

CALIFORNIA COASTAL COMMISSION

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Filed:	8/052004
49th day:	9/23/04
Staff:	CKC-SC
SI Found:	9/08/2004
De Novo Staff Report:	11/23/2004

STAFF REPORT: APPEAL- DE NOVO PERMIT**Appeal number** A-3-MCO-04-054, Sunridge Views Subdivision**Applicant**..... Mr. Steve Bradshaw**Agent** Mr. John Bridges, Law Firm of Fenton and Keller**Appellants** Mary Aken, Law Office of William J. Yeates, representing Friends, Artists and Neighbors (FANS) of Elkhorn Slough; Gary Patton, Executive Director, LandWatch, Monterey County; and Commissioners Sara Wan and Mike Reilly**Local government**..... Monterey County**Local decision** Resolution 04-256, for PLN990391, Approved with conditions, July 13, 2004**Project location** 250 Maher Road (south of Tarpey Road), North Monterey County (APN 127-252-009).**Project description** Subdivision of a 25 acre parcel into 10 lots ranging in size from 1 to 7.8 acres, 2,000 cubic yards of grading, development of a mutual water system, construction of two water tanks, demolition of an existing mobile home, barn, and greenhouse and conversion of an existing mobile home to a senior citizens unit.**Local approval**..... The Monterey County Board of Supervisors approved a Combined Development Permit, Resolution 04-256 (PLN990391), for the project on July 13, 2004.**File documents**..... A-3-MCO-04-054 Adopted Substantial Issue staff report; Monterey County certified Local Coastal Program, including North County Land Use Plan; Final Local Action Notice 3-MCO-04-240 (PLN990391); Draft findings of the Monterey County Local Coastal Program Periodic Review.**Staff recommendation** ...Denial

Staff Note: The Substantial Issue hearing on the project was conducted on September 8, 2004, at which the Coastal Commission found that the County's approval of the project did raise a substantial issue with regards to protection of groundwater resources, water quality, and environmentally sensitive habitat areas. The Commission, therefore, took jurisdiction of the project, and continued the de novo hearing for a later date. The Commission is now hearing the project *de novo*.



California Coastal Commission
December 9, 2004 Meeting in San Francisco

Staff: K. Cuffe Approved by:

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Summary of staff recommendation: Monterey County approved the subdivision of a 25-acre parcel in North Monterey County (Elkhorn Slough watershed) into 10 lots ranging in size from 1 to 7.8 acres. The approval also allows 2,000 cubic yards of grading, development of a mutual water system, construction of two water tanks, demolition of a mobile home, barn, and greenhouse, and conversion of an existing mobile home to a senior citizens unit.

Appeals, submitted by Commissioners Wan and Reilly, Friends, Artists, and Neighbors (FANS) of Elkhorn Slough, and LandWatch, Monterey County (LandWatch), alleged that the project is inconsistent with the LCP due to (1) inadequate protection of groundwater resources; (2) inadequate long-term water supply and quality due to overdrafted aquifers and the potential for nitrate contamination; (3) potentially adverse impacts to adjacent environmentally sensitive habitat areas; (4) impacts to visual resources; (5) conflicts with the residential zoning density requirements; and (6) procedural errors. After public hearing on September 8, 2004, the Coastal Commission found that the project did raise a substantial issue with respect to LCP policies requiring protection of ground water resources, water quality and environmentally sensitive habitat areas, and took over jurisdiction of the coastal development permit for the project.

Based on a review of the project materials included in the appeal, and other materials since submitted, Commission staff recommends that the Commission deny the project because it is inconsistent with LCP policies requiring protection of groundwater resources, water quality and environmentally sensitive habitat areas.

First, the project is **inconsistent with LCP policies intended to protect groundwater resources**. The LCP requires protection of groundwater resources, especially within the North County planning area where severe and chronic groundwater overdrafts have led to saltwater intrusion and the need to abandon previously functional water supply wells.

The North County LUP requires, among other things, that:

- New developments be controlled to a level that can be served by an identifiable, available, and long-term water supply (Key Policy 2.5.1);
- Development levels that generate water demand exceeding safe yield of local aquifers are only allowed once additional water supplies are secured (No Co LUP Policy 2.5.2.3);
- New development be phased so that existing water supplies are not committed beyond their safe long-term yields (No Co LUP Policies 2.5.2.3, 4.3.5.7, 4.3.6.D.5); and,
- The County should reduce the remaining build-out to limit groundwater use to the safe-yield level or, if required, in order to protect agricultural water supplies (No Co LUP policy 2.5.3.A.2).

Taken together the LCP provisions seek to ensure that any groundwater extraction protects groundwater aquifers, wetlands and streams, and agricultural water supplies.



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While the applicant's hydrologic study estimates a net aquifer overdraft reduction of 24 afy by conversion of the current agricultural use on the site to expanded residential use, the North Highlands aquifer is already overdrafted by 1,860 acre feet (or 39 percent) beyond its annual safe yield. The reduction proposed by the subject project will only account for about 1 percent reduction of the severe and chronic overdraft conditions in the North Highlands sub-area, and even this minimal reduction may be ephemeral. In contrast, the expected residential use will require a long-term commitment to a permanent water supply, which is currently not guaranteed. The Pajaro Valley Water Management Agency (PVWMA) and Salinas Valley Water Project (SVWP) projects designed to improve long-term water supplies are still in the planning stage and cannot be relied upon as a future long-term water supply until they are constructed and have shown that they have restored groundwater resources and can provide an adequate water supply for existing and new planned development without overdrafting the basin. Without an identifiable, available long-term water supply, the project will continue to draw from the severely overdrafted aquifer of the North Highlands sub-area. The County's approval of the project is inconsistent with policy 2.5.2.3 because it allows permanent commitment of water beyond its safe long-term yield for new development; inconsistent with policy 2.5.3.A.1 because it fails to protect groundwater supplies for coastal priority agricultural uses; and is inconsistent with policy 2.5.3.A.2 because it fails to account for the required reduced build-out level to protect groundwater resources in light of the current severe overdraft situation that exists in the North County area.

Second, the project is **inconsistent with LCP policies intended to protect water resource and water quality**. The LCP requires that requires that new development be located and developed at densities that will not lead to health hazards on an individual or cumulative basis due to septic system failure or groundwater contamination (North County LUP Policy 2.5.2.5), and that the applicant "provide proof of an assured, long term water supply in terms of sustained yield and adequate quality for all lots which are proposed to be created through subdivision" (Coastal Implementation Plan Section 19.03.015.L). The Hydrologic Assessment conducted for the project notes that nitrate levels in neighboring wells exceed State safe drinking water standards. The previous well, located immediately behind the house, was abandoned as a drinking water supply well due to nitrate levels above safe drinking water standards; a nitrate treatment system was required and the well is still used for irrigation. The new well drilled on site in 2002, currently meets State safe drinking water standards and provides water to the site. However, based on water quality testing from the on-site wells and other surrounding wells, nitrate levels in the on-site water supply well will continue to increase, and may exceed State safe drinking standard levels within the next 55 years, such that the existing water supply well may fail within the economic lifespan of the project. Thus the project cannot be considered to have proof of an assured, long-term water supply in terms of adequate water **quality** as required by CIP Regulation 19.03.015.

Third, the project is **inconsistent with LCP policies intended to buffer and protect environmentally sensitive habitat areas (ESHA)**, because it includes development (construction of water tanks and landscaping) within 25 feet of environmentally sensitive maritime chaparral habitat, which may adversely impact the long-term maintenance of this environmentally sensitive habitat area.



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Exhibits:

- 1 Project Location - Regional, Vicinity, and Parcel Maps, showing project location
- 2 North Monterey County Hydrogeologic Sub-Areas Map, showing project location
- 3 Aerial Photograph of Project Site
- 4 Existing Structures – Site Photos
- 5 Proposed Tentative Map
- 6 Biological Map showing Habitat Types
- 7 Historic Aerial Photos of Subject Property
- 8 Excerpts from Todd Engineering Technical Memorandum-Addendum regarding Nitrate Concentrations in Groundwater for Rancho Sunridge Views EIR, dated July 21, 2003.



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I. Procedural History

On July 13, 2004, the Monterey County Board of Supervisors approved a Coastal Development Permit to subdivide a 25-acre parcel into 10 lots ranging in size from 1 to 7.8 acres. The permit also approved 2,000 cubic yards of grading, development of a mutual water system, construction of two 20,000 gallon water tanks, demolition of a mobile home, barn, and greenhouse, and conversion of an existing mobile home to a senior citizens unit. The proposed Tentative Subdivision Map is attached as Exhibit 5.

The County approval was subsequently appealed to the Coastal Commission by: 1) Commissioners Wan and Reilly; 2) Mary Aken, from the Law Office of William J. Yeates, representing Friends, Artists and Neighbors (FANS) of Elkhorn Slough; and 3) Gary Patton, Executive Director of LandWatch, Monterey County (LandWatch), on the grounds that the project was not consistent with LCP policies designed to protect groundwater resources, water quality, environmentally sensitive habitat areas, visual resources, zoning requirements and procedural issues. The Commission heard the appeal on September 8, 2004 and took jurisdiction of the project after finding that the County's approval of the project did raise a substantial issue with regards to protection of groundwater resources, water quality, and environmentally sensitive habitat areas. The Commission is now hearing the project *de novo*.

2. Standard of Review:

The Commission found that the project approved by the County raised a substantial issue, and therefore has jurisdiction over the de novo coastal development permit (CDP) for the proposed project. The standard of review for this CDP determination is the County LCP policies, including policies of the North County Land Use Plan and Regulations provided in the Coastal Implementation Plan.

3. Staff Recommendation on De Novo Coastal Permit

The staff recommends that the Commission, after public hearing deny the coastal development permit.

MOTION: Staff recommends a "NO" vote on the following motion:

"I move that the Commission approve Coastal Development Permit No. A-3-MCO-04-054 for the development as 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.



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RESOLUTION:

The Commission hereby **denies** a permit for the proposed development as conditioned below, on the grounds that the development does not conform to the policies of the Monterey County certified Local Coastal Program. Approval of the permit will not comply with the California Environmental Quality Act (CEQA) because there are feasible mitigation measures or alternatives that would substantially lessen the significant adverse impacts of the development on the environment.

4. De Novo Findings and Declarations

The Commission finds and declares as follows:

A. Project Location

The project site is located in the Royal Oaks area of North Monterey County at 250 Maher Road (APN 127-252-009), west of Maher Road and approximately 1 mile south of the Tarpey Road/Maher Road intersection (Exhibit 1). The Royal Oaks area consists of low rolling hills, and numerous small canyons and valleys covered by grasses, maritime chaparral and oak forest habitat. Extensive land clearing for agricultural and residential use has occurred in the past. The surrounding unincorporated area includes rural residential, agricultural and limited commercial development.

The 25-acre property ranges in elevation from 120 feet above mean sea level near the southeastern property boundary, to about 320 feet on the northwest. Most of the parcel slopes gently eastward toward Maher Road, up to a ridgeline about 100 to 200 feet from the western property boundary, and then slopes westward. The property site contains a 2,500 sf single-family dwelling, barn, two mobile homes, and greenhouse, all located on the eastern side of the property. The site also contains several unpaved access roads (see Exhibit 3). Organic strawberries are currently grown on approximately 14 acres of the project site, and four acres are currently fallow agricultural land. The remainder of the project site is covered in oak woods, eucalyptus groves, and central maritime chaparral. A dense grove of Coast live oak trees are situated near the eastern end of the property, and eucalyptus and scattered oaks are found on the western end and along the ridgeline, with patches of maritime chaparral located in the southwestern portion of the property flanking either side of the mixed eucalyptus/coast live oak habitat in this area.

B. Project Description

Monterey County approved the subdivision of a 25-acre parcel into 10 lots ranging in size from 1 to 7.8 acres. The approval also includes 2,000 cubic yards of grading, development of a mutual water system, construction of two water tanks; demolition of an existing mobile home, barn, and greenhouse and conversion of an existing mobile home to a senior citizens unit. The proposed Tentative Subdivision Map is attached as Exhibit 5.



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According to the Draft EIR (DEIR, dated December 8, 2003) there are three existing residences on the project site: a 2,500 square foot home and two mobile homes. The two-story single-family dwelling and one of the mobile homes would be retained on what would be lot 1, with the mobile home becoming a senior citizen unit. The other mobile home currently on the property would be removed, leaving 9 new vacant residential parcels. As approved, a 21-foot wide access road (within a 30-foot wide road and utility easement) would enter the property from Maher Road along the southern property boundary and then head north across the middle of the property to reach the other newly created lots. The County's approval required that the access road avoid removal of a landmark 30-inch cypress tree located in the southeast corner of the site.

Table 1 shows the size and development planned for each of the 10 proposed lots.

Table 1. Proposed Lot Sizes and Potential Development for Sunridge Views Subdivision

Lot Number	Acres	Proposed Development
1	5.0	Existing single family dwelling; Conversion of existing mobile home to senior unit
2	1.2	Future single family dwelling
3	1.1	Future single family dwelling
4	1.0	Future single family dwelling
5	2.4	Future single family dwelling
6	1.5	Future single family dwelling
7	1.2	Future single family dwelling
8	7.8	Future single family dwelling Four 15,000-gallon water tanks
9	1.5	Future single family dwelling
10	2.0	Future single family dwelling
Misc.	0.3	Area dedicated for County Right-of- Way
Total	25.0	9 future single family dwellings and four 15,000-gallon water tanks

Septic tanks and a well currently serve the house and mobile homes. The current water supply well, recently drilled in 2000, is located uphill from the existing structures, and is capable of producing water at 60 gpm. A former well, located immediately behind the house, was abandoned as a drinking water supply well due to nitrate contamination; a nitrate treatment system was required and the well is still used for irrigation.



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While the original project description included two 20,000-gallon water tanks, the applicant has revised the project to include four 15,000-gallon water tanks, to be constructed on Lot 8, in a 50-foot by 100-foot tank lot easement located approximately 25 feet from the maritime chaparral habitat in the southwestern corner of the property. No other building or septic envelopes are shown on any of the proposed lots that would result from the subdivision.

C. Local Coastal Program (LCP) Consistency Review

1. Protection of Groundwater and Agricultural Resources

The project involves subdivision of an existing 25-acre parcel into 10 lots ranging in size from 1 to 7.8 acres, and development of a mutual water system (and increased pumping from an existing well) to provide for development of nine new residential units on Lots 2-10, and continued use of two existing residential units (existing home and mobile home) on Lot 1. However, North Monterey County has an estimated groundwater overdraft of more than 16,000 acre-feet per year,¹ which has led to seawater intrusion problems in nearly half of the North County area causing wells to be abandoned and alternative water supply solutions to be sought. The project site is not served by any other water source, or municipal water system, and so has no identified, available, long-term water supply. Approvals of increased residential development in this area would further deplete groundwater resources, putting existing water supplies for other uses (including priority agricultural use) at further risk of failure. While conversion from agricultural to residential land use may reduce current water demand, the project still generates a water demand beyond the safe yield of available water supplies, since the area is already in severe overdraft conditions. Furthermore, conversion from agricultural to residential land use would create a long-term water demand that cannot be adaptively managed in ways that agricultural water use can (e.g., by crop rotation, fallowing or dry farming practices when water is scarce). Since water levels are already well below safe yield, there is not enough water to even support 50% of the originally projected build-out in this area, thus any further development should be phased so that water doesn't continue to be committed beyond the safe long-term yield.

a. Applicable Policies

The County's LCP requires the protection of groundwater resources, especially within the North County where severe and chronic groundwater overdrafts have led to saltwater intrusion and the need to abandon previously-functional water supply wells. The North County LUP requires, among other things, that:

- New developments be controlled to a level that can be served by an identifiable, available, and long-term water supply (Key Policy 2.5.1);
- Development levels that generate water demand exceeding safe yield of local aquifers are only allowed once additional water supplies are secured (No Co LUP Policy 2.5.2.3);

¹ Monterey County Water Resources Agency and EDAW, Inc., 2002. *North Monterey County Comprehensive Water Resources Management Plan*; January 2002.



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- New development be phased so that existing water supplies are not committed beyond their safe long-term yields (No Co LUP Policies 2.5.2.3, 4.3.5.7, 4.3.6.D.5); and,
- The County should reduce the remaining build-out to limit groundwater use to the safe-yield level or, if required, in order to protect agricultural water supplies (No Co LUP policy 2.5.3.A.2).

Taken together the LCP provisions seek to ensure that any groundwater extraction protects groundwater aquifers, wetlands and streams, and agricultural water supplies.

Specifically, *North County Land Use Plan* provisions state:

North County LUP Action 2.3.4.1. A comprehensive natural resource and water basin management plan should be prepared for North County. The plan should include recommendations for monitoring residential and industrial runoff, regulation of discharges into coastal wetland and stream courses, in-stream flow protection, regulation of spoils disposal, development of best management practices for control of non-point discharge and erosion. Criteria should be set for adequate setbacks and development practices to protect environmentally sensitive habitats.

North County LUP Policy 2.5.1 Key Policy - The water quality of the North County groundwater aquifers shall be protected, and new development shall be controlled to a level that can be served by identifiable, available, long term-water supplies. The estuaries and wetlands of North County shall be protected from excessive sedimentation resulting from land use and development practices in the watershed areas.

North County LUP Policy 2.5.2.3. New development shall be phased so that the existing water supplies are not committed beyond their safe long-term yields. Development levels that generate water demand exceeding safe yield of local aquifers shall only be allowed once additional water supplies are secured.

North County LUP Policy 2.5.3.A.1 The County's Policy shall be to protect groundwater supplies for coastal priority agricultural uses with emphasis on agricultural lands located in areas designated in the plan for exclusive agricultural use.

North County LUP Policy 2.5.3.A.2 The County's long-term policy shall be to limit ground water use to the safe-yield level.² The first phase of new development shall be limited to a level

² While the term "safe-yield" is not defined in the LCP, the North Monterey County Comprehensive Water Resources Management Plan defines "sustainable yield" as "the available groundwater supply that may be pumped without inducing additional groundwater declines or causing seawater intrusion (vertical migration from the slough or horizontal migration from the ocean) beyond conditions that existed in 1992." However, since there were already groundwater problems before 1992, this definition may not be totally adequate. A more appropriate definition in terms of Coastal Act concerns would be: "the amount of naturally occurring ground water that can be withdrawn from an aquifer on a sustained basis, economically and legally, without impairing the native ground-water quality or creating an undesirable effect such as environmental damage," from Fetter, C.W., Applied Hydrogeology, Fourth Edition, 2001, p. 447. Additionally, any water that is extracted from ground water (or intercepted before it can become ground water) will reduce the amount



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not exceeding 50% of the remaining build-out as specified in the LUP.³ This maximum may be further reduced by the County if such reductions appear necessary based on new information or if required in order to protect agricultural water supplies. Additional development beyond the first phase shall be permitted only after safe-yields have been established or other water supplies are determined to be available by an approved LCP amendment. Any amendment request shall be based upon definitive water studies, and shall include appropriate water management programs.

North County LUP Action 2.5.4.1 *The County Flood Control and Water Conservation District, in cooperation with the County Planning Department should develop a system of monitoring the effects of increasing development on the groundwater resources. The County should establish a fee as part of permit applications (or some other financial arrangement) in order to provide a fund to support monitoring of groundwater use and to support further studies of groundwater resources or potential surface water projects that could serve the North County.*

North County LUP Action 2.5.4.2. *County growth management studies now in progress should recognize the water supply limitations in the North County Coastal Zone as a chief factor and resource constraint in determining an appropriate annual-growth rate for the area. An ordinance should be drafted by the County to phase development at a level compatible with the availability of groundwater supplies.*

North County LUP Action 2.6.4.1. *Monterey County shall develop a comprehensive agricultural management plan for existing and future agricultural uses in North Monterey County, in coordination with other appropriate public and private agencies, including but not limited to the County Agricultural Commissioner, Agricultural Extension, Soil Conservation Service, Monterey Coast Resource Conservation District, and the Farm Bureau. The goal of this plan would be the protection of long-term agricultural production, groundwater availability, water quality, and public welfare.*

North County LUP Policy 4.3.5.4 *Where there is limited land, water, or public facilities to support development, coastal-dependent agriculture, recreation, commercial and industrial uses shall have priority over residential and other non-coastal-dependent uses.*

North County LUP Policy 4.3.5.7 *New subdivision and development dependent upon groundwater shall be limited and phased over time until an adequate supply of water to meet long-term needs can be assured. In order to minimize the additional overdraft of groundwater*

of ground water available. Even if the aquifer remains saturated to the same levels, ground water flow will change and the amount that is recharged (to streams, to marshes, to the ocean) will change as a result of any interception or extraction of ground water. Thus, from a Coastal Act perspective the amount of acceptable groundwater extraction may be less than what is calculated in this study as “sustainable yield.”

³ As described in Coastal Implementation Plan Section 20.144.140.B3, 50% of the remaining build-out was calculated by subtracting the number of existing units from the maximum potential build-out and dividing that number in half (i.e., 7,835 maximum units – 3,750 units existing at the time the LUP was certified = 4,085 units x 50% = 2,043 units).



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accompanying new development, water conservation and on-site recharge methods shall be incorporated into site and structure design.

***North County LUP Policy 4.3.6.D.1** Land divisions for residential purposes shall be approved at a density determined by evaluation of site and cumulative impact criteria set forth in this plan. These include geologic, flood, and fire hazard, slope, vegetation, environmentally sensitive habitat, water quality, water availability, erosion, septic tank suitability, adjacent land use compatibility, public service and facility, and where appropriate, coastal access and visual resource opportunities and constraints.*

***North County LUP Policy 4.3.6.D.5** Where public facilities or water supply necessary to support residential development are limited, residential growth should be phased to allow sufficient time for these essential elements to be provided.*

***Code Section 20.144.070 WATER RESOURCES DEVELOPMENT STANDARDS:** The intent of this Section is to provide development standards which will protect the water quality of the North County surface water resources aquifers, and groundwater, control new development to a level that can be served by identifiable, available, and long-term water supplies, and protect North County streams, estuaries, and wetlands from excessive sedimentation resulting from land use and development practices in the watershed areas. (Ref. Policy 2.5.1).*

***Code Section 20.144.070.E.10.** Development shall not be permitted if it has been determined, through preparation of the hydrologic report, or other resource information, that: a) the development will have adverse impacts to local agricultural water supplies, such as degrading water quantity or quality; and, b) there are no project alternatives and/or mitigation measures available that will reduce such impacts to levels at which the long-term maintenance of local coastal priority agricultural water supplies is assured. (Ref. Policy 2.5.3.A.1 t A.2)*

***Code Section 20.144.070.E.11.** Development shall not be permitted if it has been determined, through preparation of a.) hydrologic report, or other resource information, that: a) the development will generate a water demand exceeding or adversely impacting the safe, long-term yield of the local aquifer; and, b.) there are no project alternatives and/or mitigation measures available that will reduce the development's water use to a level at which it will not exceed or adversely impact the safe, long-term yield of the local aquifer.*

***North County LUP 2.6.3.8.** Conversion of uncultivated lands to crop lands shall not be permitted on slopes in excess of 25% except as specified in policy 2.5.3(4) of this plan and shall require preparation and approval of an Agricultural Management Plan. Conversion of uncultivated lands to crop lands on lands where 50% or more of the parcel has a slope of 10% or greater shall require a use permit. Approval of the use permit shall follow the submission of an adequate management plan. These plans should include analysis of soils, erosion potential and control, water demand and availability, proposed methods of water conservation and water quality protection, protection of important vegetation and wildlife habitats, rotation schedules,*



and such other means appropriate to ensure the long-term viability of agriculture on that parcel.

b. Analysis of Consistency with Applicable LCP Policies

Available Long-term Water Supply

The subject site is located in North Monterey County, which has severe groundwater overdraft problems. Virtually all of the agricultural, commercial and residential development in North Monterey County relies on groundwater pumped from local wells, with agriculture using approximately 85 percent of the water demand.

When the North Monterey County LUP was written in the early 1980's, it acknowledged that the area had been experiencing overdraft problems for some time, but was not able to quantify the amount of overdraft or determine what the safe yield was at the time. Rather, it noted that:

A study for the State Department of Water Resources in 1977 indicated a general groundwater overdraft of about 15,500 acre-feet annually in the North County area. A more detailed study by the U.S. Geological Survey in 1980 confirmed the overdraft of the Aromas Sand Aquifer. The report estimated a study area annual overdraft in the North County area of about 1,500 to 8,000 acre-feet. However, due to the depth of the water-bearing Aromas Sands, its high storage capacity, and the overall complexity of geologic and hydrologic considerations, the long-term safe yield of the aquifer is difficult to estimate...

It is evident that continued overdraft in the North County will lead to increasing saltwater intrusion and lower water tables. In some areas, water shortages may occur. Managing the demand for water generated by agricultural use and residential and commercial development within the limits of attainable long-term water supply sources will be a major challenge for the area in the coming years. Additional information is urgently needed to help determine the long-term safe yield of North County aquifers. The opportunities for obtaining a surface water supply should also be investigated.

Thus, while there was no agreement on the magnitude of the problem or on how to quantify the safe yield at the time the LCP was certified, the County attempted to manage the demand for water by establishing policies that phased development relative to safe yield and limited increased residential development (beyond one home per legal parcel) by placing an interim threshold on residential development, until that safe yield level could be determined. An interim threshold of 50% of residential build-out was established, to allow for partial build-out while the County pursued efforts to quantify the problem and arrive at a solution.

LUP policy 2.5.2.3 thus potentially allows up to 50% of maximum build-out to occur (i.e., 2,043 units or lots) prior to the availability of a new water supply.⁴ Currently 255 units or lots remain until that threshold is reached. However, that is a maximum threshold, and LUP policy 2.5.3.A.2 includes a caveat

⁴ This policy applies to new lots and second units on existing lots; one home per vacant parcel is permitted



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that requires the remaining build-out threshold to be reduced to limit groundwater use to the safe-yield level or if required in order to protect agricultural water supplies. Thus, while the 50% build-out level may have been an optimistic threshold to use, the County did have the foresight to establish this threshold not as an absolute number, but rather as a maximum that could be changed in order to protect groundwater resources once more was known.

Since the time that the LUP was written in the early 1980's (and the LCP certified in the late 1980's), the County has sponsored more definitive studies to determine the safe yield and, in the meantime, has allowed some new development to occur while studies were conducted to more thoroughly address the issue.

The first study commissioned by the County, conducted in 1995 by Fugro West⁵, calculated the groundwater overdraft on the order of 11,700 acre-feet per year⁶. Since that time, the 2002 Comprehensive Water Resources Management Plan, prepared by Monterey County Water Resources Agency and EDAW,⁷ updated the 1995 analysis and calculated the overdraft to be as much as 16,340 afy⁸.

Thus these studies not only quantified the sustainable yield, they also showed that the current overdraft is more than what was first estimated and that as a result of continued overdraft, the extent and severity of the resultant problems (e.g., extent of seawater intrusion, increased water contamination problems, and number of abandoned wells) have increased over time.

For example, in the North Highlands hydrogeologic sub-area, in which the Sunridge Views proposed subdivision is located, the 1995 Fugro-West study calculated a sustained yield of 2,920 afa⁹ and historical groundwater demand of 4,780 afy, resulting in a deficit of 1,860 afy, or a demand that was 39 percent more than available groundwater supplies. Updated values, provided in the 2002 Comprehensive Water Resources Management Plan, calculated a sustained yield of 2,920 afa, and current demand of

⁵ Fugro West, Inc., 1995. *North Monterey County Hydrogeologic Study, Vol. 1: Water Resources*; Table 11. Prepared for Monterey County Water Resources Agency, October 1995.

⁶ The 1995 Fugro West study estimated a sustainable yield of 14,410 afy, but with extraction of 26,110 afy resulted in an overdraft in North Monterey County of 11,700 afy.

⁷ Monterey County Water Resources Agency and EDAW, Inc., 2002. *North Monterey County Comprehensive Water Resources Management Plan*; January 2002.

⁸ The 2002 Comprehensive Water Resources Management Plan estimated a sustainable yield of about 14,410 acre-feet per year (afy), but extraction of 30,750 afy, results in an overdraft in North Monterey County of 16,340 afy.

⁹ "The County estimate is based on "Sustainable yield;" defined as the amount of annual pumping not causing additional ground water declines from 1992 conditions and/or not causing additional seawater intrusion. Since there were already groundwater problems before 1992, this definition may not be adequate. A more appropriate definition in terms of Coastal Act concerns would be: "the amount of naturally occurring ground water that can be withdrawn from an aquifer on a sustained basis, economically and legally, without impairing the native ground-water quality or creating an undesirable effect such as environmental damage," from Fetter, C.W., *Applied Hydrogeology*, Fourth Edition, 2001, p. 447. Additionally, any water that is extracted from ground water (or intercepted before it can become ground water) will reduce the amount of ground water available. Even if the aquifer remains saturated to the same levels, ground water flow will change and the amount that is recharged (to streams, to marshes, to the ocean) will change as a result of any interception or extraction of ground water. Thus, from a Coastal Act perspective the amount of acceptable groundwater extraction may be less than what is calculated in this study as "sustainable yield."



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5,621 af/y resulting in a current deficit of 2,701 afy, or a current demand that is 48 percent more than available groundwater supplies.

The 2002 Comprehensive Water Resources Management Plan (CWRMP) also shows that long-term over-commitment of the aquifer threatens water supplies and other existing users due to the risk of lowered groundwater levels and seawater intrusion. Water level trend analysis conducted as part of the Fugro West study identified a general long-term trend of declining water levels in the area over the last 20 years, with 1994 water levels in some portions of the Highlands area being more than 40 feet below mean sea level (near Prunedale). Seawater intrusion results when wells pumped near the coast cause the water table elevation (or groundwater level) to drop below sea level. Once the water table elevation drops below sea level, seawater can migrate into the aquifer (from the ocean as well as from the tidally influenced Elkhorn Slough system) and mix with freshwater, which increases the chloride concentrations in the groundwater pumped from these wells. A concentration of 500-mg/l of chloride is the Secondary Drinking Water Standard upper limit and so is used as a measure of impairment of water, and is therefore used as a basis for determining seawater intrusion in wells. Figure 8 of the Comprehensive Water Resources Management Plan includes a map of Seawater Intrusion in North Monterey County, showing that 500-mg/l-chloride contour has moved landward over time, from between 1,650 to 3,300 feet over the period between 1979 and 1993.

Seawater intrusion threatens both agricultural and residential water uses. According to the CWRMP, the Springfield Terrace area (in the northwestern portion of North Monterey County) and other areas near the Elkhorn Slough have been the most impacted by elevated chloride ion concentrations as a result of seawater intrusion, and many agricultural producers have had to abandon their water supply wells, mix salty well water with fresher water to reduce the chloride concentrations, or purchase reclaimed water for irrigating agricultural lands (pers. comm... PVWMA staff). Other agricultural and residential wells have had to be abandoned and drilled to deeper depths to reach unaffected portions of the aquifer.

The Commission's recent Periodic Review also reviewed the hydrogeologic studies conducted to date and past permit activity in North Monterey County, and noted that in light of the continuing worsening groundwater overdraft, it is clear that a multi-pronged approach is needed to work toward preventing groundwater depletion and also giving priority to agricultural production on suitable soils. The Periodic Review thus recommended the County clarify and implement a policy against further subdivision until there is an adequate water supply, only allow development on vacant lots that does not further contribute to groundwater overdraft, continue to work with farmers on conserving water for agricultural use, establish and adopt policy that governs any attempts to fallow agricultural land to ensure that such programs protect prime agricultural land and result in actual water reductions rather than just offsets that would allow for more subdivisions [or increased use elsewhere]. The Periodic Review also recommends that the County work to bring new water supplies on line and/or reduce existing demand to achieve a groundwater balance with out adverse impacts, and that such programs be accomplished in a manner that protects coastal resources.

As a result of studies requested by the County and additional new information since the LCP was certified, more is known now than was previously known at the time the LUP was written and these



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policies were put into effect. The 2002 Comprehensive Water Resource Management Plan shows that current water demand already exceeds safe yield throughout North County by more than 16,000 afy. While policy 2.5.3.A.2 requires that build-out not exceed the interim threshold of 50%, even that number is beyond what the groundwater resources can support, thus the proposed project should no longer be eligible to take advantage of the 50% build-out accommodation. Further residential development would commit to long-term withdrawals, which, without a concomitant reduction in groundwater pumping and comprehensive water conservation program, will continue to increase groundwater overdraft, and exacerbate the saltwater intrusion problems that adversely affects priority agricultural use.

Policy 2.5.3.A.2 provides that the 50% threshold may be further reduced if such reductions appear necessary, based on new information or if required to protect agricultural water supplies. Since new information shows that groundwater extractions are harming agricultural water supplies, and the trend is that continued groundwater withdrawals will lead to increased overdraft and seawater intrusion, it now appears necessary that build-out needs to be commensurately reduced to protect these supplies.

The County at least temporarily implemented this requirement of policy 2.5.3.A.2 by establishing an urgency moratorium on new subdivisions from September 2000 to August 2002. But State law allows moratoria established by urgency ordinances to last only two years. For a more permanent solution, County staff and Planning Commissioners crafted a new General Plan/local coastal program that would have mostly extended the ban on creating new residential lots within rural North County by increasing minimum parcel sizes to 40 acres, however the Board of Supervisors has since put the revised General Plan effort on hold. Meanwhile, subdivisions, like Sunridge Views, originally proposed before the moratorium, are now being approved by the County, in conflict with policy 2.5.3.A.2's mandate to reduce the build-out threshold below 50% under current circumstances.

Thus with new information at hand from the hydrogeologic studies conducted since the LCP was certified, and other information obtained since that time, the Commission would be remiss if it did not say that it was time to reduce the 50% threshold and prohibit development that requires additional groundwater withdrawals. If the Commission proceeds to approve incrementally, residential subdivisions without addressing the planning problems that we know about at this point, we will end up with a groundwater basin that is still in severe overdraft, with the limited water being allocated to residential development, rather than priority agricultural use, in a haphazard fashion. Furthermore, until the groundwater basin is brought back into equilibrium, future water use by even existing users will continue to exacerbate the already critical and chronic situation. Cumulatively, new development, particularly the creation of additional residential lots, will draw groundwater levels into further overdraft. Payment of in-lieu fees to the Water Resources Agency may help fund further study and perhaps partially fund implementation of possible solutions, but it does not adequately mitigate for the continued over-drafting of the North Monterey County aquifers, based on what is known with regards to the severity of the problem at this point in time. Thus, pursuant to policy 2.5.3.A.2, since the safe yield is already exceeded, further build-out must be reduced to zero, and where new development on existing legal lots of record must be approved, it should only be approved with a commensurate, guaranteed reduction in water use (e.g., through a comprehensive water conservation program that requires retrofit



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of existing residential development, like that currently used in Cambria, which also has a severe water shortage).

Water Demand

The project proponents suggest that, based on conversion of agricultural to residential land use, the project will reduce overall groundwater demand, and the amount of groundwater overdraft attributable to water use on the property. Based on the water budget analysis (conducted by Todd Engineers and included in the December 2003 Draft EIR, or DEIR), it was determined that water use would be reduced from a current water use of 47.12 afy to a proposed water use of 7.85 afy (assuming that no agricultural use would continue and no water would be used for landscaping or irrigation). The water balance analysis takes into consideration changes in water withdrawal and total infiltration (water recharge) following use of that water, and calculates a water use reduction of approximately 24 afy. The project proponents have suggested that over a 30-year time frame, such a water savings could “promote the protection of agricultural water supplies by reducing water demand” by about 720 af (factoring a reduction in water use of 24 afy times 30 years).

While at first glance this appears to be an appealing argument, further analysis reveals that it not persuasive and does not substitute for several inconsistencies with LCP policies that are not ameliorated. In contrast to the current agricultural use (whose water consumption has varied and can be more easily controlled), this subdivision represents a permanent commitment of an estimated 7.85 afy (acre feet/year) of water from a severely overdrafted groundwater basin to a rural residential use. This is not a priority use under the LCP (nor Coastal Act).

No matter whether the proposed subdivision results in less overall water demand on this particular site, there is no guarantee that it could be served by an available, long-term water supply, as required by cited Key policy 2.5.1. The project relies on a well that will draw from the severely overdrafted North Highlands aquifer. Since, “water levels in the Highlands sub-areas have consistently declined over the last 20 years,”¹⁰ the well’s long-term reliability is questionable. Of more immediate concern is the possibility that the well on site could become unusable due to groundwater nitrate contamination, as others in the area have (see discussion in Water Quality section below). If the well fails in the future, there is no alternative water supply system currently available in the area that could serve the new subdivision.

Even if the site’s well is able to supply potable water over the long-term, the proposed subdivision still would not comply with LCP provisions to protect groundwater resources because the use of the well affects and is affected by the entire groundwater basin in which it is located. Approving the creation of new lots that rely on groundwater from an overdrafted basin is inconsistent with LUP policy 2.5.2.3, which requires that new development be phased so that existing water supplies are not committed beyond their safe long-term yields, and goes on to state that “development levels that generate water

¹⁰ Fugro West, Inc., 1995. *North Monterey County Hydrogeologic Study, Vol. 1: Water Resources*; pg. 53. Prepared for Monterey County Water Resources Agency, October 1995. Overdraft is calculated by comparing demand to sustained yield.



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demand exceeding safe yield only be allowed once additional water supplies are secured.” The estimated 24-afy water use reduction that might result from the proposed conversion of agricultural to residential use is actually less than one percent of the current annual deficit of 16,340 afy (based on the 2002 Comprehensive Water Resources Management Plan) and so would be negligible in providing any real improvement in reducing groundwater overdraft either now or in 30 years from now.

Residential Water Use Versus Agricultural Water Use

Moreover, the LCP inconsistencies with this project cannot be overlooked simply because the proposed project is estimated to use less water per year than the current strawberry operation. The site's existing water use for 2002 is estimated to be 47.12 afy. Residential use is estimated at 2.35 afy based on a typical 0.78 afy per dwelling unit (times the three units currently on the site). Agricultural use is estimated at 44.77 afy based on 3.2 afy per acre of berry cultivation (times 14 acres in production in 2002). Due to recharge from infiltration, the estimate net draft on the aquifer is 24.05 afy (i.e., 23.08 afy of extracted water is estimated to infiltrate back into the aquifer). Future water use after Sunridge Views is built out is estimated to be 7.85 afy (0.78 afy per dwelling unit times 10 units). Due to recharge from infiltration, the estimate net draft on the aquifer is 0.05 afy (i.e., 7.8 afy of extracted water is estimated to infiltrate back into the aquifer). There is thus a reduction of 39.27 afy in estimated water use and a reduction of 24 afy in net draft on the aquifer. But, this estimated reduced water use as a result of agricultural conversion to residential use is not necessarily certain, long-term, nor the best outcome for the site for at least six reasons.

First, historic photos (shown in Exhibit 7) show that agricultural use has varied over time, with regards to both the type of agricultural production, and the amount of land under cultivation, indicating that water use has not remained constant over time. They also show that strawberry cultivation on site is a relatively recent phenomenon; in the not too distant past, irrigated agriculture was not practiced in this area. An aerial photo of the site, taken in 1931, shows that the site was used for agricultural production prior to establishment of the Coastal Act, apparently for some type of orchard use.¹¹ However, other aerial photos, taken in subsequent years (1956, 1971, 1980, and 1999) show that agricultural production on the property has varied over time, with orchard production ceasing some time after May 1956, and much of the site not in production in 1971. The 1980 photo shows that only about half of the existing area now under cultivation appears to have been farmed at that time, and the 1999 aerial photo shows that cultivation had expanded into the northern half of the site, similar to that currently under cultivation. Since the amount of land and crop use have changed over time, it is reasonable to conclude that water demand has likely changed over time as well. Thus, while the extent and type of agricultural use may result in a relatively high water use at the current time, the historic photos show that this has not consistently been the case. According to the project's hydrologic report, in 1999 only 9 acres of the site was in production; while according to the final EIR only 4.5 acres were in cultivation in 1998 and 1999.

¹¹ Since historic aerial photos, obtained after the substantial Issue report was released, show agricultural use of the site prior to enactment of the Coastal Act, prior discussion regarding the potential for agricultural use in violation of the Coastal Act, as outlined in the Substantial Issue report, is no longer relevant.



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Actual water use in those two years was 13 and 14 acre-feet respectively.¹² Thus, even if the estimated net draft on the aquifer of 24 afy approximates reality, that figure is only from one period of time. The actual annual amount of water savings may be an overestimate if it is based only on the removal of strawberry production currently on site, instead of compared to the average water use that has occurred on the property over time.

Second, the estimated net reduction in water consumption is not guaranteed, in part because the estimates regarding existing and proposed water demand provided in the project's hydrologic report assume that the new SFD development will not use any water for landscaping and gardening. The project's hydrologic report estimates zero future irrigation use for landscaping. This assumption seems unreasonable. While residential use would severely restrict the potential for continued commercial use of the site, actual residential water use could be much greater than estimated if individual, future property owners irrigate their land for personal use (e.g., for landscaping and/or gardening). Future owners may also decide to build second (senior) units, which would also add to water use on site.

Third, the estimated current and future draft on the aquifer is also by no means certain. These figures are based on estimated infiltration. Only 37% of crop irrigation water is estimated to infiltrate back into the groundwater basin, while 50% of residential water use is estimated to infiltrate back into the groundwater basin. Additional infiltration is estimated from precipitation that enters into the ground. The 50% figure for residential use is based on aquifer recharge from septic systems. However, septic leach fields are shallow, and it would take many years for the leachate to reach the groundwater basin, relative to the rate at which groundwater is pumped out for daily residential use. Conversely, the use of drip irrigation for watering strawberries could result in lower evaporation rates and consequently higher than estimated infiltration rates.

Fourth, as long as the property were to stay primarily in agricultural use, water consumption could be more easily adjusted or even terminated, especially if there is ever a supply or quality problem. Water use for agriculture can vary greatly based on the type of crops grown. For example artichokes use only 1.75 afy/acre and Brussels sprouts use only 2.5 afy of water per acre of crop. Grazing may not require any irrigation. There are also initiatives underway and planned to practice more aggressive conservation measures in crop irrigation to reduce water consumption. In contrast to agricultural water use, which can be adaptively managed over time, ongoing residential use will require a commitment to a permanent long-term water supply, which could not be served with the same flexibility to adapt to changing climatic and groundwater storage conditions.

Fifth, the LCP policies and subsequent planning do not direct that permanently eliminating commercial agriculture on this site is the way to address the water overdraft. The latest in a series of studies is the County's *North County Comprehensive Water Resources Management Plan*. This plan, which, despite its name, is lacking in details, broadly calls for four alternatives to be pursued in parallel:

¹² A meter was installed on the well in 1998. No actual water use figures from metered wells is available in the County record from 2000 on.



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- Acquisition of agricultural parcels to reduce demand;
- An expansion of the Salinas Valley Water Project for agricultural water
- Use of the Salinas Valley Water Project for “urban” water
- Construction of a desalination plant and piping some of its water to “urban” uses in North County.

The acquisition of agricultural parcels would mean that they would no longer be used for irrigated cultivation. Such an approach, as one component of an overall agricultural management plan (required by No Co LUP action 2.6.4.1, but not yet prepared) and water supply plan, may have merit in reducing both water use and erosion. However, it may cause a conflict because agriculture is a priority use under the Coastal Act and the LCP. Thus, any agricultural reduction or fallowing program should be on land determined to be unsuitable for long-term cultivation based on resource protection criteria, not ad hoc decisions on individual parcels, as is the case here. And, any such reduction or fallowing should contribute to arriving at an aquifer in balance to protect the agricultural use that is to remain. Absent the details of such a program being approved, including a likely LCP amendment, there is no guarantee that the subject project would result in a net decrease in water use because equivalent new or expanded agriculture on a nearby site could cancel it out. Also, absent the details of such a program being approved it is premature to conclude that the subject property is an appropriate one on which to permanently restrict agriculture compared to all other properties in the sub-basin that are under cultivation. The site is zoned low density residential, (LDR/CZ 2.5), but this designation does provide for row crop cultivation as a principal permitted use. The property is also sloping, but the strawberry fields are mostly on lands less than the 25%. Since cultivation on slopes greater than 25% is prohibited, there may be other irrigated cultivation occurring elsewhere on steep slopes or less viable land than the subject site that should be taken out of production first, before fallowing land on this site.

Sixth, the LCP policies and subsequent planning do not suggest that substituting residential use for agricultural use, as proposed by this project, is the way to address the overdraft. In describing the approach of allowing subdivision where there was no net increase in water use through an offset program, the *North County Comprehensive Water Resources Management Plan* noted that:

The Planning Commission rejected this approach because no mitigation measures were specified, no mechanism for local land use control or implementation was defined, agricultural lands could be taken out of production contrary to Coastal Plan policies, and there were no quantified or meaningful reductions in demand. One key problem was leaving the development of the water mitigation plans up to project proponents without any guidelines or specific procedures to ensure compliance. These issues could be resolved and a viable means of reducing overdraft developed through a coordinated effort to define and manage the mitigation efforts, make the process legally defensible, and quantify the savings.

The Commission agrees with this assessment. If the County were to develop such an offset program it would have to determine not only which parcels should never have agriculture (as described above), but also which are priority for other uses and what those uses are. Under the LCP (and Coastal Act) priority



is for coastal dependent uses and concentration of development in or near urbanized areas. Absent the details of such a program being approved, it is premature to conclude that the subject site has a priority for being subdivided into low-density residential parcels.

Future Water Supply Projects

Project proponents have indicated that future water supply projects (i.e., the Pajaro Valley Water Management Agency's (PVWMD) *Revised Basin Management Plan* and the Salinas Valley Water Project (SVWP)) have the potential to provide long-term water supplies. Monterey County Water Resources Agency has indicated that these projects could provide North County with a long-term water supply. The County staff report even notes "the County anticipates that these projects would be relied upon in the future as an additional assurance of a long-term sustainable water supply."

While both these projects have the potential to lessen the groundwater overdraft in the North County area over time, neither of these projects would directly supply potable water to the Sunridge Views neighborhood.¹³ The PVWMD improvement projects are to use surface and imported water to substitute for agricultural wells along the coast in areas currently experiencing salt-water intrusion. Similarly, the SVWP would use surface water to substitute for agricultural wells and to replenish aquifers hydraulically linked to the Salinas River. (A brief description of each project is provided in Exhibit 8).

Furthermore, both of these projects are still in the planning stage; neither the PVWMD nor SVWP projects have completed the permitting process, let alone have all their financing,¹⁴ and there is no assurance of when or if they will actually become available. No estimates have even been given as to how long it will take to resolve the seawater intrusion problem and recharge the groundwater aquifers

¹³ The PVWMA has plans to address saltwater intrusion, by reducing agricultural water withdrawals in the lower portion of the watershed and substituting that water with supplemental water taken from the upper Pajaro Valley watershed and water imported from the Central Valley. The PVWMA, as designed, is intended primarily to improve water supplies for agricultural use within the Pajaro Valley groundwater basin; the only direct benefit to domestic water supplies from this water supply project could go to the Aromas Water District which has an agreement with the PVWMA for 400 afy, however since much of the water supplied is likely to be recycled water, the Aromas Water District may not actually make use of the agreement (pers Comm., Mary Bannister, PVWMA).

The SVWP is currently only in design phase, has had approvals for tax assessments, but the design is not complete, and so is not permitted or constructed yet. Based on discussions with County Water Resources Agency staff, the SVWP is currently in 8-10 month design phase and the regulatory process has not yet begun, thus construction is not expected to be complete before at least the year 2008. Monitoring would then need to be conducted for some period of time to determine if either of the projects actually stops groundwater overdraft, and builds up groundwater levels to a point where there is more water available than is being withdrawn, before allowing additional, non-priority development to depend on this water as an assured long-term water supply.

¹⁴ Based on the latest information from Monterey County Water Resources Agency (as described by Alana Knaster, of the Monterey County Planning and Building Inspection Department, on October 19, 2004) project designs for the SVWP will not be completed till Spring 2005, with financing to be put together by September 2005, and construction expected to begin by April 2006. Since the regulatory process for the SVWP has not yet begun on any finalized plans, this may be an overly optimistic schedule. Be that as it may, in either case, construction of the SVWP could not be expected to be complete before at least the year 2008. Furthermore, the SVWP cannot be relied upon as a future long-term water supply until it has been constructed and found to actually increase groundwater levels so that saltwater intrusion is halted and groundwater resources are available to supply safe yield for planned development. Similarly, updated information regarding the PVWMA BMP indicates that proposed water supply project would not be constructed before 2007.



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back to an equilibrium condition, let alone to increase the water table levels so that additional groundwater storage can occur to serve the LCP's planned build-out. If and when the projects are ever constructed, it would take some time and monitoring to determine if they have been successful at halting groundwater overdraft and restoring groundwater reserves to sustainable yields. Only then could a determination be made that there was an adequate long-term water supply available to serve additional development. Thus the Commission does not agree with County and project proponents that these water supply projects can be counted and relied upon at this time as secure, available long-term water supplies. And without such a finding the proposed project is inconsistent with the LCP Key policy that requires development be controlled to a level that can be served by identifiable, available long-term water supplies (LUP Key Policy 2.5.1).

c. Conclusion

The proposed Sunridge Views subdivision is **inconsistent with LCP policies requiring protection of groundwater resources**. At first glance it is tempting to consider as positive and worthy of approval a project that purports to reduce water use in an area of known, severe overdraft. But the estimated water reduction based on conversion from agricultural use to residential use that the project would provide would be less than one percent of the existing overdraft, and so of slight assistance in reducing groundwater overdraft. There are actually many potential techniques being considered by the County that would result in reduced pumping of the overdrafted groundwater basin (e.g., fallowing agricultural uses on steeper slopes than the subject site, implementation of water conservation measures, more capture of surface water to substitute for groundwater withdrawals and/or replenish groundwater basins, using desalinated water instead of groundwater). Each of these has a price tag; the trade-off in allowing the subject project is a net gain of nine new rural residential parcels, each requiring a permanent commitment of potable water, currently only available from overdrafted basins. Possibly, as part of a detailed program, which spelled out where agriculture would continue versus where it would be prohibited in the context of an overall solution that would guarantee that the groundwater basins would achieve equilibrium, this trade-off would be acceptable. But no such program has been advanced to date. Absent such an approved program, approval on new subdivisions is premature.

The Commission must thus deny the proposed project because it relies on a permanent commitment to using groundwater from an overdrafted basin. The North Highlands aquifer is already overdrafted by an estimated 2,701 afy¹⁵. The PVWMA and SVWP projects, which are designed to improve long-term water supplies, are still in the planning stage and cannot be relied upon as a future long-term water supply until they are constructed and it has been shown that they can restore groundwater resources and provide a safe yield for planned development. The project is inconsistent with policy 2.5.2.3 because it would require commitment of water for new development beyond the safe long-term yield of the groundwater aquifer; inconsistent with policy 2.5.3.A.1 because it fails to protect groundwater supplies for coastal priority agricultural uses. Furthermore, the project is inconsistent with policy 2.5.3.A.2

¹⁵ Based on 1999 updated values, taken from Table 1: Summary of Overdraft Problem; in Monterey County Water Resources Agency and EDAW, Inc., 2002. *North Monterey County Comprehensive Water Resources Management Plan*; January 2002.



because it allows further development even though the LCP says to reduce the maximum 50% build-out level to protect groundwater resources in light of the current severe overdraft situation that exists in the North County area.

2. Water Quality

The project also raises the issue of conformance with the LCP's policies for providing a suitable water supply with regards to water quality because of concerns regarding nitrate contamination, since a previous well on site and other wells in the area have been abandoned, new wells have been drilled to deeper depths to avoid nitrate contaminated groundwater, bottled water has been necessary to use, and water treatment has been required.

a. Applicable Policies

North County LUP Policy 2.5.2.5. New rural development shall be located and developed at densities that will not lead to health hazards on an individual or cumulative basis due to septic system failure or contamination of groundwater. On-site systems should be constructed according to standards that will facilitate long-term operation. Septic systems shall be sited to minimize adverse effects to public health, sensitive habitat areas, and natural resources.[emphasis added]

Code Section 19.03.015.L Subdivision Ordinance. ...Hydrological evidence shall be submitted to the Director of Division of Environmental Health to show evidence of water quality and quantity. The applicant shall also provide proof of an assured, long-term water supply in terms of sustained yield and adequate quality for all lots, which are proposed to be created through subdivisions...[emphasis added]

b. Analysis of Consistency with Applicable LCP Policies

North County LUP Policy 2.5.2.5 requires that new development be located and developed at densities that will not lead to health hazards on an individual or cumulative basis due to septic system failure or groundwater contamination.

Section 19.03.015 of Title 19 (Subdivision Ordinance) of the Monterey County Code requires that the applicant “provide proof of an assured, long term water supply in terms of sustained yield **and adequate quality** for all lots which are proposed to be created through subdivision” (emphasis added).

According to the Hydrologic Assessment conducted for the project by Todd Engineers (Technical Memorandum dated December 19, 2002, and Technical Addendum dated July 21, 2003), the subject parcel had previously been served by a well located immediately behind the house. After testing high for nitrates (a water sample collected and analyzed in early January 2000 indicated a nitrate concentration of 82 parts per million (ppm), which dropped down to 46 ppm only after 4 hours of flushing, both of which exceed the California drinking water standard for nitrate, set at 45 ppm) the well was abandoned as a residential water supply well, and a new well, located further up the hill, was drilled in February 2000.



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While the depth and screening levels of the earlier well are not known, the new well has been drilled to a depth of 500 feet below surface grade (bsg), is sealed to 300 feet bsg, and screened below 340 feet bsg.

None of the water samples collected from the new well have shown high nitrate levels to date. According to data shown in the Technical Addendum, which includes additional data points provided by Monterey County Health Department, three water samples from the new well, taken in 2000 (presumably the February 2000 sample), 2001, and 2003, all had nitrate levels apparently below detection levels (see Exhibit 9). Following the September 2004 hearing when the Commission found Substantial Issue on the appeal, the project proponents also submitted additional information regarding water quality testing from samples collected from the new well. This data shows that water samples collected from the new well were tested and nitrates were found below safe water drinking levels of 45 ppm on February 24, 2000 (<0.5 ppm); March 14, 2003 (<1 ppm); June 11, 2003 (not detected); and January 15, 2004 (<1 ppm).

With regards to bacteriological levels, project proponents also submitted a memorandum from the Monterey County Health Department, dated March 1, 2000, showing that following construction of the new well, all chemical and bacteriological tests conducted met County and State standards. Subsequent bacteriological testing conducted on June 11, 2003, found *E. coli* and total coliforms present, however, retesting on June 19, 2003 found *E. coli* and total coliforms absent, and testing conducted in January 2004 does not note any bacteriological problems.

The former well was abandoned as a drinking water supply well due to nitrate contamination, a nitrate treatment system was required, and the well is still used for irrigation. Samples from the new well were used to estimate the amount of time it would take for nitrate levels on the site to exceed safe drinking water standards, which was estimated to be 55 years, or by the year 2055 (assuming a non-detection level of about 0.5 mg/l to be the existing nitrate concentration, and an average annual increase of 0.85 mg/l based on averaging of all other wells sampled in the area). However the Hydrologic Assessment notes that using an average annual increase is probably not wise since the average yearly increase varies greatly from well to well in this area (ranging from an increase of -.305 to +2.75 ppm per year) depending on the depth of the well and the depth of perforations.

The Hydrologic Assessment, Technical Addendum (dated July 21, 2003) notes that four properties just north of the subject site have exceeded State safe drinking water standards (see Exhibit 9). Two of the properties north of the subject site both had shallow wells (the first drilled to a depth of 124, perforated between 80 and 120 feet, the second drilled to a depth of 240 feet, with perforations at 200-232 feet), and both required drilling of new, deeper wells due to high nitrate levels. A third property (with a well drilled to 380 feet, perforated between 303 and 347 feet) was placed on bottled water until further notice, and the fourth property (for which well depth and perforations were not given) was required to install a nitrate treatment system. A property to the south of the subject site (with well depth of 325 feet and perforations at 220 to 300 feet), based on the last sampling reported from 2001, had nitrate levels below the State drinking water standards. Based on these surrounding properties, wells drawing from as much as 347 feet have had nitrate levels that exceeded safe drinking water standards. As described above, the new well at the subject property has been drilled to a depth of 500 feet, with perforations below 340 feet.



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The Hydrologic Assessment also notes that future water quality will most likely be impacted by nitrates from past and current fertilizer applications, and that, although nitrate fertilizer usage will effectively cease once the property is developed, nitrate in the soil will continue to leach to groundwater. The Technical Addendum concludes that the 2055 date was based on only three sample analyses and an average nitrate increase for the entire Maher Road area. However, local groundwater nitrate increases are more variable (with four properties north of the site already exceeding the 45 mg/l level, and one property south of the site not predicted to exceed the level until 2030). While the Technical Addendum notes that shallow groundwater is already contaminated with nitrates (i.e., wells drawing from depths <100 feet exceed the 45 mg/l nitrate level), some wells with deep screens (>300 feet) are already over the safe drinking water levels or will be within the next few years, and not that nitrate concentration in deeper wells are increasing overall.

Additional information recently submitted by the project proponents (email from Alana Knaster to John Bridges, dated July 12, 2004 regarding Todd Engineering nitrate analysis) indicates that an additional regression analysis was conducted to look at “depth of perforation” versus average “linear rate of nitrate increase,” which found that the new well at the site, drilled to a depth of 300 feet, might not experience nitrates in excess of 45 mg/l until the year 2240. The actual Hydrologic Assessment Technical Addendum, dated July 21, 2003 (excerpts of which are included in Exhibit 9), states that both the simple difference calculation and regression analyses were calculated, with summary diagrams plotted, and that

“...both plots show a positive relationship between time and depth of well perforations. In other words new wells are being drilled deeper to avoid nitrate. In addition, the simple difference equation indicates that by 2242 the MCL will be exceeded for all wells with perforations at 300 feet. For regression analysis this date is projected to be 3174. The very large variation in time is due to low R^2 values.”

The Hydrologic Assessment Technical Addendum conclusions note that a regression analysis could not be obtained for the subject site because the nitrate concentrations for the three analyses conducted since the new well was drilled were below the method of detection limits. The conclusions further state that

“the extremely variable nitrate concentrations over time, and correspondingly low R^2 values of the linear regression suggest that nitrate is leaching to the groundwater in varying amounts over time. Therefore, individual well monitoring for nitrate is more important than an average yearly nitrate increase for predicting when groundwater nitrate will exceed the 45 mg/l safe drinking water standards.”

The Hydrologic Assessment Technical Addendum thus concluded that:

- (1) *...Groundwater from the new well should not exceed the nitrate MCL [maximum concentration level] until 2055. However this date is based on only three sample analyses and an average nitrate increase for the entire Maher Road Area...local groundwater nitrate increases are more variable, e.g., groundwater underlying four properties just north of 250 Maher Road have already exceeded the 45 mg/l nitrate*



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MCL but the well to the south (at 247 Maher Road), nitrate concentrations are predicted not to exceed the MCO until 2030.

- (2) Shallow groundwater already is contaminated with nitrate; wells with shallow screens (<100 feet) are above the 45 mg/l MCL*
- (3) Some wells with deep screen (>300 feet) are already above the MCL or will be above the MCL within the next few years*
- (4) Nitrate concentrations in deeper wells are increasing overall*
- (5) Nitrate leaching rates vary with time and location (geology, land use, topography, etc)*

Hence, given the simple difference calculation used, there is a very real potential that the new water supply well will exceed nitrate standards within the economic lifespan of the project, due to residual nitrate fertilizer that exists in the soils. Thus ongoing monitoring should be conducted in order to more accurately predict when nitrate levels would exceed safe drinking water standards. However, this implies that adequate water quality might not be available at some time in the future, possibly even prior to 50 years. Other wells close to the site have already experienced nitrate contamination and have been forced either to use other water sources (e.g., bottled water), treatment systems, or have been abandoned. Even a well drawing from depths between 300 and 347 feet deep has experienced nitrate levels exceeding safe drinking water standards. Drilling of deeper wells may give an owner more time before nitrate levels exceed safe drinking water levels, but the regression analyses still show that nitrates are leaching down to deeper depths over time. Such conditions would eliminate the long-term water supply the project would depend upon, and could lead to health hazards and further groundwater contamination, inconsistent with Coastal Implementation Plan (CIP) Section 19.03.015.

c. Conclusion

The Hydrologic Assessment conducted for the project notes that nitrate levels in neighboring wells exceed State safe drinking water standards. A previous well on site was abandoned as a drinking water supply when nitrate levels were found to exceed State safe drinking water standards. The new well drilled on site in 2002, currently meets State safe drinking water standards and provides water to the site. However, nitrate levels will continue to increase, and may exceed State safe drinking water standard levels within the next 55 years, which is considered to be within the economic lifespan of the project. Since the project well may fail within the economic lifespan of the project, the project cannot be considered to have proof of an assured, long-term water supply in terms of adequate water quality as required by CIP Section 19.03.015. While monitoring of water quality will help to identify when the well might fail, it does nothing to provide for a long-term water supply if it indeed does fail. Thus, the project is inconsistent with regards to LCP water resource and water quality protection policies.



3. Environmentally Sensitive Habitat Areas

The project includes locating two water storage tanks on Lot 8, which contains Central Maritime Chaparral (maritime chaparral), a plant community classified as ESHA by the LCP. Siting development within or in close proximity of maritime chaparral may adversely impact the long-term health of this environmentally sensitive habitat. Additionally, placement of the access road, and future residential development may have potential impacts to oak woodland, which is also protected by LCP policies. Erosion from the site as a result of the project also has the potential to impact aquatic habitats in Elkhorn Slough watershed.

a. Applicable Policies

North County general ESHA policies relevant to this project include the following:

North County LUP Policy 2.3.2.1. With the exception of resource dependent uses, all development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures, shall be prohibited in the following environmentally sensitive habitat areas: riparian corridors, wetlands, dunes, sites of known rare and endangered species of plants and animals, rookeries, major roosting and haul-out sites, and other wildlife breeding or nursery areas identified as environmentally sensitive. Resource dependent uses, including nature education and research hunting, fishing and aquaculture, where allowed by the plan, shall be allowed within environmentally sensitive habitats only if such uses will not cause significant disruption of habitat values.

North County LUP Policy 2.3.2.2. Land uses adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource. New land uses shall be considered compatible only where they incorporate all site planning and design features needed to prevent habitat impacts, upon habitat values and where they do not establish a precedent for continued land development, which, on a cumulative basis, could degrade the resource.

North County LUP Policy 2.3.2.6. The County shall ensure the protection of environmentally sensitive habitats through deed restrictions or dedications of permanent conservation easements. Where land divisions or development are proposed in areas containing environmentally sensitive habitats, such restrictions or easements shall be established through the development review process. Where development has already occurred in areas supporting sensitive habitat, property owners should be encouraged to voluntarily establish conservation easements or deed restrictions.

North County LUP Policy 2.3.2.8. Where development is permitted in or adjacent to environmentally sensitive habitat areas (consistent with all other resource protection policies), the County, through the development review process, shall restrict the removal of indigenous vegetation and land disturbance (grading, excavation, paving, etc.) to the minimum amount necessary for structural improvements.



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North County LUP Policy 2.3.2.3. New development adjacent to locations of environmentally sensitive habitats shall be compatible with the long-term maintenance of the resource. New subdivisions shall be approved only where significant impacts to environmentally sensitive habitats from development of proposed parcels will not occur.

North County LUP Policy 2.3.2.4. To protect environmentally sensitive habitats and the high wildlife values associated with large areas of undisturbed habitat, the County shall maintain significant and, where possible, contiguous areas of undisturbed land for low intensity recreation, education, or resource conservation use. To this end, parcels of land totally within sensitive habitat areas shall not be further subdivided. On parcels adjacent to sensitive habitats, or containing sensitive habitats as part of their acreage, development shall be clustered to prevent habitat impacts.

Regulation 20.144.040.B.2. Development on parcels containing or within 100 feet of environmentally sensitive habitats, as identified on the current North County Environmentally Sensitive Habitat resource map, other resource information, or planner's on-site investigation, shall not be permitted to adversely impact the habitat's long-term maintenance, as determined through the biological survey prepared for the project. Proposals shall be modified for siting, location, bulk, size, design, grading vegetation removal, and/or other methods where such modifications will reduce impacts to an insignificant level and assure the habitat's long-term maintenance. Also, the recommended mitigation measures of the biological survey will be considered by the decision-making body and incorporated into the conditions of approval as found necessary by the decision-making body to implement land use plan policies and this ordinance and made conditions of project approval. (Ref. Policy 2.3.2.2)

*Regulation 20.144.040.B.5. Subdivision of parcels containing an environmentally sensitive habitat area, as identified on the current North County Environmentally Sensitive Habitat resource map, other resource information or planner's on-site investigation, shall only be permitted where such subdivision not result in adverse impacts to the habitat's long-term maintenance, as determined through the biological survey. **Such subdivisions 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. As well, large and, where feasible, contiguous areas and corridors of native vegetation shall be placed in conservation easement so as to provide sufficient vegetative habitat for the long-term maintenance of its associated wildlife. Further conditions of project approval shall include: a) **establishment of building envelopes on each approved parcel which allows for the least impact on and vegetation removal within and adjacent to the environmentally sensitive habitat;** b) **recordation of the building envelopes on the final map or record of survey;** c) placement of a note on the final map stating that no grading, structures, roads, animal grazing, vegetation removal, or other activities may take place outside of the building envelope; and, d) recordation of a notice with the County Recorder stating that a building envelope has been established on the*



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parcel, and that no grading, structures, roads, animal grazing, vegetation removal, or other activities may take place outside of the envelope. (Ref. Policy 2.3.2.4 and 2.3.3.C.1 & C.2)

North County LUP Policy 2.3.3.A.2. Maritime chaparral is an uncommon, highly localized and variable plant community that has been reduced in North County by residential and agricultural development. Further conversion of maritime chaparral habitat to agricultural uses is highly discouraged. ***Where new residential development is proposed in chaparral areas, it shall be sited and designed to protect the maximum amount of maritime chaparral. All chaparral on land exceeding 25 percent slope should be left undisturbed to prevent potential erosion impacts as well as to protect the habitat itself.***

North County LUP Policy 2.3.3.A.3. Domestic livestock should be managed and controlled in areas where they would degrade or destroy rare and endangered plant habitats, riparian corridors, or other environmentally sensitive habitats.

North County LUP Policy 2.3.3.A.4. Oak woodland on land exceeding 25% slope should be left in its native state to protect this plant community and animal habitat from the impacts of development and erosion. Development within oak woodland on 25% slope or less shall be sited to minimize disruption of vegetation and habitat loss.

b. Analysis of Consistency with Applicable LCP Policies

The LCP requires protection of ESHA by, among other means, prohibiting non-resource dependent development in ESHA (LUP 2.3.2.1), limiting the amount of vegetation and land that can be disturbed (LUP 2.3.2.8), and requiring deed restrictions or permanent conservation easements over ESHA (LUP 2.3.2.6). The LCP also requires that development adjacent to ESHA be compatible with the long-term maintenance of the resource (LUP 2.3.2.2) and protect the maximum amount of maritime chaparral (LUP 2.3.3.A.2). The LCP only allows new subdivisions where significant impacts to ESHA will not occur, and where the long-term maintenance of the habitat will not be adversely impacted (CIP Regulation 20.144.040.B.2, 20.144.040.B.5). Finally, the LCP also protects oak woodland by requiring that development be sited to minimize disruption of vegetation and habitat loss.

According to the biological report conducted for the site by Randall Morgan (dated July 19, 1999), the subject parcel includes remnants of two distinct plant communities that had originally covered the site, including Coast Live Oak woodland, on the eastern slope, and maritime chaparral on the upper slope and ridgetop. The majority of the site was cleared, some time in the past, for agricultural use, and now contains a fairly large stand of live-oak woodland near the lower, eastern end of the property (in proposed lots 1, 2 & 5) and a smaller patch of maritime chaparral at the upper, southwestern end of the property (entirely within proposed lot 8) (see Exhibit 6).

Central maritime chaparral is an uncommon vegetation type that has been identified as a rare plant community by the California Department of Fish and Game. Section 2.3 of the North County LUP considers rare and endangered species habitat as environmentally sensitive habitat areas, and also lists



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maritime chaparral as environmentally sensitive habitat. At one time, central maritime chaparral covered extensive areas in north Monterey County. However, in the past forty years much of this habitat has been converted to agriculture and rural residential uses, so that less than 1,700 acres remain in North County. Habitat loss and concomitant fragmentation leave the remaining patches susceptible to increased edge effects due to the invasion of non-native species.

Central maritime chaparral habitat is frequently dominated by brittleleaf manzanita (*Arctostaphylos tomentosa*) plus one or more of four endemic manzanita taxa including: Pajaro manzanita (*Arctostaphylos pajaroensis*), Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*), sandmat manzanita (*Arctostaphylos pumila*) and Monterey manzanita (*Arctostaphylos montereyensis*).¹⁶ At some locations, stand dominance is shared with chamise (*Adenostoma fasciculatum*). Other species that comprise this plant community include: black sage (*Salvia mellifera*), poison oak (*Toxicodendron diversilobum*), and coyote brush (*Baccharis pilularis*).

The biological report for the project site indicates that maritime chaparral in the southwestern part of the site contains several special status shrub species, including Pajaro manzanita (*Arctostaphylos pajaroensis*), Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*), and Eastwood's goldenbush (*Ericameria fasciculata*), all of which are growing on or near the relatively open margins of the main chaparral patch in the southern half of Lot 8. As shown on the biological map included in the Draft EIR (see Exhibit 6), the remaining maritime chaparral on site is located at the edges of the mixed eucalyptus and coast live oak habitat that extends along the ridgetop on the western portion of the site. The biological report indicates that the eucalyptus stand began as a row of planted trees but has since spread by seed so that they now dominate most of the remaining chaparral area. French broom (*Genista monspessulana*) is another invasive plant species that has become established in the maritime chaparral area.

The proposed project cannot be determined to be fully consistent with all of the above cited LCP ESHA provisions. With regard to central maritime chaparral (which is an ESHA that must be fully protected and buffered), the Tentative Map approved by the County did not show the location of the two 20,000-gallon water tanks proposed for the project. Since proposed Lot 8 contains environmentally sensitive central maritime chaparral habitat, tank installation could adversely impact the habitat, either directly, if the tanks are located within the habitat, or indirectly if they are located in close proximity to the habitat or if construction or future maintenance interferes with the habitat.

The applicant has just recently submitted a proposed Tank Lot Easement Map (presented to Commission staff on November 9, 2004), showing four 15,000 gallon steel water tanks (for a total of 60,000 gallons of water, in response to Fire Department water supply requirements), each of which are 14.5 feet wide by 20 feet tall. As shown on the map, the tank lot easement is 50 feet by 100 feet, and includes a note that it is located approximately 25 feet north of the maritime chaparral habitat. The provision of this Tank Lot Easement Map shows that the applicant intends to place the lot outside of the maritime chaparral habitat,

¹⁶ Griffin, J. R., *Maritime chaparral and endemic shrubs of the Monterey Bay Region*, Madroño, 1978, pp 65-112.



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but the actual location would need to be staked in the field to verify whether this 25-foot buffer would be adequate to protect the long term maintenance of the habitat.

However, in creating Lot 8, the proposed project will also facilitate future residential development that would again have the potential to directly or indirectly impact the environmentally sensitive maritime chaparral habitat located on this parcel. Additionally, future landscaping of the site has the potential to introduce invasive, non-native species in the area, which could adversely affect the native plant communities on site, by out-competing them.

With regard to oak woodlands (which are to be left intact on slopes over 25% and otherwise have disruption and habitat loss minimized), the proposed project includes installation of an access road through coast live oak woodland. The Final EIR (FEIR) states, “up to 21 coast live oak trees along the access road corridor are close enough to the proposed access road that they could require removal or be damaged during road construction.” As the live oak woodland spans proposed Lots 2, 3, 4, and 5, future development (e.g., homes, septic systems, driveways) could also adversely impact the oak forest habitat.

With regard to landmark trees (which shall not be permitted to be removed unless there are no alternatives such as re-siting, relocation or reduction in development area), the proposed project also involves removing a large 30-inch Monterey cypress tree for construction of the access road.

If a future project on this parcel could be found consistent with the cited water supply and water quality policies, then it could also most likely be designed and conditioned to meet these cited habitat and tree policies as well. Examples of such conditions are found in the County permit approval. The County required scenic easements for “*portions of the property where sensitive habitat (chaparral and oaks habitat) exists*” (condition 17; see also Condition 14), and required a final map “*that excludes all improvements, including water tanks and distribution lines, from the central maritime chaparral habitat on Lot 8*” (Mitigation Measure #1). It required a conservation easement that would include a 25-foot buffer around the maritime chaparral. Mitigation Measure #1 also required temporary exclusionary fencing along the conservation easement boundary, and prohibited removal or disturbance of native chaparral vegetation, grading, roads, animal grazing, and other activities that could adversely affect the habitat. It allowed activities necessary to reduce the potential risk of wildfires, to remove non-native plants, or “*to otherwise ensure the long-term maintenance of the habitat.*”

Additionally, it appears possible for an access road to be reduced in width where necessary and sited in such a way that minimizes tree removal, and allows the landmark tree on the southeastern corner of the site to be retained. There are portions of the parcel where the water tanks could be sited outside of environmentally sensitive habitat areas and their buffers. Generally, a full 100-foot buffer would have to be imposed around each of the sensitive habitat areas on the parcel. If a future subdivision without actual home construction is to be considered, then building (and other disturbance envelopes, e.g., for septic systems) should be delineated outside of the habitats and buffer areas. Landscaping installation and maintenance would have to ensure that non-native species do not intrude on the sensitive habitats. And, there may be further measures that would need to be taken (or prohibited) to ensure long-term maintenance of the site’s environmentally sensitive habitats and other significant trees.



c. Conclusion

The project as proposed does not include enough detail to ensure that development (construction of four 15,000 gallon water tanks, residential dwellings and landscaping) will not be sited within and/or adjacent to environmentally sensitive maritime chaparral habitat, and thus has the potential to adversely impact the long-term maintenance of this plant community, inconsistent with LCP policies. The project is also inconsistent with LCP policies designed to protect oak woodland habitat and has not been sited or designed to minimize tree removal or avoid the removal of a landmark 30-inch Monterey Cypress tree. Therefore, the project as proposed is **inconsistent with LCP ESHA protection policies.**

4. Visual Resources

The project includes development that may be located in the scenic viewshed. Adequate screening would be required for the project to be consistent with viewshed protection policies.

a. Applicable Policies

North County LUP Policy 2.2.1. Key Policy- In order to protect the visual resources of North County, development should be prohibited to the fullest extent possible in beach, dune, estuary, and wetland areas. Only low intensity development that can be sited, screened, or designed to minimize visual impacts, shall be allowed on scenic hills, slopes, and ridgelines.

North County LUP Policy 2.2.2.3. Property containing land on scenic slopes, hills, and ridgelines when proposed for subdivision, should be subdivided so that the lots are situated to allow the highest potential for screening development and access roads from view. Lots and access roads should also be sited to minimize tree removal and visually intrusive grading during development. During the subdivision process, scenic or conservation easements should be required to the fullest extent possible for wooded ridge, hill, and areas of 30% slope or more.

North County LUP Policy 2.2.2.4. The least visually obtrusive portion of a parcel should be considered the most desirable site for the location of new structures. Structures should be located where existing topography and vegetation provide natural screening.

North County LUP Policy 2.2.2.5. Structures should be located to minimize tree removal, and grading for the building site and access road. Disturbed slopes should be restored to their previous visual quality. Landscape screening and restoration should consist of plant and tree species complementing the native growth of the area.

North County LUP Policy 2.2.3.1. The scenic areas of North County, including ... ridges shall be zoned for scenic conservation treatment.

North County LUP Policy 2.2.3.5. New overhead utility and high voltage transmission lines that cannot be placed underground should be routed to minimize environmental and scenic impacts.



b. Analysis of Consistency with Applicable LCP Policies

The North County LUP policies require that low intensity development be allowed on scenic hills, slopes and ridgelines only if it can be sited, screened or designed to minimize visual impacts (LUP key policy 2.2.1), that land containing scenic hills, slopes and ridgelines be subdivided in a way that provides the highest potential for screening development and access roads (LUP 2.2.2.3), that structures be located where existing topography and vegetation provide natural screening (LUP 2.2.2.4), that lots and access roads be sited to minimize tree removal and visually intrusive grading (LUP 2.2.2.5), and that scenic or conservation easements be required over wooded ridges and areas of 30% slope (LUP 2.2.2.3). LUP 2.2.3.5 also provides that new overhead utility and transmission lines be placed underground or routed to minimize environmental and scenic impacts.

As described above, the project proposes subdivision of a 25-acre parcel into 10 lots, with an access road that extends west, from Maher Road to the middle of the site, along the southern property boundary, and then north through the middle of the parcel. The road would be located within a 30-foot wide road and public utilities easement. The project includes 2,000 cy of grading for roadway access and utility development. As previously mentioned, the location of the water tanks has not been established, and no building envelopes are shown on the Tentative Subdivision Map.

According to the Initial study,

Existing topography and vegetation provide substantial visual screening of most of the project site from Maher Road. Only small portions of the project are readily visible from public viewpoints of the project site. The existing single-family house and driveway are the most prominent features as viewed from Maher Road. A dense stand of oak trees beyond the house minimizes views to upper portions of the project site. The project site extends a short way to the west of the ridge, and the trees along the western edge of the project site are visible from San Miguel Canyon Road, and screen the ridge top from view. Strawberry fields on the adjacent property to the west provide a clear view up towards the ridgeline from San Miguel Canyon Road.

The proposed project cannot be determined to be fully consistent with all of the above cited LCP visual resource provisions. The Initial Study further notes that:

Project plans include the removal of some of the eucalyptus trees on the project site. If the eucalyptus trees along the western boundary of the project site were removed, there is the potential that the house on Lot 8 could result in ridgeline development as viewed from San Miguel Canyon Road.

The Initial Study does not anticipate any other potential inconsistencies:

The other proposed project lots would be screened from public view by dense oak woodland that would not be disturbed. The entry driveway would be somewhat visible from Maher Road, but not out of character with other driveways in the area. The project site is approximately two miles



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from Royal Oaks County Park, and would be only marginally visible, if visible at all, from the park. The proposed project would not be visible or potentially visible from any other public viewing areas.

Nevertheless, since the proposed project does not identify any building envelopes, this conclusion may need additional evaluation.

If a future project on this parcel could be found consistent with the cited water supply and water quality policies, then it could also most likely be designed and conditioned to meet these cited visual resource policies as well. Any building envelope on proposed Lot 8 would most likely have to be placed on the eastern slope, where it would not be on the ridgetop and not be visible from San Miguel Road. Water tanks could also be placed there, or otherwise screened. Examples of other visual protection measures would include deed restrictions to maintain existing vegetation that is necessary to screen development, a scenic easement over slopes more than 30%, lighting controls (e.g., installing unobtrusive lighting that is harmonious with the local area, limiting exterior lighting to low voltage fixtures, or requiring that lighting be screened so as not to be visible from off-site locations), requiring colors and materials that blend into the surroundings, and undergrounding of utilities. If a future subdivision without actual home construction is to be considered, then all subsequent development would also require approval of a coastal development permit, so the County would have the opportunity to evaluate visual resource impacts of proposed development at that time (by means of required staking and flagging for any proposed structures).

5. California Environmental Quality Act (CEQA)

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. [Relevant Portion.] 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.

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 staff report has discussed the relevant coastal resource issues with the proposal. All above Coastal Act findings are incorporated herein in their entirety by reference. As



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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 were approved as proposed. Accordingly, the Commission’s denial of this project represents an action to which the CEQA, and all requirements contained therein that might otherwise apply to regulatory actions by the Commission, do not apply.



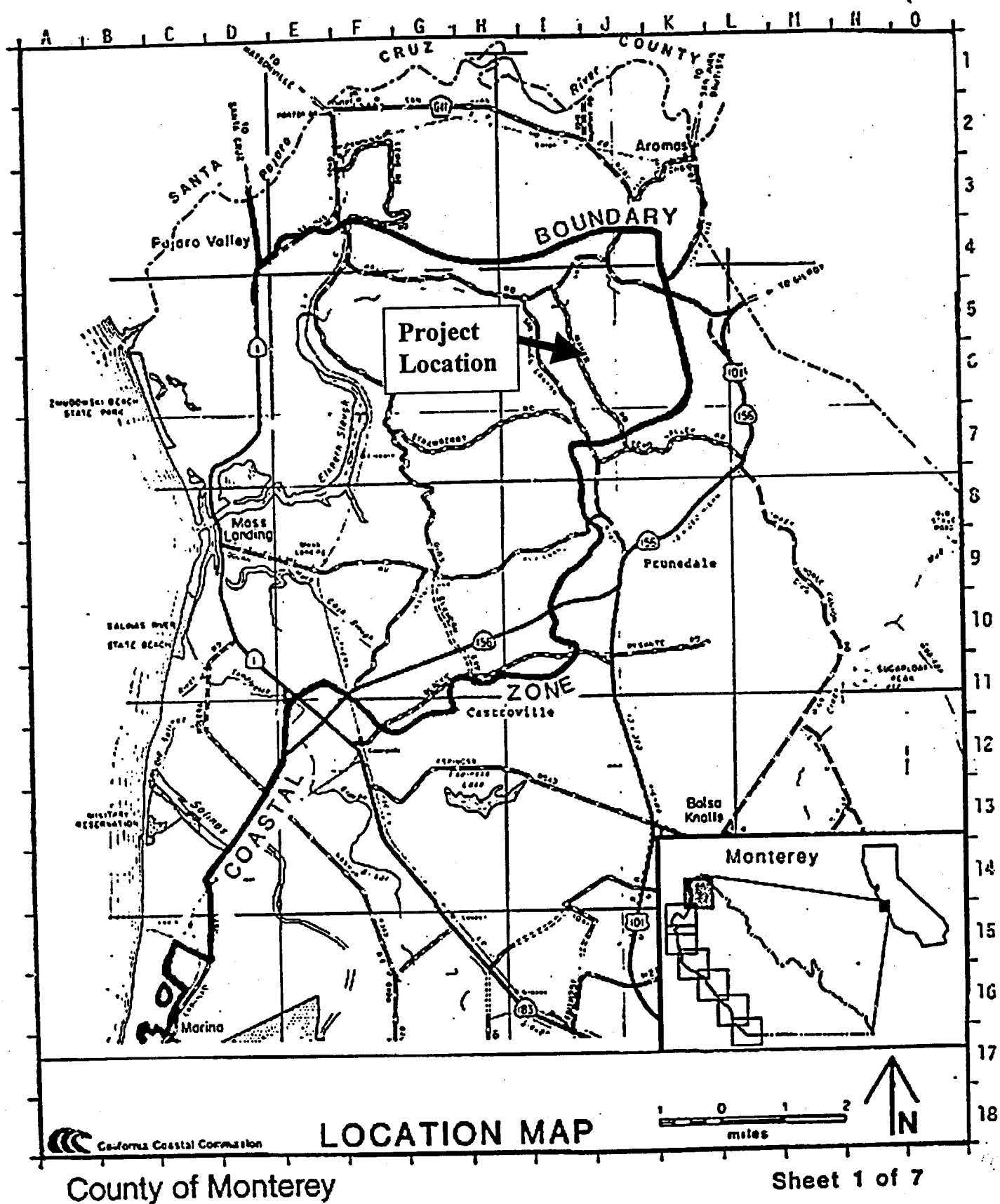


Exhibit 1

Regional Location Map

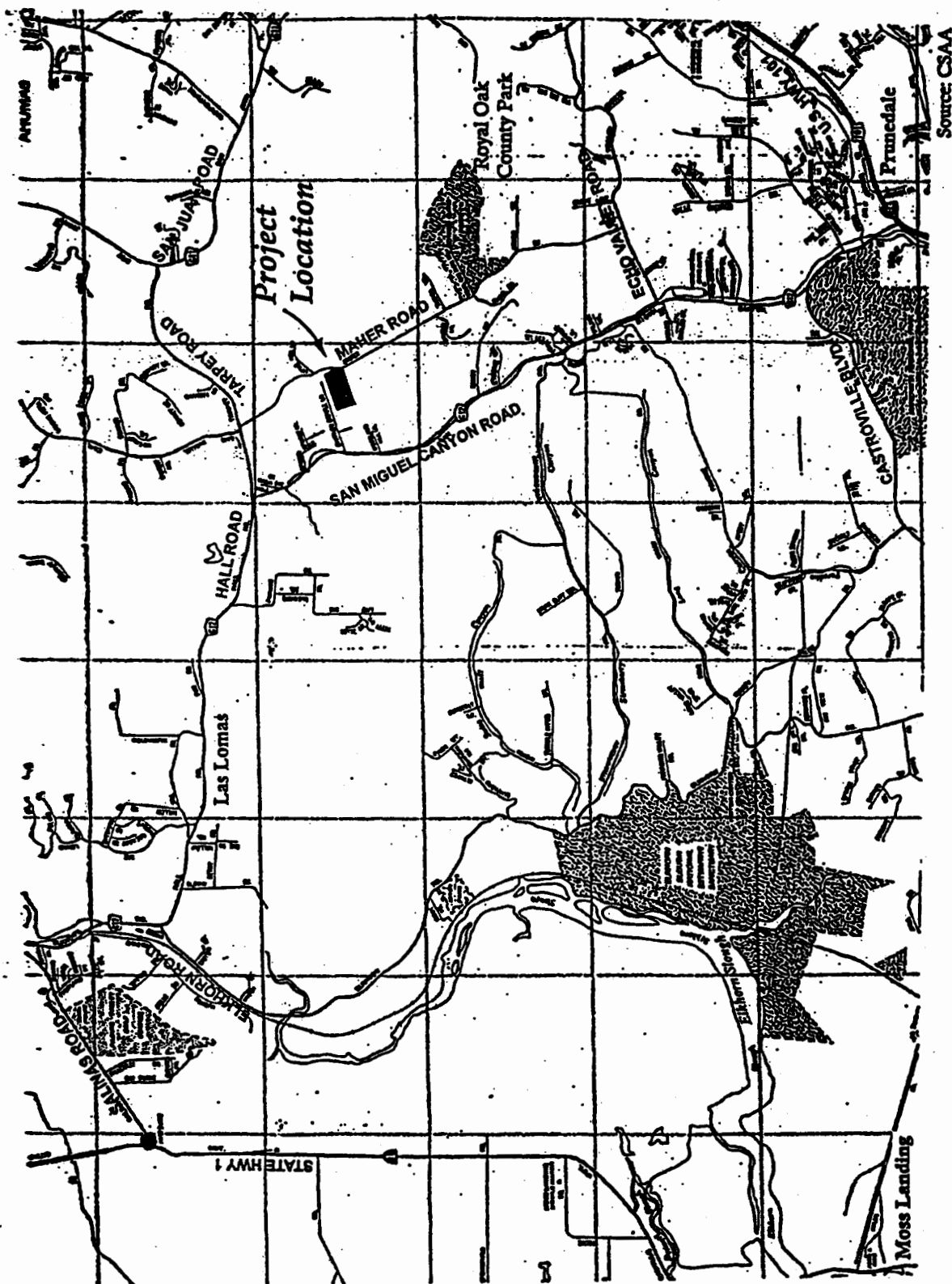
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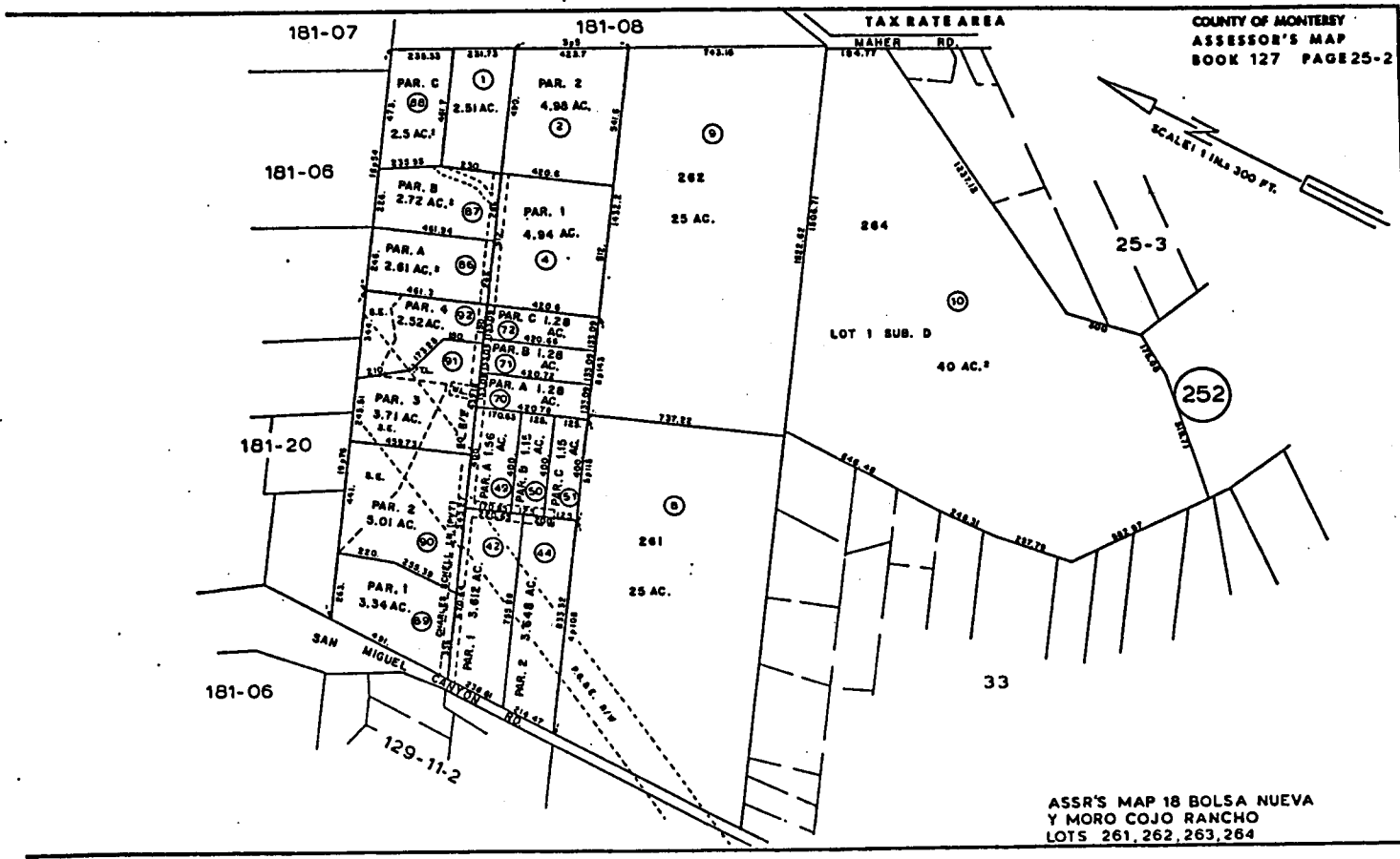
Figure 2
Project Vicinity
 Sunridge Views Subdivision EIR

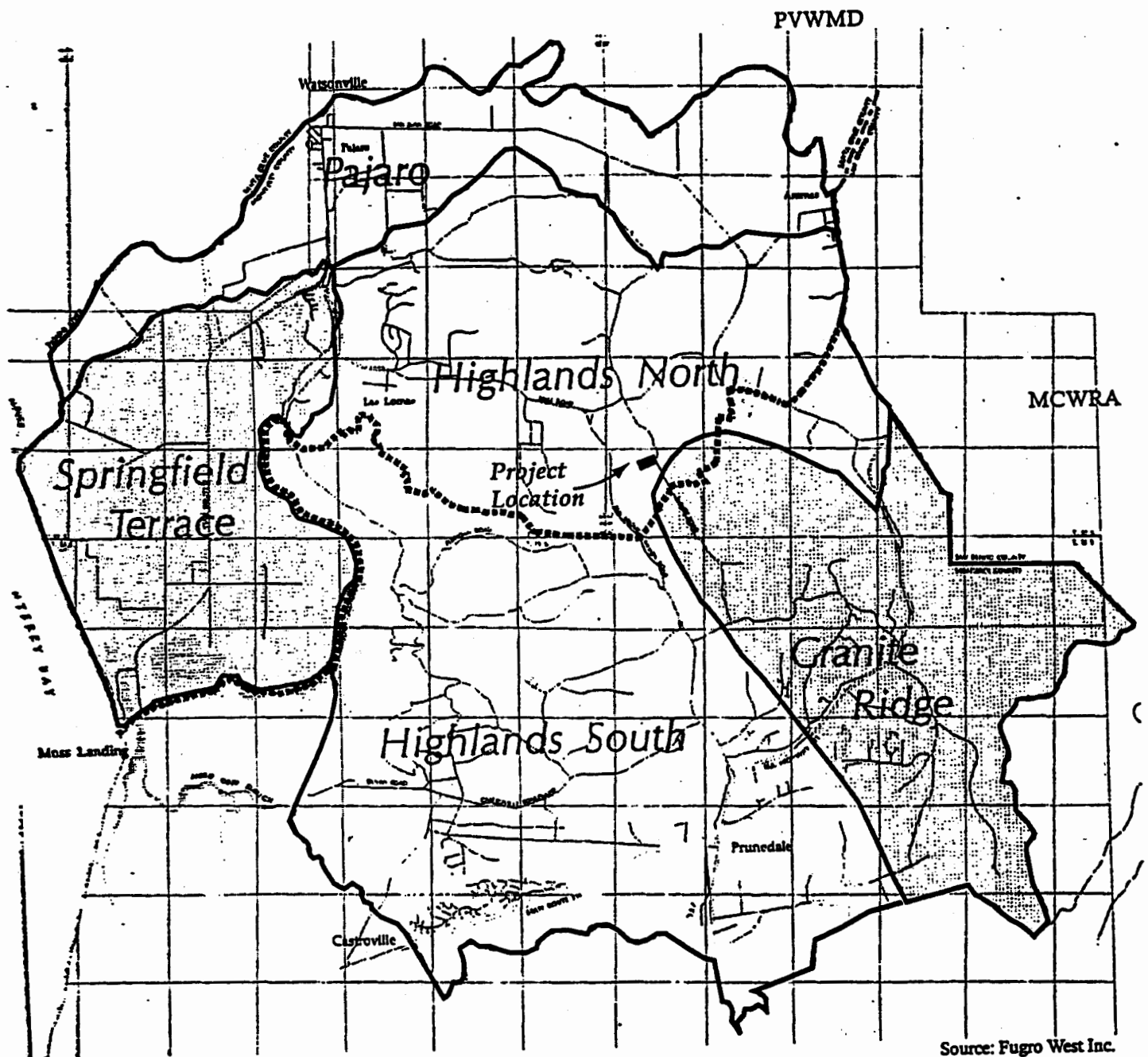


Source: CSAA

1 inch = 1,000 feet







Source: Fugro West Inc.



1 inch = 1.5 miles



PVWMD / MCWRA Boundary



Subarea Boundaries

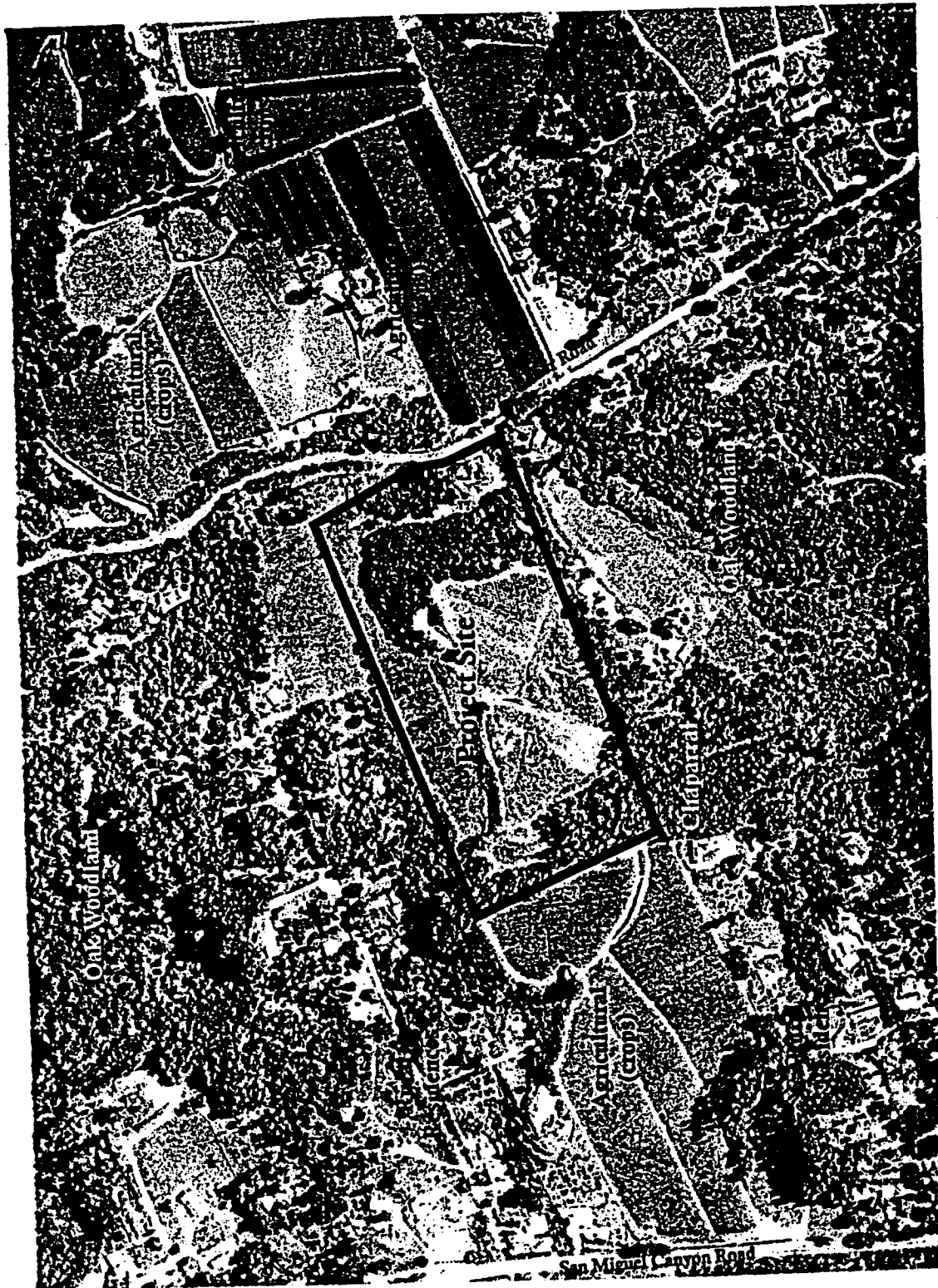
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Figure 7
North Monterey County Hydrogeologic Subareas

Sunridge Views Subdivision EIR



1 inch = 500 feet



Figure 3
Aerial Photograph
Sunridge Views Subdivision EIR



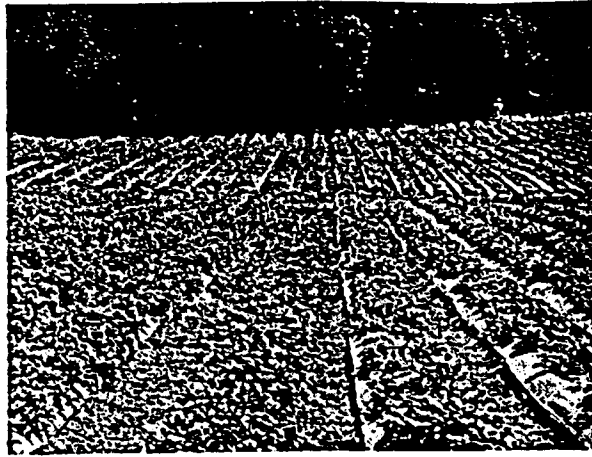
Existing home along Maher Road near the eastern boundary of the project site. The proposed senior unit is visible behind.

Existing barn in the southeast corner of the project site proposed for demolition.



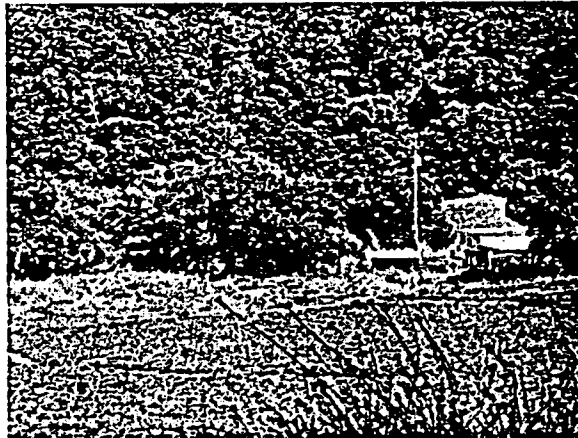
Existing mobile home along the southern boundary of the project site proposed for removal.

Source: EMC Planning Group Inc.



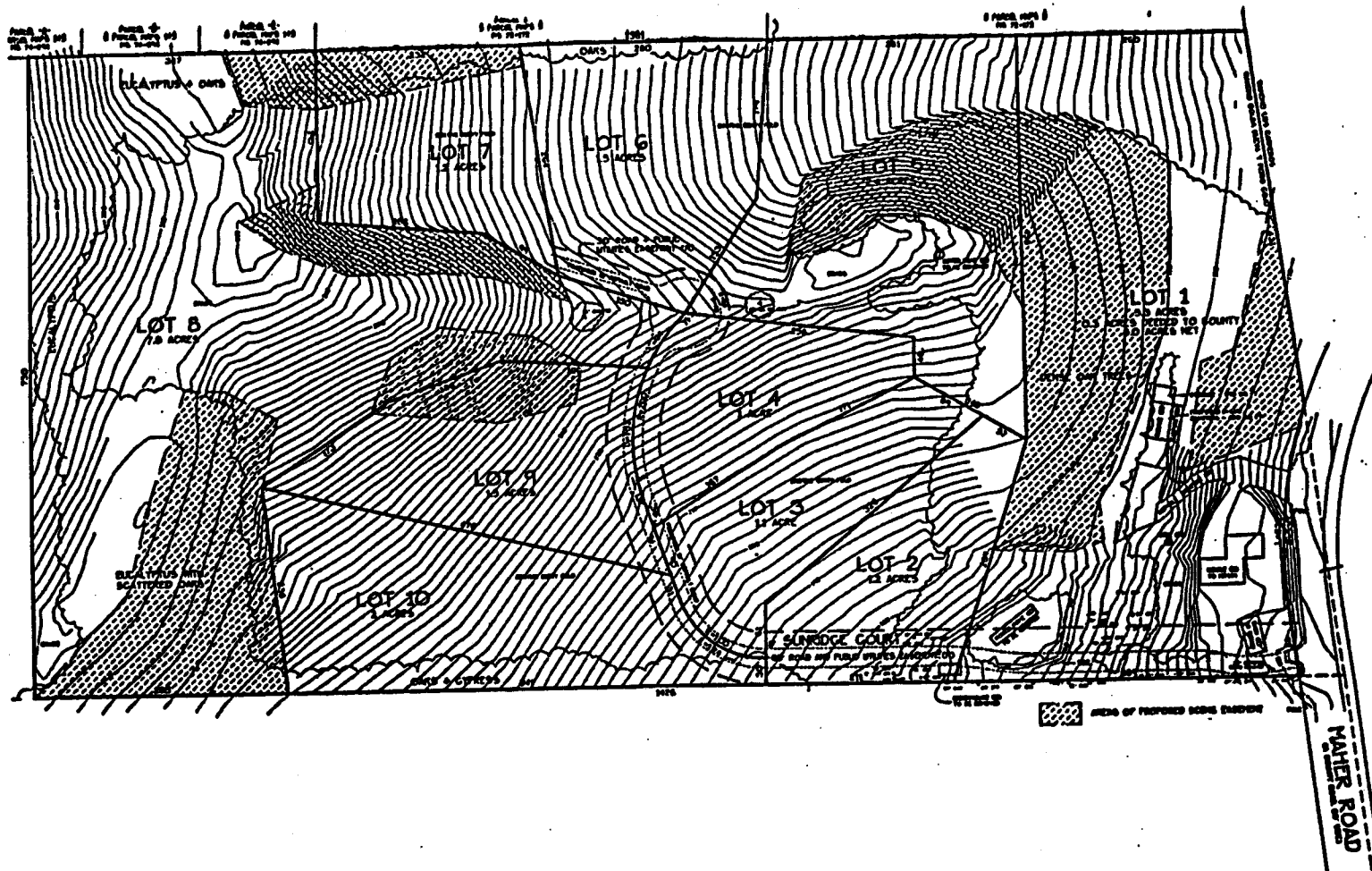
Strawberry fields near center of project site.

Eucalyptus trees and oak trees on ridge top near western boundary of project site.



Mobile home, oak woods, and strawberries located near the southern portion of the project site.

Source: EMC Planning Group Inc.



Source: Goetz Land Surveyors

Figure 5
Tentative Map

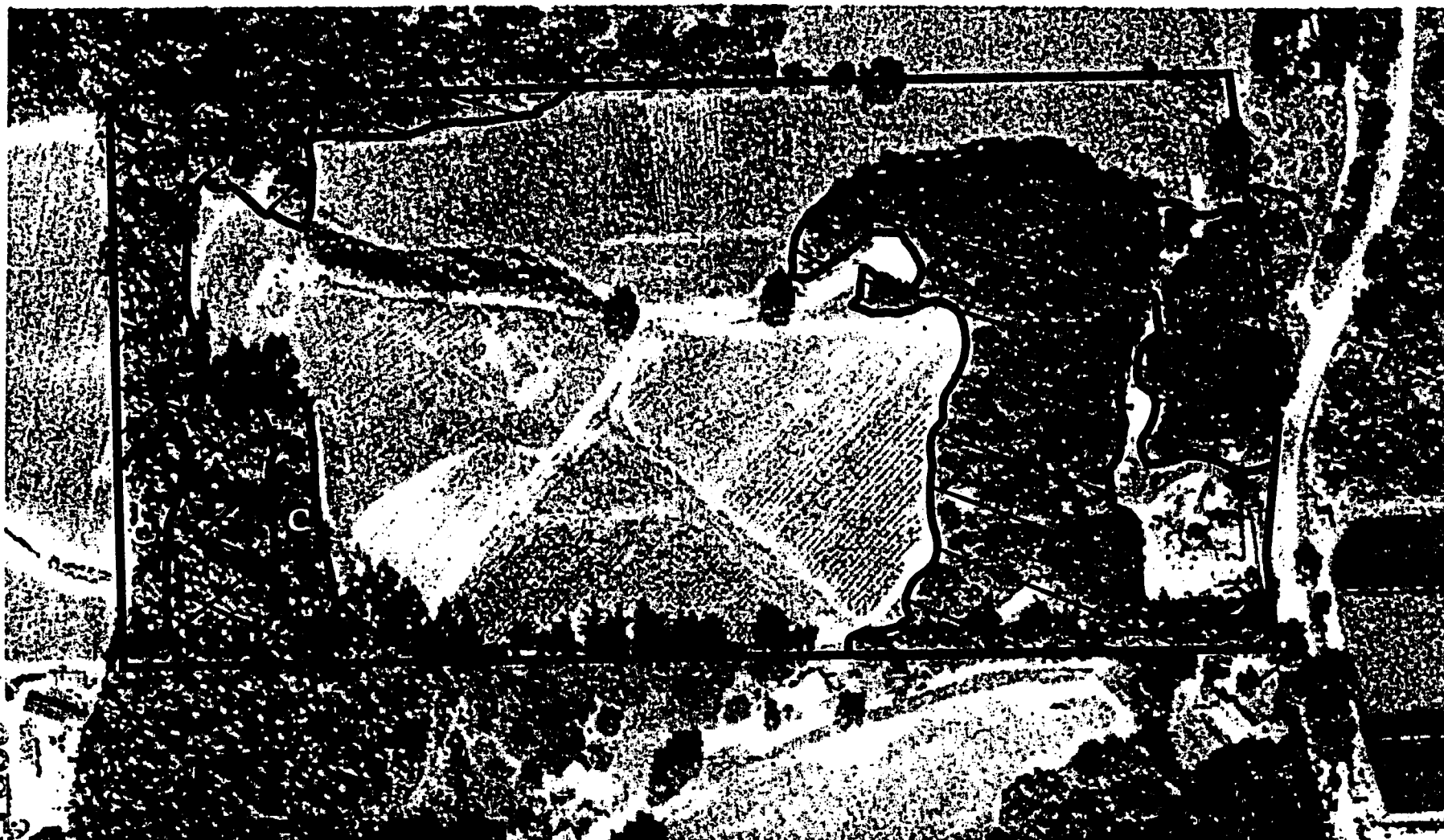
Sunridge Views Subdivision EIR

CCC Exhibit 5
(page 1 of 1 pages)



1 inch = 200 feet

E M C



Source: WAC Corporation and Randail Morgan

1 inch = 200 feet



Coast Live Oak Woodland



Mixed Eucalyptus and
Coast Live Oak



Agricultural and/or Fallow



Central Maritime Chaparral

Figure 6
Habitat Types

Sunridge Views Subdivision EIR



Photo 1.
May 1931 aerial
photo of subject
property under
cultivation
apparently with
orchards across
approx 70 % of
parcel.



Photo 2.
May 1956 aerial
photo of subject
property. Area
under cultivation
reduced to about
40% or less.

Exhibit 7 - pg 1 of 2
Historic Aerial Photos



California Coastal Commission

A-3-MCO-04-054
Sunridge Views Subdivision Appeal



Photo 3.
June 1971 aerial
photo of subject
property.
Cultivation no
longer apparent,
and parcel appears
to be reverting to
natural habitats.



Photo 4.
April 1980 aerial
photo of subject
property, again
under cultivation
with row crops
across approx 30%
of parcel.

Exhibit 7 – pg 2 of 2
Historic Aerial Photos

TODD ENGINEERS

2200 Powell Street, Suite 225
Emeryville, CA 94608
510-595-2120

July 21, 2003

Technical Memorandum – Addendum

To: Richard K. James, Senior Planner, EMC Planning, Inc.

From: William E Motzer, Ph.D., R.G. and Iris Priestaf, Ph.D., Todd Engineers

Subject: **Technical Memorandum – Addendum**
Nitrates Concentrations in Groundwater for the Rancho Sunridge
Views EIR, North Monterey County, CA

This memorandum is an addendum to Todd Engineers December 19, 2002 Technical Memorandum to EMC Planning, Inc. (Todd, 2002) concerning the hydrogeology and nitrate impacts to groundwater on the Rancho Sunridge Views property and vicinity. The addendum was requested by the property owner to include additional groundwater analyses for samples collected on the property that were submitted to the Monterey County Health Department (MCHD) and for samples collected by MCHD for the Maher Road area.

Property Location and Description

The property or site is at 250 Maher Road in the Royal Oaks area of the North Monterey County Coastal Zone, approximately 0.82 miles south of the Hall – Tarpy Road intersection with Maher Road. The property is also in the Highlands North groundwater subarea and is listed as assessor's parcel number (APN) 127-252-009 (Fugro, 1995; GLS, 1999; Grice, 1999a-c; Monterey County, 2002). The property and surrounding area are currently used for both single-family residences and agriculture; approximately 14 acres are under strawberry cultivation. Future property development will result in the removal of strawberry cultivation and the construction of 10 single-family residences on lots ranging from 1.0 to 7.8 acres with an average dwelling unit (du) density of 2.5 acres per du (Todd Engineers, 2002).

Local Geology and Hydrogeology

Based on literature descriptions, Fugro's (1995) geologic maps, and a site visit by Todd Engineers, the underlying soil and bedrock is the Aromas Formation also known as Aromas Red Sand, which is an unconsolidated to semiconsolidated quartz sand/sandstone. The Aromas is rather porous and permeable, but discontinuous clay stringers and lenses may result in varying porosity and permeability. In 1994,

groundwater levels in the Maher Road area were approximately 20 feet above mean sea level with flow to the northwest (Fugro, 1995).

Groundwater Quality Impacts by Nitrate

In 1995, approximately 75.5 percent of the total estimated annual nitrate load (1,195,535 pounds) in North Monterey County was supplied by agriculture with 24.5 percent (292,778 pounds) supplied by residential septic systems. At complete North County build out, Fugro (1995) predicted that the total estimated annual nitrate agriculture load would increase to 79.7 percent (1,424,218 pounds) with residential sources supplying only 20.3 percent (363,038 pounds). Therefore, water quality in North Monterey County and in the Maher Road area has been and will continue to be mostly derived from nitrate fertilizer application to crops.

Current nitrate impacts are largely confined to the upper portion of the groundwater table. Fugro (1995, Figure 18) showed that nitrate concentrations in groundwater exceeding the 45 mg/L MCL were encountered in wells with perforations less than 125 feet below the water table. Based on their data, it is apparent that deeper wells (e.g. 300 feet or greater) would be required to obtain groundwater that has not been impacted by fertilizer and septic system nitrate. The new well at 250 Maher Road is sealed to 300 feet and screened below 340 feet bsg.

Based on our previous report (Todd, 2002), nitrate fertilizer usage will essentially cease once agricultural production is replaced by single-family residences. However, nitrate currently in soil from past fertilizer applications will continue to leach to groundwater over time. Based on Maher Road area groundwater quality data collected by the MCHD (2002 and 2003), the average yearly nitrate increase in groundwater is calculated at 0.85 mg/L (Attachment A). However, this average yearly increase is based on a simple difference equation calculation. Nitrate changes in groundwater from individual wells along Maher Road are quite variable, with individual well average increases ranging from 0.15 to 2.75 mg/L and some groundwater showing average yearly nitrate decreases ranging from -0.02 to -3.05 mg/L. Based on the 0.85 mg/L average increase, nitrate in the property's groundwater is calculated to not exceed the 45 mg/L MCL until 2055.

Because of the variability in nitrate increases and decreases, we also conducted a regression analysis in Excel for Maher Road area groundwater. Plots were completed for nitrate increases and decreases versus time in years. Excel plots were then fitted with a regression line producing a regression line equation. Diagrams showing increases were used to calculate the year that nitrate increases would exceed the 45 mg/L MCL at the calculated rate of increase (Attachment B). R^2 values greater than 0.8 show good correlation between the simple difference calculation and the regression analysis for the year that the 45 mg/L MCL should be exceeded. However, a regression line and subsequent equation could not be obtained for the 250 Maher Road property because nitrate analyses for 2000, 2001, and 2002 were below method detection limits

(not detected). These non-detectable concentrations are consistent with the deep (>300 foot) well screens of the property's well.

Groundwater underlying four properties just north of 250 Maher Road have exceeded the 45 mg/L nitrate MCL; these properties are at 266, 271, 310, and 334 Maher Road. For the 310 Maher Road property a new well was drilled in 2003. Because nitrate in groundwater exceeded the MCL in 1995-1996, the 271 Maher Road property was placed on bottled water until further notice. This well was screened at 303 to 347 feet. In November 1999, the 266 Maher Road property installed a nitrate treatment system to reduce nitrate below the MCL. As of 2001, the property to the south of 250 Maher Road (247 Maher Road) had a groundwater nitrate concentration of 23 mg/L. This well is screened from 220 to 300 feet. The simple difference calculation indicated that the 45 mg/L MCL would be exceeded in 2020; the regression plot indicated that this date would be 2039. The large variability for this date is because this plot has a R^2 of only 0.596.

A summary of both the simple difference calculation and regression analysis is in Attachment C. The summary diagrams are for well perforation depths (in feet) plotted against the year that the 45 mg/L nitrate MCL would be exceeded. Both plots show a positive relationship between time and depth of well perforations. In other words, new wells are being drilled deeper to avoid nitrate. In addition, the simple difference equation indicates that by 2242 the MCL will be exceeded for all wells with perforations at 300 feet. For the regression analysis this date is projected to be 3174. The very large variation in time is due to low R^2 values.

Conclusions

The MCHD (2003) advised that for modeling purposes, nitrate loading based on total volume in a mixing situation probably is not appropriate for the Maher Road area and that as nitrate in the upper soils is transported down through the soil profile, the rate of nitrate loading in groundwater would increase. This may explain why "pulses" of nitrate increases and decreases over time are observed in some area well water. Several of the Excel plots suggest that this may be case; for example, see the plots for 777 Maher Court-Well 4, 600 Maher Road, 454 Maher Road, and 310 Maher Road. The extremely variable nitrate concentrations over time and correspondingly low R^2 values suggests that nitrate is leaching to groundwater in varying amounts over time. Therefore, individual well monitoring for nitrate is more important than an average yearly nitrate increase for predicting when groundwater nitrate will exceed the 45 mg/L MCL.

This study concludes that:

(1) based on a simple difference calculation, groundwater from the new well should not exceed the nitrate MCL until 2055. However, this date is based on only three sample analyses and an average nitrate increase for the entire Maher Road area. (A regression analysis could not be obtained because the nitrate concentrations for the three analyses were below method detection limits and were entered as 0.05 mg/L.)

CCC Exhibit 8

(page 3 of 13 pages) bdd Engineers

Local groundwater nitrate increases are more variable, e.g., groundwater underlying four properties just north of 250 Maher Road have already exceeded the 45 mg/L nitrate MCL but for the well to the south (at 247 Maher Road), nitrate concentrations are predicted not to exceed the MCL until 2030.

(2) Shallow groundwater already is contaminated with nitrate; wells with shallow screens (<100 feet) are above the 45 mg/L MCL.

(3) Some wells with deep screen (>300 feet) are already above the MCL or will be above the MCL within the next few years.

(4) Nitrate concentrations in deeper wells are increasing overall.

(5) Nitrate leaching rates vary with time and location (geology, land use, topography, etc.).

CCC Exhibit 8
(page 4 of 13 pages)

References Cited

Fugro West, Inc. (Fugro), 1995, *North Monterey County Hydrogeologic Study: Volume I – Water Resources*: October 1995 report prepared for Monterey County Water Resources Agency, Salinas, California, 118 p. with appendices.

Goetz Land Surveyors (GLS), 1999, *Tentative Map of Sunridge Views*: October 26, 1999 map prepared for Steve Bradshaw, Royal Oaks, California, 1 sheet, scale: 1-inch = 50 feet.

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Monterey County, 2002, *Draft Environmental Impact Report: 5.15 Water Supply and Demand*: <http://www.co.monterey.ca.usd/gpu/Reports/Draft%20General%20Plan.htm>., 23 p.

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Monterey County Health Department (MCHD), 2002, *Nitrate Concentrations in Groundwater for the Maher Road Area*: Data compiled by the MCDH.

Monterey County Health Department (MCHD) 2003, *Nitrates Maher Road*: June 11, 2003 e-mail from M.A. Dennis to A. Knaster, MCDEH, Salinas, CA, 1 p.

Todd Engineers, 2002, *Technical Memorandum Hydrologic Assessment for the Rancho Sunridge Views EIR*: Technical Memorandum to Richard K. James, EMC Planning Group, Inc., Monterey, CA, 11 p with figures and attachments.

CCC Exhibit 8
(page 5 of 13 pages)

ATTACHMENT A

NITRATE CONCENTRATIONS IN GROUNDWATER: MAHER ROAD AREA, NORTH MONTEREY COUNTY, CALIFORNIA

Simple Difference Calc. Regression

Map No.	Address	System Name	Well			Nitrate Concentration (mg/L)																		Simple Difference Calculation*				Regression Analysis		Comments																			
			Depth	Seal	Perf.	1978	1979	1980	1981	1983	1987	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Yearly Nitrate Increase/Decrease (mg/L)	No. mg/L Required to Exceed MCL	No. Years Required to Exceed MCL	Estimated Year That MCL is Exceeded	R ²	Year MCL Exceeded																						
1	9 Glenn Avenue	Glenn Ave No. 1					35.00			47.8	19.0							27.00	20.00		36.00	-0.59	-	-	-	-	-	-	New well drilled (1983)																				
2	Echo Valley School																	34.00	43.25	45.00		2.75	0.00	0.00	2003.00	0.9962	2002.76	-	On bottled water																				
3	814 Maher Road	MRWS 18	533	60	360	0.02				5.80		13.00	13.00	15.00			15.00	18.00	20.00			0.80	25.00	31.28	2032.28	0.9701	2035.33	-																					
4	789 Maher Road	MRWS 4	480	52			0.98			1.30		2.00	2.00	2.00			1.00				0.50	-0.020	-	-	-	-	-	-																					
5	Monterey Mushrooms: 777 Maher Court:																																																
	Well No. 2		497	50	200-460					4.20	3.50									13.00		0.44	32.00	72.73	2073.73	0.9755	2068.67	-																					
	Well No. 3		578	50	312-576					6.10	4.90				5.30				9.20		0.16	35.80	230.97	2231.97	0.3881	2307.65	-																						
	Well No. 4		428	50	280-428					3.30	5.30				5.20				33.00		1.49	12.00	8.08	2009.08	0.5264	2022.73	-	Well No. 4 is Abandoned																					
	Well No. 5																				-	-	-	-	-	-	-	-																					
	750 Maher Road	MRWS 11										36.00	32.00	33.00			34.00	33.00	34.00	38.00		0.29	7.00	24.50	2025.50	0.1325	2035.61	-																					
	700 Maher Road	MRWS 23															2.00					-	-	-	-	-	-	-																					
6	600 Maher Road	MRWS 9	312	50	280-312				31.00	26.10		16.00	29.00	24.00		37.00	42.00	61.00	52.00	19.00		1.35	-	-	-	-	-	-	-	Treatment Unit On System																			
7	Royal Oaks Park	MRWS 3								11.00	4.90											-3.05	-	-	-	-	-	-	-																				
	534 Maher Road	MRWS 21										7.00	7.00	8.00			8.00		5.00		3.00	-0.29	-	-	-	-	-	-																					
8	517 Maher Road	MRWS 7	325	50	265-313		2.90			2.20		3.00	2.00				2.00				2.00	-0.04	-	-	-	-	-	-	-																				
	489 Maher Road	MRWS 22												0.50			0.50					0.00	-	-	-	-	-	-	-																				
9	454 Maher Road	MRWS 5	325	50	265-313		2.90			2.20					0.50			6.00				0.15	39.00	264.19	2264.19	0.0722	2963.32	-																					
10	419 Maher Road	MRWS 1	570	50	254-566		0.98			2.20												0.31	42.80	140.33	2123.33	1.0000	2123.31	-																					
	418 Maher Road	MRWS 14										5.00	7.00	6.00			10.00		8.00			0.43	37.00	86.33	2087.33	0.5743	2072.60	-																					
	400 Maher Road		310	80								25.00								35.00	44.00	2.11	1.00	0.47	2003.47	0.8543	2005.50	-																					
	402 Maher Road																			36.00		-	-	-	-	-	-	-	-																				
11	334 Maher Road	MRWS 8	124	none	80-120					27.50		38.00	42.00	44.00								1.27	1.00	0.79	1996.79	0.9195	1995.87	-	New Well Drilled (10/96)																				
																	1.00		1.00			-0.10	-	-	-	-	-	-	-																				
12	310 Maher Road	MRWS 16	240	50	200-232					18.20		44.00	42.00	36.00		38.00	38.00	41.00	36.00			1.54	9.00	5.83	2001.83	0.7253	2001.24	-	New Well Drilled (2003)																				
13	271 Maher Road	MRWS 19	380	55	303-347		17.00			31.90		41.00	41.00	40.00			51.00	53.00				1.71	-8.00	-4.67	1995.33	0.9390	1995.63	-	On Bottled Water Until Further Notice																				
14	266 Maher Road	MRWS 15								22.60		35.00	41.00	32.00			8.00					2.26	-7.00	-3.10	1992.90	0.7876	1996.05	-	Installed Nitrate Treatment Unit (11/99)																				
15	250 Maher Road	MRWS 12								39.00		64.00	62.00	75.00	2.00		75.00	82.00				0.81	-7.00	-8.62	1991.38	0.0337	1985.66	-	Treatment Unit On Well																				
			500	300	340-500 (?)													0.50	0.50	0.50		0.00	44.50	52.31	2055.31	-	-	-	New Well Drilled (2000)																				
16	247 Maher Road	MRWS 13	325	50	220-300					4.00		19.00	19.00	14.00			12.00		23.00			1.06	22.00	20.84	2020.84	0.5960	2039.69	-																					
17	17A Maher Road	MRWS 6	145	50	99-135					66.00												-	-	-	-	-	-	-	-	New Well Drilled (1996)																			
18	Royal Oaks Market: 12 Maher Road																					-	-	-	-	-	-	-	-																				
	16 Maher Road	MRWS 20										43.00	42.00	47.00								1.33	-2.00	-1.50	1994.50	0.5714	1995.5	-	New Well Drilled (1998)																				
Average Yearly Nitrate Increase:																						0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:

Data and comments in red font from Monterey County Health Department (MCHD), 2003.

* Simple difference calculation for positive (+) values only. For nitrate concentration below detection limit of 0.1 mg/L, 0.5 mg/L (1/2 1.0 mg/L) is used.

MRWS = Maher Road Water System.

Shaded field indicates nitrate concentration exceeded DHS (MCL) standard.

Data provided by Monterey County Department of Health Services (MCHS), 2002, 2003.

- * Subject property - old well & new well
- △ Properties north of subject property where nitrate levels have exceeded safe drinking water standards of 45 mg/l
- Property south of subject property where nitrate level has not exceeded safe drinking water stds (but predicted to exceed safe drinking water stds by year 2040)

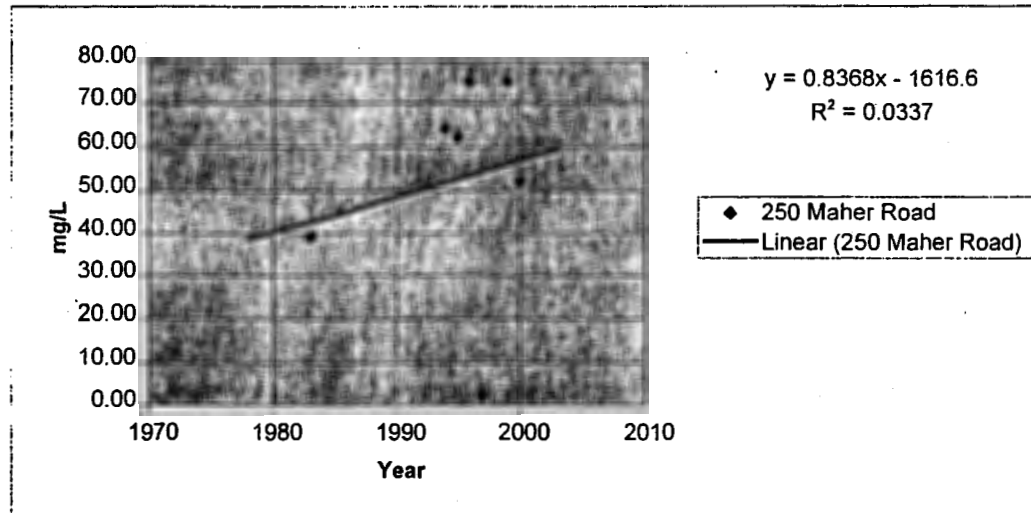
Exhibit 8
(page 6 of 13 pages)

ATTACHMENT A

NITRATE REGRESSION CALCULATIONS

Subject Property

Well Location	1978	1979	1980	1981	1983	1987	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
250 Maher Road Old well: treatment unit installed					39.00		64.00	62.00	75.00	2.00		75.00	52.00			



x	y	a	b
1985.66	45	1616.60	0.8368

Regression equation solved for x:
x = Year MCL exceeded
y = Nitrate MCL

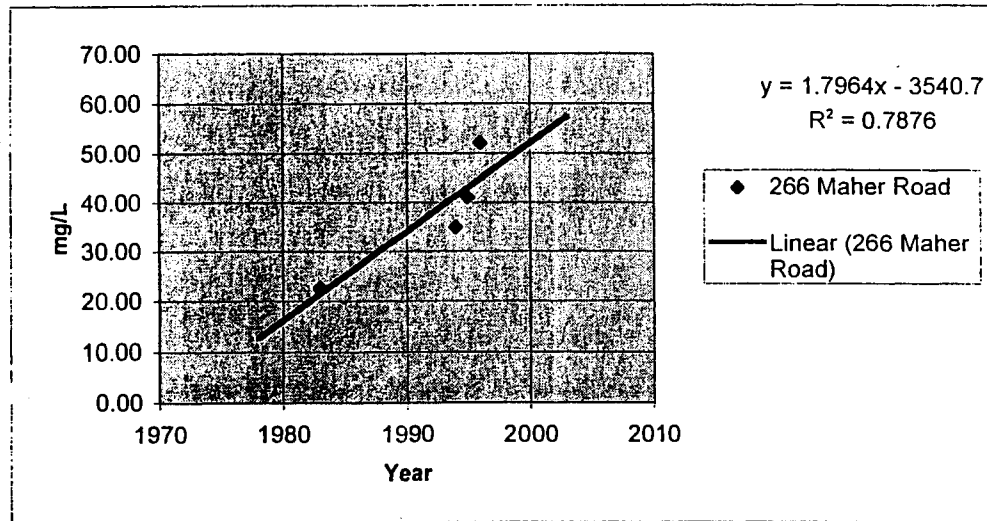
Exhibit 8
(page 7 of 13 pages)

ATTACHMENT B (CONTINUED)

NITRATE REGRESSION CALCULATIONS

1st of 4 properties north of Subject Property

Well Location	1978	1979	1980	1981	1983	1987	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
266 Maher Road					22.60		35.00	41.00	52.00							



x	y	a	b
1996.05	45	3540.70	1.7964

Regression equation solved for x:
x = Year MCL exceeded
y = Nitrate MCL

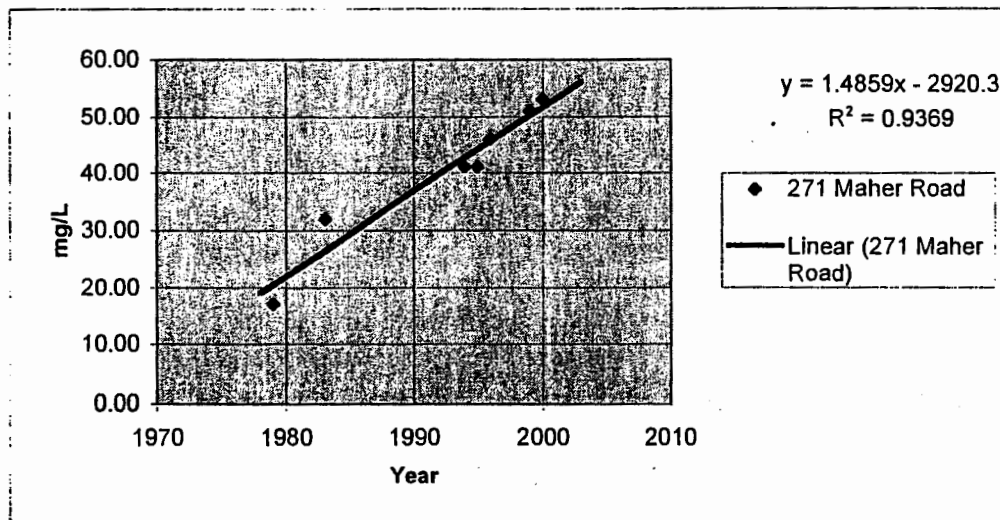
Exhibit 8
(page 8 of 13 pages)

ATTACHMENT B (CONTINUED)

NITRATE REGRESSION CALCULATIONS

2nd of 4 properties north of subject property

Well Location	1978	1979	1980	1981	1983	1987	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
271 Maher Road		17.00			31.90		41.00	41.00	45.00			51.00	53.00			



x	y	a	b
1995.63	45	2920.30	1.4859

Regression equation solved for x:
x = Year MCL exceeded
y = Nitrate MCL

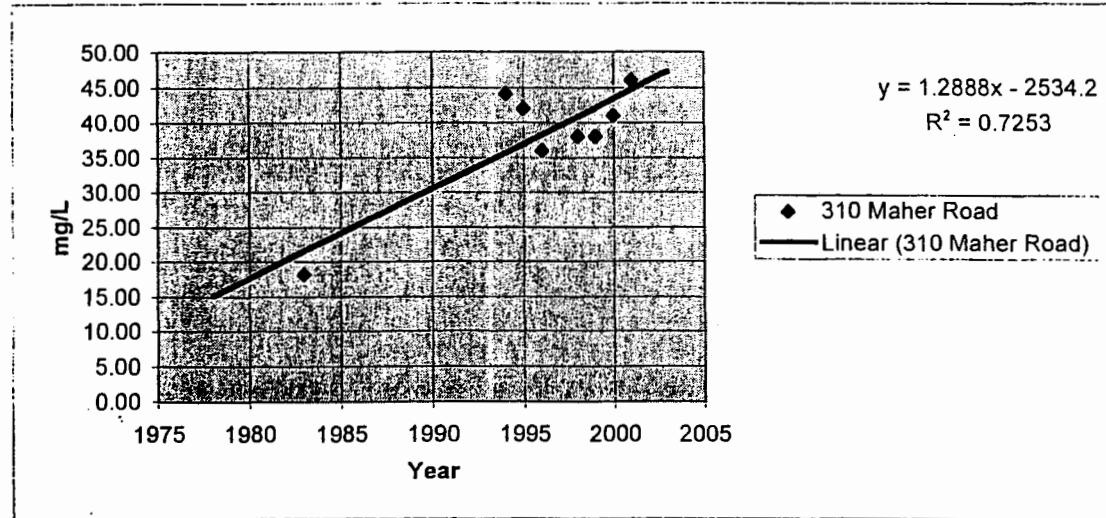
Exhibit 8
Page 9 of 13 pages

ATTACHMENT B (CONTINUED)

NITRATE REGRESSION CALCULATIONS

3rd of 4 properties north of subject property

Well Location	1978	1979	1980	1981	1983	1987	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
310 Maher Road					18.20		44.00	42.00	36.00		38.00	38.00	41.00	46.00		



x	y	a	b
2001.24	45	2534.20	1.2888

Regression equation solved for x:

x = Year MCL exceeded

y = Nitrate MCL

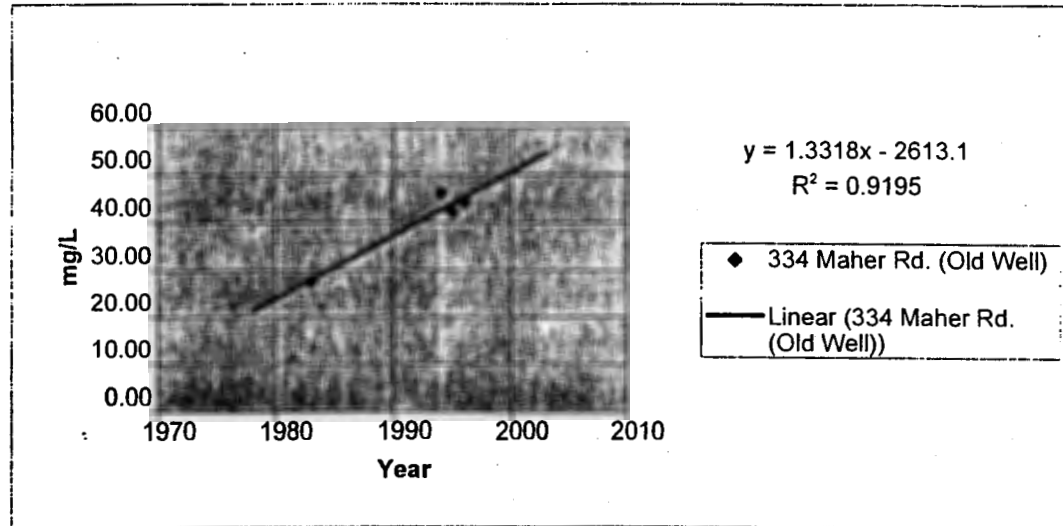
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ATTACHMENT B (CONTINUED)

NITRATE REGRESSION CALCULATIONS

4th of 4 properties north of Subject property

Well Location	1978	1979	1980	1981	1983	1987	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
334 Maher Road (old)					27.50		46.00	42.00	44.00							



x	y	a	b
1995.87	45	2613.10	1.3318

Regression equation solved for x:

x = Year MCL exceeded

y = Nitrate MCL

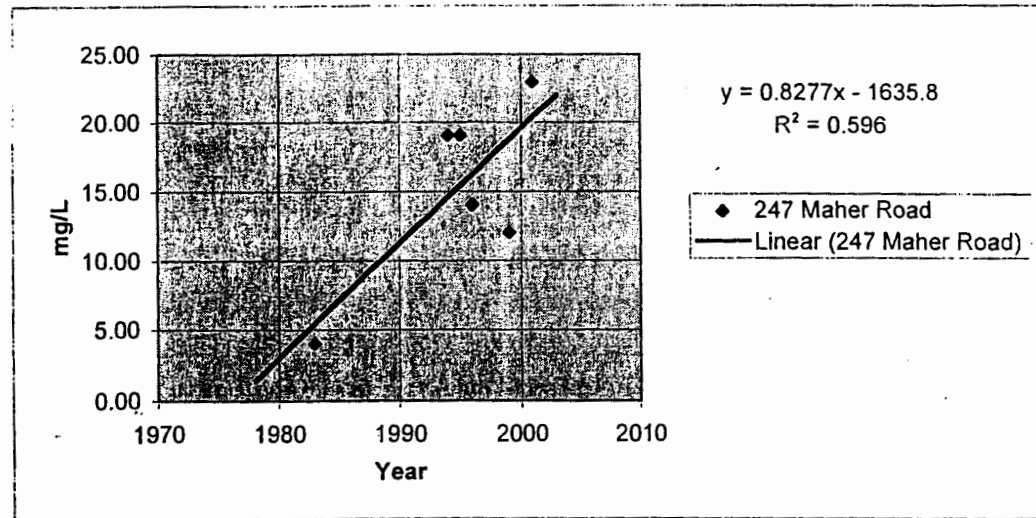
Exhibit 8
Page 11 of 13 pages

ATTACHMENT B (CONTINUED)

NITRATE REGRESSION CALCULATIONS

Property south of subject property

Well Location	1978	1979	1980	1981	1983	1987	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
247 Maher Road					4.00		19.00	19.00	14.00			12.00		23.00		



x	y	a	b
2030.69	45	1635.80	0.8277

Regression equation solved for x:

x = Year MCL exceeded

y = Nitrate MCL

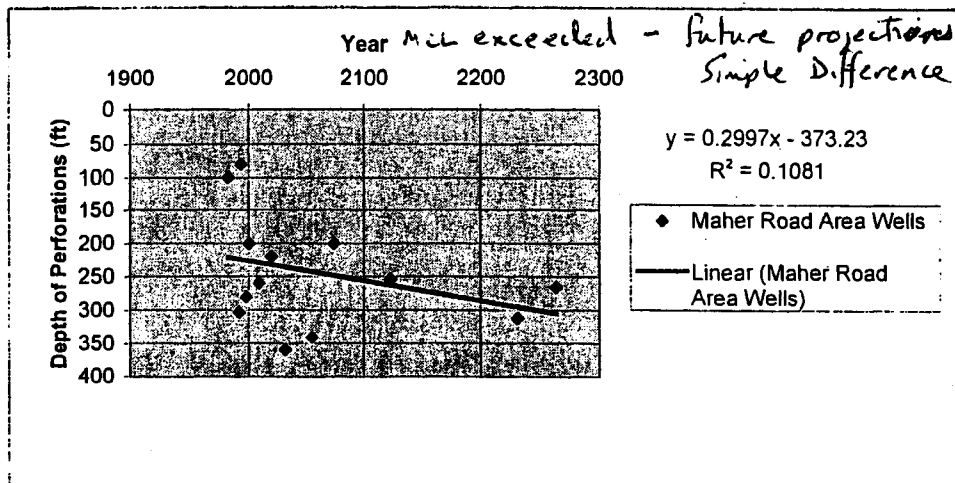
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12 of 15 pages

ATTACHMENT C

SUMMARY: Maher Road Area Wells

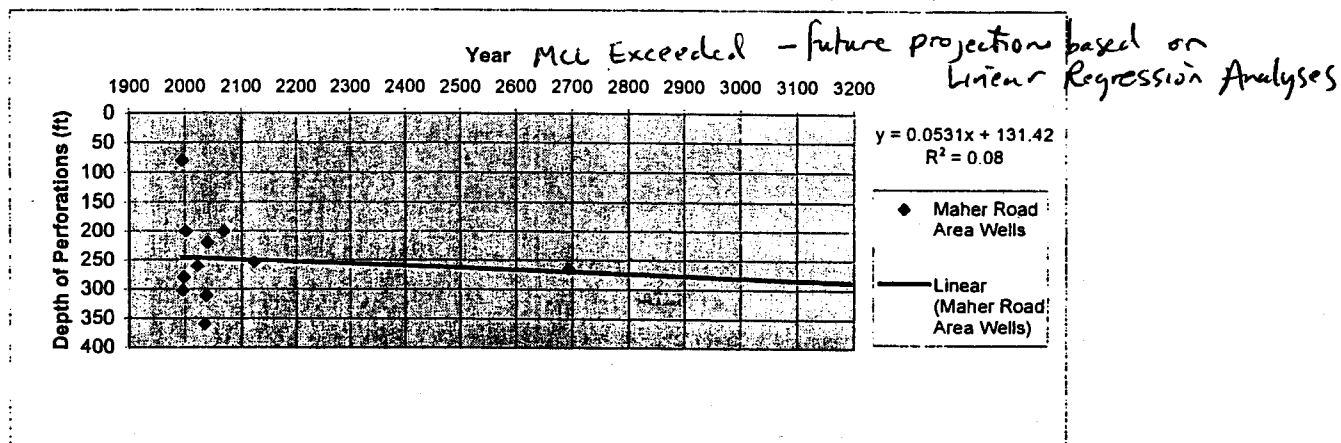
SIMPLE DIFFERENCE CALCULATION

Map No.	Mahe Road Address	Year MCL Exceeded	Depth of Perforations
3	814	2032	360
5	777 Maher Ct	2074	200
5	777 Maher Ct	2232	312
5	777 Maher Ct	2009	260
6	600	1998	280
9	454	2264	265
10	419	2123	254
11	334	1994	80
12	310	2001	200
13	271	1992	303
15	250	2055	340
16	247	2020	220
17	17A	1983	99
x	y	a	b
2242.90	300	387.00	0.3063



REGRESSION ANALYSIS

Map No.	Mahe Road Address	Year MCL Exceeded	Depth of Perforations
3	814	2035	360
5	777 Maher Ct	2068	200
5	777 Maher Ct	2037	312
5	777 Maher Ct	2022	260
6	600	1998	280
9	454	2693	265
10	419	2123	254
11	334	1995	80
12	310	2001	200
13	271	1995	303
16	247	2039	220
x	y	a	b
3174.76	300	131.42	0.0531



Page 15 of 15 pages