emergency (Stage 3) and mandated water use restrictions, including a 30% immediate reduction in water usage for all customers and suspension of all applications for new water service or to increase in size an existing water meter. Since the use restrictions adopted under Ordinance No. 92 were determined by MWD to be inadequate to protect water supply, a Stage 4 water shortage emergency was declared by MWD on February 21, 2014 pursuant to MWD Ordinance No. 93, which imposed water supply allocation limits to each property. The MWD depends in large part on surface water supplies deriving primarily from Jameson Lake, Lake Cachuma, and, to a lesser extent, but increasingly, from groundwater supplies. The amount of water available to the MWD from these sources has been severely diminished by several years of very low rainfall. The MWD also depends on water deliveries from the State Water Project. This year, the MWD received no water from the State Water Project.

The project site is located within the urban, coastal area of Montecito in Santa Barbara County and receives water services from the MWD. No agricultural uses exist on the lot and none are proposed. However, the MWD has limited its customers' water use, particularly that used for irrigation and water features. The approved project is a request for a new private water well that would be used specifically to augment MWD municipal water services for landscape irrigation purposes.

Policy 2-4 of the County's certified Land Use Plan and Section 35-60.3 of the County's certified Coastal Zoning Ordinance direct new development to use water district services if available. Although the proposed water well is intended to serve existing site development, and not new

development, the LCP does not contain any policies that would allow the construction of water wells to provide supplemental irrigation where the site's residential development already receives water district services and where water use restrictions are in place due to a water shortage emergency.

The County's Coastal Land Use Plan incorporates Section 30250(a) and Section 30254 of the Coastal Act, which require that new development be concentrated with existing development and matched to the public services available, and that where public works facilities (such as Montecito Water District) can accommodate only a limited amount of new development, that priority Coastal Act land uses not be precluded by lower priority development. Residential development is not a Coastal Act priority land use, nor is the irrigation of landscaping associated with residential development. Further, Section 30231 of the Coastal Act (which is incorporated into the LCP as a policy), Land Use Plan Policy 2-2, and Coastal Zoning Ordinance Section 35-60.1 require preventing depletion of ground water supplies. Throughout the County's coastal zone, the major resource limitation is that of water. According to the LCP, all of the planning areas of the urbanized South Coast of Santa Barbara County are experiencing some constraints due to limited water resources (even without the current drought conditions). The LCP states that because buildout in these areas, i.e., the total number of housing units permitted under the land use plan, exceeds available water supplies, priorities for development are needed to assure that the priority land uses specified in Section 30254 of the Coastal Act are not precluded and that the depletion of groundwater supplies is prevented.

Since the MWD provides water services to the subject residential parcel, additional water service through a private well for irrigation purposes would be contrary to the State's, the County's, and the MWD's intent to ensure water conservation and the protection of groundwater resources. Construction of a water well, in this case, has the potential for individual and cumulative impacts to local groundwater supply and raises issue regarding consistency with the LCP policies cited above. The approved project is an unnecessary extraction from the groundwater basin because MWD water services remain available to the property and the well would only serve to obviate the need for the property owners to conserve water consistent with State and District intent. Further, the County's findings for the approved project did not address whether a hydrologic analysis was conducted to determine potential individual and cumulative impacts to the groundwater basin and local water supply and the potential for saltwater intrusion into the groundwater basin. In approving the subject well, the County imposed a monitoring condition allowing access by the MWD to collect well data only twice per year. Nothing in the County's action on the permit indicates that this level of monitoring would provide data sufficient to support a responsive action, such as a threshold that would require cessation of pumping or even shut-in of the subject well. In addition, the baseline "safe" water elevation within the casing of the approved well has not been established by the County in approving the subject well, rendering the collection of monitoring data inadequate to trigger any effective action or enforceable restrictions on further pumping. Therefore, issue is raised regarding the approved development's consistency with the water resource protection policies and provisions of the County LCP.

As the County's LCP notes, one method of assuring the provision of stable boundaries between urban and rural land uses is by concentrating non-agricultural development (as is required by the applicable provisions of Coastal Act Section 30250 discussed above) with or near existing

development with adequate public services. Thus as noted, the LCP requires that development eligible to be served by public services not be allowed to rely on wells. Section 30241 of the Coastal Act requires that public service and facility expansions and non-agricultural development not, for example, impair agricultural viability through increased assessment costs or degraded air and water quality. For example, County approval of individual groundwater wells on lands located within the MWD service area could result in overdraft of the groundwater resource, especially when considered cumulatively. Notably, the "Santa Barbara Independent" reported last summer that as of the end of the last fiscal year (July 1, 2014), Montecito residents had submitted 51 individual applications for water wells – more than in the previous 13 years combined. While it may be possible that no single well would result in significant overdraft, a cumulative analysis was not conducted for the subject permit application regarding the groundwater overdraft that could result if all private wells approved by the County within the subject groundwater basin were installed, pumped as much water as possible, combined with the existing wells. Given the declarations of the MWD regarding the extreme water supply jeopardy facing the District and its customers due to the current drought, the potential for cumulative, significant overdraft of groundwater exists and will intensify if the drought continues and reliance on groundwater increases to backfill missing surface water supplies. Under these conditions, agricultural wells could be adversely affected, or water rates increased. As such, the cumulative impacts of the approved groundwater extractions have the potential to adversely impact existing agriculture in the Montecito and Carpinteria areas, which is a higher priority land use under the Coastal Act than residential use. Groundwater elevations could fall due to basin depletion, driving up the cost of water extraction either directly (through the increased cost of energy to pump water from deeper levels) or indirectly through increased water rate assessments if water is supplied via the Water District. As water well overdraft of coastal aquifers increases, the potential for saltwater intrusion increases, which could reduce the quality of produced water, further affecting agricultural productivity. The risk of such impacts may increase significantly with future increases in sea levels. Therefore, issue is raised regarding the approved development's consistency with the policies and provisions of the County LCP regarding the protection of agriculture and other priority land uses where limited public services or public works capacity exists.

The County's decision in this case raises issues of local, regional, and statewide significance and could have significant precedential value.

7 August 2016

California Coastal Commission
Care of Ventura District Office

RE: CCC APPEALS: Agenda Items: F13a&b
A-4-STB-14-0060
A-4-STB-14-0061

Chair Kinsey and Commissioners:

I write in support of Staff recommendations to the Commission to find for Substantial Issue, and to deny the private water well development projects for Schlesinger and Makarechian referenced above.

I am a Montecito resident and community member and live in the Montecito Coastal Zone and within the service area of Montecito Water District (MWD.) I am deeply concerned about our depleted groundwater especially in our coastal zone basin. I have long been an advocate for groundwater commons stewardship, and protection through evidence based best management practices. To better ensure that I can intelligently support groundwater and water resource advocacy, I am a regular attendee and participant in Montecito Water District Board and their committee meetings, attend Board of Supervisor hearings and attend Montecito Planning Commission meetings which have greater and greater agenda items requesting approval for coastal private water well developments. I actively research current and historical groundwater scientific literature, have taken hydrology courses, have researched both Montecito Water District and Santa Barbara County's public records including EIR documents.

The recent explosion of private water well development in coastal Santa Barbara County exemplifies the so-called "Race to the Bottom" and ensures that the "Tragedy of the Commons" will be fulfilled as the groundwater resources are further depleted. The Oversubscription of the Montecito Water District groundwater is manifest and has been for some time. Groundwater is aggressively being depleted in this the 5th year of extraordinary drought. 3 dozen or more water wells in the Montecito Water District service area have gone dry within this time. No measurable groundwater recharge event has occurred since 2004-2005 per the Montecito Water District. This depletion of the Montecito Groundwater Basin is taking place most alarmingly in the coastal sub-basin, also called sub-basin 3. It may be helpful to note that the Montecito Groundwater Basin is comprised of 4 hydrologically distinct sub

basins, called Montecito Groundwater Basin sub-basin 1, sub-basin 2, and sub-basin 3 (which is the coastal sub-basin) and a fourth sub-basin that is part of the Toro Canyon Groundwater Basin, but is sometimes called sub basin #4).

Despite this historical extreme drought, the Montecito Planning Commission continues unabated, irresponsibly and repeatedly to approve Coastal Zone private water well development to owners in an existing oversubscribed, depleted, and overdrafted groundwater basin. In addition to the already existing and these 2 subject approved private coastal water wells, there are presently pending coastal private water well developments on the coastal edge of the coastal sub basin lined up and waiting for approval if the Coastal Commission approves the Makarechian and Schlesinger wells. One pending coastal water well permit proposes two private groundwater wells: one for the existing residential property (with existing metered Montecito Water District water supply) and one for an adjacent lot in common ownership. This is in the southwestern coastal section that has been cited by geologist Michael Hoover in 2008 as having identified sea water intrusion, confirmed also by USGS monitoring of nearby water wells in the contiguous Santa Barbara Storage Basin #1. (See attachment 1)

In support of denial, I believe that these County approved coastal private water well development projects:

- are inconsistent with the certified LCP because there is a public water supply to the property and in use to support the existing residences

-pose a substantial threat of well interference to other wells in the area and nearby

-whether operated alone or in combination with other existing wells in the Montecito Water District coastal groundwater basin, the subject wells pose adverse effects and threat of further groundwater depletion, sea water intrusion, loss of environmental water needed to support sensitive habitat (coastal streams and their riparian corridors, oak woodlands, etc.), and these wells will add increasingly additional water well development inventory to the existing oversubscription of the Montecito Coastal Zone portion ....which is 90% of sub basin/ storage unit #3. (As you may know, the Montecito Groundwater Basin is not one single basin of underground water, but rather a series of sub basins/storage groundwater units.... each with singular and distinct water capabilities and limitations.)

I also advance the following observations to support denial:

-These two approved private groundwater production wells overlie the montecito water district service area Coastal Zone Groundwater Basin sub unit/storage unit #3. It is noteworthy that this Montecito Water District sub basin #3 is a hydrologically single unit groundwater basin with Santa Barbara City Groundwater Storage Basin #1: the Montecito Water District sub basin #3 and Santa Barbara City Sub basin #1 are "separated" only administratively by a dotted a line on paper for the convenience of the two water purveyors sharing it (the Montecito Water District and the City of Santa Barbara. This single hydrological coastal unit is evidenced by numerous County Water Agency groundwater reports testifying to its connectivity. This is of import considering: 1)sea water intrusion has been documented by geologist Michael Hoover in 2008 (2008 letter, attachment 1) on the Montecito "side" of the coastal unit, and by the USGS on the santa barbara "side"). 2) the City of Santa Barbara in May 2015 approved a Private water well construction prohibition ordinance on properties served with City Water, and 3) while the Montecito Water District requested a water well moratorium in 2014 to the Board of Supervisors, the request was denied .....even with compelling Montecito Water District realization and evidence to the County Board of the gravity, compromise and depletion of its groundwater basins "The Montecito Water District recognizes the finite safe yield limitations of groundwater in Montecito. Groundwater is being pumped from the different storage basins by customers for non potable purposes without regard to the adverse effect to District and community public health and safety of water supplies....there is urgency due to the current groundwater degradation." (watch Montecito Water District's very informative Nov. 2014 briefing at: http://sbcounty.granicus.com/MediaPlayer.php?view_id=11&clip_id=2335) and associated power point at:http://sbcountyplanning.org/PDF/boards/mpc/11-19-2014/WATER-WELLS-BRIEF/GROUNDWATER%20Basin%20Presentation.pdf The Montecito Water District, while charged with protecting and managing groundwater in its service area, has no authority over permitting water wells in its service area, hence the Montecito Water District request for a well moratorium from the county, and lastly, 3) in 2008 SB County referenced groundwater thresholds of significance (pp. 67-108) to include Sea Water intrusion and well interference in SB City Basin #1.....which is MWD Sub basin #3)

-The Montecito Water District Service Area is under extreme drought condition ordinances which limits metered water supply through allocations, penalties, and Water drought Surcharges, but the Montecito Water District has no authority to limit private groundwater extractions or water well development permits (see above.)

-The Montecito Groundwater Basin is oversubscribed, depleted, and in overdraft, with many water well static water level elevations below sea level.

-The Montecito Water District increased non essential portion of metered water allocation by 26% in April 1, 2015 in an attempt to mitigate groundwater withdrawals and encourage metered water use.

-Permitted water well inventory in the Monticeto Water District Service Area (6 sqaure miles):
Public records from Santa Barbara County Environmental Health Service and Montecito Water District (pre-1973 through April 2016) reveal the private water well permit inventory within the Montecito Water District Service Area is as high as 1280 permitted water wells, with between 50--100 alone in the Coastal portion of sub basin/storage #3, and as many as 250 in the entire sub basin #3, with many permits pending. this equates to approximately 200 wells per square mile. (attachment 2 for partial inventory)
(And while one can assert that a permit does not necessarily equate to a well development, the reverse can also be asserted: a permit does not preclude that a well has been developed and is active.) Environmental Health Service and Montecito Water District records for water well status is essentially non existent.

-There is an ongoing demand for increased private water well development in the Coastal portion (90%) of sub basin #3. This Coastal Basin has become the go-to source for most of the groundwater production in the Montecito Water District Service Area, especially during the past 2 decades.

-Private water well development has multiplied unchecked during this current drought throughout the Montecito Water District Groundwater Basin, particularly in the Coastal Zone of storage unit 3.

-Water well development permit applications in the Montecito Water District Service Area have increased 300% during the past 2 years.

RE: MAKARECHIAN AND SCHLESINGER water developments operating pumpage: During the Montecito Planning Commission hearing the Commission had questions about how much groundwater would be pumped from these wells. there was testimony that these wells would operate at 5 gallons per minute 12 hours per day, which would be groundwater extraction per well of 1,314,000 gallons/year or 109,500 gallons per month....thats about 4.03 Acre Feet Per Year. If these parcels were to use

metered water instead for their supplemental irrigation, they would be allocated about 20,000 gallons per month for their parcel size.

-As the Montecito Water District metered water use cost and fees increase, those who can afford a water well development for onsite supplemental irrigation often choose that option in lieu of paying the high costs of Montecito Water District metered water, for there are no metrics or data collection imposed on private groundwater extraction: no extraction fees, no usage fees, no metering, no allocations, no oversight etc. As more land owners choose private water well development for their supplemental on site landscaping and opt out of metered Montecito Water District water for irrigation, the Montecito Water District customers that rely solely on metered water have the disproportionate burden of having to carry more and more of the cost of infrastructure and operating costs. Private water well developments can offer improvement to property value especially in drought conditions as metered MWD water supply becomes more costly, as one can liberally irrigate and enhance landscape with no meter or usage charge or allocation constraints.

-The County's CEQA guidelines and thresholds call for preparation of an EIR when an individual project in the montecito groundwater basin proposes extraction of 4.0AFY or more of water. Both subject wells pose the extraction of that amount and certainly CUMULATIVELY more. No cumulative impact analysis was prepared by County staff nor presented at any of the public hearings.

-Private Groundwater extraction is a function land use choices. Montecito private water well owners have long been extracting groundwater for non potable on site landscaping irrigation and continue to do so. (For example, in a historical context, a1973-74 study by Geotechnical Services (Slade/Gardner) for the Montecito Water District determined that private groundwater extractions "reflected the rather substantial use of water devoted to irrigation for maintaining the extensive landscaping prevalent in the area." " As a result of this increased water demand which exceeds both the safe yield of the basin and their import allotments, the Montecito Water District initiated a water rationing program in July 1973") (Hydrologic Investigation of the Montecito Ground Water Basin, 1974.) Land use in Montecito today continues to reflect a desire for lush landscape. Well development is a means to achieve this without the cost of metered water. Or could it be "something else", perhaps there might be an intent with a water well development to support additional housing development on adjacent lots in common ownership during MWD's current moratorium on new water meters. Installation of

private water wells "for onsite irrigation" could provide "under the radar"...with public concern only later.

-Well Interference
Due to the magnitude and density of water well location proximities to other wells, the Montecito Water District is unable to recharge the their Groundwater Basin with recycled water per a recent Dudek study. ((Dudek September 2015 Monticito Groundwater Recharge Feasibility Study Final)

-Safe Yield of Montecito Water District Coastal Zone Groundwater Basin Storage Unit 3. With regard to both safe yield compromise/ overdraft (sub basin 3) and sea water intrusion: Hydrologist Michael Hoover in his 1980 safe yield study 40 years ago (the last safe yield study that has been completed for the Montecito Water District Groundwater Basin), cites "safe yield in storage unit 3 as 600AFY until safe yield testing under stressful drought conditions be undertaken.

-No stressful testing of sub basin 3 has occurred for 40 years, and we are certainly in sustained drought conditions. Mr. Hoover estimated at the time 40 years ago that withdrawals from sub basin 3 had reached 585AFY which left only 32 AF buffer to reach overdraft. One can conservatively extrapolate that in the intervening 40 years, with the additional water wells developed during that time, the safe yield of 600 AFY has been breached.

-In 1980 Mr. Hoover estimated that private well extraction per acre was approximately 1.5AFY (488,766 gallons) or about 122,00 gallons per quarter acre. For comparison, Montecito Water District metered water supply allocation for approximately one quarter acre is 20,000 gallons, with penalties over allocation added if and water surcharge added per each HCF.

-Sea Water Intrusion

-In 2008 geologist Michael Hoover cites sea water intrusion in Montecito Water District Coastal sub basin #3 in his assessment and evaluation report regarding an approved, not yet built, Miramar Water well development for onsite landscaping. (See Attachment #1)

"There is significant likelihood for sea water intrusion at the Miramar site. Overpumping at nearby sites such as SB Cemetery, Hill rd, Biltmore Hotel and Toro Canyon have resulted in elevated chloride levels, a clear indication of sea water intrusion." Michael Hoover, 2008. (attachment 1) (and for sites see attachment 2)

NOTE: The above cited location sites are extremely proximate to both the Makarechian and Schlesinger parcels (See Attachment 2) and therefore relevant in context of Mr. Hoover's 2008 sea water intrusion concerns.

Further, This approved Miramar well development for on site landscape irrigation was eliminated from the Miramar Hotel project, predicated upon his sea water intrusion assertion, and further, the existing Miramar well was destroyed.

-Re: Santa Barbara Storage Unit #1(the same hydrological unit as montecito coastal Sub Basin/storage unit #3): per Santa Barbara County 2008 Environmental Thresholds: "Recent USGS studies have shown that salt water has intruded a few hundred feet onshore in Storage Unit No. 1. Computer modeling conducted as part of this work indicted that the rate of salt water advance was four times greater than the rate at which the salt water could be flushed out by natural processes (hydrologic gradient). Prevention of salt water intrusion is thus a key concern of projects supported by coastal pumpage."

-In the Montecito Coastal Sub Basin #3 numerous private water wells are located and extracting groundwater one block from the sea. These cumulative extractions place at great risk the critical balance and inherent protective nature of the hydrologic state of coastal groundwater movement seaward (sea water is "heavier" than fresh water.) This fresh groundwater seaward movement ensures that the seawater landward movement into the fresh groundwater sub basin is resisted and prevented. If too much coastal groundwater is extracted, this dynamic is destroyed and sea water intrusion occurs inducing sea water inland with the hydrologic head reversal.

-RE: Montecito Water District sea water intrustion: Private water well inactivation exchange for MWD metered water meter service. There was a period of time in the 1970's where due to evidenced sea water intrusion in the Montecito Water District groundwater secondary to water well extractions, the Montecito Water District offered metered water service to private water well owners in exchange for inactivating their water wells. Abandonment was not required, rather inactivation.

-CEQA:
Before granting CDP's for water well developments, studies should be performed under CEQA and a cumulative impact analysis obtained considering the number of wells and extent of groundwater extraction. No CEQA exemptions should be made before this analysis can be undertaken.

The Santa Barbara County Water Agency has evidence that the Montecito Groundwater Basin is becoming drastically depleted with hundreds of cumulative water wells extracting, but appears to be paralyzed by the politics of water and the imposing will of influential landowners who want to have private wells in furtherance of their development interests, without regard for the protection of the community GROUNDWATER COMMONS. The County can no longer avoid its duty to advise the Montecito Planning Commission accordingly, so that appropriate environmental review of well applications will no longer be avoided through CEQA exemptions.

-<u>REMEDY</u>

To ensure aquifer and groundwater protection, there must accurate and up to date data and metrics of actual cumulative private water well developments and their status (active, inactive,etc). It is the County's burden secure this data, and to responsibly track on an ongoing and consistent basis. Absent this, the Montecito Water District should have the authority to secure all data and metrics required within its service area to effect appropriate evidenced based groundwater management best practices.

Crafting a remedy cannot be achieved by continuing the pro forma approvals for private water well developments ...be it ministerial or discretionary.

The tragedy of the Commons is manifest here and now in the Montecito Groundwater Basin, with the associated adverse effects due to more straws in the ground. There is less groundwater for the Commons and overlying community, and for the sensitive resources dependent on groundwater: trees, plants and fish.

I support that Dr. Loiaciga's recommendations for comprehensive, sustainable management of groundwater recourses be offered as a guide and pathway to effect and ensure evidence based best management practices for the Montecito Groundwater Basin, particularly the Coastal Basin sub unit #3.

Dr. Loiaciga's recommendations are found as Item #5 in his memorandum accompanying his Geotechnical/Hydrologic Report November 2015. (Attachment 3)

In closing, crafting a remedy cannot be achieved by continuing the pro forma approvals for coastal private water well developments.

These two subject water well developments must be denied. If they are not denied, their approval will set a precedent and it will

serve as the "green light" for the unconstrained and irresponsible growth of coastal private water well development with all the associated adverse effects.

Crafting a remedy will take commitment to groundwater evidence based best management practices. Implementing aggressive stewardship and protection is critical to ensure sustainable GROUNDWATER COMMONS for the greater good and the good of the whole rather than of the few.

Respectfully,

Donna Senauer
1155 Summit Road
Montecito, Ca 93108

Attachment 1: 2008 letter to Santa Barbara County Planning Department by geologist Michael Hoover on behalf of Susan Petrovich/client providing his observations that seawater intrusion is a significant problem due to overpumping of Coastal Montecito groundwater and recommending that a then-approved new water well not be included in the Miramar project (located between the Schlesinger approved water well and the Makarechian and Hair(July 20, 2016) approved water wells. NOTE: many of the locations identified in Mr. Hoover's 2008 letter surround the approved Makarechian and Hair(July 20, 2016) water well sites near Butterfly Beach, shown in Attachment 2 Map.

attachment 2: Annotated Montecito Coastal Groundwater Map. Butterfly beach coastal fronting neighborhood and southern coastal sub basin #3 area. Note a number of locations referenced in the 2008 Hoover letter (Attachment 1) are located including Hill Road and Biltmore Hotel. According to County EHS staff, Mr. Hoover served as geologist of record for the installation of numerous wells in this vicinity in the years before he drafted the 2008 letter. NOTE: on the basis of this information alone, which is part of the public records of the County of Santa Barbara Planning Department and which processed each of the CDPs for the approved private water wells in coastal Montecito, a study should have been performed under CEQA and a cumulative impact analysis should have been part of that study, given the number of wells and the extent of groundwater extraction already occurring. Instead, the County has approved CEQA Exemptions for these well development approvals, and most recently again improperly approved a CEQA exemption for the Hair well development (July 20, 2016.)

Attachment 3 Recommendations for Basin Overdraft: Dr Loiaciga Memorandum Item #5 November 1,2015. This memorandum

accompanies his november 1 2015 “Geotechnical/Hydrologic Evaluation of the Impacts of Proposed Private Water Wells in the Coastal Sub-Basin of the Montecito Groundwater Basin, Santa Barbara County, California

ATTACHMENT 1: 2008 Michael Hoover Letter

MICHAEL F. HOOVER Consulting Geologist • Hydrologist

P.O. BOX 30860 • SANTA BARBARA, CALIFORNIA 93130 • (805) 569-9670 - TELEFAX (805) 569-9561
E-mail: Mfhoover@Hoovergeo.com
May 13, 2008

Mr. Dave Ward
Santa Barbara County Planning & Development Department
123 E. Anapamu Street
Santa Barbara, CA 93101

Subject: Draft Subsequent Environmental Impact Report and Addendum to Negative Declaration for Miramar Beach Resort and Bungalows Project

At the request of Ms. Susan Petrovich of Brownstein Hyatt Farber Schreck, LLP, I have evaluated an environmental document entitled, "Draft Subsequent Environmental Impact Report and Addendum to Negative Declaration for the Miramar Beach Resort and Bungalows Project," as it pertains to ground water issues. I have also evaluated a letter from Fugro West, Inc. addressed to Caruso Affiliated dated March 13, 2008 (Revised March 27, 2009). Based on my analysis of these documents, it appears that the project applicant has made the following findings and proposes the following actions:

1. To drill a water well intended to supply landscape irrigation and laundry water to the renovated project.
2. To pump the proposed new well at the rate of 25 gallons per minute on a 50% operational basis.
3. It is estimated by the applicant's geologist that the proposed new well will have an impact on water levels more than 700 feet from the Miramar well site. These calculations are based on theoretical values (no well has been drilled at the proposed site) and thus no site specific data are available.
4. The applicant's proposed mitigation, intended to prevent over pumping of the proposed well, is to adjust well pumping rates and install a "safety device" to maintain water levels above sea level.

5. The applicant-estimated historical water use from the existing water well on the Miramar property is 14 acre feet per year.

6. It is acknowledged that elevated levels of chlorides are found in the existing Miramar well.

7. The application estimates that future water demand at the project site is estimated to be 13.7 acre feet per year.

As a mater of background, in 1987 I located, designed and supervised the construction of the well on the Miramar property for the previous owner, Mr. William Gautzner. I have also located, designed and/or tested 12 water wells within 4,000 feet of the Miramar site, including 6 water wells for the Montecito Water District, the Lingate Water Company (mentioned in the Fugro West, Inc. letter to Caruso Affiliated dated March 2, 2008), Ivydene Water Company, Montecito Estates and 3 other proximal private wells.

After a review of the relevant portions of the County file pertaining to this project, I conclude the following:

1. The environmental document does not contain an adequate analysis of potential ground water impacts of this project. A thorough analysis of the proposed project's impacts on neighboring wells is necessary. There are numerous wells closer to the Miramar site which will be more significantly impacted than the more distant wells analyzed by Fugro in its letter referenced above. These wells include: Miramar Addition Improvement Company, Eldred, the Montecito Water District's Paden, Ennishmok and Amapola wells, and the Montecito Estates well.

2. There is a significant likelihood for sea water intrusion at the Miramar Hotel site. Over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel and Toro Canyon have resulted in elevated chloride levels, a clear indicator of sea water intrusion. A complete analysis needs to be made in the environmental document of the current status of and potential for future sea water intrusion. This analysis should include

an evaluation of water chemistry, historic water levels, and well pumping tests (with observation wells).

3. The project water demand should be re-evaluated in the context of similar projects such as the Biltmore Hotel and the old Miramar Hotel.

4. More information is needed regarding the current water quality of the existing Miramar well. It appears that this well may have been adversely impacted by over pumping, resulting in a sea water intrusion problem. Moving the new well to a more inland location, closer to neighboring wells may create an even greater area of adverse impact if the new well draws sea water further north and closer to neighboring wells.

5. There are no meaningful measures mentioned in the environmental document that will lessen or prevent sea water intrusion at this site. I have designed over 300 water wells during the last 30 years, and I know of no fool proof "safety device" that can maintain water levels in the well above sea level. Any such device, if one exists, could be easily circumvented.

6. I see no justification for a private well at this site (other than lowering water costs for the hotel operator).

7. Fugro West's letter evaluating the Miramar's impacts on neighboring wells is based on theoretical aquifer values. Their use of theoretical values was necessary because no well currently exists at the proposed well location -- the northwest corner of the Miramar Hotel property. Clearly, before any sound environmental analysis can be performed to determine the potential for sea water intrusion and for well interference with existing neighboring wells, a new test well needs to be drilled at this location and extensive well tests conducted prior to completion of the CEQA document.

In conclusion, the analysis of potential impacts upon water resources in this document is inadequate. I hope my comments have been helpful in your evaluation of the new Miramar Hotel project. If you have any questions or if I can be of further assistance, please contact me.

MICHAEL F. HOOVER
Consulting Geologist • Hydrologist

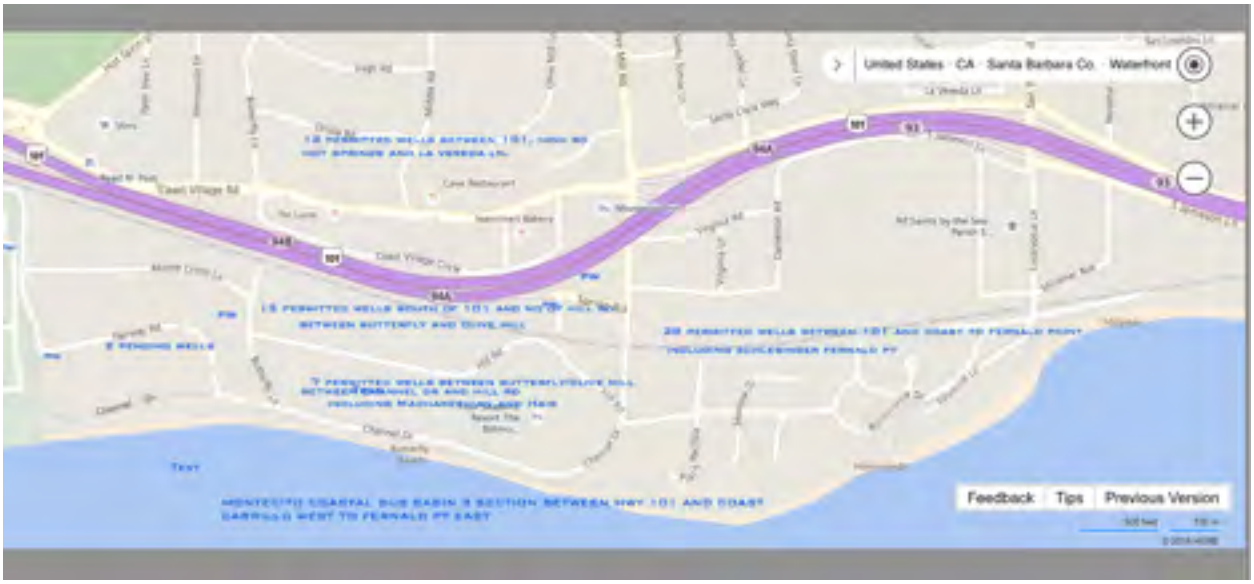
Sincerely,

MICHAEL F. HOOVER
CONSULTING GEOLOGIST-
HYDROLOGIST

Michael F. Hoover
Principal Geologist

MFH:ra

ATTACHMENT 2:



Attachment 3:

Dr Loiaciga Memorandum November 1,2015 Item #5 of his "geotechnical/hydrologic evaluation of the impacts of proposed private water wells in the coastal sub-basin of the Montecito Groundwater basin, Santa Barbara County, California which accompanied his November 1, 2015 Geotechnical/Hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-Basin (Storage Unit 3) of the Montecito Groundwater Basin

Memorandum, Item #5: Recommendations for Basin Overdraft

"The following are recommendations by this Contractor to agencies that have regulatory, administrative, or managerial jurisdictions over the coastal sub-basin (storage unit 3) of the MGWB, that is, to the California Coastal Commission, the County of Santa Barbara, and the Montecito Water District, as applicable.

(1). Set a groundwater threshold of significance equal to zero in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission. This means that no new wells should be permitted during the current drought and thereafter until recommendations (2) and (3) are fulfilled by the appropriate agency or agencies.

(2). Conduct comprehensive survey of all the active wells in storage unit 3 of the MGWB to determine: (i) their locations, (ii) their extraction rates, and (iii) their condition (year of construction, years of service, and well-construction characteristics). Make a data-based, accurate, estimation of groundwater extraction in storage unit 3 of the MGW and of its safe yield, 20

(3). Implement groundwater-level and water-quality monitoring program (including chloride as a target indicator of water quality) in storage unit 3 of the MGWB. Groundwater level and groundwater quality measurements should be made at least once a year, preferably in early Autumn following elevated groundwater extraction during the Summer. Monitoring of water levels and groundwater quality should be conducted principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the Montecito Water District. Make a data-based, accurate, assessment of groundwater quality and groundwater-storage conditions in storage unit 3 of the MGWB.

(4). Conduct a program of pumping tests in wells within storage unit 3 of the MGWB. The pumping tests should be conducted with modern technology that allows isolating the various formations (strata) tapped by a well while conducting individual tests in each formation. Conduct the tests by pumping in a well and measuring water level in nearby well or wells. The pumping tests would yield estimates of formation-specific transmissivity and storage coefficient that are imperative in making credible predictions of well interference, drawdown, storage change, stream flow impacts, and seawater intrusion. The aquifer parameters obtained from the pumping-test program (i.e., transmissivity and storage coefficient) should be used to evaluate likely impacts of proposed new wells.

(5). Provide training in groundwater principles and field practice to personnel involved with the permitting of new wells and with the management of groundwater resources in storage unit 3 of the MGWB.

This Contractor recognizes that recommendations (1)-(4) should be extended to the entire MGWB. Time and funding constraints, however, may render that extension infeasible. Implementation of the five recommendations in storage unit 3 of the MGWB is an urgent priority that appears within practical reach. “

From: donna senauer
To: Sinkula, Megan@Coastal
Subject: CCC Appeals A-4-STB-0060; A-4-STB-0061
Date: Monday, August 08, 2016 4:18:46 PM
Attachments: loaciga Memo to CCC H Loaiciga Nov 1 2015.pdf

> 8 August 2016
>>
>> California Coastal Commission
>> Ventura Office
>>
>>
>> RE:CCC Appeals A-4-STB-0060; A-4-STB-0061
>>
>>
>> Chair Kinsey and Commissioners:
>>
>> I am a Montecito resident and community member and write to support Staff recommendations to the Commission for Substantial Issue, and denial of the projects, and have written a letter reflecting this on 7 August 2016.
>>
>> This letter submits the November 1 2015 Memorandum by Dr. Loiaciga which accompanied and is the companion Report to his Geological/Technical Report to the Commission of the same date.
>>
>> In my 7 August 2016 letter referenced here, I cited only one item from this Memorandum, Item #5 “Remedy” as my Attachment 3. I wish at this time to include the companion Memorandum in its entirety as an Attachment File herein. This Memorandum is a matter of public record and has been distributed by Staff to the Montecito Water District, Santa Barbara Planning and Development, myself and others.
>>
>> I support Dr. Loaiciga’s recommendations contained in this Memorandum.
>>
>> Respectfully,
>>
>>
>> Donna Senauer
>> 1155 Summit Road
>> Montecito, CA 93108
>>
>
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>>
>>
>

DATE: November 1, 2015

TO: Mr. John Ainsworth,
Senior Deputy Director
California Coastal Commission
89 South California Street, Suite 200
Ventura, CA 93001

FROM: Hugo A. Loáiciga, Ph.D., P.E.;

320 N. Fairview Avenue, Suite 3, Goleta California 93117; (805) 450 4432; hloaiciga@hotmail.com

SUBJECT: Contract CC-15-30 Report: Geotechnical/hydrologic evaluation of the impacts of proposed private water wells in the coastal sub-basin of the Montecito Groundwater basin, Santa Barbara County, California.

I have prepared this memorandum addressing the five items listed in the scope of work of contract CC-15-30 based on my review of evidence and analysis concerning (i) hydrologic status, (ii) seawater intrusion, (iii) safe yield and overdraft, (iv) groundwater thresholds, (v) drawdown and well interference, and (vi) aquifer-stream interactions in the Montecito Groundwater Basin (MGWB),

This memorandum is a synthesis of the discoveries this Contractor made while evaluating the geotechnical/hydrologic impacts of three proposed private water wells that would be installed in the MGWB if approved. The proposed wells are herein named the Hair, Makarechian, and Schlesinger wells. There is a companion report to this memorandum. The report is titled: "Geotechnical/hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-basin (Storage Unit 3) of the Montecito Groundwater Basin, Santa Barbara County, California". The report provides in-depth information and evaluation about the proposed wells. This memorandum summarizes my answers to the five items cited in the scope of work of contract CC-15-30 and refers the reader to specific sections of the companion report for technical details.

While the companion report is technical in its presentation of facts and conclusions, this Contractor made an attempt to write the contents of this

memorandum in non-technical language as accessible as possible to non-specialists in groundwater hydrology.

Item 1. ***Discussion of the accuracy and validity of the assertions and conclusions made by representatives of the subject project applications, with emphasis an emphasis on those of the applicants' consulting geologist.***

The applicants' consulting geologist is Mr. Adam Simmons. In assessing the accuracy and validity of his assertions and assumptions made in relation to the three proposed wells (the Hair, Makarechian, and Schlesinger wells) I relied on the following documents that he authored:

(a). Simmons, A. (October 15, 2014). Presentation to the Montecito Planning Commission.

(b). Simmons, A. (unknown date, 2014). Presentation to staff of the California Coastal Commission.

(c). Simmons, A. (January 29, 2015). Proposed water well Commission Appeal No. A-4-STB-14-0062 Santa Barbara County Permit 14CDH-00000-00005, 1169 Hill Road, Santa Barbara, California.

(d).Simmons. A. (May 11, 2015). Proposed water well addendum report Commission Appeal No. A-4-STB-14-0062 Santa Barbara County Permit 14CDH-00000-00005, 1169 Hill Road, Santa Barbara, California.

(e). Simmons. A. (May 14, 2015). Proposed water well addendum report Commission Appeal No. A-4-STB-14-0060 Santa Barbara County Permit 14CDH-00000-00007, 1685 Fernald Point Road, Santa Barbara, California.

This Contractor identified several assertions and assumptions made by Mr. Simmons concerning the proposed wells that appear to summarize his position concerning the proposed wells that deserve rebuttal:

(i) Seawater intrusion is not a concern in regards to the proposed wells because "we have the Rincon Fault right offshore in Montecito that blocks seawater" (quote taken from document (a));

(ii) If the proposed wells are not allowed to be installed "the water now flowing through these properties will go into the ocean and be wasted" (quote taken from document (b));

(iii) The portion of storage unit 3, which is the coastal sub-basin of the MGWB, where the proposed wells would be installed "shows no sign of overdraft" (quote taken from document (b));

(iv) Drawdowns and well interference do not pose cumulative impacts to the MGWB (statements made in this respect by Mr. Simmons are found in documents (a), (b), (c), (d), and (e)).

Answer to assertion and assumption (i): Mr. Simmons believes that the offshore Rincon Creek Fault constitutes a barrier to seawater intrusion. Seawater intrusion in storage unit 3 (the coastal sub-basin) of the MGWB has been known to occur for many decades. This Contractor reviewed a dataset of chloride measurements made in wells of the MGWB by the United States Geological Survey and the California Department of Water Resources. The measurements show that wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The high chloride concentrations ranged between 312 mg/L to 1,220 mg/L, which are typical of groundwater contaminated with seawater. Two of the MWD's wells, Ennisbrook 2 and Ennisbrook 5, exhibited high chloride concentrations in recent surveys. The former well had a chloride concentration equal to 540 mg/L in February 2014, and the latter well had a chloride concentration equal to 490 mg/L in May 2015. The evidence of seawater intrusion in the MGWB is very strong. Section 5 of the companion report establishes that there is not such a thing as an impervious seawater barrier on the southern perimeter of the MGWB. The three proposed wells are very close (less than 400 feet) from the high-tide sea level in the coastal sub-basin. Section 9 of the companion report demonstrates that the Hair and Makarechian wells and several adjacent wells would lower the groundwater level on the coastline adjacent to them by 12 feet. In addition, the operation of these two wells and several adjacent wells would lower their own water levels by 15.63 feet. This magnitude of drawdown at the Hair and Makarechian wells would drive their water levels below sea level, and they most likely would be pumping saline water after some time of operation.

Figure 1 depicts the approximate locations of the proposed Hair and Makarechian wells, two existing wells (Chase and Haber), and two wells (A, B) operated by the Biltmore Hotel. There are many other private wells near the proposed wells. It is seen in Figure 1the short distances separating these wells and their proximity to the sea. Section 9 of the companion report established that pumping groundwater at the

Schlesinger well would lower its own groundwater level by 17.76 feet and the groundwater level on the coastline adjacent to it by 6.65 feet. With these magnitudes of water-level declines the Schlesinger most likely would be pumping saline groundwater after some time of operation.

Figure 1. Google image showing the approximate locations of the appealed Makarechian and Hair wells, the existing Chase, Haber wells, and two other wells (A and B) operated by the Biltmore Hotel.

Answer to assertion and assumption (ii): Mr. Simmons believes that the groundwater that flows under the properties where the proposed wells are located would be wasted if it is not pumped by the wells. The belief stated by Mr. Simmons in this regard reflects a common misconception about the role that seaward groundwater discharge plays in coastal groundwater basins, such as the coastal sub-basin of the MGWB. Federal hydrogeologists (see, e.g., Muir, 1968) and consulting hydrogeologists working for the Montecito Water District (see, e.g., Slade, 1987) have demonstrated that a minimum amount of groundwater flow towards the ocean is necessary to prevent the migration of seawater into the coastal aquifer. Section 5 of the companion report demonstrates that the minimum amount of seaward discharge of groundwater needed in the coastal sub-basin of the

MGWB ranges between 74 and 300 acre feet per year (1 acre foot year is approximately equal to 326,000 gallons of water). The necessity of such discharge of groundwater to the ocean floor is a consequence of basic laws of physics, and has been known for centuries. Figure 2 below illustrates why the seaward discharge of groundwater is imperative in coastal aquifers.

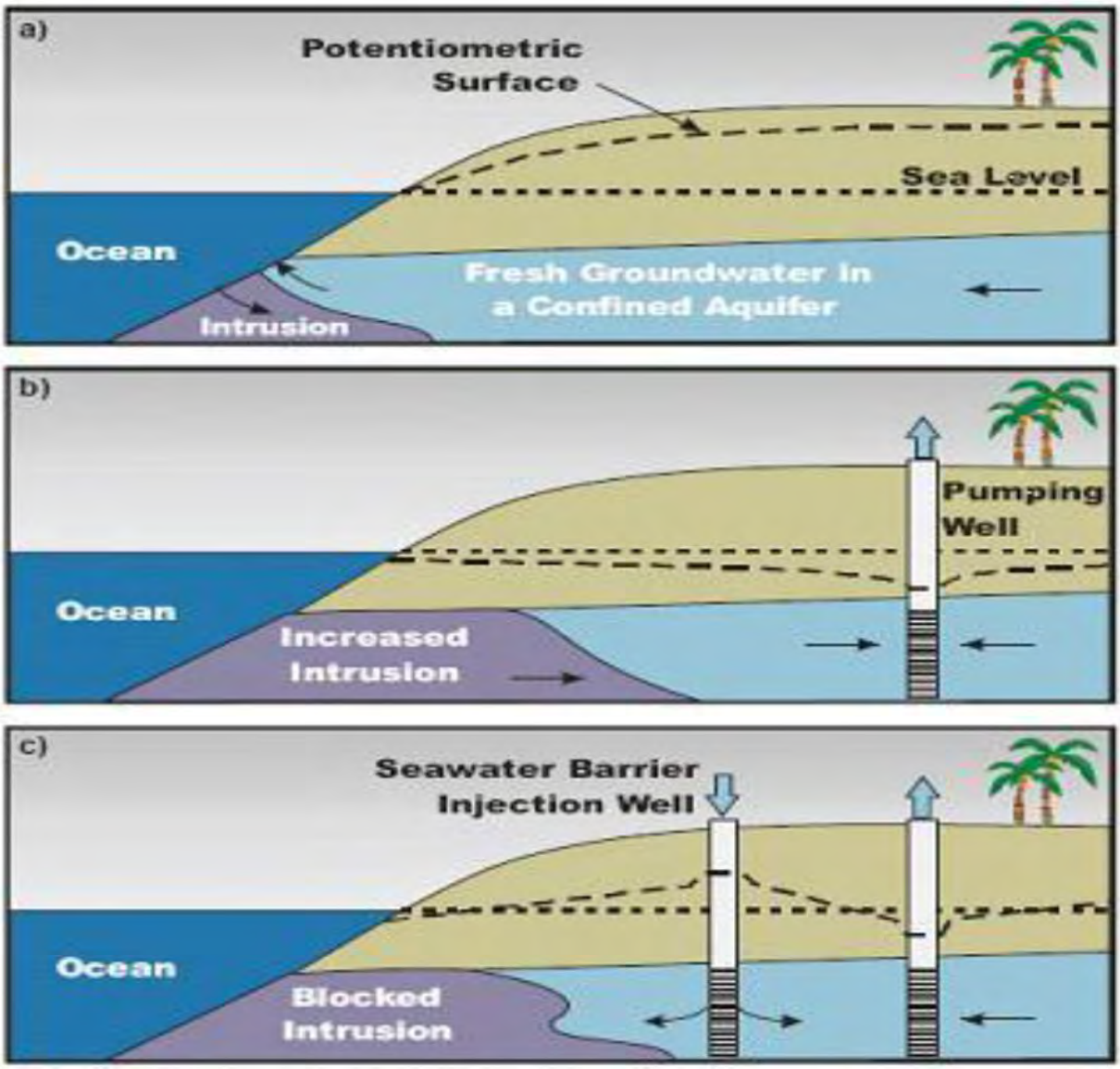

Figure 2. Basic principles about seawater intrusion.

Figure 2(a) shows groundwater discharging to the sea floor when there are no wells pumping in the coastal zone. This is the normal condition of healthy groundwater

basins. Notice, however, in Figure 2(a) that seawater migrates landward to some extent under natural conditions because it is denser than fresh groundwater. How far seawater moves landward depends on how much higher the groundwater levels on the coastline are than the sea level. This is a very delicate equilibrium that if broken by pumping in the coastal zone can ruin the coastal aquifer. Figure 2(b) depicts seawater intrusion into the coastal aquifer and cessation of groundwater discharge to the sea floor by the lowering of groundwater levels by wells pumping groundwater in the coastal zone. Eventually, the well would be pumping saline water. Figure 2(c) portrays a method used to stop seawater intrusion. It consists of placing injection wells between the advancing wedge of seawater and the production wells. The injection wells inject treated sewage water and raise the groundwater level thus containing further landward migration of seawater. This method of creating seawater barriers to protect groundwater resources is used in Los Angeles County and other coastal aquifers throughout the world.

Answer to assertion and assumption (iii): Mr. Simmons believes that there is no overdraft in the MGWB. Overdraft is the amount of groundwater extracted in a basin in excess of its safe yield during a relevant period of analysis. Safe yield is the maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect. These two definitions were adapted from the California Department of Water Resources' Bulletin 118: California's Groundwater (2003 revision). Safe yield and overdraft in the MGWB are calculated respectively in sections 7 and 9 of the companion report. Overdraft and safe yield are commonly expressed in acre feet per year. Mr. Simmons' belief that the MGWB is not overdrafted is contradicted by the 2015-revised version of the County of Santa Barbara's Environmental Thresholds and Guidelines Manual that classifies the MGWB as being in overdraft. Furthermore, the 2014 County of Santa Barbara's Groundwater Basins Status Report declared groundwater level in the MGWB to be in decline since the 1960s and at historic low presently (see page 12 of the 2104 report).

Table 1 lists the groundwater levels measured in Spring 2015 at the Montecito Water District's four municipal wells. It is seen in Table 1 that the water levels are below sea level. These municipal wells are located in the coastal sub-basin of the MGWB.

Table 1. Groundwater levels in the four MWD municipal wells, Spring 2015. The four featured wells lie within storage unit 3, the coastal sub-basin.

Well name	Groundwater level	Units
Amapola	-20	Feet below mean sea level
Ennisbrook 2	-26	Feet below mean sea level
Ennisbrook 5	-47	Feet below mean sea level
Paden 2	-58	Feet below mean sea level

Section 7 of the companion report shows that storage unit 3, the coastal sub-basin of the MGWB, is overdrafted by about 591 acre feet per year. Some in the groundwater well industry believe that there is no reason to worry about the effects of long droughts on aquifers, because, eventually, it will rain again and aquifers will be replenished. According to their logic it is always a good idea to install more wells, regardless of climatic conditions. In their view, wells are needed to extract groundwater and prevent its waste by leaving it in the ground. The flaw with this logic is that during long droughts seawater intrusion may ruin coastal aquifers if pumping rises, there is loss of well yield as groundwater storage is depleted, many wells fail (as they have by the dozens in the MGWB and by the thousands in the State of California during the current drought), stream flow is reduced and surface-water resources are significantly and adversely impacted, land subsides in many regions. Sections 6 and 7 of the companion report make a strong case for the sustainable management of groundwater resources. They provide reasons for regulating groundwater extraction to ensure the long-term beneficial use of aquifers. The most effective manner to regulate over pumping in threatened coastal aquifers is by controlling groundwater extraction and wisely managing the permitting of wells in these basins.

Answer to assertion and assumption (iv): Mr. Simmons believes that the proposed three wells do not pose cumulative impacts on the MGWB. It was stated in the answer to assertion and assumption (i) that the coastal zone of storage unit 3 under the jurisdiction of the Coastal Commission is tapped by many private wells. Preliminary research by staff of the Coastal Commission indicates that there are at least a dozen wells within a half mile from the Schlesinger, Makarechian, and Hair wells, and at least 250 wells lie within storage unit 3. Figure 3 depicts the approximate locations of wells permitted within storage unit 3 and the associated

coastal zone (the latter under CCC jurisdiction). It is striking in Figure 3 the agglomeration of wells in the vicinity of the coastline and near creeks, two environments particularly vulnerable to groundwater extraction. It is also remarkable in Figure 3 the clustering of many wells within the coastal zone, a practice conducive to well interference and loss of well yield.

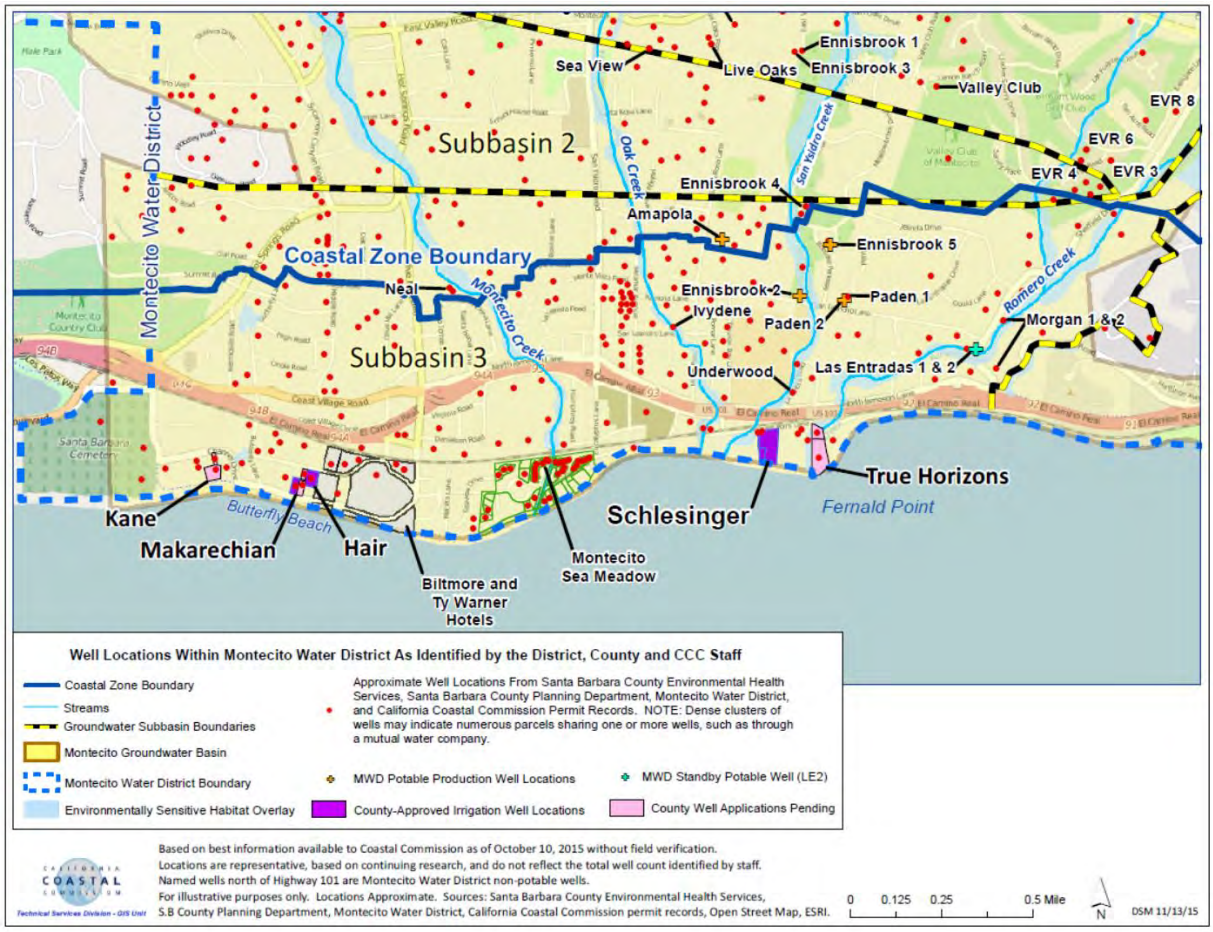

Figure 3. Approximate locations of wells permitted within storage unit 3 and the associated coastal zone (the latter under CCC jurisdiction). Source: California Coastal Commission.

The adverse cumulative impacts of groundwater wells in the MGWB are already evident. In a letter dated November 21, 2014, from the Montecito Water District to

the County of Santa Barbara, the former acknowledged that it "had no mechanism for accurately determining the active number of active wells, or the private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from the aquifers within its service area". The same letter reported the failure of "approximately three dozen private wells" within the MWD service area and asked the County of Santa Barbara for a moratorium of well permits within the boundary of the MGWB.

Another type of adverse cumulative impact would be that posed by the Schlesinger to the stream flow in San Ysidro Creek. Figure 4 depicts the approximate location of the proposed Schlesinger well with respect to San Ysidro Creek and the Pacific Ocean.

Figure 4. Google image showing the approximate location of the appealed Schlesinger well. Notice the proximity of the Schlesinger well to San Ysidro Creek and to the sea.

It can be seen in Figure 4 that the Schlesinger well would be within the riparian corridor of San Ysidro Creek. It is estimated that the distance from the Schlesinger well to the nearest point on the San Ysidro Creek stream channel would be less than 100 feet. It is proven in section 9 of the companion report that pumping at the Schlesinger well would lower the groundwater level in the aquifer underlying San Ysidro Creek by at least 8.41 feet. One must add to this the lowering of the water level caused by neighboring wells, whose rates of extraction are unknown. The lowering of the groundwater level in the aquifer surrounding San Ysidro Creek most likely would reduce its streamflow when hydrologic conditions allow it. This is a significant adverse impact to surface water resources in storage unit 3 that was not adequately addressed by consulting geologist A. Simmons in his May 14, 2015, memorandum to Coastal Commission staff. In the latter memorandum A. Simmons wrote that "The proposed well is situated at an elevation of approximately 23 feet above mean sea level with an estimated static water level of approximately 18 feet in depth. This swl is approximately 6 feet below the bottom of San Ysidro Creek and is therefore unlikely to cause any issues with any riparian corridor given the distance to the creek, depth of the concrete sanitary seal, and low yield of 5 gpm or less. Therefore the proposed well would have no or negligible impacts on any existing or proposed water wells and/or riparian corridors". Mr. Simmons's analysis of the Schlesinger's well impacts on San Ysidro Creek was incorrect. Comparing the static water level at the Schlesinger well with the bottom of the San Ysidro Creek at an undetermined location is not meaningful. Section 9 of the companion report established that the drawdown that would be caused by the Schlesinger would propagate long distances (hundreds of feet) from the well, capturing groundwater that could otherwise support stream flow in San Ysidro Creek when hydrologic conditions allow flow in the creek.

Item 2. ***Review and discussion of maximum or "worst case" annual pumpage proposed for each of the three subject water wells based on the available information (such as project applications) contained in the administrative record County's approval of each well provided by the County to Commission staff. If the County materials are not sufficiently accurate and/or complete to make such a determination, provide an estimate of the maximum or "worst case" pumpage for the wells based on the contractor's best professional judgement including disclosed correction factors and assumptions. If relevant, include in the***

determination evidence of current water demand factors established by the 2014 water well pumpage data reported to the State for a similarly situated 32-unit detached residential estate development near the subject well sites, in coastal Montecito.

Consulting geologist A. Simmons cited a pumping rate of 5 gpm (gallons per minute) for the three proposed wells in one or more of documents (a), (b), (c), (d), and (e) cited above. It was stated by this Contractor in Item 1 (above) that pumping at the three proposed wells at a rate of 5 gpm would worsen seawater intrusion in the coastal sub-basin of the MGWB. The maximum or "worst case" pumpage proposed for each of the three subject wells (Hair, Makarechian, and Schlesinger wells) was not stated in the applications for the proposed wells, at least not using such denomination. This Contractor calculated, however, the groundwater threshold of significance for the three proposed wells with two different approaches. The County of Santa Barbara defines groundwater threshold of significance as the rate of groundwater extraction at which a project's estimated contribution to the overuse of groundwater in an alluvial basin or other aquifer is considered significantly adverse (County of Santa Barbara's Environmental Thresholds and Guidelines Manual, revised July 2015).

Using the first approach, this Contractor determined in section 9 of the companion report that the groundwater threshold of significance (herein synonymous to "worst case" pumpage of a new well) equals zero acre feet per year in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission. This approach evaluated the groundwater threshold of significance based on site-specific impacts of a new well. Those site-specific impacts are: (a) seawater intrusion, (b) drawdown and well interference, and (c) reduction of stream flow. The meaning of a zero groundwater threshold of significance is that no new wells should be permitted in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission.

The second approach used by this Contractor to calculate the groundwater threshold of significance in storage unit 3 (the coastal sub-basin) of the MGWB relied on the County of Santa Barbara's 2015 version of the Environmental Thresholds and Guidelines Manual's method. This method involves an elaborate calculation that uses an idealized reference groundwater basin and several

subjective weighting ratios. The details of the calculations are presented in section 8 of the companion report. The final result was that the groundwater threshold of significance in the coastal sub-basin of the MGWB equals 0.71 acre feet per year. A well pumping 0.44 gpm continuously would extract 0.71 acre feet per year, or, pumping 0.88 gpm half the time would extract the same volume of groundwater annually. This Contractor does not consider economically rational to construct a groundwater well to extract 0.71 acre feet per year in storage unit 3 of the MGWB. Applicants would be better off purchasing water from the Montecito Water District. This Contractor used the web-posted current water rates charged by the Montecito Water District and determined that a typical (existing) single-family water connection using an additional 0.71 acre feet per year (309.3 hundreds of cubic feet annually) for landscape irrigation would pay an extra $ 2,790 annually for water. A 250-foot well constructed with a total lineal cost equal to $ 200/foot (all permitting, construction, and operation and maintenance costs included) would cost $ 50,000. It would take about 18 years of well operation before the well would pay itself, and, by that time, the well's service life would be over and it would have to be rebuilt anew.

This Contractor recommends a groundwater threshold of significance equal to zero in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission.

Item 3. A*nalysis and discussion of the extent of existing pumpage demands on the Montecito Groundwater Basin and the potential that depletion of the basin and/or coastal subbasin exists and/or may be substantially threatened by recently approved and pending well applications, and/or other projects under consideration locally that may also affect the Montecito Groundwater Basin.*

Sections 4, 5, 6, 7, 8 and 9 of the companion report provide information on groundwater extraction in the MGWB. This section synthesizes key parts of the companion report that are most pertinent to answering Item 3.

Preliminary research by Commission staff suggests that there are at least a dozen wells within a half mile from the Schlesinger, Makarechian, and Hair wells, and at least 250 wells lie within storage unit 3. This Contractor reviewed County of Santa Barbara records of well permits issued since 1906 till present that revealed 1,280

such permits. It is evident from the abundance of well permits that the MGWB is intensely mined for groundwater. The following extraction data and analysis apply to storage unit 3 of the MGWB, which contains the coastal zone under the jurisdiction of the California Coastal Commission, and, therefore, is the one of concern to this Contractor's evaluation.

The Biltmore wells (see Figure 1) have a combined permitted groundwater extraction equal to 32 acre feet/year (AFY) according to the Coastal Commission. There are several other active wells near the proposed Hair, Makarechian, and Schlesinger wells. Those include wells owned by the Montecito Sea Meadows Mutual Water Company and the Ivydene Mutual Water Company, respectively. Senior Environmental Health Specialist Norman Fujimoto (Public Health Department, County of Santa Barbara) reported in a site inspection dated January 22, 2014, that the two wells functioning at the Montecito Sea Meadows Mutual Water Company were pumping a combined 164 gpm (gallons per minute) in November 2013. If that rate were maintained constantly if would amount to 264 AFY of groundwater extraction. The Ivydene well has a permitted extraction equal to 20 AFY according to the Coastal Commission. Other active wells near the appealed wells belong to the Sykes Mutual Water Company, the Lingate Lane Mutual Water Company, and the Miramar Addition & Improvement Water Company. The latter three water companies have a combined groundwater extraction of approximately 68 AFY (from letter by Mrs. George P. Kerns to the South Central Coast Regional Commission, dated April 21, 1977).

The four municipal wells operated by the Montecito Water District, namely, the Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2 wells, had a combined groundwater extraction of approximately 495 AFY in water year 2014-2015 (that is from September 1, 2014, through August 31, 2015). The combined extractions of the Biltmore wells, the wells belonging to the Ivydene, Sykes, Lingate Lane, and Miramar Addition & Improvement water companies, and those operated by the Montecito Water District are estimated by this Contractor to be about 879 AFY. To this amount one must add the extractions of many other wells within the coastal sub-basin (storage unit 3) of the MGWB. This Contractor estimates that during current drought conditions the groundwater extraction in the coastal sub-basin of the MGWB may exceed 1,000 AFY.

To gain a perspective of what this level of extraction in the coastal sub-basin of the MGWB means it is necessary to examine the safe yields of the MGWB's storage units calculated by this Contractor in section 7 of the companion report. Table 2 lists the safe yields.

Table 2. The safe yields in the MGWB calculated in section 7 of the companion report.

Sub basin (storage unit)	Safe yield (AFY)
1	545
2	38
3 (coastal sub-basin)	409
Toro Canyon	130
MGWB	1,122

Using a groundwater extraction rate and safe yield in storage unit 3 (the coastal sub-basin) equal to 1,000 and 409 AFY, respectively, establishes that the overdraft in the coastal sub-basin equals 591 AFY. This Contractor calculated in section 8 of the companion report that with an overdraft equal to 591 AFY and drought-impacted usable storage equal to 3,710 acre feet the remaining life of the coastal sub-basin equals 6.3 years. If one assumes that the drought-impacted usable storage of the coastal sub-basin was reached at the beginning of water year 2013-2014, this means that if (i) average annual rainfall continues at the level observed during the current drought, and (ii) groundwater extraction continues at 1,000 AFY, then the usable storage of the coastal sub-basin would run out by the end of 2019. But it could be sooner than that. Furthermore, this Contractor calculated in section 8 of the companion report using the Environmental Thresholds and Guidelines Manual's method that the groundwater threshold of significance in the coastal sub-basin equal 0.71 AFY. However, it was stated above in this report that this Contractor calculated the groundwater threshold of significance in the coastal sub-basin of the MGWB to be equal to zero acre feet per year based on site-specific impacts (see sections 8 and 9 of the companion report, also). Some in the groundwater well industry dismiss these projections of significant and adverse groundwater extraction in the MGWB by claiming that it will rain heavily sooner

than later and this will take care of any current concerns. This Contractor prefers to err on the side of protecting groundwater resources.

Item 4. ***Analysis and discussion of the risk of seawater intrusion in the Montecito Groundwater Basin, including examples of existing or previous seawater intrusion in the basin and/or other coastal areas with similar hydrogeological conditions, and the potential of the proposed projects, individually and cumulative, to induces seawater intrusion.***

Part of the answer to this item was written in the reply to consulting geologist A. Simmons' assertion that "we have the Rincon Fault right offshore in Montecito that blocks seawater", see item 1 (above). Section 5 of the companion report contains an in-depth coverage of seawater intrusion in the MGWB. The following is a summary of what is known about seawater intrusion in the MGWB.

Muir, K.S. (1968). "Groundwater reconnaissance of the Santa Barbara-Montecito Area, Santa Barbara County, California". US Geological Survey Water Supply Paper 1859A. Muir (1968) wrote that "the groundwater outflow to the ocean required to prevent seawater intrusion seems to be about 100-300 acre feet per year".

Martin, P. (1984). "Groundwater monitoring at Santa Barbara, California, Phase 2". US Geological Survey Water Supply Report 2197. This was a continuation of the seawater-intrusion studies in the Santa Barbara groundwater basin started by the United States Geological Survey in 1979. It is known that the Santa Barbara and the Montecito groundwater basins are physically connected (see section 4 of the companion report). Martin (1984) stated that: "Previous investigators believed that saltwater intrusion was limited to the shallow part of the aquifer, directly adjacent to the coast. The possibility of saltwater intrusion into the deeper water-bearing deposits in the aquifer was thought to be remote because an offshore fault truncates these deeper deposits so that they lie against consolidated rocks on the seaward side of the fault. Results of this study indicate, however, that ocean water has intruded the deeper water-bearing deposits, and to a much greater extent than in the shallow part of the aquifer. Apparently the offshore fault is not an effective barrier to saltwater intrusion. No physical barriers are known to exist between the coast and the municipal well field. Therefore, if the pumping rate maintained

during the basin-testing program were continued, the degraded water along the coast could move inland and contaminate the municipal supply wells. The time required for the degraded water to move from the coast to the nearest supply well is estimated, using Darcy's equation, to be about 20 years".

The importance of Martin's (1984) study is that it was a controlled experiment of groundwater extraction that established that the offshore fault is neither a barrier to shallow seawater intrusion nor to deep seawater intrusion into the adjacent coastal basin.

Slade, R.M. (1987). "Hydrogeologic assessment proposed water augmentation measures item No. 8 seaward migration of groundwater: for Montecito Water District". Slade's (1987) study assessed the feasibility of developing additional groundwater supplies for the Montecito Water District by installing wells along the southern margin of storage unit 3 of the MGWB. Seawater intrusion was a key consideration of Slades's (1987) study. Slade's (1987) report addressed the role of the Rincon Fault Creek as a possible barrier to subsurface flow. It stated on pages 4 and 5 that: "Because bedrock is thrust upward on the southern side of the fault, it may create at least a partial barrier to seawater intrusion in the deeper aquifers of this storage unit; the shallow aquifer zone do remain, however, open to potential invasion by seawater". Furthermore, Slade (1987) stated: "There are unfortunately, no data whatsoever on the effectiveness and/or integrity of the Rincon Creek Thrust Fault as a continuous barrier to landward migration of seawater in the deeper, Santa Barbara Formation-type deposits". It is evident that hydrogeologist Slade was unaware of the Martin's (1984) USGS report that had established through experimental evidence that seawater intrusion had occurred deep through the Rincon Creek Fault in the neighboring Santa Barbara Groundwater Basin.

The Slade (1987) study recommended quantitative criteria ((a) and (b) below) to be observed to prevent seawater intrusion in storage unit 3 of the MGWB:

(a). A seaward hydraulic gradient not less than 1/100 in coastal aquifers;

(b). Groundwater levels in new wells must not be allowed to drop below about elevation + 5 feet (above mean sea level) to maintain a positive seaward gradient of fresh water.

The groundwater levels measured in the Spring 2015 at MWD's production wells, which are listed in Table 1, show that the wells' levels were at least 25 feet below the recommended safe elevation recommended by Slade (1987).

Slade (1987) calculated the groundwater discharge to the sea floor in storage unit 3 as being equal to 74 acre feet/year. It is noteworthy that the Slade's (1987) recommended groundwater discharge to the coastal zone in storage unit 3 is less than the 100 to 300 AFY recommended in Muir's (1968) study needed to prevent seawater intrusion into the MGWB.

The seaward groundwater discharge calculated by Slade (1987) is not water that would be wasted to the ocean, as implied by geologist Adam Simmons in an October 15, 2014, presentation to the Montecito Planning Commission and to Commission staff in an undated 2014 presentation arguing in favor of permitting the proposed Schlesinger, Makarechian, and Hill wells. Rather, this groundwater discharge is maintained by seaward hydraulic gradient that prevents seawater intrusion into storage unit 3, a fact recognized decades ago by USGS hydrogeologist Muir (Muir, 1968) and consulting hydrogeologist Slade (1987), who studied the MGWB, by USGS hydrogeologists Hutchinson (1979) and Martin (1984), who worked in the neighboring Santa Barbara Groundwater Basin, and, more recently, by this Contractor (see Loáiciga, 2014), who worked in the neighboring Carpinteria groundwater basin (CGWB).

Consulting geologist M. Hoover wrote a professional opinion dated May 13, 2008, Mr. Dave Ward of the Planning and Development Department of Santa Barbara County concerning a proposed well intended to supply landscape-irrigation water and laundry water to the Miramar Beach Resort and Bungalows project. The well would have been located in storage unit 3 of the MGWB. Geologist Hoover wrote in his opinion that: "There is a significant likelihood for seawater intrusion at the Miramar Hotel site. Over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel, and Toro Canyon have resulted in elevated chloride levels, a clear indication of seawater intrusion". The Miramar site is located about 1,500 feet west of the appealed Schlesinger well.

This Contractor reviewed a dataset of chloride measurements made in wells of the MGWB by the US Geological Survey and the State of California. The

measurements show that wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The high chloride concentrations ranged between 312 mg/L to 1,220 mg/L, which are typical of groundwater contaminated with seawater. Two of the MWD's wells, Ennisbrook 2 and Ennisbrook 5, exhibited high chloride concentrations in recent surveys. The former well had a chloride concentration equal to 540 mg/L in February 2014, and the latter well had a chloride concentration equal to 490 mg/L in May 2015. These chloride levels constitute evidence of seawater intrusion that is factual and pertinent to this report's evaluation of adverse impacts by new wells. Yet, it is stressed that water quality and water-level monitoring in the MGWB is inadequate. It seems appropriate to make measurements of various indicator chemicals in well water, including chloride among them. This should be done at least once a year, preferably in early Fall following elevated groundwater extraction during the Summer. Those measurements should be made principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the Montecito Water District. The County of Santa Barbara's 2014 Groundwater Basins Status report states that the County maintains a well-monitoring cooperative program with the USGS. The program provides for annual monitoring of about 300 wells in Santa Barbara County. This Contractor recommends that wells in the MGWB be added to that cooperative monitoring program and actively sampled for groundwater level and water quality assessment.

Section 9 of the companion report demonstrates that the Hair and Makarechian wells and several adjacent wells would lower the groundwater level on the coastline adjacent to them by 12 feet. In addition, the operation of these two wells and several adjacent wells would lower their own water levels by 15.63 feet. This magnitude of drawdown at the Hair and Makarechian wells would lower their water levels below sea level, and they most likely would be pumping saline water after some time of operation. Furthermore, Section 9 of the companion report established that pumping groundwater at the Schlesinger well would lower its own groundwater level by 17.76 feet and the groundwater level on the coastline adjacent to it by 6.65 feet. With these magnitudes of water-level decline the

Schlesinger most likely would be pumping saline groundwater after some time of operation.

The available evidence and this Contractor's analysis establish that there is not such a thing as an impervious seawater barrier on the southern perimeter of the MGWB. This evidence refutes statements made by geologist Adam Simmons to the Montecito Planning Commission on October 15, 2014, and to the Commission staff in an undated 2014 presentation asserting that the Rincon Creek Fault "blocks seawater".

Item 5. ***If the Contractor concludes that the subject water wells projects individually and/or cumulatively of depletion or overdraft of the groundwater basin or risk of seawater intrusion, please provide clear guidance on what should be addressed in a future groundwater basin analysis or management plan to more accurately assess the potential impacts of proposed water wells and to ensure that pumpage from the groundwater resource is planned and undertaken in a manner that prevents groundwater depletion and protects the long-term sustainability of coastal water resources (ground and surface waters), and including habitat resources dependent upon coastal waters.***

The following are recommendations by this Contractor to agencies that have regulatory, administrative, or managerial jurisdictions over the coastal sub-basin (storage unit 3) of the MGWB, that is, to the California Coastal Commission, the County of Santa Barbara, and the Montecito Water District, as applicable.

(1). Set a groundwater threshold of significance equal to zero in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission. This means that no new wells should be permitted during the current drought and thereafter until recommendations (2) and (3) are fulfilled by the appropriate agency or agencies.

(2). Conduct comprehensive survey of all the active wells in storage unit 3 of the MGWB to determine: (i) their locations, (ii) their extraction rates, and (iii) their condition (year of construction, years of service, and well-construction characteristics). Make a data-based, accurate, estimation of groundwater extraction in storage unit 3 of the MGW and of its safe yield,

(3). Implement groundwater-level and water-quality monitoring program (including chloride as a target indicator of water quality) in storage unit 3 of the MGWB. Groundwater level and groundwater quality measurements should be made at least once a year, preferably in early Autumn following elevated groundwater extraction during the Summer. Monitoring of water levels and groundwater quality should be conducted principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the Montecito Water District. Make a data-based, accurate, assessment of groundwater quality and groundwater-storage conditions in storage unit 3 of the MGWB.

(4). Conduct a program of pumping tests in wells within storage unit 3 of the MGWB. The pumping tests should be conducted with modern technology that allows isolating the various formations (strata) tapped by a well while conducting individual tests in each formation. Conduct the tests by pumping in a well and measuring water level in nearby well or wells. The pumping tests would yield estimates of formation-specific transmissivity and storage coefficient that are imperative in making credible predictions of well interference, drawdown, storage change, stream flow impacts, and seawater intrusion. The aquifer parameters obtained from the pumping-test program (i.e., transmissivity and storage coefficient) should be used to evaluate likely impacts of proposed new wells.

(5). Provide training in groundwater principles and field practice to personnel involved with the permitting of new wells and with the management of groundwater resources in storage unit 3 of the MGWB.

This Contractor recognizes that recommendations (1)-(4) should be extended to the entire MGWB. Time and funding constraints, however, may render that extension infeasible. Implementation of the five recommendations in storage unit 3 of the MGWB is an urgent priority that appears within practical reach.

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