

CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

Staff: KFS-LB
Staff Report: July 24, 2003
Hearing Date: August 6-8, 2003
Commission Action:



Th17.5

RECORD PACKET COPY

STAFF REPORT: CONDITION COMPLIANCE

PERMIT NUMBER: 5-97-367, as amended

PERMITTEES: Hellman Properties LLC
W.L. Homes LLC (dba John Laing Homes)

AGENTS: Dave Bartlett, Dave Bartlett Associates
Susan Hori, Manatt Phelps & Phillips

PROJECT LOCATION: Northeast of Pacific Coast Highway (State Route 1), Southeast of the San Gabriel River, South of Adolfo Lopez Drive, West of Seal Beach Boulevard, and North of Marina Hill; City of Seal Beach; County of Orange

APPROVED PROJECT: Subdivision of the site including 70 single-family residential lots; implementation of an archeological investigation; 420,000 cubic yards of grading; dedication of Gum Grove Park to the City; reservation of 157 acres of land for habitat restoration, and construction of a water quality bio-swale and basin.

DESCRIPTION OF CURRENT REQUEST: Public hearing regarding current compliance with Special Condition 19 of Coastal Development Permit 5-97-367, as amended, which requires the Permittees to submit, for review and approval by the Executive Director, recommendations for appropriate actions and associated modifications to the previously submitted cultural resources mitigation plan when significant additional or unexpected cultural resources are encountered during project construction, for site conditions specifically addressed in the Cease and Desist Order (CCC-02-CD-05) issued by the Commission on December 10, 2002.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends that the Commission concur with the Executive Director's determination that the amended cultural resources mitigation plan complies as of this time with the requirements of Special Condition 19 of Coastal Development Permit 5-97-367, as amended, as to the site conditions specifically addressed in the Cease and Desist Order (CCC-02-CD-05) issued by the Commission on December 10, 2002.

I. STAFF RECOMMENDATION

MOTION : *I move that the Commission overturn the Executive Director's determination that the amended cultural resources mitigation plan submitted by the Permittees complies as of this date with the requirements of Special Condition 19.C. and F.(1). of Coastal Development Permit 5-97-367, as amended, as to those site conditions specifically addressed in the Cease and Desist Order (CCC-02-CD-05) issued by the Commission on December 10, 2002.*

STAFF RECOMMENDATION OF DENIAL:

Staff recommends a **NO** vote. Failure of the motion results in adoption of the following resolution and findings, and means that the Permittees must implement the amended mitigation plan, as submitted. This motion passes only by an affirmative vote of a majority of Commissioners present.

RESOLUTION:

The Commission hereby affirms the Executive Director's determination that the amended cultural resources mitigation plan submitted by the Permittees complies with subsections C and F.(1) of Special Condition 19 and that, given the Executive Director's approval of that plan and pursuant to Special Condition 19.D., the Permittees must now implement the amended mitigation plan in accordance with the provisions of Special Condition 19, as well as fully comply with all other requirements of the permit.

II. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. Background

On September 9, 1998, the Commission approved Coastal Development Permit (CDP) No. 5-97-367 authorizing, among other development, a 70 single-family lot residential subdivision in Seal Beach, Orange County called Hellman Ranch. The properties to which the Permit applies are identified as Tracts 15381 and 15402 and are located northeast of Pacific Coast Highway (State Route 1), southeast of the San Gabriel River, south of Adolfo Lopez Drive, west of Seal Beach Boulevard, and north of Marina Hill (hereinafter referred to as the "Project Site"). (Exhibit 1). On June 14, 2001, the Commission amended the Permit to modify the project description (hereinafter referred to as "the Permit") (Exhibit 2). The property owners are W.L. Homes, LLC dba John Laing Homes and Hellman Properties, LLC (hereinafter referred to as "Permittees").

The Commission approved the proposed development subject to special conditions, including Special Condition 19 which relates to the archeological testing program that was proposed as well as establishing procedures that must be implemented in the event that additional or unexpected cultural resources are discovered during project construction.

Beginning in July 2002, John Laing Homes began grading and Native American human remains were discovered and unearthed on the site of the 70 single-family home lot residential subdivision. They continued to discover remains as the work progressed, and did not cease construction until the number had reached 22 human remains. The majority of these remains (18) were discovered

on property owned by John Laing Homes. The other four remains were discovered on property owned by Hellman Properties.

On September 16, 2002, the Permittees halted grading and construction activities at the Project Site after Commission Staff (hereinafter referred to as "Staff") informed them that they were violating the terms and conditions of the Permit by failing to address the discovery of the Native American remains in accordance with the requirements of Special Condition 19.F.1 to the CDP. Staff requested confirmation that they would comply with the requirements of Special Condition 19.F.1. In light of continuing discoveries of additional remains, and to insure compliance with the Permit, on September 18, 2002 the Executive Director issued a Cease and Desist Order to the Permittees (EDCDO No. ED-02-CD-01), which was effective for 90 days.

On December 10, 2002, prior to expiration of the Executive Director issued Cease and Desist Order, the Commission issued Cease and Desist Order ("CDO") CCC-02-CD-05 which required the Permittees to cease and desist from any non-compliance with the terms and conditions of the Permit, as amended; and from undertaking any further work at the site until (1) they bring themselves into full compliance with the Permit; (2) the Executive Director approves a revised set of recommendations and an amended cultural resources mitigation plan; and, if necessary, (3) the permit is amended to incorporate any significant changes to the approved development. At the same time, the Commission held a permit condition interpretation hearing during which it affirmed the Executive Director's determination that Special Condition 19.F.1. applies to the discoveries made at the site and that the Permittees must therefore prepare a written mitigation plan in accordance with the provisions of Special Condition 19.C. for the review and approval of the Executive Director pursuant to the requirements of Special Condition 19.F.1., as well as fully comply with all other requirements of 19.F.1 and 19.F.2. The full text of Special Condition 19 is attached as Exhibit 2.

B. Proposed Mitigation Plan

Pursuant to Special Condition 19 of the permit and the CDO, the Permittees have submitted *Mitigation Plan for Significant Cultural Resource Discoveries, Hellman Ranch Specific Plan Area, Seal Beach, California* dated July 2003 by EDAW, Inc. of San Diego (herein "Mitigation Plan") for the review and approval by the Executive Director. The mitigation plan identifies the archeological materials and human remains that have been discovered on the Project Site since commencement of construction, evaluates these discoveries, and outlines recommendations/appropriate actions to mitigate for impacts that have occurred to cultural resources as well as measures to avoid and minimize additional impacts to such resources. The main elements of the proposed mitigation plan are: 1) avoidance and preservation of the most culturally sensitive area on the site known at this time; 2) identification of field procedures related to artifacts and burials encountered once construction re-commences at the site; 3) repatriation and reburial of exhumed human remains; 4) construction of an educational center within the Gum Grove Park extension area; and 5) a final technical report to be prepared, once ground-disturbing construction activities are complete, that evaluates the cultural resources encountered at the site. These elements are outlined in detail in the mitigation plan (redacted edition¹ attached as Exhibit 3).

¹ In order to protect the confidentiality of the location of the Native American human remains, consistent with §§ 6254(r) and (k) of the Public Resources Code, some documents attached to this condition compliance staff report as exhibits have been redacted.

The Executive Director has reviewed the Mitigation Plan and has found that the plan complies with the requirements of Special Condition 19 of the Permit. In negotiating the mitigation plan with the Permittees and interested parties, the Executive Director identified several primary objectives of the mitigation plan that would be necessary to assure compliance with Special Condition 19. These objectives were as follows: 1) identify the most culturally sensitive areas on the Project Site based on the information available; 2) minimize and, where feasible, avoid impacts to the most sensitive cultural areas; 3) mitigate impacts to significant archeological features/cultural resources that have occurred; 4) identify procedures to avoid adverse impacts to anticipated "additional"² significant archeological features/cultural resources that are "expected"³ to be found, and where adverse impacts are unavoidable, to provide mitigation for those impacts; 5) ensure that the procedures outlined in Special Condition 19 with respect to the discovery of "additional" or "unexpected" finds are implemented; and 6) obtain consensus regarding the mitigation plan with Native Americans having cultural ties to the project area, the Permittees, and the City. The Executive Director has determined that the Mitigation Plan satisfies all of these objectives and that the plan complies with the requirements of Special Condition 19.

Notably, the Permittees have identified an area on the Project Site where a concentration of human burials, an animal interment, and associated artifacts indicate the area has cultural significance. This area is generally known as CA-ORA-264. Although grading has impacted this area, a significant quantity of the cultural deposits are still present on the Project Site. Additional, undiscovered human remains are thought to be located within the remaining deposits. The Permittees have modified the project to eliminate development that would significantly impact the remainder of the cultural deposits. These changes have included the elimination of 6 approved (but not yet built) residential structures and associated appurtenances, and modifications to an oil facility access road and utility trench. The entirety of the 6 residential lots and some adjacent land will be preserved in perpetuity as a cultural resources preservation area through recordation of a deed restriction. The remaining cultural deposits will be capped with fill and the area landscaped with native vegetation. The Executive Director has determined that the measures outlined in the Mitigation Plan do not necessitate a permit amendment.

Another feature of the Mitigation Plan is the development of an education center within the Gum Grove Park extension area. The education center would consist of a ground level circular structure including a seat wall, along with landscaping and signs that will provide information to park visitors regarding Native American culture and use of the project area. The education center is not an enclosed structure of any kind, but rather a themed interpretive area. The education center is to be located at one of two locations within the Gum Grove Park extension that are identified in the Mitigation Plan. Final plans for the education center, such as sign content and notification as to which one of the two locations identified in the Mitigation Plan were selected, must be submitted and are subject to the review and approval of the Executive Director.

The two locations identified in the Mitigation Plan have not yet received final local approval. They were approved by the City's Parks and Recreation Commission and recommended to the City Council. However, at the City Council level, some controversy emerged regarding the location of the education center. Occupants of the existing homes that abut Gum Grove Park have raised concerns about noise and the potential for the education center to become an attractive nuisance and place for nefarious activities during the evening. The City Council has instructed the Permittees to address these issues and identify some alternative locations for the Council to

² "Additional" as that term is used within the permit

³ "Expected" as that term is used within the permit

consider that would be in addition to, but different from, those that are identified in the Mitigation Plan. These alternative locations may be within the Gum Grove Park extension, or elsewhere on the Project Site, including within the new residential subdivision or the lowlands.

The Executive Director determined that the two locations identified in the Mitigation Plan would be consistent with the requirements of Special Condition 19 and the other terms and conditions of the permit. The Executive Director found that creation of the education center in one of the two identified locations would not require an amendment to the Permit or a new permit. However, there may be issues related to public access, land use and biological resource protection, with other locations. Furthermore, other locations may not be as suitable as those identified in the Mitigation Plan from a cultural standpoint. Thus, locations other than those identified in the Mitigation Plan may necessitate a permit amendment.

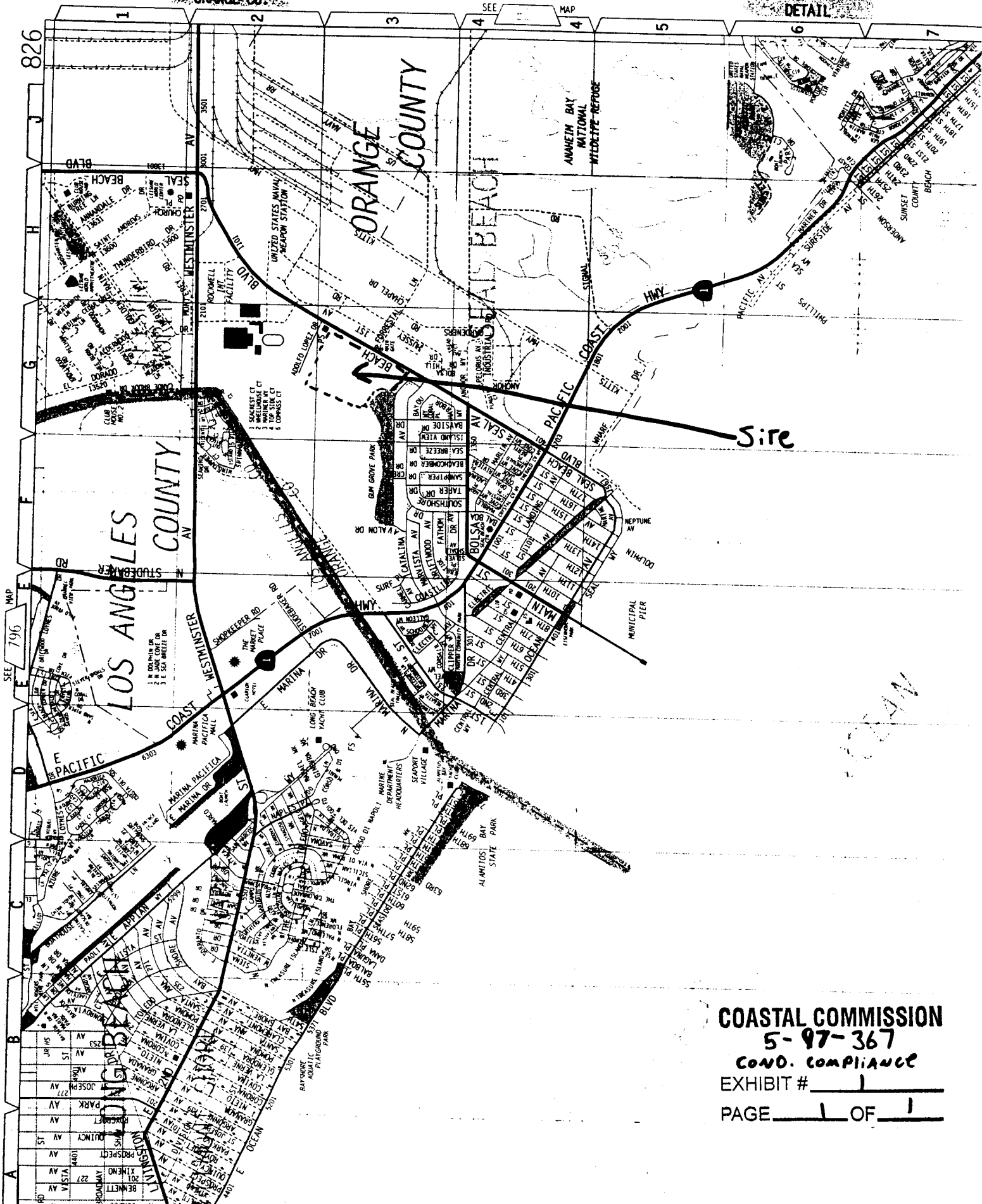
Staff believes that it remains a strong possibility that once alternative locations are reviewed, the City Council will select one of the two locations that are presently identified in the Mitigation Plan. Since this is a possibility and there is strong interest by both the Permittees and the affected Native Americans to re-start aspects of the project and to implement aspects of the Mitigation Plan that are unrelated to the education center, the Executive Director has chosen to present the Mitigation Plan to the Commission in its present form. If the Commission does not overturn the Executive Director's actions and as long as the Permittees remain in compliance with the Permit and its conditions, and the requirements of the Cease and Desist Order, the Permittees will be allowed to prepare and submit those documents that must be submitted and approved by the Executive Director prior to recommencement of construction, and once construction is allowed to begin, to immediately implement the identified mitigation measures such as the additional archeological testing and re-interment of remains, among other measures. If the City Council were to choose a location different from the two locations presently identified in the Mitigation Plan, the Executive Director will need to review this new location and make a determination as to whether that location is consistent with the Permit and whether or not the location necessitates a permit amendment. If the Executive Director determines that a Commission action is necessary to implement an alternative location, the matter would be returned to the Commission for action. Furthermore, even if the Executive Director determined that a permit amendment was not necessary to implement a location different from the two presently identified in the Mitigation Plan, the Executive Director would return the revised Mitigation Plan to the Commission for their concurrence with the alternative location.

The Commission hereby concurs with the Executive Director's determination that the Mitigation Plan complies as of this date with the requirements of Special Condition 19 of the Permit, as they apply to the specific site conditions addressed in the Cease and Desist Order (CCC-02-CD-05) issued by the Commission on December 10, 2002. Accordingly, and given that the Executive Director has determined that a permit amendment is not required to effectuate or implement the revised Mitigation Plan and associated recommendations/appropriate actions, with respect to Cease and Desist Order CCC-02-CD-05, the Commission finds that the Permittees may re-commence work at the site consistent with the Mitigation Plan and all other terms and conditions of the Permit.

ORANGE CO.

SEE MAP

DETAIL



COASTAL COMMISSION

5-97-367

COND. COMPLIANCE

EXHIBIT # 1

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CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

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Date: June 7, 2002
Permit No: 5-97-367 as
amended through 5-97-367-A1



AMENDED **COASTAL DEVELOPMENT PERMIT**

On **September 9, 1998**, the California Coastal Commission granted to Hellman Properties LLC Coastal Development Permit **5-97-367** for the following development:

Subdivision of 196 acre site into 5 parcels, including further subdivision of one of the parcels into 70 single-family residential lots in a private community; fill or dredging of 27 acres of degraded and severely degraded wetlands to construct 39.1 acres for a salt marsh restoration project and an 18 hole public golf course and reservation of 13.2 acres of existing oil production areas for future wetland restoration; dedication of Gum Grove Park to the City of Seal Beach; construction of interpretive areas, visitor-serving recreation facilities, and a golf clubhouse; dedication of public access trails; extension of Adolfo Lopez Drive; excavation of test pits for an archaeological testing program; and 1,600,000 cubic yards of grading;

On **October 11, 2000**, the Commission granted Coastal Development Permit Amendment, **5-97-367-A1**, which modified the above described project as follows:

Change the proposed project to eliminate a 100 acre golf course and associated wetland impacts and wetland restoration; add a deed restriction reserving 100 acres of lowlands for acquisition for wetlands restoration; add a deed restriction reserving land presently used for mineral production to be made available for sale for wetlands restoration upon cessation of oil production; expand the footprint of the 70-lot residential subdivision from 14.9 acres to 18.4 acres; reduce mass grading from 1.6 million cubic yards to 420,000 cubic yards; eliminate proposed development on the State Lands Commission parcel, construct a bio-swale, riparian corridor and water quality basin and include changes to the language of previously imposed special conditions.


The Commission approved the proposed amendment subject to special conditions which modifies and supercedes the prior approval granted under 5-97-367 all of which is more specifically described in the application files in the Commission offices. The attached Standard and Special Conditions are in effect at this time.

The development is within the coastal zone in Orange County, northeast of Pacific Coast Highway (State Route 1), southeast of the San Gabriel River, south of Adolfo Lopez Drive, west of Seal Beach Boulevard, and north of Marina Hill; in the City of Seal Beach.

Issued on behalf of the California Coastal Commission on June 7, 2002.

PETER DOUGLAS
Executive Director

By: _____
Title: Coastal Program Analyst

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ACKNOWLEDGMENT

The undersigned permittee acknowledges receipt of this permit and agrees to abide by all terms and conditions thereof.

The undersigned permittee acknowledges that Government Code Section 818.4 which states in pertinent part, that: "A public entity is not liable for injury caused by the issuance . . . of any permit . . ." applies to the issuance of this permit.

IMPORTANT: THIS PERMIT IS NOT VALID UNLESS AND UNTIL A COPY OF THE PERMIT WITH THE SIGNED ACKNOWLEDGMENT HAS BEEN RETURNED TO THE COMMISSION OFFICE. 14 CAL. ADMIN. CODE SECTION 13158(a).

Date

Signature of Permittee

Please sign and return one copy of this form to the Commission office at the above address.

STANDARD CONDITIONS

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

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SPECIAL CONDITIONS

SPECIAL CONDITIONS PREVIOUSLY IMPOSED BY THE COMMISSION ON SEPTEMBER 9, 1998 WITH MODIFICATIONS FROM COASTAL DEVELOPMENT PERMIT AMENDMENT 5-97-367-A1 APPROVED BY THE COMMISSION ON OCTOBER 11, 2000 SHOWN:

1. **RESERVATION OF POTENTIAL FOR LOWLANDS ACQUISITION FOR WETLANDS RESTORATION**

[Deleted]. See Special Condition 16.

2. **REVISED VESTING TENTATIVE TRACT MAP NO. 15381**

[Deleted]. See Special Condition 27

3. **STATE LANDS PARCEL**

[Deleted].

4. **GUM GROVE PARK**

[Deleted]. See Special Condition 17

5. **PUBLIC ACCESS PROGRAM**

[Deleted]. See Special Condition 18

6. **ARCHAEOLOGY**

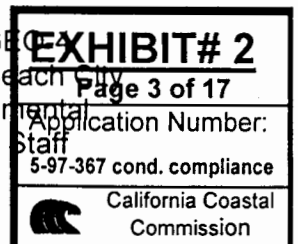
[Deleted]. See Special Condition 19

7. **WATER QUALITY**

PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, a National Pollutant Discharge Elimination System permit ("NPDES"), Storm Water Pollution Prevention Plan, and Structural and Non-structural Best Management Practices for the proposed project, in compliance with the standards and requirements of the California Regional Water Quality Control Board. The applicant shall implement and comply with the water quality measures approved by the Executive Director. Runoff from the site shall be directed to the Los Alamitos retarding basin to the maximum extent feasible. The permittee shall comply with mitigation measures WQ-5 through WQ-10 inclusive as approved by City of Seal Beach City Council resolution 4562.

8. **HAZARDS**

Mitigation Measures WQ-1, WQ-2, WQ-3, WQ-4, GEO-1, GEO-2, GEO-3, GEO-4, GEO-5, GEO-6, GEO-7, and GEO-8 as shown on Exhibit B of City of Seal Beach City Council Resolution 4562 certifying the Hellman Ranch Specific Plan Environmental Impact Report on September 22, 1997 (Exhibit 11 of the September 9, 1998 Staff



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Report) are hereby incorporated by reference as special conditions of this coastal development permit.

9. FUTURE CONSTRUCTION OF HOMES ON THE MESA

This coastal development permit does not approve development on the lots created by Vesting Tentative Tract Map No. 15402. A future coastal development permit(s) is required for development, such as site preparation, construction of streets, common walls and landscaping, and construction of the actual homes, etc. on the site. Construction spoils, materials, and equipment shall not be placed in any wetland areas.

10. LEGAL INTEREST

PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, written documentation demonstrating that it has the legal ability to carry out all conditions of approval of this permit.

11. WETLANDS RESTORATION AREA / CONSERVATION

[Deleted].

12. FINAL WETLAND RESTORATION PROGRAM

[Deleted].

13. GOLF COURSE OPERATIONS AND GOLFER WETLAND EDUCATION PROGRAM

[Deleted].

14. RESIDENTIAL DEVELOPMENT-TIMING OF CONSTRUCTION

[Deleted].

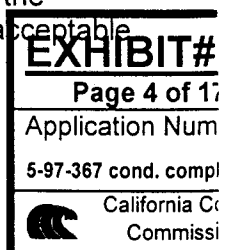
**SPECIAL CONDITIONS FROM COASTAL DEVELOPMENT PERMIT AMENDMENT
5-97-367-A1 APPROVED BY THE COMMISSION ON OCTOBER 11, 2000:**

15. PRIOR CONDITIONS

Unless specifically altered by this amendment, all regular and special conditions attached to coastal development permit 5-97-367 remain in effect.

16. RESERVATION OF POTENTIAL FOR LOWLANDS ACQUISITION FOR WETLANDS RESTORATION

- A.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director which shall provide that:



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- (1) For a period of twenty-five years, the applicant agrees to sell the lowlands area of the property as defined in "Attachment 1" (as revised pursuant to subsection B. of this condition) to any public agency or non-profit association acceptable to the Executive Director that requests in writing to purchase the property or, through the normal State of California land acquisition practices if the State is the prospective buyer; and,
- (2) The sale shall be at fair market value as established by an appraisal paid for by the buyer and prepared by an appraiser mutually acceptable to the buyer and applicant, or, if the parties are unable to agree, by an appraiser designated by third party, or if the buyer and applicant agree through an arbitration on value; and,
- (3) Subject to the reserved easement rights of Southern California Edison Company as set forth in a grant deed to applicant dated April 23, 2002, and recorded in the Official Records of the Recorder's Office, Orange County, as Instrument No. 20020378263, the uses shall be restricted to wetlands restoration, open space and environmental education purposes, with reversion rights to the State Coastal Conservancy.

The deed restriction shall remain in effect for twenty-five years and be recorded over the lowlands area of the property and shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens and encumbrances that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.


- B. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for review and approval of the Executive Director, a revised "Attachment 1" consisting of a map, prepared by an appropriately licensed professional, which (i) depicts the area to be deed restricted pursuant to subsection A. of this condition and Special Condition 28, (ii) which maintains this restriction over at least 100 acres, (iii) which removes those areas necessary for the bio-swale and water quality basin from the area to be deed restricted pursuant to subsection A. of this condition and (iv) which off-sets the removal of those areas from the deed restriction with other land within the project site suitable for a deed restriction pursuant to subsection A. of this condition.

Note: Special Condition 16 replaces Special Condition 1 in its entirety.

17. GUM GROVE PARK

PRIOR TO THE ISSUANCE OF RESIDENTIAL BUILDING PERMITS, the applicant shall submit, for the review and approval of the Executive Director, written evidence demonstrating that the area known as Gum Grove Nature Park and as delineated as Lot 3 of proposed Vesting Tentative Tract Map 15381 has been dedicated in fee to the City of Seal Beach, as proposed by the applicant. The dedication documents shall provide that:

- (a) The park shall be preserved in perpetuity as a passive recreational nature park open to the public. Active recreational activities or commercial facilities shall be prohibited.

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- (b) Necessary parking facilities which are the minimum required to serve the park and which meets Americans with Disabilities Act requirements shall be provided. The existing twenty (20) striped parking spaces for Gum Grove Park shall be maintained.
- (c) All trails within the dedicated park area shall be constructed to be accessible to persons with disabilities consistent with the Americans with Disabilities Act requirements. No trails shall be lighted in order to minimize impacts on wetlands.
- (d) Small scale interpretive signage which describes the Monarch Butterfly may be permitted if approved by the Executive Director.
- (e) Gum Grove Park shall be open from dawn to dusk (one hour after sunset) on a daily basis. Changes in hours of operation of Gum Grove Park shall require an amendment to this permit unless the Executive Director determines that an amendment is not required.
- (f) Signage shall be conspicuously posted which states that the park is open to the general public.
- (g) That portion of proposed Lot 3 of Tentative Tract Map No. 15381, comprised of an approximately 25 foot wide strip of land which borders Seal Beach Boulevard and extends west from Seal Beach Boulevard to connect with the primarily used part of Gum Grove Park, shall be subject to the following requirements:
 - (1) The frontage along Seal Beach Boulevard shall not be gated, fenced, or obstructed in any manner which prevents public access from Seal Beach Boulevard.
 - (2) The area shall be reserved for a public trail and parking lot, which are visible, and directly accessible to the public from Seal Beach Boulevard, and which lead from Seal Beach Boulevard to the primary part of Gum Grove Park to the west. The public parking lot area shall be large enough for a minimum of ten (10) parking spaces. Where it is not feasible to reserve enough public parking area on this portion of proposed Lot 3, public parking directly accessible from Seal Beach Boulevard shall be provided for on proposed Lot 2 of Tentative Tract Map No. 15381 adjacent to proposed Lot 3, in accordance with the provisions of Special Condition 18.B. of this permit.
- (h) Domesticated animals (including, but not limited to, dogs) shall be leashed and under the control of the party responsible for the animal at all times within Gum Grove Park.

Note: Special Condition 17 replaces Special Condition 4 in its entirety.

18. PUBLIC ACCESS PROGRAM

- A. Public Access Signage.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall submit, for the review and approval of the Executive Director, the following:



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Director, a detailed signage plan which provides for the installation of signs clearly visible from Pacific Coast Highway and Seal Beach Boulevard which invite and encourage the public to use the public access, parking, and recreation opportunities proposed at Gum Grove Park, and the public access trail and public parking linking Gum Grove Park to Seal Beach Boulevard. Key locations include but are not limited to; 1) Gum Grove Park, both at its western entrance and at the proposed Seal Beach Boulevard entrance. The plans shall indicate the location, materials, dimensions, colors, and text of the signs. The permittee shall install the signs in accordance with the signage plans approved by the Executive Director.

B. Residential Community Streets (Vesting Tentative Tract Map No. 15402). PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide that: 1) public pedestrian and bicycle access to the streets and sidewalks constructed within the area subject to Vesting Tentative Tract Map No. 15402 shall not be precluded, 2) no locked gates, walls, fences, or other obstructions prohibiting public pedestrian or bicycle access to the streets and sidewalks constructed within the area subject to Vesting Tentative Tract Map No. 15402 shall be permitted, 3) no requirement to allow public vehicular access over the private streets is necessary if the applicant is willing to provide public parking within Gum Grove Park and a separate vehicular entrance from Seal Beach Boulevard to said public parking, 4) if fewer than the ten (10) public parking spaces required by Special Condition 17.(g)(2) of this permit can be constructed on proposed Lot 3 of Vesting Tentative Tract Map No. 15381, the portion of the area subject to Vesting Tentative Tract Map No. 15402 closest to Lot 3 shall be reserved for the balance of the public parking spaces so that the parking spaces are directly accessible from Seal Beach Boulevard. The deed restriction shall be recorded over the entire area subject to Vesting Tentative Tract Map No. 15402 and shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

C. Revised Vesting Tentative Tract Map No. 15402. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, two copies of a revised vesting tentative map for Tract No. 15402 if: (1) all of the ten public parking spaces required under Special Condition 17.(g)(2) cannot be built on proposed Lot 3 of Vesting Tentative Tract Map 15381, and/or (2) the entities with jurisdiction over Seal Beach Boulevard do not approve a separate vehicular entrance off of Seal Beach Boulevard to said public parking spaces. The revised map shall show: (1) the locations and design of said public parking spaces which cannot be built on Lot 3 and instead shall be built on the portion of the area subject to Vesting Tentative Tract Map No. 15402 closest to Lot 3, and 2) the location of the public street which connects the public parking required under Special Condition 17.(g)(2) of this permit with the entrance to the subdivision proposed by Vesting Tentative Tract Map No. 15402. The revised map shall be accompanied by written documentation demonstrating that the governmental agencies which have jurisdiction over Seal Beach Boulevard and parking space standards have approved the revised map. The applicant shall record the revised map approved by the Executive Director.

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Application Number

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- D. **Construction of Trail and Parking Lot.** PRIOR TO COMMENCEMENT OF CONSTRUCTION OF THE HOUSES WITHIN THE AREA SUBJECT TO VESTING TENTATIVE TRACT MAP NO. 15402, the applicant shall construct a public access trail and parking lot, which are visible and directly accessible to the public from Seal Beach Boulevard, which lead from Seal Beach Boulevard to the primary part of Gum Grove Park to the west. The public parking lot shall contain a minimum of ten (10) parking spaces and shall be directly accessible from Seal Beach Boulevard. Where it is not feasible to construct the public parking and vehicular entrance on this portion of proposed Lot 3 of Vesting Tentative Tract Map No. 15381, public parking directly accessible from Seal Beach Boulevard shall be constructed on proposed Lot 2 of Tentative Tract Map No. 15381 (i.e., the area subject to Vesting Tentative Tract Map No. 15402) immediately adjacent to proposed Lot 3, in accordance with the provisions of Special Condition 18.B of this permit.

Note: Special Condition 18 replaces Special Condition 5 in its entirety.

19. ARCHAEOLOGY

For purposes of this condition, "OHP" shall mean the State Office of Historic Preservation, and "NAHC" shall mean the state Native American Heritage Commission.

- A. **Research Design.** The permittee shall undertake the proposed archaeological investigation in conformance with the proposed archaeological research design entitled A Research Design for the Evaluation of Archaeological Sites within the Hellman Ranch Specific Plan Area dated November 1997 prepared by KEA Environmental, Inc. for the City of Seal Beach. Prior to issuance of the coastal development permit for the archeological investigation, the applicant shall submit written evidence, subject to the review and approval of the Executive Director, that a copy of the archaeological research design has been submitted to the OHP, the NAHC, and the Native American person/group from the Juaneno/Acjachemem, Gabrielino/Tongva, or Luiseno people designated or deemed acceptable by the NAHC, for their review and comment. An amendment to this permit shall be required for any changes to the research design suggested by OHP, NAHC, or the Native American group/person unless the Executive Director determines that an amendment is not required.
- B. **Selection of Archaeologist(s) and Native American Monitor(s).** The archaeologist(s) selected by the City shall meet the United States Department of Interior minimum standards for archaeological consultants, as also endorsed by the OHP. The City shall select the Native American monitor(s) in compliance with the "Guidelines for monitors/consultants of Native American cultural, religious and burial sites" issued by the NAHC, and in consultation with the appropriate Native American person/group from the Juaneno/Acjachemem, Gabrielino/Tongva, or Luiseno people deemed acceptable by the NAHC.
- C. **Post-Investigation Mitigation Measures.** Upon completion of the archaeological investigation, and prior to the commencement of construction of any development approved by this coastal development permit (other than archaeological investigation activities or subdivision), the applicant shall submit, for the review and approval of the Executive Director, a written report regarding the following: 1) a summary of the findings of the archaeological investigation, and 2) a final written mitigation plan which shall



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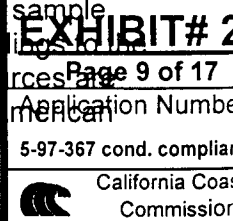
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identify recommended mitigation measures, which may include capping of archaeological sites, data recovery and curation of important archaeological resources as defined by the California Environmental Quality Act, and detailed additional mitigation measures which need to be implemented. The applicant shall also submit for review and approval of the Executive Director, a signed contract with a City-selected archaeological consultant that provides for archaeological salvage that follows current accepted professional practice, if additional archaeological data recovery measures are determined appropriate. The written report and additional mitigation measures shall also be submitted to the OHP and the appropriate Native American person/group from the Juaneno/Acjachemem, Gabrielino/Tongva, or Luiseno people designated or deemed acceptable by the NAHC. An amendment to this permit shall be required to implement any additional mitigation measures unless the Executive Director determines a permit amendment is not required.

- D. **Implementation of Mitigation Measures and Summary of Fieldwork.** Prior to commencement of site preparation, grading, and construction activities for any development (other than archaeological investigation activities) located within a fifty foot (50') radius of the furthest boundary of each state-identified archaeological site as delineated in the archaeological research design, all of the requirements of Special Conditions 19.A., 19.B., and 19.C. shall have been met. All development shall occur consistent with the final plan required by Special Condition 19.C. A written synopsis report summarizing all work performed in compliance with Special Conditions 19.A, 19.B, and 19.C shall be submitted to the Executive Director, OHP, the NAHC and the person/group from the Juaneno/Acjachemem, Gabrielino/Tongva, or Luiseno people designated or deemed acceptable by the NAHC, within six (6) weeks of the conclusion of field work. No later than six months after completion of field work, a final report on the excavation and analysis shall be submitted to the Executive Director, OHP, the NAHC, and the person/group from the Juaneno/Acjachemem, Gabrielino/Tongva, or Luiseno people designated or deemed acceptable by the NAHC.
- E. **Monitoring of Construction Activities.** All site preparation, grading and construction activities for the proposed development shall be monitored on-site by a qualified archaeologist and Native American monitor. The archaeologist and Native American monitor shall have the express authority to temporarily halt all work in the vicinity of the discovery site should significant cultural resources be discovered. This requirement shall be incorporated into the construction documents which will be used by construction workers during the course of their work.
- F. **Discovery of Cultural Resources / Human Remains During Post-Archaeological Testing Construction Activities.**

- (1) If additional or unexpected archaeological features are discovered during site preparation, grading, and construction activities for approved development other than the archaeological investigation, all work shall be temporarily halted in the vicinity of the discovery site while the permittee complies with the following:

The archaeologist, in consultation with the Native American monitor, shall sample identify and evaluate the artifacts as appropriate and shall report such findings to the permittee, the City and the Executive Director. If the archaeological resources are found to be significant, the archaeologist, in consultation with the Native American



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monitor, shall determine appropriate actions, and shall submit those recommendations in writing to the Executive Director, the applicant and the City. The archaeologist shall also submit the recommendations for the review and approval of the Executive Director and shall be prepared in accordance with the provisions outlined in Special Condition 19.C above. Any recommended changes to the proposed development or the mitigation measures identified in the final plan required by Special Condition 19.C. shall require a permit amendment unless the Executive Director determines that a permit amendment is not required.

Development activities may resume if the cultural resources are not determined to be 'important' as defined by the California Environmental Quality Act (CEQA).

- (2) Should human remains be discovered on-site during the course of site preparation, grading, and construction activities, immediately after such discovery, the on-site City-selected archaeologist and Native American monitor shall notify the City of Seal Beach, Director of Development Services and the County Coroner within 24 hours of such discovery, and all construction activities shall be temporarily halted in the vicinity of the discovery site until the remains can be identified. The Native American group/person from the Juaneno/Acjachemem, Gabrielino/Tongva, or Luiseno people designated or deemed acceptable by the NAHC shall participate in the identification process. Should the human remains be determined to be that of a Native American, the permittee shall comply with the requirements of Section 5097.98 of the Public Resources Code. Within five (5) calendar days of such notification, the director of development services shall notify the Executive Director of the discovery of human remains.

G. Incorporation of Archaeology Requirements into Construction Documents.

Special Condition No. 19 of Coastal Development Permit 5-97-367 shall be incorporated in its entirety into all the construction documents which will be used by construction workers during the course of their work as well as all construction bid documents.

H. Sequencing of Issuance of Coastal Development Permit Related to Archeological Investigation.


In advance of compliance with the other special conditions of Coastal Development Permit 5-97-367, as amended, the Executive Director may issue a coastal development permit, consistent with the terms of subsections A through G of this condition, for the development needed to undertake the archeological investigation.

Note: Special Condition 19 replaces Special Condition 6 in its entirety.

20. FINAL PLANS

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and approval of the Executive Director:

1. Final design, grading, construction, structural, and drainage plans for the bio-swale, riparian corridor and water quality basin that substantially conform with the Storm Water Management & Water Quality Control Plan, (SWM & WQCP)

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prepared by MDS Consulting and Fuscoe Engineering of Irvine, California, dated July 27, 2000, submitted to the Commission; and

2. Final landscape plans for the bio-swale, riparian corridor, and water quality basin that substantially conform with the Storm Water Management & Water Quality Control Plan, (SWM & WQCP) prepared by MDS Consulting and Fuscoe Engineering of Irvine, California, dated July 27, 2000, submitted to the Commission, and the letter from Glenn Lukos Associates of Lake Forest, California to John Laing Homes and Hellman Properties dated June 28, 2000, regarding Biological Benefits of Proposed Wetland Treatment System, CDP 5-97-367-A1, Hellman Ranch Property, Orange County, California. These final plans shall be prepared in consultation with the California Department of Fish and Game and U.S. Fish and Wildlife Service and shall be accompanied by written evidence of their endorsement of the landscape plans.

- B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

21. REQUIREMENT FOR IDENTIFICATION OF SUITABLE RAPTOR FORAGING HABITAT AND REQUIREMENT FOR MANAGEMENT PLAN

- A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and approval of the Executive Director, a map, prepared by a biologist in accordance with current professional standards, delineating raptor foraging habitat with long term conservation potential available within the lowlands of the subject property as identified in the letter from Glenn Lukos Associates of Lake Forest, California to John Laing Homes and Hellman Properties dated September 11, 2000, regarding *Response to June 19, 2000, letter from the California Department of Fish and Game Regarding Biological Resources at Hellman Ranch*. The area delineated shall not be less than 9.2 contiguous acres of raptor foraging habitat. The delineation and site selection shall occur in consultation with the California Department of Fish and Game, and the map submitted to the Executive Director shall be accompanied by a written endorsement by the California Department of Fish and Game of the raptor foraging habitat delineation, the selected site and the map; and
- B. The raptor foraging habitat to be identified in subsection A. of this condition shall have the same or better functions and values as the site to be impacted, in accordance with the biological assessment prepared by Glenn Lukos Associates in their letter dated September 11, 2000. If there are no raptor foraging habitat areas with the same or better functions and values as the site to be impacted in the area previously identified by the applicant as having such, the applicant shall obtain an amendment to this coastal development permit in order to remedy the discrepancy; and
- C. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and approval of the Executive Director, a raptor foraging habitat management plan which identifies management measures necessary to, at minimum, maintain the functions and values of the raptor foraging habitat identified in subsection

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B. of this condition. Such measures shall include appropriate brush management measures for the maintenance of raptor foraging habitat. Measures may include brush clearance and brush mowing; planting of plant species associated with raptor foraging habitat, and exotic and invasive plant species controls for the removal of plant species which upset the functioning of the raptor foraging habitat, including, but not limited to, ice plant, pampas grass, arundo giant cane, and myoporum. Any chemical controls to be used in areas adjacent to wetlands shall be limited to those which are non-toxic to wetland organisms (e.g. Rodeo® Herbicide). The raptor foraging habitat management plan shall be prepared in consultation with the California Department of Fish and Game, and shall be accompanied by a written endorsement of the plan by the California Department of Fish and Game. The permittee shall undertake development in accordance with the raptor foraging habitat management plan approved by the Executive Director. Any proposed changes to the approved raptor foraging habitat management plan shall be reported to the Executive Director. No changes to the approved raptor foraging habitat management plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

22. OPEN SPACE DEED RESTRICTION

- A. No development, as defined in section 30106 of the Coastal Act shall occur in the raptor foraging habitat delineated by the map required pursuant to Special Condition 21 except for:
1. Activities related to raptor foraging habitat maintenance pursuant to the raptor foraging habitat management plan required pursuant to Special Condition 21.C.; and
 2. The following development, if approved by the Coastal Commission as an amendment to this coastal development permit: activities related to public access, recreation, and wetland restoration provided that such development continues to designate a minimum of 9.2 acres of equivalent or better functioning raptor foraging habitat.
- B. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, which shows that the open space area identified pursuant to Special Condition 21 shall be restricted as open space for raptor foraging habitat and the deed restriction shall reflect the above restriction on development in the designated open space. The deed restriction shall contain the raptor foraging habitat management plan approved by the Executive Director pursuant to Special Condition 21.C. The deed restriction shall include legal descriptions of both the applicant's entire parcel and the open space area. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

23. WATER QUALITY

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A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit a final Storm Water Management and Water Quality Control Plan (SWM & WQCP) designed to mitigate stormwater runoff and nuisance flow from development on Vesting Tentative Tracts 15381 and 15402. The final SWM & WQCP shall include structural and non-structural Best Management Practices (BMPs) designed to control the volume, velocity and pollutant load of stormwater and nuisance runoff leaving the developed site. The final plan shall be reviewed by the consulting engineering geologist to ensure conformance with geotechnical recommendations. The final plan shall demonstrate substantial conformance with the Water Quality Management Plan (WQMP), Tract 15402, Hellman Ranch, prepared by MDS Consulting of Irvine, California, dated January 2000, and the Storm Water Management & Water Quality Control Plan, (SWM & WQCP) prepared by MDS Consulting and Fuscoe Engineering of Irvine, California, dated July 27, 2000, and the following requirements:

1. Post-development peak runoff rates and average volume from the developed site shall not exceed pre-development levels for the 2-year 24-hour storm runoff event.
2. Post-construction treatment control BMPs shall be designed to mitigate (infiltrate or treat) stormwater runoff from each runoff event up to and including the 85th percentile 24-hour runoff event.
3. The approved SWM & WQCP shall be implemented prior to or concurrent with the construction of infrastructure associated with the development on Vesting Tentative Tracts 15381 and 15402. The approved BMPs and other measures included in the final SWM & WQCP shall be in place and functional prior to the issuance of the first residential building permit within Vesting Tentative Tract 15402.
4. All structural and non-structural BMPs shall be maintained in a functional condition throughout the life of the approved development. Maintenance activity shall be performed according to the recommended maintenance specifications contained in the California Stormwater BMP Handbooks (California Stormwater Quality Task Force, 1993) for selected BMPs. At a minimum, maintenance shall include the following: (i) all structural BMPs shall be inspected, cleaned and repaired, as needed prior to the onset of the storm season, no later than October 1st of each year and (ii) should any of the project's surface or subsurface drainage/filtration structures or other BMPs fail or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system and restoration of the eroded area. Should repairs or restoration become necessary, prior to commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if an amendment or new coastal development permit is required to authorize such work.

B. Any changes to the structures outlined in the Storm Water Management & Water Quality Control Plan, (SWM & WQCP) prepared by MDS Consulting and Fuscoe Engineering of Irvine, California, dated July 27, 2000, including changes to the footprint of any structures, necessary to accommodate the requirements of subsection A of this

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condition, shall require an amendment to this coastal development permit, unless the Executive Director determines that no amendment is required.

- C. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.
- D. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, reflecting the requirements outlined in subsections A., B., and C. of this condition. The deed restriction shall include legal descriptions of both the applicant's entire parcel and the deed restricted area. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

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24. RESERVATION OF LAND FOR WATER QUALITY PURPOSES

- A. The area of land containing the proposed water quality basin, bio-swale and riparian corridor, and associated appurtenances as depicted in Figure 8 (inclusive of the landscaped areas) of the Storm Water Management & Water Quality Control Plan, (SWM & WQCP) prepared by MDS Consulting and Fuscoe Engineering of Irvine, California, dated July 27, 2000, shall be reserved for water quality improvement purposes through a deed restriction as required pursuant to subsection B. of this condition. The deed restriction shall not preclude use of the same such land for wetland restoration provided the water quality improvement functions of the system described in the SWM & WQCP, as revised and approved by the Executive Director pursuant to Special Condition 23, is, at minimum maintained. In addition, the deed restriction shall not preclude construction and maintenance of the access road depicted on Figure 8, nor shall it preclude the construction and maintenance of the utilities and oil transmission lines depicted on Vesting Tentative Tracts 15381 and 15402, as approved by the Executive Director, nor shall it preclude the maintenance of existing oil operations, provided the water quality improvement functions of the system described in the SWM & WQCP, as revised and approved by the Executive Director pursuant to Special Condition 23, is, at minimum maintained. Finally, the deed restriction shall not preclude development associated with the archaeological investigation required pursuant to Special Condition 19.
- B. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, reflecting the above restrictions. The deed restriction shall include legal descriptions of both the applicant's entire parcel and the deed restricted area. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

25. STAGING AREA FOR CONSTRUCTION

- A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall submit a plan for the review and approval of the Executive Director which indicates that the construction staging area(s) and construction corridor(s) will avoid impacts to wetlands.
1. The plan shall demonstrate that:
 - (a) Construction equipment, materials or activity shall not occur outside the staging area and construction corridor identified on the site plan required by this condition; and
 - (b) Construction equipment, materials, or activity shall not be placed in any location which would result in impacts to wetlands.
 2. The plan shall include, at a minimum, the following components:
 - (a) A site plan that depicts:

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- (1) limits of the staging area(s)
- (2) construction corridor(s)
- (3) construction site
- (4) location of construction fencing and temporary job trailers with respect to existing wetlands

- B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

26. PERMIT COMPLIANCE

All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth herein. Any deviation from the approved plans must be reviewed and approved by the Executive Director and may require Commission approval.


27. REVISED VESTING TENTATIVE TRACT MAP NO. 15381

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, two copies of a revised vesting tentative map for Tract No. 15381. The revised map shall show only five legal lots as generally depicted in Exhibit 2, page 1; namely, 1) the lot currently owned by the California State Lands Commission, 2) the lot currently owned by the City of Seal Beach Redevelopment Agency, 3) proposed Lot 2 which is proposed to be further subdivided into seventy residential lots pursuant to proposed Tentative Tract Map 15402, 4) proposed Lot 3 for the proposed dedication of Gum Grove Park, which shall be in substantial conformance with the configuration shown on the map submitted with the permit application and maintain the proposed minimum 25 wide frontage along Seal Beach Boulevard, and 5) a lot consisting of the remainder of the subject site owned by the applicant. The applicant shall record the revised map approved by the Executive Director. No further subdivision of the lot identified in sub-section 5 shall occur other than to accommodate the transfer of land to a non-profit entity, subject to the review and approval of the Executive Director, for wetlands restoration, open space and environmental education purposes and which shall require an amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

Note: Special Condition 27 Replaces Special Condition 2 in its entirety.

28. RESERVATION OF POTENTIAL FOR ACQUISITION OF OIL PRODUCTION AREA FOR WETLANDS RESTORATION

- A. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director which shall provide that:

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- (1) At the time oil production ceases and for a period of twenty-five years thereafter, the applicant agrees to sell the oil production area of the property as defined in "Attachment 1" (as revised pursuant to subsection B. of Special Condition 16) to any public agency or non-profit association acceptable to the Executive Director that requests in writing to purchase the property or, through the normal State of California land acquisition practices if the State is the prospective buyer; and,
- (2) The sale shall be at fair market value as established by an appraisal paid for by the buyer and prepared by an appraiser mutually acceptable to the buyer and applicant, or, if the parties are unable to agree, by an appraiser designated by third party, or if the buyer and applicant agree through an arbitration on value; and,
- (3) Subject to the reserved easement rights of Southern California Edison Company as set forth in a grant deed to applicant dated April 23, 2002, and recorded in the Official Records of the Recorder's Office, Orange County, as Instrument No. 20020378263, the uses shall be restricted to wetlands restoration, open space and environmental education purposes, with reversion rights to the State Coastal Conservancy.

Within 30 days of the cessation of oil production, the applicant shall notify the Executive Director in writing of the date oil production ceased. The deed restriction shall remain in effect for twenty-five years from the date oil production ceases and be recorded over the oil production area of the property and shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens and encumbrances that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

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MITIGATION PLAN
FOR
SIGNIFICANT CULTURAL RESOURCE DISCOVERIES
HELLMAN RANCH SPECIFIC PLAN AREA
SEAL BEACH, CALIFORNIA

Coastal Development Permit 5-97-367-A1

Prepared for:


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Seal Beach, California 90740

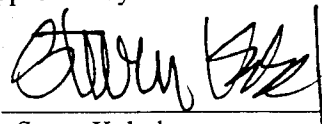
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July 2003

COASTAL COMMISSION
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EXECUTIVE SUMMARY

This document presents a Mitigation Plan to address impacts to cultural resources and Native American burials within the Hellman Ranch Specific Plan Area (SPA). After thoroughly examining all of the issues over the last several months, the Most Likely Descendant (MLD), John Laing Homes (JLH), the City of Seal Beach, the lead Native American monitor, and the archaeological monitor have agreed to recommend a Preferred Mitigation Alternative ("Mitigation Plan") as presented in Chapter 6 (below). The Mitigation Plan has been prepared in accordance with Coastal Development Permit (CDP) 5-97-367-A1, Special Condition 19F(1).

The Mitigation Plan represents the culmination of an extensive "alternatives analysis" in which the above parties as well as the California Coastal Commission staff and the Native American Heritage Commission (NAHC) have actively participated. If approved by the Executive Director of the Coastal Commission, with concurrence from the Commission, the Mitigation Plan can be implemented as described below and work can be re-initiated on the site in accordance with the Mitigation Plan and all terms of CDP 5-97-367-A1. It is understood that if additional or unexpected cultural materials are encountered, additional mitigation planning could be required under Special Condition 19F(1).

The Coastal Commission requested that the present plan be prepared after Native American monitors and archaeological monitors from EDAW, Inc. discovered Native American burials on the site during construction grading. As required by Public Resources Code Section 5097.98, as soon as Native American burials were identified, the landowners initiated consultation with the MLD. All on-site construction activities have been halted, pending approval of this Mitigation Plan. In accordance with Special Condition 19F(1), EDAW consulted with the MLD and other interested Native Americans in formulating the plan. EDAW also consulted with the City of Seal Beach, the State Office of Historic Preservation, and the landowners, JLH and Hellman Properties. The Coastal Commission provided helpful comments on the draft Plan, and these have been incorporated into the present document. The NAHC provided much valuable assistance during the consultation process.

A previous mitigation plan for cultural resources within the SPA was prepared during the California Environmental Quality Act (CEQA) process. Approved mitigation measures included the development of an archaeological research design, the implementation of archaeological testing and data recovery programs, and the monitoring by Native Americans and archaeologists of construction grading. Supplemental mitigation (as proposed herein) was to be required in the event of the discovery of additional or unexpected cultural resources that were found to be significant.

Currently, grading of the SPA is approximately 85% complete, and to date 20 Native American burial features containing 22 individuals have been identified. All but two of the burials were identified during the controlled grading and manual excavation that were implemented in consultation with the MLD pursuant to PRC Section 5097.98. Excavations adjacent to some burials have yielded items identified by Native Americans as burial goods. Sixteen of the burials have been removed on pedestals and placed in temporary storage, pending repatriation to the MLD for reburial.

The remaining four identified burials were partially exposed for removal prior to cessation of work on the site. Temporary protection measures, including the placement of tarps and sandbags, have been installed at these four. In addition to the burials, monitoring has resulted in the recovery of a variety of non-burial artifacts and archaeological features.

The present document includes an evaluation of the significance of the burials and other finds that have occurred during monitoring. The discovery of the Native American burials confirms the conclusion of significance with respect to cultural resources identified in the City's Environmental Impact Report. Previous investigations did not, however, provide indications of the number of Native American burials that would be encountered. In addition to those already identified, other burials probably still exist within the ungraded portion of the SPA. These Native American burials are within traditional Gabrielino territory and are highly significant to contemporary Gabrielino/Tongva.

The non-burial related artifacts and features identified through monitoring also confirm the cultural significance of the sites within the SPA. Most are similar to those recovered in the archaeological sample collected during the testing and data recovery programs. However, the monitoring of controlled grading allowed the recovery of a much larger sample than would otherwise have been possible and did result in the identification of some types that had not previously been reported for the sites. These additional finds will allow a refined assessment of prehistoric Native American lifeways and cultural adaptation along the southern California coast. The Mitigation Plan includes additional research questions to be addressed using the newly acquired data along with the archaeological information that was already available for the SPA. The analysis will be provided in a synopsis report and final report submitted to the City, the Executive Director of the Coastal Commission, State Office of Historic Preservation, the Native American Heritage Commission and the Gabrielino/Tongva MLD.

Two types of project related impacts can be identified. The first is loss of archaeological information. Mitigation of this impact can be adequately achieved through continued collection of non-burial artifacts and features during controlled grading and manual excavation; analysis of exhumed human remains prior to reburial to the extent authorized by the MLD; analysis of all the data in a final synthetic report on the archaeological investigations; and, curation of non-burial artifacts and features. The second type of impact is the cultural impact to Native American groups. Ancestral burials are very important in contemporary Gabrielino and Juaneno culture. Removing these burials from their original location would be considered culturally significant. The Mitigation Plan addresses this impact by setting aside the most-culturally sensitive area within CA-ORA-264 as a Preservation Area that will remain as open space. Burials within the Preservation Area will be left in place, covered with fill, and landscaped in native vegetation. Burials removed from other locations will be reinterred within the Preservation Area under the direction of the MLD. In addition the Mitigation Plan specifies that JLH in consultation with the MLD will design and construct an educational facility for Gum Grove Park or other locality in the development that will be suitable for use in cultural and educational programs focusing on the environment, history and Native American culture of the project area. Prior to the issuance of the coastal development permit for the residential structures and associated appurtenances (i.e. CDP 5-01-288) (herein 'vertical construction' permit),

JLH will obtain City of Seal Beach approval for the Educational Facility, and prior to applying for a Certificate of Occupancy for the 40th unit, JLH will construct and landscape this facility and if applicable dedicate it to the City of Seal Beach. All of the mitigation measures specified in the Mitigation Plan are summarized in Table ES-1.

Table ES-1. Mitigation Summary

Mitigation Measure	Comments
1 Prepare a peer-reviewed Mitigation Plan in conformance with CDP Special Condition 19.F.1.	Completed with the acceptance of the present document by Coastal Commission.
2 Set aside the Preservation Area as shown in Figure 6 as open-space and protect the area through a deed restriction. No additional burials will be removed from the Preservation Area, and all burials removed from the Specific Plan Area pursuant to this mitigation plan will be reinterred within the Preservation Area at the direction of the MLD.	JLH will prepare the appropriate legal document to deed restrict the Preservation Area. The deed restriction will be reviewed and approved by the Coastal Commission and recorded against the property.
3 Cover Preservation Area with fill contoured to approximate a naturalistic setting. Plant with California native plants consistent with the CCC approved plant list and approved by the MLD.	JLH will complete either within 12 months of issuance of vertical construction permit or prior to applying for a Certificate of Occupancy for the residential structures on the adjacent lots (whichever occurs earlier).
4 Reconfigure the oil access road and utility corridor on the northern perimeter of the project area - The storm drain line that was originally proposed for the northern perimeter of the property through ORA-264 will be realigned to avoid the site altogether. Fill will be placed on the northern perimeter to allow the placement of electrical, water, oil and gas, and miscellaneous utility lines within the fill. This will avoid the need to excavate utility lines into the undisturbed cultural deposits. The oil company access road will be reduced from 25 feet in width to 17 feet within the cultural area and would be developed on top of the fill. Furthermore, future disturbance to the cultural deposits associated with ORA-264 within the oil company access road area shall be prohibited. Notification to present and future property owners shall be provided through a deed restriction recorded against the property.	JLH will complete during construction. Grading plan to be approved by City and the Executive Director of the Coastal Commission. The landowner will prepare the appropriate legal document to deed restrict the cultural deposit area. The deed restriction will be reviewed and approved by the Coastal Commission and the landowner will record the deed restriction against the property.
5 Conduct controlled grading of remaining cultural deposit in Lots 13 and 14, directed by the archaeological monitor and Native American monitor. [The cultural deposit in this area is not considered likely to contain human remains.] Treat any cultural materials in accordance with Mitigation Measures 9 through 13 (below)	JLH will complete during construction.

Mitigation Measure	Comments
<p>6 Develop a cultural-educational center within Gum Grove Park – JLH will retain an appropriate consultant to design this facility in consultation with the MLD. Preliminary designs are provided in this mitigation plan. Final designs will be submitted to the City of Seal Beach and California Coastal Commission for review and approval prior to commencement of grading at the site.</p>	<p>JLH will complete this measure in conjunction with the process of dedicating Gum Grove Park to the City of Seal Beach and will construct and landscape the center prior to applying for a Certificate of Occupancy for the 40th unit. .</p>
<p>7 Assist in the reinterment of burials within the Preservation Area – JLH will provide funding for a reburial ceremony to be conducted under the auspices of the MLD and will prepare and backfill reburial pits. Native American monitors will oversee the backfilling.</p>	<p>JLH will complete during the construction process.</p>
<p>8 Prior to resuming mechanical grading operations, the developer will develop and implement a worker training program. The program will be designed to convey (1) the purpose of the cultural resources monitoring, including the need for respectful treatment of human remains; (2) the procedures to be employed in the monitoring, including the controlled grading and hand excavation; (3) the authority of the archaeologists and Native American monitors to temporarily halt or redirect grading; and (4) the procedures to be used in the event of discoveries. The training will consist of in-field worker orientations accompanied by distribution of pamphlets describing the monitoring and other archaeological procedures.</p>	<p>JLH will implement prior to restarting grading operations. A qualified consultant will be retained to prepare in consultation with MLD and JLH.</p>
<p>9 All ground disturbance in any portions of the project area with the potential to contain human remains or other cultural material will be monitored by the archaeological monitor and a Native American representative of the MLD.</p>	<p>JLH will implement during construction.</p>
<p>10 When possible burials are identified outside of the Preservation Area during monitoring of mechanical excavation, or excavation of test units, the excavation will be temporarily halted while the find is assessed in consultation with the lead field archaeologist and Native American monitor. If the find is made during mechanical excavation, the archaeologist or Native American monitoring the activity will have the authority to direct the equipment operator to stop while the find is assessed. If it is determined that the find does not constitute a burial or an additional or unexpected new find, the mechanical excavation will continue. If an additional or unexpected new find is encountered, the procedure outlined in Special Condition 19 of the CDP shall be implemented.</p>	<p>JLH will implement during construction.</p>

Mitigation Measure	Comments
<p>11 If the find is determined to be a human burial, the lead archaeologist will immediately notify the Site Supervisor for the developer, as well as the Principal Investigator for EDAW. The Principal Investigator will immediately notify the County Coroner, the MLD and the Director of Development Services for the City of Seal Beach. In addition, the landowner or their designee shall immediately notify the Executive Director of the Coastal Commission. The Site Supervisor shall ensure that construction grading does not impact the new burial while it is being assessed, and excavated and removed provided that the find does not constitute an additional or unexpected new find as defined herein. As has been done throughout the construction monitoring for the development, the City will provide the Coastal Commission with weekly updates describing the finds in writing. In addition, the MLD will also update the Coastal Commission regarding discoveries of human remains.</p>	<p>JLH and the City of Seal Beach will implement during construction.</p>
<p>12 For all discovered human burials, attempts will continue to be made to locate additional burials nearby through hand excavation techniques. This will be done through the excavation of 1 x 1 m exploratory test units (ETUs) placed along transects extending radially from each identified burial or burial cluster. The radial transects will be designed to test areas within 50 feet (15 m) from the edge of each burial or burial cluster. Excavation of these units will be limited to areas containing intact cultural deposit (i.e., areas that have not been graded well into the underlying marine terrace) and will be excavated until the marine terrace deposits are encountered. The soil from the ETUs along the radial transects will be screened through 1/8-inch mesh. Wet or dry screening methods may be used, and the soil may be transported to another location on the property for screening. Artifacts and faunal remains (shell and animal bone) will be retained from the screen, as well as any human remains. Human remains may be exposed but shall not be removed from the ground until the exploratory test units described under 'Identification of Additional Burials' in this mitigation plan have been completed. If the exposure and testing fails to reveal evidence that the remains are additional or unexpected the remains may be treated consistent with this mitigation plan. If the remains are found to be additional or unexpected, work shall stop and the procedures outlined in Special Condition 19 of the CDP shall be implemented.</p>	<p>Qualified archaeologists will be retained to conduct this program during construction.</p>

Mitigation Measure	Comments
<p>13 Controlled grading will be done with a wheeled motor grader. The motor grader uses an angled blade that excavates 1 to 2 inches at a pass, pushing the spoil to the side to form a low windrow. Monitors follow about 20 feet behind the motor grader, examining the ground for evidence of burials. When a burial is identified during controlled grading, the soil in windrows that may contain fragments of bone from that burial will be screened. Soil from windrows within 25 feet of any burial will be transported to another location on the property for observation and screening. If additional burials are found during controlled grading, additional ETUs will be excavated in the radial patterns described above.</p>	<p>JLH will implement with the assistance of qualified archaeologists and Native American monitors.</p>
<p>14 Outside of the Preservation Area and to the extent that they do not constitute additional or unexpected new finds as defined herein, or to the extent they do constitute additional or unexpected new finds but are determined not to be "significant" ones, Native American burials will be carefully and respectfully removed along with the surrounding soil matrix ("pedestal") and placed in secure temporary storage pending reinterment within the Preservation Area. All excavation and moving of Native American burials will be monitored by a representative of the MLD.</p>	<p>Qualified archaeologists and Native American monitors will be retained to assist in the excavation and removal of Native American burials.</p>
<p>15 Additional scientific studies of the Native American burial remains will be conducted at the direction of the MLD.</p>	<p>A qualified archaeologist will be retained to undertake these investigations.</p>
<p>16 Once all portions of the project area have been graded to a point that is completely within the underlying culturally sterile marine terrace deposits, the repatriation process will be initiated for all recovered human remains and associated artifacts. The remains and associated artifacts will be transported from the temporary storage area to the site for reburial. Specific aspects of the reinterment ceremony, including scheduling and attendees, will be at the discretion of the MLD. Supplies needed for the ceremony, such as animal skins and other materials, will be paid for by the landowner.</p>	<p>JLH will implement with the assistance of the MLD and qualified archaeologists.</p>
<p>17 Additional analyses of non-burial materials - The assemblage of artifacts recovered during the monitoring will provide a basis for comparison with other sites and will contribute to an understanding of regional patterns. Additional analyses will include approximately 20 additional radiocarbon dates, artifact identifications, obsidian sourcing and hydration if appropriate materials are recovered, and comparative studies. To assess the prehistoric environmental context, two sediment cores will be taken from suitable locations in the lower portions of the property. Sediments in the cores will be examined and described in the field by a geologist, and samples collected for dating and pollen analysis.</p>	<p>Qualified archaeologists will be retained to conduct these investigations during and after construction. Monthly progress reports will be filed.</p>

Mitigation Measure	Comments
18 Cultural materials recovered from the cultural resources monitoring and mitigation program for the development will be curated either at an appropriate facility in Orange County, or, in consultation with the City, at the San Diego Archaeological Center. The curatorial facility will hold these in trust for the Gabrielino/Tongva people.	Qualified archaeologists will be retained to prepare the material for curation and assist in the delivery.
19 Within 6 weeks of completion of grading monitoring and fieldwork, a synopsis report of the archaeological mitigation fieldwork will be prepared and submitted to the City of Seal Beach, the Executive Director of the Coastal Commission, State Office of Historic Preservation, the Native American Heritage Commission and the Gabrieleno/Tongva MLD.	Qualified archaeologists will be retained to prepare the synopsis report.
20 Within 12 months of completion of the monitoring, a final technical report will be submitted to the City of Seal Beach, the Executive Director of the Coastal Commission, State Office of Historic Preservation, the Native American Heritage Commission and the Gabrieleno/Tongva MLD. The final technical report will contain a complete reevaluation of the cultural resources within the HRSP area, including discussions of cultural and chronological relationships within regional and tribal settlement systems. The report will conform to the guidelines developed by the California Office of Historic Preservation for Archaeological Resource Management Reports (ARMR). It will be prepared in sufficient quantity to distribute to interested regional researchers and Native American groups. It will thoroughly document and synthesize all of the findings from all phase of the cultural resources program.	Qualified archaeologists will be retained to prepare the synopsis report and final technical report. JLH will implement the report preparation.

CHAPTER 1

INTRODUCTION

This document presents a plan for the mitigation of impacts to cultural resources, Native American burials, and associated grave goods and archaeological artifacts that have been identified, or may be reasonably expected to be encountered, within the areas remaining to be graded within the Hellman Ranch Specific Plan Area (SPA), Seal Beach, California (Figures 1 and 2). It responds to a determination by the Executive Director of the California Coastal Commission (CCC) that the cultural resources discovered during grading monitoring to date are of sufficient significance to require a supplemental mitigation plan under Special Condition 19.F(1) of the project's Coastal Development Permit (Permit No. 5-97-367-A1). In so doing the Mitigation Plan sets aside a Preservation Area in the most-culturally sensitive location, CA-ORA-264, and specifies treatments for human remains and burials, associated grave goods, and archaeological artifacts that have already been discovered, as well as procedures for the identification and treatment of cultural resources that may be discovered as grading continues outside of the Preservation Area. It is understood that if new additional or unexpected cultural materials are encountered, additional mitigation planning could be required under Special Condition 19F(1).

The present document is the result of extensive consultation and alternative analyses. Parties to the consultation have included the Most Likely Descendent (MLD), the lead Native American Monitor, John Laing Homes, the City of Seal Beach, the CCC, the California Native American Heritage Commission (NAHC), and EDAW, Inc, which served as the archaeological monitor and prepared the Mitigation Plan. In addition, the Plan has been submitted to the State Office of Historic Preservation and other interested Native Americans. The Plan provides a research context and summarizes the archaeological work conducted on the property to date; describes the consultation conducted in compliance with Public Resources Code (PRC) Section 5097.98; evaluates the findings; and proposes a plan for mitigation of impacts to significant cultural resources resulting from the development.

The work proposed herein is in fact *supplemental* mitigation for the Hellman Ranch Specific Plan area. The initial mitigation program approved through the California Environmental Quality Act (CEQA) process included the following mitigation measures:

1. Preparation of an archaeological research design – This research design (York et al. 1997) was prepared and approved by the City of Seal Beach and the CCC.
2. Implementation of archaeological testing and data recovery – The field phase of these investigations was completed in Spring 2001, and a final report (York and Underwood 2002) has been prepared and submitted to the City of Seal Beach and the CCC. A final report on the work which has occurred since Spring 2001 will be submitted after completion of the monitoring.

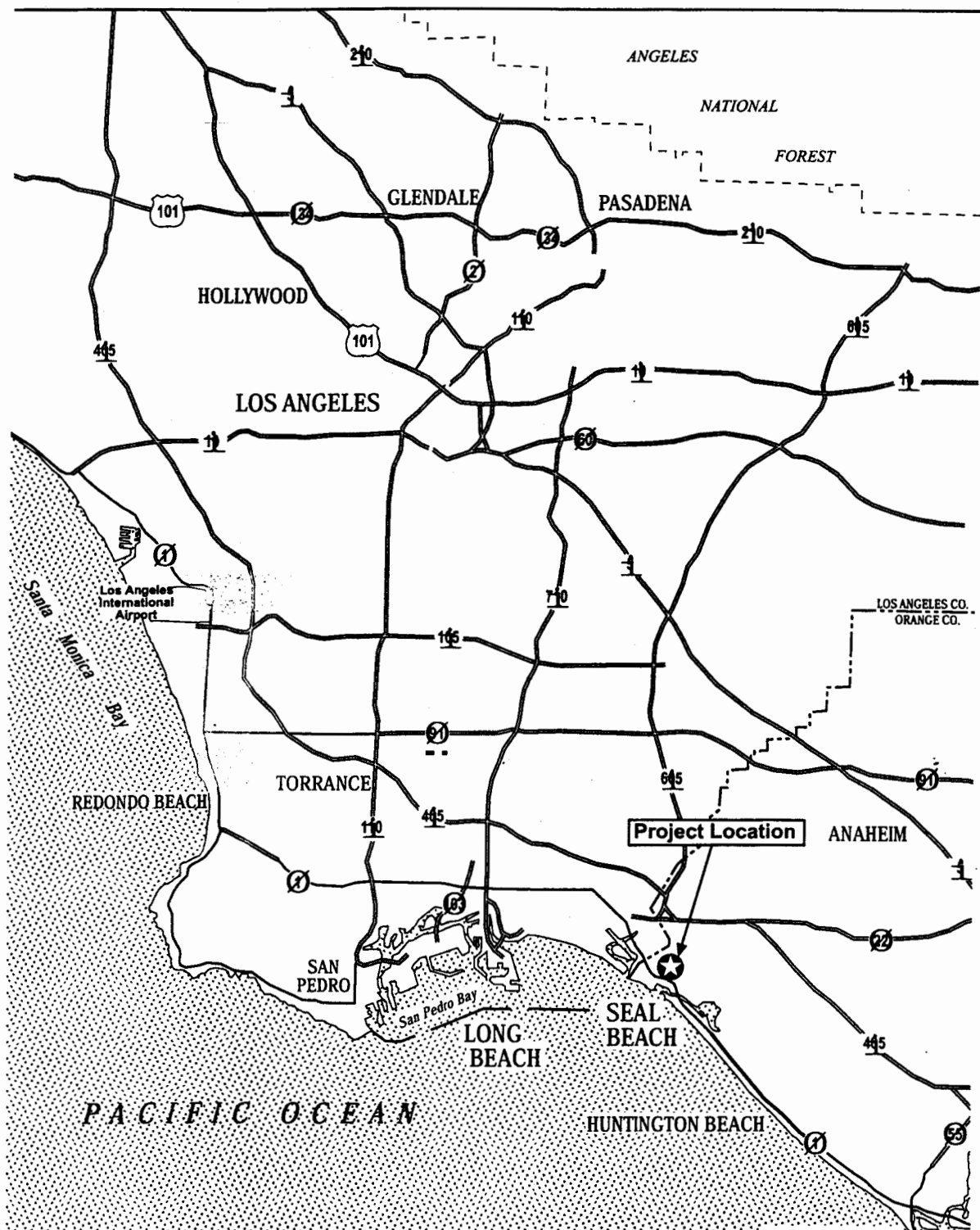
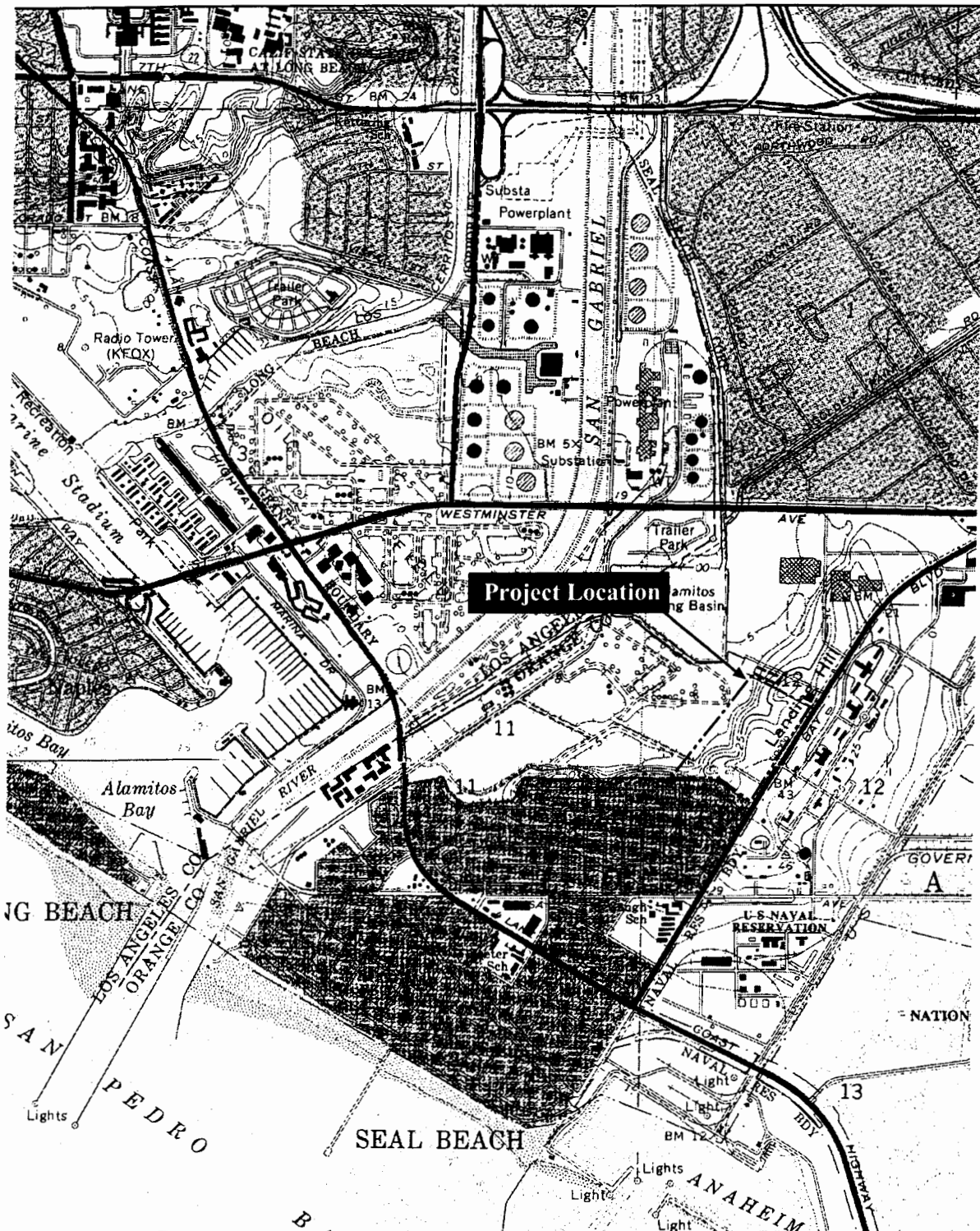


Figure 1
Regional Map



0 5 Miles



Source: USGS Seal Beach and Los Alamitos, CA Quadrangles Photorevised 1981



0 2000 Feet

Figure 2
Project Location

3. Archaeological and Native American monitoring of construction grading – The monitoring program was initiated in July, 2002 and resulted in the discovery to date of 22 individuals in 20 Native American burials.
4. Compliance with PRC 5097.98 in the event human burials were discovered during archaeological investigations or grading.

In September, 2002 the CCC ordered a halt to the grading operation, pending preparation of the present Mitigation Plan in accordance with the Coastal Development Permit conditions.

The remainder of Chapter 1 and Chapters 2 through 5 discuss the cultural and archaeological background to the Mitigation Plan, which is presented in detail in Chapter 6 and summarized in Appendix A. The Mitigation Plan presented herein is recommended as the Preferred Plan by the MLD, JLH, City of Seal Beach and archaeological monitor.

BACKGROUND: PREVIOUS ARCHAEOLOGICAL STUDIES

The sites considered here are all located on the northwestern portion of Landing Hill, which rises some 12 m above the coastal plain about 1.6 km northeast of the Pacific Ocean. Formed by tectonic uplift and folding created by the Seal Beach Fault, Landing Hill forms a low, west and northeast-trending ridge between the low-lying wetlands associated with Anaheim Bay to the east, and the former wetlands of Alamitos Bay to the west. Based on numerous previous archaeological investigations conducted on Landing Hill over the past several decades, a total of six archaeological sites have been identified within the areas to be graded for the proposed development: CA-ORA-260, -261, -262, -263, -264, and -1472 (Figure 3).

Archaeological surveys of the present project area were conducted by Redwine (1958), Archaeological Associates (1980), and Environmental Research Archaeologists (Stickel 1996). Excavations at the sites within the SPA have been conducted by Redwine (1958), SRS (Desautels 1981), LSA (Rosenthal and Padon 1990), and EDAW (York and Underwood 2002). Redwine excavated a total of five 5 x 5 foot test pits at CA-ORA-260 and CA-ORA-261, while SRS's subsurface work consisted of a total of 66 backhoe trenches at various locations in the project area.

LSA excavated 106 1 x 1 m test units at the sites within the project area, but the project was discontinued prior to completion and the results have not been reported. LSA did report the discovery of a single human bone at CA-ORA-263, which was reported to the County Coroner and Native American Heritage Commission as required by PRC Section 5097.98. At that time, the Native American Heritage Commission designated Vera Rocha as the Most Likely Descendant (MLD) and a burial agreement was entered into between Mrs. Rocha and the developer. Finally, EDAW's investigations included excavation of 35 1 x 1 m test units; five 0.5 x 1 m units; 84 shovel test pits; and 13 backhoe trenches. The EDAW excavations were done to meet the requirements of Special Condition 19 of the Coastal Development Permit or CDP, and the cultural resource mitigation measures of the City's certified EIR for the Hellman Ranch Specific Plan.

FIGURE 3

Project Area

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AVAILABLE TO THE GENERAL PUBLIC**

Although a variety of archaeological artifacts have been recovered from subsurface contexts in the project area, observed and documented human remains have included only five fragments noted by Redwine on the surface of CA-ORA-264, and a single human metacarpal recovered from CA-ORA-263 by LSA. Thus, while these finds indicated that human remains are present on the property, they gave little indication of the number of intact burials that would be present.

MONITORING DISCOVERIES

John Laing Homes (JLH) began grading the Hellman Ranch Specific Plan development on July 8, 2002, under Coastal Development Permit 5-97-367, as amended. In compliance with Special Condition 19E of the CDP, grading of the property was monitored by a team of archaeologists and one or more representatives of the Gabrielino/Tongva Native American group under the direction of Robert F. Dorame, the lead Native American monitor and chairperson of the Gabrielino/Tongva Indians of the California Tribal Council. The finds made during the monitoring may be divided into two categories based on procedures for their identification and treatment: (1) human remains and associated grave goods; and (2) artifacts or other archaeological resources not related to the human interments.

Human remains were identified on the first day of grading, and consultation was initiated in compliance with Section 5097.98 of the Public Resources Code and CDP Special Condition 19F(2). The initial step in the consultation was to contact the County Coroner and the California Native American Heritage Commission (NAHC), which identified Anthony Morales of the Gabrielino/Tongva Nation as the Most Likely Descendant (MLD) of the identified remains. The ongoing consultation has involved Mr. Morales, the landowner, the NAHC, and the City of Seal Beach. Based on this consultation, a set of procedures was developed for the discovery and treatment of human remains within the project area. As discussed in more detail below, these procedures involve a combination of monitored construction grading, controlled archaeological grading, and hand excavation, as well as careful removal and temporary storage of the remains in a secure location. To date, a total of 20 human burials have been identified, containing the remains of 22 individuals (Figure 4). In addition, an animal interment (badger) was found near a group of Native American burials and is being treated as a culturally sensitive feature. The human skeletal remains are in varying degrees of completeness, ranging from more than 80 percent to less than 5 percent (see Chapter 4). Of the 22 individuals, 18 have been removed to a temporary storage area, while four are partially prepared for removal (Table 1). Additional human remains may remain in portions of the project area that remain ungraded.

In addition to the human remains, a variety of artifacts have been recovered during the monitoring program. Most of these are groundstone implements (handstones, millingslabs, and pestles) since these artifacts tend to be relatively large and more easily seen during the monitoring. Several features have also been identified, including clusters of artifacts, possible hearth remnants, and an abalone shell with associated charcoal. Overall, the additional artifacts and non-burial features are consistent with the kinds of activities expected at prehistoric habitation sites.

FIGURE 4

Hellman Ranch Previous Archaeological Investigations and Burial Locations, Heron Pointe Development

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Table 1. Current Status of Human Burials Discovered to Date

Burial No.	Associated Site (ORA-)	Date Discovered	How Discovered	Current Status (per MLD consultation)
1	264	July 8, 2002	Construction grading	Removed; in storage
2	264	July 8, 2002	Construction grading	Removed; in storage
3	264	July 19, 2002	Controlled grading	Removed; in storage
4	1472	July 19, 2002	Construction grading	Removed; in storage
5	263	July 19, 2002	Construction grading	Removed; in storage
6	264	July 22, 2002	Controlled grading	Removed; in storage
7	264	July 23, 2002	Controlled grading	Removed; in storage
8	264	July 23, 2002	Controlled grading	Removed; in storage
9	264	July 29, 2002	Controlled grading	Removed; in storage
10	264	July 30, 2002	Controlled grading	Removed; in storage
11	1472	August 2, 2002	Controlled grading	Removed; in storage
12	263	August 5, 2002	Controlled grading	Removed; in storage
13	263	August 9, 2002	Controlled grading	Removed; in storage
14	264	August 12, 2002	Controlled grading	Removed; in storage
15	260	August 16, 2002	Controlled grading	Removed; in storage
16	262	August 26, 2002	Controlled grading	Removed; in storage
17	264	September 4, 2002	Hand excavation	Not removed
18	264	September 5, 2002	Hand excavation	Not removed
19	264	September 11, 2002	Hand excavation	Not removed
20	264	September 11, 2002	Hand excavation	Not removed

Currently, approximately 85 percent of the project area has been graded to the underlying marine terrace (Figure 5). Of the six cultural sites within the project area, two (ORA-260 and ORA-1472) have been completely graded to the culturally sterile deposits of the underlying marine terrace formation¹. The remaining four sites (ORA-261, -262, -263, and -264) have been mostly graded but still contain intact cultural deposits (Table 2). Of these, ORA-264 contains the largest area of remaining site deposit, roughly 50 percent of the deposit present prior to construction. Based on the discoveries to date, this area is likely to contain the largest number of intact burials or other cultural features.

GOAL OF MITIGATION PLAN

The mitigation plan is presented in compliance with Special Condition 19F(1) of the CDP, which specifies that the consulting archaeologist make recommendations in the event that additional or unexpected cultural resources were encountered during grading and construction that may be

¹ Artifacts have been found either above the marine terrace deposit or at the interface between the marine terrace and the cultural deposits. The marine terrace deposits themselves do not contain cultural materials.

Table 2. Current Status of Grading at Cultural Sites within the Hellman Ranch Specific Plan Development

Site	Number of Burials to Date	Grading Status
ORA-260	1	100% graded
ORA-261	0	Approximately 60% graded
ORA-262	1	Approximately 60% graded
ORA-263	3	Approximately 85% percent graded
ORA-264	13	Approximately 50% graded*
ORA-1472	2	100% graded

*Approximately the northern half of CA-ORA-264 had been removed in the 1970s during construction of the adjacent police station. Therefore, the currently remaining portion of the site constitutes roughly 25% to 30% of the original site area.

significant. A context for the proposed mitigation is presented in Chapter 2, which reviews pertinent aspects of regional prehistory as well as the results of the testing and data recovery investigations within the HRSP area. Chapter 3 reviews the field methods and Native American consultation, while the findings that occurred during the monitoring program are reviewed in Chapter 4. An evaluation of these findings is presented in Chapter 5. Finally, Chapter 6 presents the proposed mitigation program. This program has been agreed to by JLH and the MLD, and provides maximum protection of intact, sensitive cultural deposits.

CHAPTER 2

PROJECT CONTEXT

This chapter develops a research context for the evaluation of the finds (Chapter 5) and proposed mitigation measures (Chapter 6). A regional context is provided by reviewing current thought on major prehistoric developments in coastal southern California; then a more focused perspective developed through a summary of the results of the testing and data recovery investigations recently conducted within the HRSP area.

REGIONAL PREHISTORY

The most influential syntheses of the prehistory of southern California are those proposed by Wallace (1955) and Warren (1968). Wallace's sequence, perhaps the most widely used by Orange County archaeologists, identifies four cultural traditions, or horizons, for southern California: Early Man, from initial occupation to about 7,500 years B.P.; the Millingstone, from about 7,500 to 3,500 B.P.; the Intermediate, from about 3,500 to 1,000 B.P.; and the Late Prehistoric, from 1,000 B.P. to A.D. 1800. While Wallace's construct continues to offer a useful framework for archaeologists working in this region, it has seen some recent modification. Mason and Peterson (1994), for example, propose 8,000 B.P. as the inception of the Millingstone Horizon, and 1,350 B.P. as the termination of the Intermediate and the inception of the Late Prehistoric. In the following discussion, we do not attempt a detailed reconstruction of the coastal prehistory of southern California, but rather touch on some pertinent issues that have arisen from previous research in the region.

Initial Occupation

The initial occupation of the southern California coast appears to have occurred as early as 10,000 years ago (Jones 1992). Although early occupants were initially described as highly mobile foragers focused on the hunting of terrestrial game (Wallace 1955; Warren 1968), evidence of the intensive and systematic use of shellfish and other marine resources suggests that maritime adapted groups, living in close proximity to the sea, were among the earliest inhabitants of the area (Dixon 1999; Erlandson 1994; Vellanoweth and Altschul 2002). Indeed, as Erlandson (1994) points out, data from many of these sites suggest that most of the protein and energy needs for these early groups were provided by the sea, making them "fully maritime" as defined by Yesner (1980). Although little is known of this period in Orange County, a pre-Millingstone component has been identified at CA-ORA-64 located at the head of Newport Bay (Drover et al. 1983, Macko 1998). Dating to approximately 9500 years BP, this component provides significant evidence for shellfish collecting and some evidence for fishing and bird procurement, suggesting these inhabitants engaged in a diverse subsistence strategy.

The Millingstone Period

Southern California coastal archaeological sites increase in number dramatically after about 8,000 years ago, a period when sites associated with the Milling Stone Horizon appear (Wallace 1955). In general, the Millingstone period is characterized by regional differentiation and an adaptation to local conditions. Corresponding to an environmental shift known as the Altithermal, the early portion of the Millingstone period experienced an expansion of warm and dry climate plant communities. These conditions appear to have had significant effects on the productivity of terrestrial and marine habitats (Erlandson 1994). Engaging in more permanent habitation, Millingstone populations in southern California at this time established settlements primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams and marshes where a variety of resources including seeds, fish, shellfish, small mammals, and birds were exploited (Drover et al. 1983). Early Millingstone occupations in southern California typically contain high frequencies of handstones (manos) and millingstones (metates), while those dating later than 5,000 years ago typically contain a mortar and pestle component as well, signifying the exploitation of acorns in the region (Vellanoweth and Altschul 2002).

The majority of Millingstone period sites in Orange County date between 8000 and 4000 BP and reflect a population that is relatively low and stable (Koerper et al. 2000). Indicating an early pattern of semi-sedentism, occupations are described as minor residential bases, located most typically on the first coastal marine terrace in close proximity to the beach or near bays and estuaries (Grenda and Altschul 2002; Koerper et al. 2000; Macko 1998). In addition to the use of residential bases, Orange County Millingstone settlement systems likely featured the redundant use of a number of satellite camps where seasonal resources were exploited (e.g., Drover et al. 1983; Glassow et al. 1988; Koerper et al. 2000). During this time, the Newport Bay region appears to have been a preferred settlement location, presumably because of the subsistence benefits provided by the area's local habitat diversity (Macko 1998; Mason and Peterson 1994).

Orange County sites dating to the Millingstone period indicate an economy focused on marine resources and supplemented by seeds and small mammals (Mason and Peterson 1994). At CA-ORA-64, for example, the Millingstone component contains a faunal assemblage representing as many as 122 species. Reflecting near-annual use of the site, this is the most numerous and diverse array of vertebrate species known for an archaeological site of this time period (Macko 1998). The majority of species represented indicate that the bay habitats provided the principal source of animal foods and raw materials for the manufacturing of animal-based products, while resources from terrestrial habitats were clearly secondary (Macko 1998). While shellfish remains were abundant in the Millingstone component at this site, hunting appears to have contributed more to the diet than shellfish (Drover et al. 1983; Macko 1998).

Millingstone sites near the present project area, dating to the early portion of the period, include CA-ORA-1214 on Huntington Beach Mesa, which was occupied from about 6,400 and 6,900 B.P. (Mason and Peterson 1989); and CA-ORA-365 on Bolsa Chica Mesa which was apparently inhabited as early as about 6,800 years ago (Whitney-Desautels 1994). Several sites dating to the latter portion of the Millingstone period include CA-ORA-327/1,118, located on the eastern side of

Landing Hill on the Seal Beach Naval Weapons Station, adjacent the current project area (Clevenger and Crawford 1997); as well as sites on Bolsa Chica and Huntington Beach mesas, including CA-ORA-83, -84, -85, -365, and -368. All of these latter components contain evidence for a significant increase in the use of shellfish, probably reflecting the maturing of the local estuarine environments over the course of the period.

The Intermediate Period

Although many aspects of Millingstone culture persisted, by 3,500 years ago a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Evidence for shifts in settlement patterns has been noted at a variety of locations at this time. Pollen records indicate that a period of maximum aridity occurred between 6000 and 3000 BP (Cole and Liu 1994; Heusser 1978; Macko 1998). Evidence from Orange County appears to reflect a marked decline in the number of sites by the fourth millennium BP, with a near complete abandonment of Newport Bay and its surrounding region (Mason and Peterson 1994; Koerper et al. 2000). Mason and Peterson (1994:337) suggest that the disuse of the Newport Coast area during this time may reflect a shift to a more sedentary and territorial settlement system. In San Diego County, Batiquitos Lagoon was also abandoned around this time, a change attributed to degrading shellfish habitats in the area (Gallegos 1987). Closer to the present project area, however, several dozen radiocarbon dates from numerous sites demonstrate significant prehistoric use of the Bolsa Chica and Huntington Beach mesas, which continued during this dry period (Koerper et al. 2000). It is speculated that the apparent decrease in number of Orange County sites may reflect a settlement shift towards sedentism and territoriality in and around areas where freshwater remained plentiful (Koerper et al. 2000).

Beginning during the third millennium BP and continuing to the Late Prehistoric period, there is a nearly continuous increase in the number of dates throughout Orange County including areas of previous abandonment, such as Newport Bay. The locations and contents of Intermediate period sites indicate that coastal terrace settlements were not reoccupied, but that settlement continued to concentrate in permanent residential bases, near reliable water sources (Koerper et al. 2000). Rather than engaging in cyclical camp movements to balance seasonal resource shortages as was typical of Millingstone groups, collecting parties were likely sent out from the permanent bases on short excursions to gather a variety of resources (Koerper et al. 2000).

Growing populations during this time necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through the use of increasingly labor-intensive technologies, such as the circular shell fishhook (Raab et al. 1995), more abundant and diverse hunting equipment (Erlandson 1994), and the increased use of the mortar and pestle in the processing of acorns (Koerper 1979; Koerper et al. 2000). Raab (1995) and others have summarized numerous osteological studies from the northern Channel Islands which suggest that an increase in disease and violence between 3,300 and 1,650 BP is likely an indicator of dynamics related to population growth, increasing sedentism and territoriality, and the intensification of resources along the southern California coast.

CA-ORA-82 is perhaps the best Intermediate period representative near the project area. A large habitation site on Huntington Beach Mesa, this site is placed firmly within the Intermediate period by 48 radiocarbon dates. Results from this site demonstrate its occupants engaged in considerably more intensive shellfish, bird, and fish exploitation in comparison to the Millingstone component at CA-ORA-365 immediately to the south (Whitney-Desautels 1994).

The Late Prehistoric Period

The Late Prehistoric period, spanning from approximately 1,500 years ago to the mission era, is the period associated with the florescence of the contemporary Native American group known as the Gabrielino (Wallace 1955). The Takic-speaking Gabrielino occupied what is presently Los Angeles and Orange counties and the southern Channel Islands including Santa Catalina, San Nicholas, and San Clemente (Kroeber 1925). The Gabrielino are reported to have been second only to their Chumash neighbors in terms of population size and regional influence (Bean and Smith 1978). Economic systems continued to diversify and intensify during this period, with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of increasingly labor-intensive technological innovations. Economic focus of the development of marine fisheries (Erlandson 1994) is evident not only in the increasing amounts of fish remains in late archaeological components (e.g., Raab et al. 1995), but in the continued investment of labor in the development fishing technologies including the plank canoe (Glassow 1980).

Recent data suggest that climate-related disruptions (e.g., the Medieval Warm Period) may have been acute during the transition to the Late Prehistoric period, contributing to a number of socio- and techno-economic changes (Raab and Larson 1997). In southern California, extreme droughts around the time of this transition are indicated by a comprehensive tree ring record showing periods of depressed rainfall between A.D. 650 and 800 and between A.D. 1100 and 1250 (Larson and Michaelson 1989). Occupational hiatuses and abandonments are seen on Santa Cruz Island (Arnold 1992a, 1992b), and evidence for depressed health conditions and increases in interpersonal violence peak along the Santa Barbara Channel during this time (Lambert and Walker 1991; Lambert 1993). In northern San Diego County, there is some evidence that the tethering of sites to freshwater sources may have solidified territorial boundaries and stimulated settlement shifts (True 1990). Arnold (1992a, 1992b) suggests a link between environmental stresses related to elevated sea surface temperatures and the emergence of more complex social and economic systems along the Santa Barbara Channel.

Several settlement changes in coastal Orange and southern Los Angeles counties are apparent at this time. Newport Bay and the San Joaquin Hills, abandoned during the early Intermediate, continued to be reoccupied, although settlements were smaller than during the late Intermediate (Koerper et al. 2000; Mason and Peterson 1994). The Bolsa Chica and Huntington Beach mesas, occupied throughout the Intermediate, were almost entirely abandoned at this time, likely related to a reduction in the availability of bay and estuary shellfish caused by the effects of lagoon siltation (Koerper et al. 2000; Mason 1987). Late Prehistoric occupations are found at Bixby Hill in Long Beach, however, and a large late component has been excavated at CA-LAN-270 in Los Altos (Bates 1972). Settlement at this time is believed to have consisted of dispersed collector family groups that

revolved around a relatively limited number of permanent settlements that were located centrally with respect to a variety of resources (Koerper et al. 2000). Mason and Peterson (1994), for example, argue that the numerous Late Prehistoric components in the northern San Joaquin Hills were satellite resource collection sites of the village of *Genga* (possibly concentrated around CA-ORA-58), located near the ocean on the lower Santa Ana River (Koerper et al. 1996; Koerper et al. 2000).

The nearest of these village settlements to Landing Hill was the ethnographic village of *Puvungna*, located in what is now Long Beach just north and west of the project area. The most likely location for this settlement seems to be Bixby Hill, now occupied by Rancho Los Alamitos and the California State University at Long Beach. Situated about 3 km (1.9 mi) northwest of Landing Hill, *Puvungna* was an important ritual center to the Gabrielino, reputed to have been the site of large ceremonial gatherings and the site where the deity *Chinigchnich* first appeared (Boscana 1933; Dixon 1972; McCawley 1996). Although more than 30 archaeological sites have been recorded on and around this hill, the exact location of *Puvungna* remains uncertain. Three sites on the hill (CA-LAN-234, -235, and -702) are listed on the National Register of Historic Places as part of the *Puvungna* village complex, yet none of the 100 radiocarbon dates associated with these sites post-dates A.D. 1550. Dixon (1972) has argued that the main occupation of *Puvungna* may have shifted locations over time, so that several sites on and in the vicinity of Bixby Hill may represent the village at different times. Applying the Late Prehistoric settlement model of Mason and Peterson (1994), it may be that other sites within 10 km or so of *Puvungna* may have been satellite camps occupied to exploit nearby resource patches. Such a relationship has been suggested for the sites on Landing Hill (Dixon 1996; Robles 1996; Ruyle 1996), although this relationship is yet to be demonstrated archaeologically.

THE PREHISTORY OF LANDING HILL

Viewed within the larger context described above, the complex of archaeological sites on Landing Hill - including those within the Hellman Ranch Specific Plan Area - emerges as an important element of the regional prehistory. Recent archaeological excavations in the HRSP area (York and Underwood 2002) have begun to provide crucial information on the nature and timing of its prehistoric occupation, and how this occupation relates to regional trends. This, in turn, provides the foundation both for the assessment of the significance of the monitoring discoveries, and for the proposed mitigation measures.

The archaeological testing and data recovery investigations within the HRSP area are summarized in Table 3. In total, these investigations included 40 excavation units, 84 STPs, and 13 backhoe trenches totaling approximately 190 m in length. In addition, a program of Ground-Penetrating Radar (GPR) was conducted to identify geophysical anomalies that could represent cultural features. The initial phase of the investigations followed the approved Research Design prepared for the evaluation (York et al. 1997) and included the excavation of 35 excavation units and associated column samples along with 84 STPs. Based on the initial results of the testing, it was concluded that sites CA-ORA-260, 261, 262, 263, and 264 contain significant research potential, and they were assessed as eligible for the California Register of Historic Places. Most of this potential lay in the

shell and vertebrate remains, which can be applied to research questions relating to changes in local environments and in local and regional prehistoric subsistence patterns. These, in turn, can be applied to larger questions relating to diet breadth, economic intensification, and the emergence of cultural complexity (York et al. 1997:36-40). Site CA-ORA-1472 and the location designated Area D by York et al. (1997) were determined to be composed largely of artificial fill and were assessed as ineligible for the California Register.

Table 3. Summary of Test and Data Recovery Investigations in HRSP Area

Site (CA-)	Test Excavation		Data Recovery Excavation	
	1 x 1 m Units	STPs	1 x 0.5 m Units	Trenches (Total m)
ORA-260	6	9	-	-
ORA-261	4	9	-	1 (25 m)
ORA-262	5	13	1	2 (30 m)
ORA-263	8	18	1	4 (60 m)
ORA-264	7	17	3	6 (75 m)
ORA-1472	3	8	-	-
Area D	2	10	-	-
Total	35	84	5	13 (190 m)

Based on these evaluations and on a review of the construction grading plans, a program of data recovery was implemented. Because the plans called for the emplacement of artificial fill with no subsurface disturbance in the southern portion of CA-ORA-261, the north-central portion of CA-ORA-264, and all of CA-ORA-260, these areas were excluded from data recovery. Also excluded were CA-ORA-1472 and Area D due to the assessment of ineligibility for the California Register. Data recovery at CA-ORA-261, 262, 263, and 264 focused on (1) the excavation of 13 backhoe trenches to further assess site stratigraphy and to identify subsurface features; and (2) excavation of five 1 x 0.5 m units at some of the more promising geophysical anomalies identified during the GPR program.

The trenches, while providing additional stratigraphic data, did not reveal any subsurface features. The excavation units provided some additional sampling of the deposits but did not reveal any subsurface features. Two of the units revealed no materials that could be identified as the source of the anomalies, while the remaining three contained gravel or single rocks or pebbles that appeared to have been reflected by the GPR.

The recovery from the excavation units and STPs at each site is presented in Table 4. Overall, given the roughly 30 cubic meters of controlled excavation at the sites, the recovery is not extensive, although most of the sites contained a substantial variety of cultural deposits.

Table 4. Recovery from Testing and Data Recovery in HRSP Area

Site (CA-ORA)	Debitage ¹	Tools	Core	Ground- stone	Bone Tools	Beads	FAR ² (g)	Faunal Bone (g)	Analyzed Shell (g)
260	130	4	-	2	-	5	127.8	5.5	133.7
261	18	-	1	1	-	2	737.5	45.1	983.2
262	85	5	-	3	1	9	773.9	834.6	2296.8
263	260	5	-	4	1	7	425.2	409.1	2065.0
264	137	2	-	1	-	2	125.5	245.2	816.3
Total	630						2190	1540	6295

1. Waste flakes resulting from production of stone tools.

2. Fire-affected rock.

Interpretive Results of the Testing and Data Recovery

York et al. (1997) identified several questions that should be addressed before applying the sites' data to more general issues. These questions revolve around site chronology, local environments, subsistence, and settlement, all of which can be addressed to some degree by the analysis.

Chronology

Chronological data from the project sites are derived primarily from radiocarbon dating and temporally sensitive artifacts. Temporally sensitive artifacts include a few Cottonwood series projectile points, which represent Late Prehistoric site use, and the 25 beads, which reflect use over the past few thousand years. More precise data come from the 16 radiocarbon dates, which suggest substantial occupation beginning during the middle Millingstone Period (ca. 5500 B.P.) and terminating during the Late Prehistoric, by around 600 B.P. Within this lengthy period of occupation, however, the results seem to suggest two major periods of site use, the earlier from about 5000 to 3000 B.P., and the later from about 2000 to 600 B.P. The period between roughly 2000 and 3000 years ago is represented by only a single sample from ORA-260, and may represent a time during which the sites were used less frequently. The implications of this will be considered further below.

Local Environments

Changes to coastal ecosystems are important elements of interpretive models for the prehistory of the southern California coast. Consequently, the analysis for the testing and data recovery focused on the kinds of habitats represented by the faunal remains from the sites. Overall, the results clearly indicate the presence of relatively deep estuarine or lagoonal environments that were open to tidal exchange. In all sites, the dominant species represented by the shellfish remains is scallop, which require open water lagoonal settings with limited variation in salinity. Also common is Venus clam, which lives in mud flats and tolerates a wider range of salinity. Typically, lagoons with restricted

tidal exchange experience wider ranges of salinity, and sites around them are often dominated by this species. Because the investigated sites all contain considerably higher frequencies of scallop than Venus clam, a relatively open tidal setting is suggested.

This is further supported by the dominance of cartilaginous fish in most of the sites. Fish such as bat ray, leopard shark, and guitarfish, for example, are common in shallow embayments and may be seen to reflect exploitation of these habitats when found in archaeological sites. In ORA-260, -261, -263, and -264, cartilaginous fish comprise between 63.4 and 89.7 percent of the fish remains, while bony fish account for between 10.3 and 36.6 percent. The exception is site ORA-262, which is dominated by bony fish relative to cartilaginous fish (63.5% vs. 36.5%), with sardine (*Sardinops sagax*) the most common. This site was occupied late in the prehistoric sequence, and the dominance of sardine may reflect some subsistence change (see below).

Subsistence

The assemblage of food remains from the investigated sites consists almost entirely of shellfish remains and animal bone. As noted above, the dominant shellfish species exploited at all of the sites was scallop, followed by Venus clam, then oyster. No other species accounts for more than 2 percent of the shellfish assemblage at any of the sites.

It appears that mammals comprised the bulk of the vertebrate diet at the sites, accounting for about 92.4 percent of the identified specimens. The mammal remains are dominated by those of small mammal, which account for about 93 percent of the mammal bone by count. Where identified, the small mammals included black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*) and pocket gopher (*Thomomys bottae*). Next in order of abundance is large mammal (5.9%), which where identified consists solely of mule deer (*Odocoileus hemionus*); medium mammal (0.8%) and marine mammal (0.3%), including harbor seal (*Phoca vitulina*). As noted above, most of the fish remains are from cartilaginous fish probably obtained from the nearby lagoons. Many of the fish bones, however, are typical of generalized nearshore environments, and may reflect fishing along the open coast. Use of riparian habitats is also indicated by the remains of pond turtle (*Clemmys marmorata*) probably obtained along the San Gabriel River.

Settlement

In order to address regional settlement trends, it is necessary to assess the nature of the occupations of individual sites. All of the present sites that represent relatively intact deposits - ORA-260 through 264 - appear to be what are commonly termed "habitation sites," in the sense that people lived at them for a period of time. The abundance of shell, the presence of fire-affected rock, the depth of the middens, and the variety of cultural materials at each site all contribute to this conclusion. Although a variety of artifacts are present, they are not abundant, and this seems to suggest that the occupations were not sedentary, but rather that the sites may represent seasonal or intermittent encampments. Critical to this issue is information on the burials, which continue to be discovered as the monitoring of the grading continues.

Application to Regional Research

The specific findings discussed above also pertain to more general research issues that have been identified along the coast of southern California. In the research design for the project, York et al. (1997) identified major research issues that might be addressed by the present research, including environmental and cultural change, cultural evolution and land use along the coast, and population movements and linguistic prehistory. Of these, the results of the investigations are clearly applicable to issues relating to environmental change and changes in land use associated with intensification and the evolution of social complexity.

With regard to environmental change, it was suggested that the sites within the HRSP area might shed light on changes to local estuarine and lagoonal ecosystems. This is of interest because the evolution of coastal lagoon systems as currently modeled - with a transition from open embayments, to estuaries, to tidal mud flats - is seen as having had a profound effect on the productivity of resources important to humans, and to have possibly stimulated significant settlement and subsistence changes. At the same time, the changes associated with individual lagoon systems is increasingly seen as having been highly idiosyncratic, and subject to a variety of localized factors. This is an important consideration when considering the archaeology of specific locations such as Landing Hill.

Although the identification of specific temporal components is difficult at the project sites, the data seem to suggest that productive embayments persisted in Alamitos and Anaheim Bays until the Late Prehistoric period. As noted above, the shellfish at all of the sites is dominated by scallop (*Argopecten* sp.), which is generally considered to represent open, tidally flushed lagoons. Venus clam (*Chione undatella*), which tends to dominate in estuaries subject to wider variations in salinity, are less common in all of the sites. As noted above, the high frequencies of cartilaginous fish tend to support this observation. In light of this, however, the high frequencies of sardine found at ORA-262 may be significant. Sardines are typically found in generalized nearshore environments, and their frequencies at this site over cartilaginous fishes could reflect changes in the lagoon habitat that affected the availability of sharks and rays. This site also had the lowest frequency of scallop, consistent with such a change. It is worth noting in this context that ORA-262 is the latest of the dated sites, and that this shift could reflect a decline in lagoon productivity. If so, the decline may coincide with the Late Prehistoric occupation of the sites.

As noted above, the possible period of reduced occupation of the project area between about 2000 and 3000 B.P. as suggested by the radiocarbon data may relate to regional settlement patterns. In a recent review of regional prehistory, Koerper et al. (2000) suggest that after about 3000 years ago a settlement shift occurred in the Newport Bay region. This shift seems to consist of a consolidation of settlement into a relatively few residential bases at favored locations near water sources. Data from a variety of locations in Orange County suggest that collecting parties were sent to the coast to procure fish and shellfish. By the Late Prehistoric period, continuing population increase had stimulated expansion of settlement into a variety of settings.

This reconstruction of regional settlement seems generally consistent with the findings at the HRSP area sites. During the Millingstone period, groups may have moved among a number of settlement sites located at productive resource patches; and Landing Hill would have been an ideal location for procuring wetland resources. As settlement consolidated at inland locations during the Intermediate period, Landing Hill would still have been used as a location from which to access these resources, but there may have been somewhat reduced residential use as people tended to return to the permanent residential bases. During the Late Prehistoric period, there may have been a resurgence of settlement at Landing Hill, as continuing population increases caused people to occupy a variety of settings.

CHAPTER 3 METHODS

The investigations conducted to date in conjunction with the grading and construction in the HRSP area fall into two major categories. The first relates to the field effort, including procedures directed at identifying and recovering artifacts, features, and human remains. The second relates to the process of consultation and coordination with the MLD and other Native Americans that have expressed concern about the project. Specific methods employed during these efforts are discussed below.

FIELD METHODS

The field investigations during the archaeological monitoring phase of the project have been directed at (1) identifying and removing human remains, and (2) identifying potentially significant archaeological features or other cultural materials. Specific methods for identifying and treating the human remains and other archaeological materials are described below.

Recovery of Archaeological Materials

Excavation Techniques

Excavation techniques that have been applied during the monitoring phase have included a combination of controlled grading techniques and hand excavation. During controlled grading, a wheeled motor grader is used to remove soil in roughly 6 foot wide swaths, to depths of 1 to 2 inches at a pass. The blade of the motor grader is set at an angle so that soil is moved to the side in a low berm (window). The monitors follow about 20 feet behind the motor grader, closely examining the ground for human remains or other potentially significant archaeological material. In addition, shovels and other hand tools are used to excavate 2 x 2 m units at each burial location and 1 x 1 m units in the vicinity of each burial. Specific techniques for controlled grading and hand excavation are discussed in more detail below.

Recovery of Artifacts

The controlled grading permitted the recovery and mapping of certain kinds of artifacts and features with good accuracy. When artifacts were found that were still partially in the ground or where the impression of the artifact in the soil could be located, a position reading using a Magellan Meridian GPS unit (sub- 3 meter accuracy) was taken. Each artifact was bagged and the location reading was written on the bag. If the location could not be established with reasonable certainty, the artifact was bagged and labeled with only the site designation.

Archaeological Features

Archaeological features are elements of a cultural site that were constructed and used at a particular location for a specific purpose. Other than human burials, several apparent features have been identified during the construction grading, including possible hearths, apparently purposeful

groupings of artifacts, an animal burial, and an abalone shell with associated charcoal. Where possible, the features or potential features uncovered by grading were documented through sketches or photographs and the associated artifacts collected or samples taken. Their locations were recorded using the Magellan Meridian sub 3-meter GPS unit. Once the feature had been recorded and removed, controlled grading was permitted to continue.

If a potential feature was revealed during excavation of the 1m x 1m test units, it was fully excavated. This occasionally required an additional unit, or units, adjacent to the feature to be excavated. Then it was fully recorded and its contents removed for later analysis. If the feature was directly associated with a burial, it was exposed and recorded, then pedestaled, removed and placed on the same pallet with the burial. Features directly associated with burials will be reinterred.

Human Remains

Human remains were uncovered on the first day of grading at site CA-ORA-264 on July 8, 2002. Actions taken by the landowner since this discovery have focused on carefully following the requirements of the Public Resources Code, the Coastal Development Permit, and the EIR. In compliance with Public Resources Code 5097.98, EIR Mitigation Measure CR-11, and CDP Special Condition 19F(2), grading was halted in the vicinity of the remains and the County Coroner was contacted. The Coroner in turn contacted the Native American Heritage Commission, which identified Anthony Morales of the Gabrielino/Tongva as the Most Likely Descendant (MLD) of the remains. Subsequent treatment of the identified remains and the techniques employed to identify additional remains were undertaken in consultation with the MLD, John Laing Homes, and the City of Seal Beach. As the consulting archaeologist for the City, EDAW, Inc. has also served in an advisory capacity during the PRC 5097.98 process. As a result of this consultation, the following procedures were developed and employed until the grading was suspended.

Identification of Human Remains

Techniques employed to identify human burials within the project area include (1) monitoring of construction grading; (2) highly controlled mechanical excavation; and (3) hand excavation. When bone was noted, the project osteologist would determine whether or not it was human. If the bone was determined to be non-human or unidentifiable and isolated, the bone was removed and grading continued. When two or more articulated human bones were identified, the discovery was identified as a burial and given a numerical designation. The procedures that followed the discovery of a burial were developed during a series of consultations between the MLD, the landowner, and the City that were conducted in compliance with the PRC. The first burials that were found (Burials 1 through 5) were barricaded with stakes and flagging tape, and construction grading was redirected to areas more than 200 feet away. As more burials were discovered, additional consultation was conducted and it was decided that construction grading would be conducted only in areas more than 200 feet from any identified burial; that areas between 200 and 100 feet from identified burials would be mechanically excavated in a highly controlled manner, 1 to 2 inches at a pass and monitored closely by an archaeologist and Native American; and that areas within 100 feet of a burial would remain unexcavated pending additional consultation. Based on the additional consultation, it was ultimately agreed that the controlled grading would be conducted between a 200 and 50 foot radius of identified

burials. All mechanical excavation, including construction grading and controlled grading, was closely monitored by either an archaeologist or Native American.

Within 50 feet of identified burials, and in consultation with the MLD and Native American monitors, a program of hand excavation has been implemented to identify additional burials that may be associated. Typically conducted during or after the removal of the burial (see below), this includes the placement of 1 x 1 m exploratory test units (ETUs) within portions of the 50-foot radius that have not been graded to the underlying marine terrace. Placement of these units is designed to provide a sample of the 50-foot radius area focusing on those areas closest to identified burials, and is directed by the site archaeologist in consultation with Native American monitors.

Exposure and Removal of Human Remains

Once discovered, the human remains were carefully exposed to determine their position and extent of the burial. Before excavation began, a tarp was erected over each burial area to keep direct sunlight off the remains as the sun rapidly causes bone to dry, crack, and splinter. In accordance with the Native American monitors' wishes, the burials were only partially excavated and left in pedestals to limit the disturbance to the remains and retain any bodily fluids that had seeped into the surrounding matrix after interment. Because of the clay and silt content of the soil and the generally soft nature of the bone, metal tools were predominantly used to uncover the remains, and both wood and metal tools were used during exposure of the burials. The burial areas were continually wet down with a fine spray of water to keep the soil from hardening to the point where it could not be safely excavated from around the human remains. Bone fragments that came off each burial from contact with heavy equipment or during manual excavation were placed in a cloth bag and kept with the burial. Soil surrounding the remains was bagged and labeled for reburial. A Native American monitor and an osteologist were on hand to observe each burial as it was excavated.

Excavation focused on uncovering the "top" side of long bones, joint areas, the cranium and mandible, and any part of the skeleton that could reasonably offer critical osteological information. After excavation had been completed, a detailed scale drawing of each burial was made and photographs were taken. In-field osteological analysis included, where possible, identification of skeletal elements present, age, sex and any pathological or traumatic conditions visible, as well as records of any bone measurements possible and burial position and orientation. Some of these data were collected for future interpretation.

After excavation and recordation was complete, as per the agreement with the Native Americans monitors and MLD, a 2-meter square unit was placed over each burial and excavated at least to the bottom of cultural soils, leaving the burial in a pedestal in the center. Soil from the 2 x 2 m unit is dry screened through 1/8-inch mesh to identify any additional bone. As most of the burials were located at the transition to the underlying marine terrace, it was generally necessary to excavate the unit deeper than the bottom of the midden since it was found that the pedestals worked best when they were at least a foot thick. After pedestaling was completed, the top of each burial was covered with paper towels to act as a cushion, and then a heavy ply plastic was placed over the top to retain surface moisture. Duct tape was wrapped around the entire pedestal, securing the plastic bag and supporting the pedestal. Labels were placed on the plastic indicating the burial number and the

direction of true north in relation to the individual burial. Sections of rebar were hammered across the bottom of the pedestal and parallel to the ground. When a sufficient number of parallel rebar sections had been placed this way, they were lifted simultaneously which cracked the pedestal loose from the ground. The pedestal was then pushed onto a thick plywood board and lifted onto a pallet. A forklift carried the pallet to a storage area that had been created off site. On two occasions, the pedestals were too large to be moved manually, and machinery was utilized to crack the pedestal loose and lift it onto the pallet. In November 2002, the burials in the temporary storage area were transferred to two locked metal storage lockers placed on the Hellman property.

NATIVE AMERICAN CONSULTATION

Close coordination with concerned Native Americans is a major goal of the cultural resource studies, and a number of efforts have been made to solicit input from a variety of Native American groups and individuals. This consultation process has proceeded in three general phases. The first was undertaken during the preparation of the Research Design (York et al. 1997), and was designed to solicit general concerns about the project area. The second was direct consultation with the MLD regarding the treatment of human remains discovered during construction. The third, undertaken during the preparation of the mitigation plan, again solicits concerns from the Native American community regarding the project now that human remains have been discovered.

Initial contacts with Native American groups or individuals were conducted during preparation of the Research Design for the evaluation program (York et al. 1997), during which 23 separate groups or individuals were contacted to solicit any concerns relating to the project area. Based on the initial contact program and consultation with the California Native American Heritage Commission, representatives of the Gabrielino were retained to monitor all excavation conducted during the evaluation and data recovery programs on the property (York and Underwood 2002).

Since the initial discovery of human remains during the monitoring program, consultation with the MLD has proceeded in compliance with Section 5097.98 of the Public Resources Code and Special Condition 19F(2) of the Coastal Development Permit for the project. As noted above, this consultation began when the Orange County Coroner's office contacted the NAHC on July 9, 2002. The NAHC identified Anthony Morales, Chairperson of the Gabrielino/Tongva Nation, as the MLD, and since that time Mr. Morales has been the primary point of contact for consultation.

To date, consultation under Section 5097.98 of the Public Resources Code has proceeded primarily through written communication and meetings held at the project site and at Seal Beach City Hall (Table 5). Although primarily designed to facilitate an agreement between the landowner and the MLD regarding the treatment of human remains on the property, this consultation has included additional parties as well, including the City of Seal Beach, EDAW, the Coastal Commission, and the NAHC. As permitted by Section 5097.94(1), the landowner requested the NAHC to initiate a formal mediation role in the consultation.

Table 5. Summary of Consultation under Public Resources Code

Date	Location	Participants	Topics Discussed
7/10/02	Project Site	Anthony Morales, Gabrielino/Tongva Joanie Madrid, John Laing Homes Ryan Richards, John Laing Homes Robert Dorame, Native American monitor Jackson Underwood, EDAW	1. Procedures for removal and storage of remains 2. Analysis of burials 3. Monitoring procedures
7/24/02	Seal Beach City Hall	Richard Nelson, John Laing Homes Joanie Madrid, John Laing Homes Ryan Richards, John Laing Homes Anthony Morales, Gabrielino/Tongva Adrian Morales, Gabrielino/Tongva Edward Sosa, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva James Cleland, EDAW Andrew York, EDAW Charlane Gross, EDAW Lorraine Willey, EDAW Lee Whittenberg, City of Seal Beach	1. Definition of boundaries for grading around each burial 2. Procedures for removal of human remains 3. Staffing needs 4. Temporary storage of burials pending reinterment 5. Possible reinterment locations
8/5/02	Seal Beach City Hall	Anthony Morales, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Jordan David, Gabrielino/Tongva Adrian Morales, Gabrielino/Tongva Ed Sosa, Gabrielino/Tongva Lee Whittenberg, City of Seal Beach	1. Perimeter around burials 2. Procedures for removing burials 3. Reinterment locations 4. Location of remains removed to date 5. Cost of reinterment 6. Establishment of monument 7. Peer review 8. Need to respect procedures and requirements of CDP and PRC 9. Respect for Native American monitors' expertise and knowledge 10. Mandatory safety briefings
8/8/02	Seal Beach City Hall	Richard Nelson, John Laing Homes Joanie Madrid, John Laing Homes Ryan Richards, John Laing Homes Susan Hori, Manatt, Phelps & Phillips Anthony Morales, Gabrielino/Tongva Adrian Morales, Gabrielino/Tongva Edward Sosa, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva James Cleland, EDAW Andrew York, EDAW Charlane Gross, EDAW Lorraine Willey, EDAW Lee Whittenberg, City of Seal Beach	1. Definition of appropriate restricted grading around identified burials 2. Methods to identify burials within restricted grading areas (i.e., hand or mechanical excavation) 3. Appropriate level of Native American monitoring 4. Location and procedures for reinterment
8/9/02	Project Site	Richard Nelson, John Laing Homes Ryan Richards, John Laing Homes Anthony Morales, Gabrielino/Tongva Adrian Morales, Gabrielino/Tongva Edward Sosa, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva James Cleland, EDAW Andrew York, EDAW Lorraine Willey, EDAW	1. Number and distribution of hand excavated units within 50 feet of burials 2. Procedures for exposure and removal of burials: excavation of 2x2m units around burials 3. No need to monitor excavation within marine terrace deposits 4. Schedule for removal of Burials 1 - 12

Table 5. Continued

Date	Location	Participants	Topics Discussed
8/28/02	Project Site	Richard Nelson, John Laing Homes Ryan Richards, John Laing Homes Joanie Madrid, John Laing Homes Anthony Morales, Gabrielino/Tongva Adrian Morales, Gabrielino/Tongva Edward Sosa, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Jordan David, Gabrielino/Tongva Lorraine Willey, EDAW Charlane Gross, EDAW	Hand excavation requirements within 50 feet of Burials 4 and 11
9/12/02	Project Site	Richard Nelson, John Laing Homes Ryan Richards, John Laing Homes Anthony Morales, Gabrielino/Tongva Adrian Morales, Gabrielino/Tongva Edward Sosa, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Jordan David, Gabrielino/Tongva Lorraine Willey, EDAW	1. Need for grading at ORA-263 2. Level of hand excavation within 50 feet of burials at ORA-263 3. Appropriate level of Native American monitoring; duties of monitors
9/19/02	Seal Beach City Hall, Project Site	Richard Nelson, John Laing Homes Ryan Richards, John Laing Homes Joanie Madrid, John Laing Homes Terry Crowther, John Laing Homes Rob Wood, CNAHC Anthony Morales, Gabrielino/Tongva Adrian Morales, Gabrielino/Tongva Edward Sosa, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Jordan David, Gabrielino/Tongva Andrew York, EDAW Lorraine Willey, EDAW Lee Whittenberg, City of Seal Beach	1. Mediation between landowner and MLD 2. Number and distribution of hand excavated units at ORA-263 and ORA-264 3. Screening of residues within 2x2 m units at burials
10/29/02	California Coastal Commission (CCC)	Theresa Henry, CCC Karl Schwing, CCC Steve Rynas, CCC Susan Hori, Manatt, Phelps & Phillips Dave Bartlett, D. Bartlett Associates James Cleland, EDAW Andrew York, EDAW Anthony Morales, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Edward Sosa, Gabrielino/Tongva Jordan David, Gabrielino/Tongva Lee Whittenberg, City of Seal Beach Terry Crowther, John Laing Homes Joanie Madrid, John Laing Homes Richard Nelson, John Laing Homes	1. Mitigation Plan 2. Reinterment options

Table 5. Continued

Date	Location	Participants	Topics Discussed
2/18/03	Project Site	Lee Whittenberg, City of Seal Beach Anthony Morales, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Jordan David, Gabrielino/Tongva Steve Kabel, John Laing Homes Pat Larkin, John Laing Homes Teresa Henry, CCC Karl Schwing, CCC Rob Wood, NAHC Andrew York, EDAW	1. CCC comments on draft mitigation plan 2. Access to reinterment areas 3. Location and purpose of educational facility 4. Peer review of mitigation plan 5. Treatment of deposits in Lots 13 and 14 6. Proposed oil well maintenance access road 7. Landscaping within reburial area
2/27/03	Seal Beach City Hall	Anthony Morales, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Pat Larkin, John Laing Homes James Cleland, EDAW Andrew York, EDAW	MLD comments on draft mitigation plan
3/6/03	Seal Beach City Hall	Anthony Morales, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Pat Larkin, John Laing Homes James Cleland, EDAW Andrew York, EDAW	Alternative alignments of oil well access road, storm drain, and buried utility lines
3/17/03	Seal Beach City Hall	Anthony Morales, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Pat Larkin, John Laing Homes James Cleland, EDAW Andrew York, EDAW Michael Schrock, Urban Arena	1. Designs for educational facility 2. Landscaping within reburial area 3. MLD request for dating and DNA study of burials
4/4/03	Project site	Lee Whittenberg, City of Seal Beach Anthony Morales, Gabrielino/Tongva Robert Dorame, Gabrielino/Tongva Pat Larkin, John Laing Homes James Cleland, EDAW Andrew York, EDAW Michael Schrock, Urban Arena	1. Treatment of Lots 13 and 14 2. Impacts and possible need for stabilization of cut bank at ORA-264 3. Possible locations/design of educational facility

Finally, the ongoing consultation conducted as part of the mitigation process has been designed to solicit input from the Native American community regarding the mitigation of impacts to the sites and human remains. The consultation has included letters and telephone calls to 14 individuals or organizations on a contact list provided by the NAHC. The intent of the contact program is not to solicit specific recommendations for the treatment of the remains, such as reinterment locations or ceremonies to be performed, but rather to gather more general concerns regarding the project. Additional information regarding the contact program is presented in Chapter 4.

CHAPTER 4 FINDINGS

The program of cultural resources monitoring of the construction grading for the development has led to a number of findings that are important in developing a plan for the mitigation of effects to significant resources within the project area. Physical findings to date have included archaeological materials (i.e., artifacts and features) as well as human remains. In addition, the continued consultation with the MLD and Native American monitors has brought to light a number of concerns regarding the appropriate treatment of identified human remains and associated grave goods. In the following discussion, these findings are summarized and the cultural materials discovered to date are evaluated.

NATIVE AMERICAN CONCERNS

The appropriate procedures for the identification and treatment of human remains and other sacred items within the project area has been a consistent theme in the ongoing Native American consultation for the project. Numerous concerns have been expressed by the MLD, the Native American monitors, and the Native American community at large, all of which are important elements of the present mitigation plan. Major concerns that have been expressed during the consultation are summarized below.

Consultation with the MLD

The MLD has expressed numerous concerns during the ongoing consultation since the human remains were first discovered in July 2002. These concerns are summarized as follows:

- Sensitive treatment of human remains: Human remains and associated burial items should be treated respectfully and carefully at all times.
- Avoidance of any impacts to burials is preferred. A specific request was made by the MLD on September 25, 2002 to avoid further impacts to the remaining portions of site ORA-264. This request was conveyed by the MLD to Andrew York of EDAW in response to a draft treatment plan summarizing the results of the NAHC mediation.
- Preference for hand excavation over controlled grading: Concern has been expressed regarding damage to burials as a result of controlled grading, and the MLD has requested that areas within 50 feet of identified burials be partially excavated by hand in order to reduce this damage. The scope of the hand excavation, as agreed upon through consultation among the MLD, landowner, and NAHC, is discussed below.

- **Reburial:** At the conclusion of the grading, all human remains removed from the project site will be turned over to the MLD for reburial with appropriate ceremony. The reburial site, which is yet to be determined, must be in a location that is protected from future subsurface disturbance. It must provide sufficient area for adequate spacing between individuals, and sufficient depth for protection from vandalism.
- **Allowable studies:** The MLD has requested that, to the extent possible, additional analysis should be conducted of the burials without compromising their physical integrity on the pedestals. The purpose of these studies will be to assess possible relationships among other prehistoric Native American populations in the region. These studies must be carried out on-site, and will include additional exposure and measurements of the remains. In addition, at the request of the MLD, a tooth may be removed from each burial for radiocarbon dating and DNA study.

Consultation and Responses during Mitigation Process

As a result of the discovery of Native American burials, project construction was halted, and the County Coroner and the NAHC were notified in accordance with California law. The Executive Director of the California Coastal Commission subsequently ordered a suspension of all grading conducted pursuant to the CDP to allow for development of an updated mitigation plan. As part of the mitigation process, a letter was sent to identified Native Americans that described the number and location of the burials in the project area. The purpose of the letter was to solicit input from the interested Native American community as identified by the NAHC regarding mitigation of impacts to cultural sites and human burials. As noted above, it was not the intent to solicit recommendations for specific treatment of the burials, such as ceremonies to be performed or a preferred method of reburial.

The NAHC provided a consultation list of 11 potentially interested parties. The consultation list, a site location map and a comment form were included with the letter. The comment form provided a place for written responses but offered the option of responding through telephone communication with EDAW's staff anthropologists. Subsequently, the Native American Heritage Commission added three more names to the list. Table 6 lists the individuals consulted and their method of response. The summary following the table provides the comments and concerns of the 12 Native Americans that have responded. Written comments received during this process are presented in Appendix B, as well as a summary of actions taken to address them.

All of the respondents are generally aware of the controversy surrounding the Hellman Ranch site, and their comments reflect a wide range of concerns. Some of the respondents felt that no development should take place on ORA-264. Others felt that reburial on the property would be appropriate mitigation if the remains were protected from further subsurface disturbance. For at least some of the respondents, that the burials were disturbed and removed causes considerable emotional stress.

Table 6. Native American Consultants and Means of Response

Consultants	Affiliation	Means of Response	Date
Anthony Morales	Chairperson Gabrielino/Tongva Tribal Council	Contact Letter Follow up call. Left message. Call to Dr. Cleland Comment form received. Follow-up phone call. Request to visit the site before submitting comments.	11/19/02 11/19/02 11/20/02 11/20/02
Robert Dorame	Gabrielino/Tongva	Contact Letter Follow-up Call Mr. Dorame returned call. Requested additional time to respond, but offered general comments.	11/19/02 11/21/02
Samuel H. Dunlap	Gabrielino/Tongva	Contact Letter Comments obtained through a telephone communication. Mr. Dunlap had questions. These were addressed in a subsequent phone call.	11/21/02 11/25/02
Cindi Alvitre	Gabrielino/Tongva	Contact Letter Comments/concerns communicated by phone. Comments/concerns faxed to EDAW. A duplicate to follow in the mail.	11/20/02 11/25/02
Gabrielino/Tongva Tribal Council of the Gabrielino Tongva Nation	Gabrielino/Tongva	Initial call Referred to Mr. Dunlap as the point of contact.	11/19/02
David Belardes	Chairperson, Juaneño	Contact Letter Follow-up call. Spoke with Mrs. Belardes. Received written comments. Called Mr. Belardes to respond to request for site visit. Spoke with Joyce Perry. Received comment letter on mitigation plan. Comments responded to in Appendix B (herein).	11/19/02 11/20/02 6/24/03
Sonia Johnston	Chairperson, Juaneño	Contact Letter Follow up call. Left message on phone machine. Resent letter & attachments via certified mail.	11/20/02 11/21/02

Consultants	Affiliation	Means of Response	Date
John Valenzuela	Tataviam/Serrano	Contact Letter In a follow-up call Mr. Valenzuela explained he is of Tataviam/Serrano ancestry, so has no direct concern for Hellman project.	11/20/02
Craig Torres	Gabrielino/Tongva	Contact letter Follow up phone call. Left message on phone machine. Resent letter and attachments via certified mail	11/20/02 11/21/02
Anita Espinoza	Juaneño	Contact Letter Follow-up call in which comments/concerns were obtained.	11/21/02
Jim Velasques	Gabrielino/Tongva	Contact Letter Follow-up call. No answer. Follow-up call Comments/concerns obtained by telephone	11/19/02 11/21/02
Damien Shilo	Chairperson, Juaneño (Acjachemen Nation)	Initial call Fax sent with contact letter and information. Spoke with Mr. Shilo who indicated he did not receive the fax. Contact letter, response form, and contact list was resent via fax. Comment form received via fax indicating he wished to be called. Follow-up call. Left message. Follow up call. Left message.	11/19/02 11/19/02 11/21/02 11/21/02 11/22/02 11/22/02 11/25/02
Rebecca Robles	Juaneño	Initial call Ms. Robles requested contact letter, response form, and consultant list. Material sent via fax. Written comments received via fax.	11/19/02 11/19/02 11/22/02
Rhonda Robles	Juaneño	Initial call. Ms. Robles retuned the call. She requested letter, response form, and consultant list. Material faxed. Follow up call made to ensure fax was received. Left message for her to call with any questions or issues to discuss.	11/19/02 11/20/02 11/20/02

There was interest in a meeting of all parties by some of the respondents, and some interest in the views of EDAW's archaeological department and in the views of the landowner. Two of the individuals contacted stated that the development should continue, while two others thought it should be discontinued permanently. The following comments demonstrate the range of responses.

- Many of the respondents stated that Hellman Ranch is a sacred site.
- Consultation and the issues of the burials are of great concern.
- Comments that project development should resume.
- Request for consultation meeting of all interested parties; exclusion is a concern.
- Several of the consultants commented that mitigation and any reburial ceremony should include all concerned parties.
- Site ORA-264 should not be developed.
- The remains that have been removed from the Hellman site should be reinterred at the location where they were discovered.
- Great emotional stress is being experienced for some because ancestors have been disturbed.
- One respondent stated that the remains from the site should be reinterred deeper than the level where they were discovered in an effort to eliminate further disturbance.
- Burial goods should be buried with the remains with which they were associated.
- Concern was expressed as to what type of testing has been done on the remains.
- There was a concern by a few as to the status and whereabouts of the excavated remains.
- Some respondents would like a site visit with an EDAW representative and the landowner.
- Concern that SHPO be aware of the project.
- Concern that the burials are not protected under California state laws for cemeteries.
- Concern as to which tribe the remains belong.
- Request for scientific analysis and DNA testing of the human remains.
- Request to be kept apprised of the mitigation process as it continues.
- Request to be invited to any reburial ceremony.
- Would like a chance to work as monitor at the site if further monitoring is required.
- Reburial of the remains somewhere on the property would not be an unreasonable plan.

ARCHAEOLOGICAL FINDINGS

Archaeological findings during the monitoring fall into three categories: artifacts, non-burial features, and human burials. Analysis of these materials is ongoing and will address both scientific and Native American perspectives and interpretations. These will be presented in the final report on the investigations.

Artifacts

As discussed above, the controlled grading at the sites has provided the opportunity to collect artifacts as they are uncovered by the mechanical equipment. Because the marine terrace deposits at the project site contain no natural cobbles, any rock found in the deposits is likely to have been deposited by humans. Consequently, monitors have made an effort to collect as many items as could be seen. Although it is impossible to identify all artifacts during this process, the sample collected during the grading can provide useful additional data relating to the distributions of certain kinds of artifacts at the sites.

The materials collected to date during the monitoring include groundstone, flaked stone, bone and shell artifacts, and fire-affected rock (Table 7). Groundstone is the most common type of artifact in the collection, comprising 141 (48.1%) of the 293 items collected. Specific types of groundstone implements in the collection include manos (n=90; 63.8%), metates (n=28; 19.8%); pestles (n=6; 4.2%), bowl fragments (n=10; 7.0%) and unidentifiable pieces (n=4; 2.8%). Most of the groundstone has been collected from ORA-260, -263, and -264, probably as a result of the greater volume of grading at those sites. Also prominent in the collection are battered stones (n=18), which may have been used as hammerstones to manufacture flaked stone implements or to pound certain kinds of foods. Six items are classified as charmstones based on their contexts and similarity to other items that have been found in clearly ritual contexts (cf. Whitney-Desautels 1994). Three of the charmstones were found in a cluster at CA-ORA-261 (see below). Smaller items such as flaked stone tools and lithic debitage were collected incidentally but because they are much more difficult to see do not constitute a representative sample.

Also relatively common are items classified as "manuports," which are unmodified rocks or other materials that do not occur naturally in the deposit and are therefore likely to have been brought to the sites by humans. A total of 71 items are currently classified as manuports, and consist mainly of cobbles that show no evidence of grinding, battering, heat alteration, or other modification. Another item that should be noted in this context is a piece of reddish stone that was found at CA-ORA-1472. Native American monitors at the site identified this material as ocher, and indicated that it may have been of ceremonial importance, perhaps as a burial association. A natural formation composed of this material was exposed by the grading near CA-ORA-262.

Table 7. Artifacts Recovered During Monitoring

Site (CA-ORA-)	Charmstones	Ground- Stone	Manuport	Battered Stone	Cores	Debitage	Fire- Affected Rock	Biface	Proj. Point	Tool	Perforated Stone	Bead	Worked Bone
260	1 (poss)	18	9	2									1
261	3	2	2	1		1	1						
262		10	4	1	1	2	1						
263		66	26	5	8	4	4	2	1		1		
264	1	35	20	6	5	7	4			1		1	
1472	1 (poss)	9	6	1		1	1						
Area D		0	3										
Non-site		1	1	2	1	8				1			
Total	6	141	71	18	15	23	11	2	1	2	1	1	1

Overall, the artifacts recovered during the monitoring are consistent with the use of the sites as indicated by the testing and data recovery programs (York and Underwood 2002) as well as prior investigations in the project area (Redwine 1958; Rosenthal and Padon 1990; Stickel 1996).

Non-Burial Features

Features other than human burials that were identified during the monitoring include: an animal interment; a cluster of charmstones; two clusters of groundstone; three possible hearths; and an abalone shell with associated charcoal. These are briefly described below.

Abalone Shell with Charcoal

Discovered at site CA-ORA-260, this feature consists of a single abalone shell that apparently contained a small amount of charcoal. It was heavily damaged by contact with the grader, but pieces of the shell and associated charcoal were retained.

Cluster of Charmstones

A cache of three imperforate elongate charmstones were uncovered during grading activities at ORA-261. These charmstones are very similar to those in a set of six "phallic pestles" and one pelican stone found at site CA-ORA-365 on Huntington Beach Mesa (Whitney-Desautels 1994).

Rather than lying on the surface, as pestles typically are when found, the three charmstones were observed in an upright position, perpendicular to the surface and with their distal (narrow) ends pointed down. The proximal ends of all three were damaged by the grading machinery. The largest of the three charmstones (ORA-261-2005), manufactured of a coarse-grained glaucophane schist, measures 21.80 cm. in length, 5.50 cm. in width at its widest point (proximal end) and 1.6 cm at its narrowest point (distal end or tip), and 4.38 cm. in thickness (proximal end) to 1.5 cm. at the tip. As the relationship between the width and thickness suggests, this charmstone is slightly flattened, creating an oval circumference.

The second largest of the three charmstones (ORA-261-2003), manufactured of medium-grained glaucophane schist, measures 17.2 cm. in length, 4.27 cm. in width at its widest point (proximal end) and 1 cm. at its narrowest point (distal end or tip), and 3.9 cm. in thickness (proximal end) to 1 cm. in thickness at the tip. This charmstone is only slightly wider than it is thick, giving only a mild impression of being flattened, and is further distinguished from the larger by its square-like circumference.

The third and smallest of the three charmstones (ORA-261-2004), measuring 12.58 cm. in length, clearly varies from its larger counterparts in at least two ways. First, this charmstone is of a light tan sedimentary composition. Second, the general morphology of this artifact departs somewhat from the others in that it is wider at its central point (3.1 cm.) than at either the proximal end (2.5 cm.) or the distal end (2.6). The thickness measures 3 cm. at the proximal end, 2.5 cm. at the central point, and 0.48 cm. at the distal end. In cross section this artifact is square-like in the proximal end, becoming increasingly thinner and flattened towards the distal end. Rather than forming a point as the do the two other specimens, this forms a sort of spatula.

Possible Hearths

Three small concentrations of debris in association with charcoal were identified at sites CA-ORA-264, CA-ORA-263, and between sites CA-ORA-260 and CA-ORA-261. These may be the remains of hearths or the discarded contents of hearths. Samples were taken from the latter two. All three were relatively ephemeral and had been substantially destroyed by the grading.

Animal Interment

Discovered during hand excavation in the vicinity of Burials 17-20 at CA-ORA-264, this feature is a mostly complete and articulated skeleton of a badger. The skeleton was examined *in situ* by Paul Langenwalter², who determined based on the position of the skeleton that it was purposefully buried and not an animal that died in its burrow. Langenwalter noted that approximately six other badger burials are known from California, all from the central part of the state. The specimen from CA-ORA-264 is the only one that has been found south of the San Joaquin Valley.

Clusters of Groundstone

Clusters of groundstone were discovered during the monitoring at site CA-ORA-1472, CA-ORA-260, and CA-ORA-263. The most well-defined of these was found at CA-ORA-1472, and consists of a small cluster of nine manos and two fragments of slab metates. The pieces were arranged in three distinct layers: the top layer was about 60 cm below the natural surface and contained three manos and a metate fragment; the second layer, about 67 cm below the surface, contained five manos; and the third layer, at about 74 cm, contained a single mano and a metate fragment. The feature at CA-ORA-260 consisted of four manos in apparent association. At CA-ORA-263, three manos were found at approximately the same depth and 1 to 2 m apart.

Human Burials

Based on the human remains discovered to date, it appears that the Hellman Ranch Specific Plan project area contains a relatively large concentration of prehistoric human interments. Although the opportunity for detailed analysis of the remains has been limited, they nevertheless offer important data. In the following discussion, the human remains that have been removed to date are described, then the findings are discussed relative to other known burial sites in the region.

Condition of Burials

Because the burials are not fully exposed, their degree of completeness can only be estimated (Table 8). It appears, however, that all of the skeletons have been disturbed to some degree, either prior to or during the present construction or controlled grading. The heaviest damage seems to have resulted from repeated disking of the project area for several decades prior to the present grading. Most of the burials, when exposed by hand below the limits of the construction grading, appear to have sustained some damage that has broken or disarticulated skeletal material, with some containing only a few remaining elements.

² Langenwalter is an instructor at Cypress College and has published extensively on prehistoric faunal assemblages from southern California.

Table 8. Summary of Burial Data, Burials 1-16

Burial No.	Site	Age	Sex	Position	Torso Orientation: Facing	Trauma or Pathology	Condition (% recoverable)
1A	264	A	M	Moderate flex	SW-NE: W?		>50%
1B	264	A	M?	Tight flex	W-E: N	Severe dental wear, abscesses, Paget's Disease?	>50%
2A	264	A		Arms and knees tight flex, waist loose flex	W-E: N		<50%
2B	264	A			W-E: S?		<25%
3	264	A		Loose flex?	NW-SE: NE	Severe dental wear	<20%
4	1472	A?		Tight flex	W-E: N?		<20%
5	263	45+	F	Partially extended	NNW-SSE: ENE	Severe dental wear, DJD, healed "parry" fracture of left ulna	>80%
6	264	50+		Tight flex	S-N: W or SSW	DJD	<50%
7	264	A		Tight flex	NW-SE: down	Dental wear	>50%
8	264	40+	F	Tight flex?	SE-NW: S	DJD	<50%
9	264	A		Tight flex	E-W: S?	Dental wear	<30%
10	264			Tight flex?	S-N: W?		<5%
11	1472	J-A		Tight flex?	E-W?: S?		<20%
12	263	22-27	M	Partially extended	N-S: NE	Ante-mortem tooth loss	>50%
13	263	A	F	Ventrally extended	SSW-NNE: NW	Dental wear	<50%
14	264	J-A			W-E?		<5%
15	262	A	F	Tight flex	E-W: S?		<10%
16	262	A	M	Moderate flex	N-S: W	<i>Myositis ossificans</i> on right deltoid tuberosity, caries, abscess, ante-mortem tooth loss, dental wear	<50%

In addition, all of the burials that were discovered during either construction grading or controlled grading sustained some damage. Damage incurred during construction grading (i.e., Burials 1b, 2a, 2b, and 5) was generally more severe than that occurring during controlled grading, which typically affected only the uppermost 1-2 inches of each burial. The exception to this was Burial 12, which was damaged in the neck and shoulder area when a blade was angled too deeply during the controlled grading. It appears, however, that most disturbance to the burials in the project area took place prior to the present grading effort.

Based on the limited data obtained during the removal process, it appears that Burial 5 at CA-ORA-263 is the most complete, with more than 80 percent of the bones remaining. Particularly fragmentary are Burials 10 (CA-ORA-264), 14 (CA-ORA-264), and 15 (CA-ORA-260), estimated to be less than 10 percent complete (Table 8).

Description of Burials

As noted above, a total of 20 interments comprising 22 individuals have been identified to date. Of the 20 interments, 16 (nos. 1 through 16) have been exposed and removed, while four (nos. 17-20) have been only partially exposed and remain in the ground. Of the 16 burials which were removed, two are double burials (1 and 2); thus a total of 18 individuals have been excavated and removed. Although the techniques employed for the removal of burials 1 - 16 have limited the information that can be obtained, a number of observations have been made that are of archaeological value. These observations focused on approximate age at death, sex, burial position orientation, and any observable trauma or pathology.

As indicated in Table 8, some indications of age were obtained from all burials except Burial 10. Thirteen of the burials appear to be of adults, while two may be subadult. Three of the individuals appear to have been older than 40 years at death, and one (Burial 6) appears to have been older than 50. Burial 12 at ORA-263 is from an individual between 22 and 27 years at death. Sex could be determined on seven of the burials, including three males and four females; Burial 1B at ORA-264 may be a male as well. Position could be determined on 16 of the 18 individuals, and include tight flex (n=9), medium flex (n=2), loose flex (n=1), extended (n=3), and one individual (Burial 2A) that is loosely flexed at the waist and tightly flexed at the arms and knees. Orientation of the burials is variable, although none appear to face directly east. One individual (Burial 7 at ORA-264) was buried facing down. Trauma or pathology was detected on several individuals, and consisted primarily of dental wear that in some cases had led to abscesses. Of note was a healed "parry" fracture of the left ulna of Burial 5, a female of more than 45 years at death. Typically these fractures result from using the forearm to defend against blows.

Excavation of the 2 x 2 m units around each burial was designed in part to recover any funerary items that were included with the burial. Most of the cultural material found in these units appears to be incidental components of the burial fill or the general site deposits. Items interpreted by the archaeologist as burial goods were found only at Burial 16, consisting of a bone awl and a cluster of several manos. Native American monitors have stated that they believe that additional items found in the vicinity of burials, including groundstone and shell, are burial goods as well. These items will be reinterred with the burials in consultation with the MLD.

Discussion

Although human remains have been encountered at numerous sites in coastal Orange and southern Los Angeles Counties, the utility of the data is often limited by the poor condition and limited documentation of burials that have been found. Nevertheless, several sites in the region have yielded substantial numbers of burials that offer some basis for comparison with the burials from the project area. Of more value, however, will be the analyses (now underway) of recently recovered human remains from sites CA-ORA-83 in Huntington Beach, and CA-ORA-64 at Newport Bay. Both of these sites have yielded substantially greater numbers of burials than have been discovered to date at Hellman Ranch; and together with the present burial data will contribute to a regional understanding of prehistoric burial patterns and their relationships to other cultural elements.

Prior to the recent discoveries at CA-ORA-64 and CA-ORA-83, the most extensive concentrations of burials along the coast of Orange County were at sites excavated on Huntington Beach Mesa during the 1930s and early 1940s. Of particular interest among these early investigations is site CA-ORA-282, excavated in the 1930s by Winterbourne (1968), who reports a total of 28 burials, of which most were in a loosely flexed position. Of the 20 burials for which orientation could be determined, 15 were oriented east/west, and five north/south. This site is of interest because it may represent the cemetery area for site CA-ORA-183, an extensive habitation area immediately to the south. Excavations at CA-ORA-183 are reported by Cottrell et al. (1985), who recovered a large assemblage consisting of several thousand ceremonial, ornamental, and utilitarian artifacts as well as five hearth features, a hawk burial, and one human interment. The site is interpreted as a seasonal base camp occupied at various times between about 5,000 and 1,000 years ago.

Another site containing substantial numbers of burials is CA-LAN-270 (the Los Altos site), located in eastern Long Beach, about 4 miles northwest of the Hellman Ranch/Hellman Ranch Specific Plan project area. Excavations at this site included some 34 excavation units measuring 5 x 5 feet, as well as three trenches (Bates 1972). Totalling more than 70 cubic meters, these excavations yielded a variety of groundstone, flaked stone, shell, antler, bone, and ceramic artifacts, as well as a substantial amount of shell and vertebrate faunal remains. Although no radiocarbon dating was conducted, temporally sensitive artifacts in the assemblage (i.e., small projectile points and ceramics) suggest a Late Prehistoric occupation.

The excavations at Los Altos yielded 21 sets of human remains, of which 16 were adults and five were children or infants. Of the 16 adults, 11 were buried in a tightly flexed position, four were disarticulated, and one was a cremation. The infant remains were largely disarticulated; however, two sets of remains were buried in large shells (a purple-hinged pecten and a cockle), and one was associated with an adult skeleton and may have been a mother-child interment. The child burial was disarticulated. Most of the burials (n=17) were associated with funerary artifacts, including beads and pendants, whole shells, flaked stone blades, obsidian, quartz crystals, projectile points, asphalt, pipes, and bowl fragments.

Recent excavations at sites CA-ORA-64 and CA-ORA-83 have also yielded substantial numbers of human remains. Analysis of these is now underway, and promises to provide data that are highly

relevant to the Hellman Ranch Specific Plan materials. CA-ORA-64, located on a bluff overlooking Newport Bay, has yielded an impressive array of artifactual and faunal materials dating primarily to the Millingstone Period (Koerper 1981; Koerper and Drover 1983). Recent investigations at the site have identified a large number of human remains, estimated to represent between approximately 223 and 600 individuals. Most of these are believed to date to between 4000 and 6000 B.P. (Langenwalter, personal communication), and have been reburied in an area protected from further subsurface disturbance per PRC Section 5097.98.

CA-ORA-83, also known as the Cogged Stone Site, is an extensively studied deposit located on the southeastern edge of Bolsa Chica Mesa. The site has yielded abundant shellfish, vertebrate and artifactual materials ranging in age from about 9,000 to 2,200 B.P., but is most notable for its abundance of cogged stones, of which several hundred have been recovered over the years. These, together with relatively high frequencies of beads, charmstones, pipes, and ochre fragments, suggest that the site was an important ceremonial location during the Millingstone Period (Whitney-Desautels 1994). Recent excavations at the site have revealed more than 70 burials dating to the period between about 5,500 and 2,000 B.P. These have been reburied or proposed for reburial per PRC 5097.98 in a portion of the property not subject to further subsurface disturbance. Preliminary analysis suggests that the earlier burials (ca. 5,500 – 4,000 B.P.) are primarily disarticulated, while those dating between about 4,000 and 2,200 B.P. are generally intact and were typically buried in a tightly flexed position. The latter burials appear to have been buried in clusters of 20 to 30 individuals. Few artifacts are associated with the burials (Desautels, personal communication).

CHAPTER 5 EVALUATION

ARTIFACTS AND NON-BURIAL FEATURES

The archaeological testing and data recovery programs conducted by EDAW (York and Underwood 2002) were designed to collect a representative sample of the archaeological materials, including artifacts and features (such as hearths, cache pits, shell lenses, and living surfaces), within the project site. Excavations were conducted at all of the sites, and it was concluded that sufficient information had been retrieved to address the questions posed in the research design (York et al. 1997) and to mitigate the loss of archaeological data. Archaeological monitoring during grading was proposed to identify any unique features that had not been found during the previous excavations and to recover additional artifacts that may be of archaeological interest.

To a large degree, the non-burial artifacts and non-burial features that have been recovered during the monitoring program are similar to those recovered during the controlled archaeological excavations (York and Underwood 2002). However, controlled grading did permit the archaeological examination of a much larger sample of the sites than would otherwise have been possible. This resulted in the recovery of most larger artifacts at the sites, such as manos and metates, as well as a sampling of smaller artifact classes. Recovered materials include groundstone, charmstones, manuports, battered stone, cores, debitage, flaked stone tools, beads, worked bone, fire-affected rock, and a projectile point. These materials add incremental significance to the sites.

The additional recovery generated by close monitoring of controlled grading enhances the research potential of the entire Hellman collection and will permit a greater understanding of the sites and their occupants than would have been possible through the manual excavation of a small sample. Although none of the findings are inconsistent with or contradict previous interpretations of the sites, these results will add important data with respect to site function and settlement chronology and will permit the refinement of some of the research questions posed in the original Research Design (York et al. 1997). Some additional consideration of the research questions is presented below.

Mitigation of the loss of significant archaeological information will be adequately addressed through the following actions:

- The archaeological excavations that have already been conducted.
- The continued collection and recordation of archaeological materials identified through archaeological test units in the vicinity of known burials and during controlled grading.
- As described below, the MLD has requested that additional studies be conducted of burials that have been removed. This would include additional exposure of skeletal materials on pedestals, radiocarbon dating, and DNA analysis.

- The integration of all the data recovered during the testing, data recovery, monitoring, and burial removal programs in a synthetic final report on the project.
- The curation of unrepatriated recovered material at a curatorial facility that meets state and Federal standards.

Only a single non-burial feature is significant beyond the information that can be adequately treated in the above-prescribed manner: a badger-burial feature found in the vicinity of Burials 17 through 20. EDAW understands that the Native American representatives consider this to be culturally sensitive. If possible, an archaeologist should examine the badger-feature as thoroughly as possible within the parameters defined by Native American cultural concerns. Specific methods proposed for treatment of this feature are presented in Chapter 6.

NATIVE AMERICAN BURIALS

The Executive Director of the California Coastal Commission has determined that the Native American burials encountered during the construction constitute a significant archaeological resource, a finding affirmed by the Commission during their permit condition interpretation hearing held on December 10, 2002. These burials are highly significant to the Gabrielino Tongva and other Native American descendants in southern California. Such significance is recognized by California statutes that govern the treatment of Native American burials discovered on private land (PRC 5097.98). These statutes mandate that such burials be treated respectfully and specify that the Native American Heritage Commission and the Most Likely Descendant shall have defined roles in providing recommendations to the landowner regarding their treatment and disposition. Consultation under California statute has occurred. Mitigation of impacts to Native American burials is discussed in the following section of the present mitigation plan.

Human burials also have potential scientific significance in that they can provide valuable information on demographics, health conditions, diet, chronology and other research topics. Gathering such information is often destructive and is often not desired by Native American descendants. However, the MLD has requested that the burials from the HRSP area be directly dated and that DNA studies be conducted to help assess cultural affiliation. As discussed in Chapter 6, this can be accomplished using a tooth from each burial. In addition, gathering information on sex and age of individuals is desired by the descendants to the degree that it can be gathered in a non-destructive manner in the process of burial removal and repatriation. This information will be of minor archaeological significance, because it will be partial and will not be subject to laboratory verification. Nonetheless, to the degree approved by the Native American descendants, this information should be made available in the final report on this project.

As discussed in Chapter 6, the MLD has proposed saving portions of CA-ORA-264. This proposal is based on the known concentration of burials at that site, as well as considerations of scientific value.

ADDITIONAL RESEARCH DIRECTIONS

The recent findings from the grading monitoring for the Hellman Ranch Specific Plan project provide an opportunity to reassess the research potential of the remaining cultural deposits within the project area, and to refine and focus the approach to the identified research questions. Specifically, the results suggest the need for additional data relating to chronology, environmental change and human land use, site function and settlement, and population movements. For the most part, the mitigation measures proposed to address these issues will rely on additional analysis of the archaeological remains already collected and analysis of additional cultural materials identified during the continued grading monitoring.

Chronology

Because all of the research issues considered here deal with cultural changes as reflected in the archeological record, temporal control is clearly a primary concern. Chronological data collected to date from the project area consists primarily of a series of 14 radiocarbon dates and a number of temporally sensitive projectile points and shell ornaments. Together, these data suggest primary occupation of the sites during the Millingstone and early Intermediate periods (between about 5400 and 3000 B.P.), with another, perhaps less intensive, period of use during the Late Prehistoric (after about 2000 B.P.). There is only limited evidence for site use during the middle and late Intermediate period, between approximately 2000 and 3000 years ago.

These findings are applicable to questions relating to population movements and settlement/subsistence shifts in coastal southern California. Additional data, however, are needed to clarify the sequence of occupation at the sites within the project area and to adequately address these questions. The initial sample of 14 radiocarbon assays was designed to determine whether individual temporal components could be identified. The temporal data collected so far suggested that sites ORA-260, 262, and 264 were used at various times over the past 5,000 years, and that ORA-261 and ORA-263 *may* have had somewhat more restricted temporal ranges. However, this may be simply a reflection of the limited number of dates per site, and it may be that a larger sample would disclose a longer span of occupation at all sites.

Nevertheless, the data collected so far provide a general picture of the temporal range of the occupations, and raise a number of specific dating issues in need of clarification. The following refinements are proposed to questions relating to chronology:

- How old are the burials? Do they represent the full span of the sites' occupations, or do they date primarily to a fairly limited time span?
- Does the near absence of dates falling between 2000 and 3000 B.P. in the current radiocarbon sample reflect a reduction in site occupation during the late Intermediate Period, or is it simply a result of the relatively small sample?
- Do some of the sites have more restricted spans of occupations than others?

It is noteworthy in this regard that the MLD has requested that additional chronological studies be conducted on the HRSP materials to better relate them to the Native American groups who occupied *Puvungna* to the north and Bolsa Chica to the south.

Environmental Change and Human Land Use

It has long been recognized by archaeologists in coastal southern California that landward transgression of sea levels since the close of the last glacial age has resulted in dramatic changes to coastal ecosystems. These changes relate primarily to the development of embayments formed by the flooding of coastal drainages, and their subsequent progressive transformation into lagoons, estuaries, marshes, mudflats, and flood plains as sea levels began to stabilize and silt continued to accumulate. This progression of coastal ecosystem change undoubtedly included shifts in the distribution and abundance of biotic resources that were important to humans; and indeed the archaeological record of coastal Orange County contains many examples of subsistence and settlement changes that are consistent with the model of lagoon formation and eventual siltation.

The relationship between these environmental changes and human cultural and land use systems, however, is likely to be very complex. First, it is increasingly recognized that cultural changes seen in coastal Orange County are the result of a complex set of interactions among environmental, social, and demographic forces (Koerper et al. 2000). In addition, accumulating data clearly demonstrate that coastal lagoon/estuary systems are highly idiosyncratic in terms of their evolution. Therefore, research into the human - environment relationship in coastal Orange County must first address paleoenvironmental changes within individual lagoon systems, then establish the necessary connections between those changes and human behavior.

Data on the environmental histories of lagoon systems are typically derived either from archaeological assemblages or from geological data such as sediment cores. The former is usually based on changing frequencies of shellfish or fish species that are common to specific types of habitats. The commonly cited increase over time in the frequency of Venus clam (*Chione* sp.) relative to scallop (*Argopecten* sp.) and oyster (*Ostrea* sp.), for example, is thought to reflect the development of extensive mud flats resulting from the siltation process. Similarly, the abandonment or disuse of areas adjacent lagoons is often taken as a sign that those particular habitats were no longer producing resources useful to humans. Based on the results from the archaeological testing and data recovery, for example, York and Underwood (2002) suggested that periods of reduced use of the sites may relate to the productivity of adjacent lagoonal ecosystems.

If applied uncritically, however, this approach can lead to circular arguments as the archaeological record is used to infer environmental change, which in turn is used to interpret the archaeology. It is preferable to apply independent data relating more directly to the environments being studied. In studying changing lagoon environments, coring data taken directly from lagoon deposits has generally been most informative (Davis 1992, 2002; Grant et al. 1996; Hildebrand et al. 1999; Homburg et al. 2002). These provide a wide variety of sediment, pollen, charcoal, plant macrofossils, and other data that can be applied to the evolution of coastal wetland systems. These

can then be used to infer changes in the distribution and abundance of shellfish, fish, and other resources important to humans. In the case of archaeological sites within the present project area, wetland habitats associated with Alamitos Bay are most relevant. Historic maps and other data suggest that the lagoon and associated wetland habitats once extended to the base of Landing Hill, and would have been just a few tens of meters away from the sites considered here. Coring data from locations near the base of the hill on the northwest side could therefore help to reconstruct the chronology of the formation and evolution of wetland habitats in the immediate vicinity of the sites, and lead to solid inferences regarding how changes in resource distribution may have affected the settlement of the project area.

The following questions refine those raised previously with respect to environmental change:

- What is the timing of changes in natural habitats associated with Alamitos and Anaheim Bays?
- How do changes in Alamitos and Anaheim Bays correspond with changes in subsistence and settlement as reflected by the archeological record of Landing Hill?

Population Movements and Demographics

In the Research Design for the Hellman Ranch Specific Plan Area (York et al. 1997), it was suggested that the sites within the project area could provide data relating to the movement of Takic-speaking groups (i.e., the Gabrielino, Juaneño, and Luiseño) into southern California. While the distribution of language groupings in southern California suggests that at some point in prehistory Takic speakers migrated into the region and broke the formerly continuous linguistic distribution of the Hoka stock along the coast, the timing and mechanics of this movement are uncertain (Moratto 1984).

Kroeber (1925), referring to the Takic languages as "Shoshonean," suggested a relatively recent date for this immigration - within the past 1500 years. This dating was accepted by Rogers (1966), Wallace (1962), and Warren (1968), but has been questioned by others, including C. King (1990), Koerper (1979), Hopkins (1965), and Rozaire (1967). The latter position seems supported to some degree by the presence of Olivella Grooved Rectangle beads in Great Basin contexts dating back several thousand years (Howard and Raab 1993). These are found in portions of the California coast historically occupied by Takic speakers, but not typically in adjacent coastal areas. This distribution may support considerable time depth for the Takic intrusion (Howard and Raab 1993; Raab 1997). Models for the Takic migration, then, range from relatively rapid conquest/displacement scenarios to slower processes of intermarriage and in-migration. Modeling the proposed migration is critical in archaeological tests since the various migrational models would have distinctly different signatures in the archaeological record (Koerper 1979).

The identification of numerous inhumations during the monitoring at the project site suggest some potential to address this issue. For example, based on preliminary data it appears that some of the mortuary practices reflected in the burials identified to date within the project area may be consistent with contemporaneous practices found in northern and central California. If confirmed by further

analysis, such a finding might suggest a widespread cultural pattern predating the movement of Takic speakers into the region. In this regard, analysis of features such as the badger burial identified at CA-ORA-264 might also be useful. According to Langenwalter (personal communication), there are only approximately six other badger burials known from California, all from the central portion of the state. The identification of a similar feature in the Hellman project area is therefore of interest, in that a cultural connection with central California may be implied.

Site Function and Stability of Occupation

Does the cultural assemblage from the Hellman sites indicate that Landing Hill served as a permanent village site? Impressive shell midden deposits and the presence of a seemingly large number of burials have led some to suggest that Native Americans used Landing Hill as a permanent village. This question can be clarified by consideration of various models of hunter-gatherer residence patterns (Bettinger 1991; Beardsley et al. 1956; Binford 1980, 1982; Price and Brown 1985). Hunter-gatherer groups studied ethnographically generally practiced some form of mobility, i.e., groups moved the location of their domiciles periodically within their subsistence territory in order to exploit natural resources efficiently. Sedentism (long-term, year-round occupation) could only occur in locales where abundant food resources and suitable drinking water were available throughout the year, or where technologies for the preservation and storage of such resources had been developed. Between these extremes - frequent residential mobility and sedentism - are a variety of mobility strategies that may include seasonal residential moves, bi-modal settlements, seasonal fissioning of groups, and the formation of logistical work groups.

It has been suggested that the continuum between mobility and sedentism has three basic dimensions - type, frequency, and scale (Chatters 1987). "Type" refers to whether entire groups moved (the "residential" type in Binford's terminology) or whether work parties formed to exploit distant resources, bringing their produce back to the residential base camp or village (logistical mobility). "Frequency" refers to the how often moves were made: this could range from sub-annual seasonal rounds to supra-annual mobility wherein a group may periodically move to a new subsistence territory. "Scale" refers to the size of the territory exploited. To qualify as a "village" the Hellman Ranch sites should show evidence of a logistical type of mobility and occupation during multiple seasons. We would also expect that the subsistence territory of a village was somewhat restricted (due to transportation costs), but not solely focused on the immediate environs of the site in the manner of a seasonal camp for the exploitation of a narrow range of resources.

In identifying "villages" the following traits have been put forward as most appropriate (Dillon and Boxt 1989 after Gladikas-Brindamour 1970; Raab 1993): (1) there should be evidence that at least a segment of the population occupied the site throughout the year; (2) chronological information should show that the site was occupied for more than a single generation; (3) a cemetery should be present that includes inhumations of both sexes and all age groups; (4) presence of shelters should be evident; (5) food resources available throughout the year should be present; and (6) a diversity of artifact manufacturing and maintenance activities should be identifiable.

By the time of the Spanish arrival in the region, the Gabrielino of the greater Los Angeles basin had developed a settlement pattern that included named village or rancheria locations (Bean and Smith 1978; Johnston 1962; McCawley 1996). The ethnographic and ethnohistoric record of Gabrielino settlement patterns is not robust, leading to ambiguities regarding the size and permanence of these settlements. As Bean and Smith (1978) suggest, however, it is generally understood that social and political organization was based on patrilineal lineages that were identified with specific locales. These localized tribelets, or villages, varied in size, political influence and cultural importance. The village of *Puvugna* was the closest ethnohistorically attested village to Landing Hill. The weight of the ethnohistoric data place the location of *Puvugna* at Bixby Ranch (Milliken et al. 1997), across the broad San Gabriel/Los Angeles floodplain from Landing Hill, approximately two miles to the north. This ethnographic and ethnohistoric information is instructive in helping to specify what a village might look like archaeologically; however, it cannot be used directly to ascertain settlement patterns that may have been in place when the Landing Hill sites were occupied 1,500 to 4,000 years prior to the contact period. In order to establish prehistoric settlement patterns of such antiquity, site-specific and regional archaeological data must be examined in detail. A goal of the mitigation program will be to gather and analyze relevant data (i.e., artifact, feature, and burial data) to determining the type, frequency and scale of mobility.

Data requirements – Key data on seasonality come from floral and faunal remains. These classes of cultural materials will be examined for clues as to the seasons that the sites were occupied. The possibility that seasonality changed over time will also be considered. However, most of the food remains examined to date at Hellman are of types that are relatively available throughout the year. Thus, these data are not likely to be definitive with regard to establishing the frequency of mobility; additional types of data will have to be sought. The extent of controlled grading at the Hellman sites has provided a relatively large sample of features, burials and larger artifact classes, such as groundstone. These data should be amenable to the development of a demographic model for Hellman Ranch. The model would take into account several key variables – group size, frequency of mobility, life-expectancy, and length of occupation. By systematically manipulating these variables in the model and comparing the results to the archaeological data, we expect to be able to estimate a range of the mostly likely prehistoric values of the variables in the model. The model will also draw on an extensive review of the regional literature, both for coastal and inland sites. This approach will help answer such questions as:

- Is the frequency of features, burials and groundstone artifacts consistent with a stable year-round population, or a seasonal encampment?
- How do these frequencies compare to other contemporaneous coastal and inland sites?
- Is there substantial evidence for the manufacture and maintenance of tools necessary in providing sustenance?
- What are the sources of the raw materials utilized in the manufacture of Hellman artifacts and what does this say about territory size and scale of mobility?

CHAPTER 6

MITIGATION PROGRAM

As discussed previously, the proposed Mitigation Plan is the result of extensive consultation among the MLD, the lead Native American monitor, the archaeological monitor, JLH, and the City of Seal Beach. It has also benefited from input from the CCC and the NAHC. It is the primary goal of the proposed Mitigation Plan to treat the Native American burials with full respect and dignity in accordance with recommendations of the MLD to the fullest degree practical. This will include continued Native American consultation, setting aside a significant amount of additional open space as a Preservation Area for purposes of avoiding or reducing impacts to additional Native American burials, respectful removal of burials that cannot be avoided (to the extent that these do not constitute a significant additional or unexpected new find as defined herein), repatriation of removed burials to the MLD for reburial, providing assistance in the reburial process, the development of an educational facility within the Gum Grove Park extension area, additional manual excavations for purposes of burial identification and data recovery, and preparing a final report that addresses regional archaeological issues of interest to Native Americans and the scientific community, including a complete reevaluation of the role of the Landing Hill sites in Native American lifeways and prehistory.

Mitigation measures implemented to date to address impacts to significant cultural resources have included the following components:

- Site preservation – Sites ORA-256 and 1473, which were in the original development plan, have been avoided and put into open space as part of Gum Grove Park.
- Archaeological research design – An archaeological research design addressing important regional research problems has been developed, reviewed by various agencies and Native American individuals, and implemented.
- Archaeological testing and data recovery – Controlled archaeological excavations were conducted. These resulted in the recovery of a sample adequate to address the regional research problems.
- Archaeological and Native American monitoring – Construction grading in culturally sensitive areas was monitored by professional archaeologists and Native American representatives. Upon discovery of human burials, construction was stopped and consultation with the MLD was initiated. The procedures ultimately agreed upon as a result of the consultation include carefully monitored controlled grading (1 to 2 inches at a pass) of all areas between 200 and 50 feet of any burials, and a combination of hand excavation and monitored controlled grading within 50 feet of any burials.

In addition, over 100 archaeological units (one meter by one meter) have been manually excavated during the monitoring program. Native American burials have been pedestaled and placed in secure storage pending repatriation and reburial.

The remainder of this chapter focuses on additional mitigation proposed to address impacts to Native American burials and other cultural resources.

MITIGATION ALTERNATIVES

An earlier draft of this Mitigation Plan addressed four mitigation alternatives: two alternatives envisioned completion of the grading plan as approved prior to the discoveries with reburial in Gum Grove Park, and two envisioned avoiding further impacts to portions of ORA-264 with reburial to occur in the resulting open space. That alternatives analysis is now presented in its original form in Appendix A, Mitigation Alternatives Analysis. The proposed Mitigation Plan as presented below expands the area within ORA-264 to be preserved in open space.

MITIGATION PLAN

The proposed Mitigation Plan presented below is an outgrowth and expansion of the alternative analysis. As discussed more fully below, the proposed Mitigation Plan includes the following:

- Sensitive treatment of Native American burials and associated materials.
- Avoidance of additional impacts to the most culturally sensitive area known at this time that has not yet been graded, through the designation of a Preservation Area and re-configuration of an oil access road and utility corridor.
- Field procedures to identify and remove human remains from areas that cannot be avoided, to the extent that these do not constitute a significant additional or unexpected new find as defined herein.
- Repatriation and respectful reburial of removed human remains.
- Construction and dedication of an educational facility in the extension of Gum Grove Park.
- Complete reevaluation of the Landing Hill sites in a final technical report which will synthesize the information generated by all phases of cultural resources investigation. The additional research questions discussed in Chapter 4 (above) would be included in this analysis.

The core concepts of the proposed Mitigation Plan were originally identified during the field meeting of February 18, 2003, attended by the MLD, Native American monitors, Native American Heritage Commission staff, Coastal Commission staff, City of Seal Beach staff, JLH representatives, and the archaeological monitor. The Plan was subsequently refined in series of meetings with the MLD, lead

Native American monitor, JLH representative, and archaeological monitor. The Plan would save nearly all of the ungraded area in site ORA-264, including the location of Burials 17-20, the badger burial, and those areas mostly likely to contain undiscovered Native American burials. Key components of the proposed Mitigation Plan are:

- **Preservation of highly sensitive ORA-264 areas within open space** – A Preservation Area (see Figure 6) will be created that includes the triangular area and Lots 11, 12, 32, 33, 34, and 35. These lots and the triangular area will be deed restricted in a manner that places the area into the Cultural Resources Preservation Area and that prohibits in perpetuity all future development on the lots that is inconsistent with the uses of the lots as open space/cultural resources preserve. The landowner will work with the CCC to draft the language of the deed restriction. The deed restriction for the Preservation Area will be reviewed and approved by the Coastal Commission and recorded against the property by the landowner(s) within ninety (90) days after the commencement of grading/construction. To ensure that the deed restriction can be recorded within said ninety days, the form and general content of the deed restriction shall be agreed to by the Executive Director of the Commission and the landowner(s) prior to commencement of grading/construction. Within thirty (30) days after submittal of the initial draft deed restriction to the Executive Director of the Coastal Commission, comments will be provided by the Executive Director to the landowner(s). Upon submittal of the second draft of the deed restriction to the Executive Director of the Coastal Commission, the Executive Director will review the second draft within ten (10) working days to determine if the second draft reflects a good faith effort on the part of the landowner(s) to address and incorporate the Executive Director's comments on the initial draft, and if it does, the landowner(s) shall be given authorization by the Executive Director to commence grading/construction provided that all other pre-grading/construction requirements of this mitigation plan are satisfied. Within ninety (90) days after commencement of grading/construction, the deed restriction shall be recorded against the property by the landowner(s) and the landowner(s) shall provide evidence to the Executive Director of the CCC that the deed restrictions are properly recorded. The deed restrictions shall be recorded prior to any transfer of the property from the present owner to any other entity as well as prior to transfer of control of any homeowners association from the developer to homeowners. Finally, the CDP for vertical construction shall not be issued until the Executive Director of the Commission is satisfied that the deed restriction is properly recorded. No structures would be built in the Preservation Area, and this area would be dedicated to open space. The fill would be contoured to approximate a naturalistic setting and would be planted with California native plants consistent with the CCC approved plant list and approved by the MLD. Revised grading plans and site plans implementing the Preservation Area shall be submitted for review and approval by the Executive Director of the Coastal Commission along with this mitigation plan. JLH or any successor in interest will complete the landscaping within twelve (12) months after issuance of the coastal development permit for vertical construction, or prior to JLH or any successor in interest seeking a certificate of occupancy for a home that abuts the preservation area, whichever occurs first. The Homeowner's Association will assume ownership and maintenance of the Preservation Area. This will be addressed in the covenants, conditions, and restrictions (CC&Rs) of the HOA.

- **Reconfiguration of the oil access road and utility corridor on the northern perimeter of the project area** - The storm drain line that was originally proposed for the northern perimeter of the property through ORA-264 would be realigned to avoid the site (ORA-264) altogether. Fill would be placed on the northern perimeter to allow the placement of electrical, water, oil and gas, and miscellaneous utility lines within the fill. This would avoid the need to excavate utility lines into the undisturbed midden. The oil company access road would be reduced from 25 feet in width to 17 feet and would be developed on top of the fill, above the utility lines (Figure 7). Revised grading and utility plans shall be submitted for review and approval by the Executive Director of the Coastal Commission along with this mitigation plan. Final grading and utility plans shall be submitted for review and approval by the Executive Director prior to commencement of grading/construction. This virtually eliminates impacts from these facilities along the northern perimeter. To ensure the avoidance of impacts to cultural deposits from continuing use and maintenance of the oil access road and utility corridor, a deed restriction will be executed and recorded that identifies the location of cultural deposits within the corridor and prohibits development that disturbs those deposits. The deed restriction will be reviewed and approved by the Coastal Commission and recorded against the property by the landowner(s) within ninety (90) days after the commencement of grading/construction. To ensure that the deed restriction can be recorded within said ninety days, the form and general content of the deed restriction shall be agreed to by the Executive Director of the Commission and the landowner(s) prior to commencement of grading/construction. Within thirty (30) days after submittal of the initial draft deed restriction to the Executive Director of the Coastal Commission, comments will be provided by the Executive Director to the landowner(s). Upon submittal of the second draft of the deed restriction to the Executive Director of the Coastal Commission, the Executive Director will review the second draft within ten (10) working days to determine if the second draft reflects a good faith effort on the part of the landowner(s) to address and incorporate the Executive Director's comments on the initial draft, and if it does, the landowner(s) shall be given authorization by the Executive Director to commence grading/construction provided that all other pre-grading/construction requirements of this mitigation plan are satisfied. Within ninety (90) days after commencement of grading/construction, the deed restriction shall be recorded against the property by the landowner(s) and the landowner(s) shall provide evidence to the Executive Director of the CCC that the deed restrictions are properly recorded. The deed restrictions shall be recorded prior to any transfer of the property from the present owner to any other entity. Finally, the CDP for vertical construction shall not be issued until the Executive Director of the Commission is satisfied that the deed restriction is properly recorded.

FIGURE 6

Preservation and Reinternment Area

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AVAILABLE TO THE GENERAL PUBLIC**

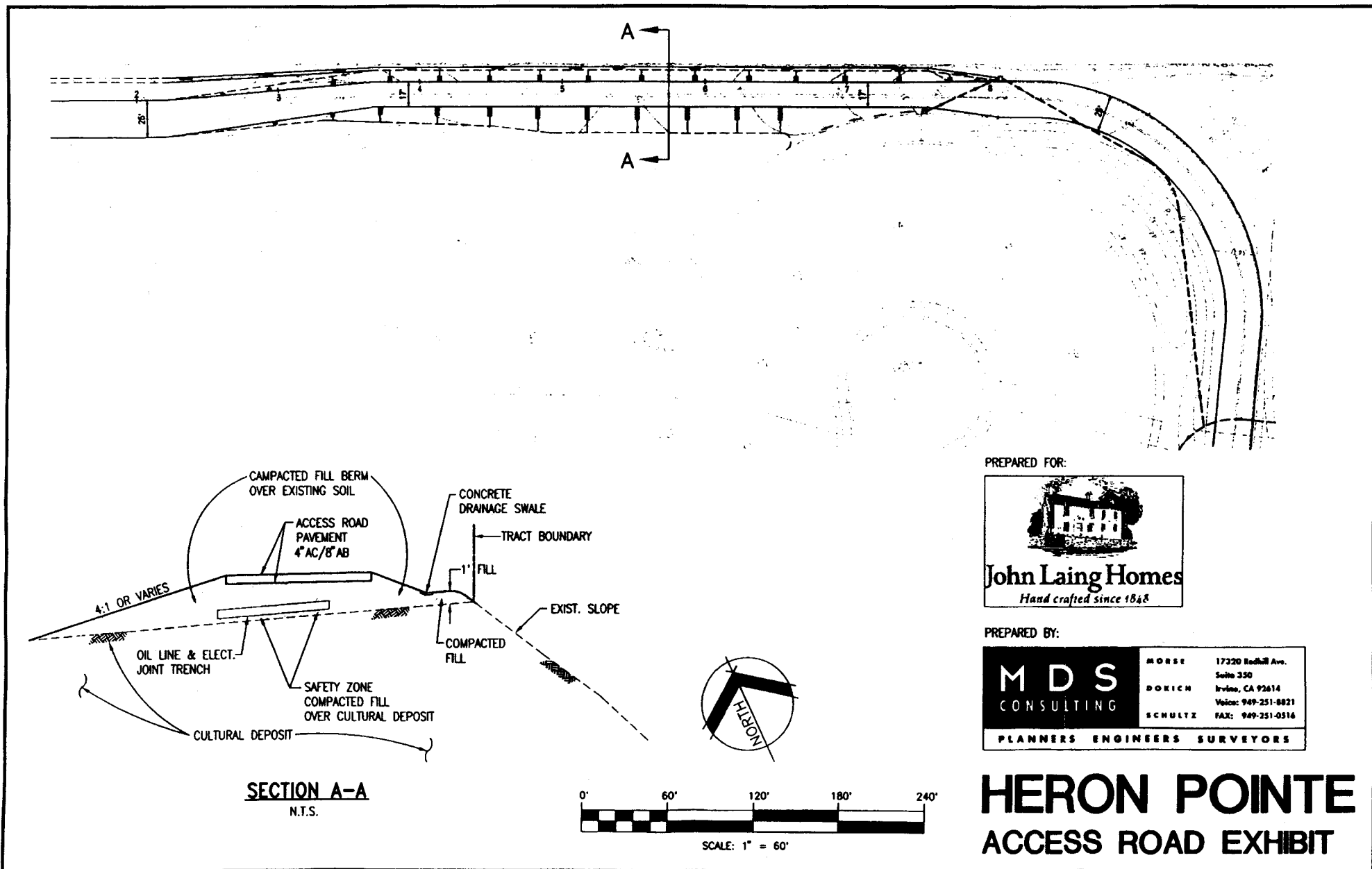


Figure 7 Access Road Exhibit

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- **Development of Educational Center** - An educational center shall be constructed within the Gum Grove Park extension area (Figure 8; Appendix C). There are two locations being contemplated within the extension area and are depicted in Appendix C. The final location shall be one of these two identified locations. This facility will consist of a low, circular structure with associated landscaping and signs, and will be designed to provide information to visitors regarding Native American culture and use of the area. Preliminary construction-level plans of the facility are presented in Appendix C. JLH will ensure that the design process is coordinated with the City of Seal Beach and the Gum Grove Park Advisory Committee, and will present the adopted design to the City of Seal Beach Parks and Recreation Commission as well as the Seal Beach Planning Commission and City Council for review and approval. Final plans shall be submitted for the review and approval of the Executive Director of the Commission identifying the location of all facilities, dimensions, materials and colors, and use as well as sign text, size and orientation. All plans shall be of sufficient scale and detail to verify the location, size and content of all signage, and the location, size, materials and use of structures during a physical inspection of the premises. JLH shall construct the approved design and shall dedicate it to the City of Seal Beach prior to issuance of the coastal development permit for vertical construction.

The Proposed Mitigation Plan considered the possible preservation of intact midden deposits within the backyards of Lots 13 and 14. Surface inspection of these lots has been conducted by the archaeological monitor, lead Native American monitor, and MLD; these parties have agreed that the remaining cultural deposit in these lots is relatively thin and is not likely to contain Native American burials. Various alternatives for the treatment of Lots 13 and 14 were discussed on February 27, 2003 and again on April 4, 2003 among the following parties: MLD, lead Native American monitor, archaeological monitor, and JLH. These parties also reviewed concerns expressed by Coastal Commission staff in a letter dated February 25, 2003 regarding looking for an alternative that will adequately avoid impacts to these deposits. The considered alternatives included: (1) controlled grading of Lots 13 and 14 to identify and remove burials (in the unlikely event that these are encountered), consistent with the approach utilized during 2002, (2) protection of the midden areas beneath fill and other protective devices, and (3) deed restrictions prohibiting deep excavations within the midden areas. It was determined that the potential for encountering intact Native American burials in these lots is so remote that controlled grading preceded by some exploratory hand excavation is the preferred alternative. All parties agreed to this approach on April 4, 2003.

Evaluation Criteria

The following criteria were originally developed to assess the four mitigation alternatives (see Appendix A). They have since been updated for use in evaluating the effectiveness of the proposed Mitigation Plan:

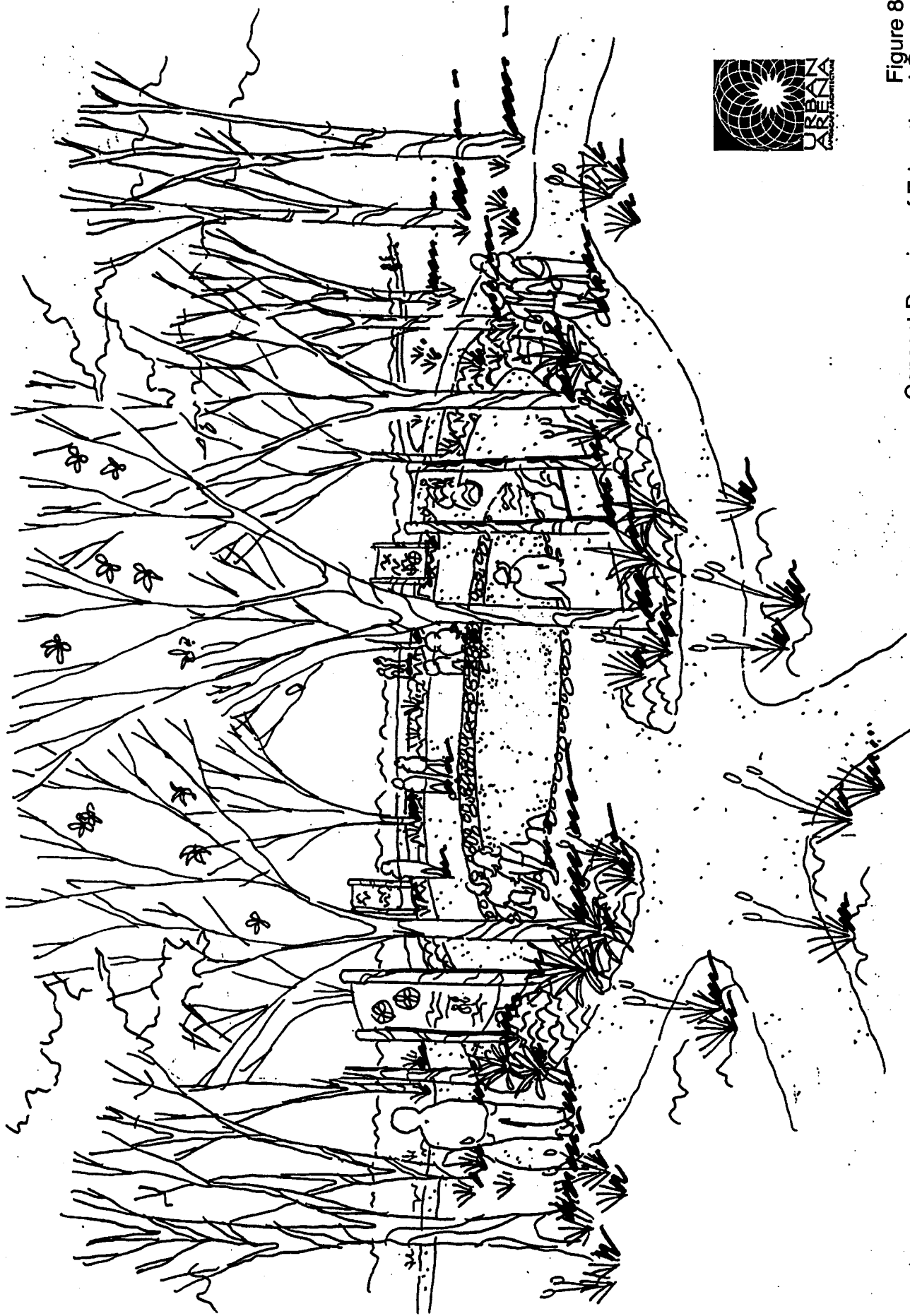


Figure 8
Concept Drawing of Educational Center

relatively small proportion of the original site is still intact. Therefore, avoidance of further impacts would not provide as full a range of preservation benefits as might otherwise be expected. For example, it was noted that the historic setting of ORA-264 would be so altered that a future visitor to the site might have difficulty in comprehending the historic character or "feel" of the place. Moreover, future scientific research potentials would be very limited, both by the impacts that have already occurred and by restrictions placed on investigations by the presence of Native American remains. Even given these caveats, in situ preservation would protect some of the burials from further damage and thus has a strong appeal to many Native Americans. In practice, the highest priority was given to this evaluation criteria.

2. **Economic loss** – Preservation of intact deposits would entail the loss of residential lots. This would be an economic loss to the landowners and to the City of Seal Beach. Additionally, the costs of maintaining open space in a residential neighborhood and liability costs must also be taken into account.
3. **Proximity of reinterment areas to original burial locations** – As a general rule, reinterment in close proximity to the original burial location is preferred. Thirteen of the 20 human burials were discovered at ORA-264.
4. **Adequacy of reburial space** – Twenty Native American burials (plus the badger burial) have been identified to date. It is estimated that an area of about 1200 square feet (0.03 acre) would be need to reinter these. If additional burials are encountered, each would require about 57.5 square feet. With the open space area for reinterment in the Proposed Mitigation Alternative totaling over 50,000 square feet, there is ample room for future reburials as may be encountered in other areas of the county. This was a very important issue for the Gabrielino/Tongva people.
5. **Quality of reburial space** – Other things being equal, a natural setting would be preferred over a developed setting. Additionally, consideration needs to be given to such qualities as the availability of parking and ease of access for Native Americans wishing to pay respects to ancestral remains.
6. **Offsite cultural enhancement** – In order to reduce the economic loss that it would suffer from in situ preservation, JLH originally offered to fund a cultural enhancement program of the MLD's choosing if Alternative A or B (see Appendix A) were to be selected.

In addition, it should be noted that all alternatives provide for additional recovery of important scientific information.

Evaluation of the Proposed Mitigation Plan

The Proposed Mitigation plan would entail converting a significant portion of the planned development area into open space, designated as the Preservation Area. Undisturbed midden in the open space would be preserved wherever possible. Burials from the entire development would be

Evaluation of the Proposed Mitigation Plan

The Proposed Mitigation plan would entail converting a significant portion of the planned development area into open space, designated as the Preservation Area. Undisturbed midden in the open space would be preserved wherever possible. Burials from the entire development would be reinterred within the new open space. Moreover, the open space could be used for future Gabrielino-Tongva reburials from off-site as determined by the MLD.

1. **Preservation of Intact Cultural Deposits** – The Proposed Mitigation Plan preserves approximately 1.88 acres, the largest amount of in situ preservation of all of the alternatives. These are areas that are highly sensitive for the presence of known or potential burials. In the preserved area, the existing cultural deposits would be covered with compacted fill and would be graded to provide adequate drainage. Grading would not, however, impact the cultural deposit in the Preservation Area.
2. **Economic Loss** – The Proposed Mitigation Plan would result in a loss four to five of the planned 70 housing units. This would result in very substantial economic losses for the landowner and would also result in marginal economic loss for the City of Seal Beach. Loss of building lots is by far the greatest cause of economic loss to the landowner. The placement of these lots in open space would entail long-term economic costs as well for maintenance of the open space.
3. **Proximity of Reburial Areas** – The Proposed Mitigation Plan best meets this objective as the majority of the burials are in or in the vicinity of the open space addition. To the extent possible, burials that have been already removed from this area will be reinterred in the same location from which they were removed.
4. **Adequacy of Reburial Areas** – The Proposed Mitigation Plan sets aside more than sufficient space for the reburial of presently identified remains. It is possible that additional burials could be encountered in intact cultural deposits when attempting to reinter the burials that have already been removed. This possibility would be minimized, however, by reburying ORA-264 remains in the same location from which they were removed where possible and reentering burials from other locations in previously disturbed areas within the open space to the extent possible. Up to ten feet of fill will cover the reinterments. The open space will have room for additional interments from off-site if so requested by the MLD.
5. **Quality of Reburial Areas** – As originally proposed (see Alternatives C and D in Appendix A), ORA-264 did not offer a high quality area for reinterment, being situated at the end of a residential cul-de-sac. However, under the Proposed Mitigation Plan, loss of the original environmental context of the site will be mitigated by the implementation of an environmental restoration program. The fill placed on the open-space will be gently contoured to recreate a naturalistic terrain and all native plants will be used in a landscape design, created by a licensed Landscape Architect in consultation with restoration biologists and the MLD. The plant palette will also be developed in consultation with the MLD.

utilizing the CCC approved plant list as a basis. The landscape will be designed to discourage inappropriate use of the open space, while at the same time being visually pleasing. With regard to parking, it appears that the most likely parking area would be at the Gum Grove Park extension, which would require about a quarter-mile walk to the site through the residential neighborhood.

6. **Cultural enhancement** – The interpretive center at Gum Grove Park would provide an excellent opportunity to present culture and history of the Landing Hill vicinity.

It should be noted that the Proposed Mitigation Plan (along with the other alternatives) also addresses the loss of archaeological information. The following specific measures provide mitigation for this impact: collection of rare artifacts during controlled grading, the excavation of over 100 test units, the implementation of certain scientific analyses of the human remains (as approved by the MLD), the permanent curation of the recovered materials in a suitable repository (excluding burials and associated objects), and the production of a final synthetic report.

In sum, the Proposed Mitigation Plan best meets the primary objective of preserving intact cultural deposits at this site. The quality of the reinterment area will be enhanced through the implementation of an environmental restoration landscape design, and the reinterment area will be large enough to accommodate reburials from off-site if so requested by the MLD. The educational facility at Gum Grove Park would provide the opportunity to further the public's understanding and appreciation of Native American culture and history in the Landing Hill vicinity. The MLD, lead Native American monitor, archaeological monitor, City of Seal Beach, and landowners all have concurred that the Proposed Mitigation Plan adequately addresses impacts to Native American burials and other cultural materials discovered during the development of the Specific Plan Area. However, the City Council and its appropriate commissions have not formally considered or approved the educational facility. Grading/construction at the site shall not commence until final plans are reviewed and approved by the appropriate government agencies.

PROCEDURES FOR IDENTIFICATION AND TREATMENT OF BURIALS

Regardless of which Mitigation Alternative is selected, additional development grading will occur within culturally sensitive areas in CA-ORA-261, 262, 263, and 264. With regard to CA-ORA-264, the only additional grading is what appears to be a limited amount of intact deposit remaining in Lots 13 and 14. Because sensitive areas will be continued to be developed, procedures are necessary to guide the on-going process of identifying and treating burials that could exist within these areas.

Field procedures related to the discovery and treatment of cultural materials at the sites that will not be avoided are outlined below. These have been developed in consultation with the NAHC and Native American monitors. For the most part, these procedures have already been implemented and have been ongoing since monitoring began on July 8, 2002. However, the procedures have been modified as necessary to address the concerns of the MLD and Native American monitors.

Training of Construction Personnel

Prior to resuming mechanical grading operations, the developer will develop and implement a worker training program. The program will be designed to convey (1) the purpose of the cultural resources monitoring, including the need for respectful treatment of human remains; (2) the procedures to be employed in the monitoring, including the controlled grading and hand excavation; (3) the authority of the archaeologists and Native American monitors to temporarily halt or redirect grading; and (4) the procedures to be used in the event of discoveries. The training will consist of in-field worker orientations accompanied by distribution of pamphlets describing the monitoring and other archaeological procedures. EDAW would prepare the training materials in consultation with the MLD, JLH, and the City of Seal Beach and conduct the training program meeting.

Continued Native American Monitoring

All ground disturbance in any portions of the project area with the potential to contain human remains or other cultural material will be monitored by a Native American representative of the MLD. Activities to be monitored will include all mowing and grubbing, construction grading, controlled grading, and hand excavation of previously undisturbed deposit, with the exception of contexts that are clearly within the ancient marine terrace that comprises most of Landing Hill. Based on the ongoing consultation among the MLD, landowner, and NAHC, the following parameters for the Native American monitoring will apply:

- Exposure of any burial to be removed will be monitored by a Native American, with one Native American monitor per burial. Where burials are clustered and immediately adjacent, fewer than one Native American monitor per burial may be sufficient. This decision will be made on a case by case basis in consultation with the Native American monitors.
- Excavation of test units will be monitored. Simultaneous excavation of two test units if less than 20 feet apart may be monitored by a single Native American.
- If screening of soil associated with burials or test units is done concurrently with and adjacent to the burial or test unit, the Native American responsible for that burial or test unit will also monitor the screening. If the screening is done at another location, a separate monitor will be required.
- All mechanical excavation conducted in deposits that may contain human remains (i.e., all areas not completely within the marine terrace deposits) will be monitored by a Native American.
- Because the marine terrace underlying the cultural deposits have no potential to contain cultural material, grading that is well within these deposits will not be monitored by archaeologists or Native Americans. However, because the surface of the marine terrace is uneven and may contain low spots containing cultural material, monitoring will continue for at least one foot into the marine terrace deposit. Monitoring will be curtailed when the project geologist, archaeologist and Native American monitors agree that sterile deposits have been reached.

1. The archaeological monitor in consultation with the Native American monitors (and the MLD when the monitors have concerns) is charged with the responsibility to assess cultural resources encountered during grading/construction to determine whether the cultural resources constitute an additional or unexpected new find, and if so, whether it is potentially significant. Based on this consultation, the Executive Director will be immediately notified if the find is determined to be additional or unexpected and if it is found to be potentially significant and work shall stop as specified in Special Condition 19 of the CDP.

Notification Procedures for New Discoveries

Based on the findings to date within the project area, it is likely that additional human burials or other potentially significant additional or unexpected archaeological features will be identified within the remaining areas to be graded. Because such discoveries will require further treatment and may require that grading procedures be modified, it is important that all appropriate parties are notified as soon as possible.

When possible burials are identified during monitoring of mechanical excavation, or excavation of test units, the excavation will be temporarily halted while the find is assessed in consultation with the lead field archaeologist. If the find is made during mechanical excavation, the archaeologist or Native American monitoring the activity will have the authority to direct the equipment operator to stop while the find is assessed. If it is determined that the find does not constitute a burial or other potentially significant additional or unexpected archaeological feature, the mechanical excavation will continue.

If the find is determined to be a human burial, the lead archaeologist will immediately notify the Site Supervisor for the developer, as well as the Principal Investigator for EDAW. The Principal Investigator will immediately notify the MLD and the Director of Development Services for the City of Seal Beach. The landowner or their designee shall also immediately notify the Executive Director of the California Coastal Commission. The Site Supervisor shall ensure that construction grading does not impact the new burial while it is being assessed and, provided that it does not constitute a significant additional or unexpected new find as defined herein, excavated and removed. As has been done throughout the construction monitoring for the development, the City will provide the Coastal Commission with weekly updates describing the finds in writing. In addition, the MLD will also update the Commission regarding discoveries of human remains.

Identification of Additional Burials

As a result of an in-field mediation meeting among the landowner, the MLD, and the NAHC on September 19, 2002, a number of procedures were proposed to identify burials remaining within areas remaining to be graded. Several procedures applicable to all of the human remains on the property were agreed upon, and specific procedures were proposed at sites ORA-263 and ORA-264. In the following discussion, the general procedures are summarized, then specific procedures are proposed for each of the sites at which human remains have been discovered.

General Methodology

- For all discovered human burials, attempts will continue to be made to locate additional burials nearby through hand excavation techniques. This will be done through the excavation of 1 x 1 m exploratory test units (ETUs) placed along transects extending radially from each identified burial or burial cluster. The radial transects will be designed to test areas within 50 feet (15 m) from the edge of each burial or burial cluster. Excavation of these units will be limited to areas containing intact cultural deposit (i.e., areas that have not been graded well into the underlying marine terrace) and will be excavated until the marine terrace deposits are encountered. The soil from the ETUs along the radial transects will be screened through 1/8-inch mesh. Wet or dry screening methods may be used, and the soil may be transported to another location on the property for screening. Artifacts and faunal remains (shell and animal bone) will be retained from the screen, as well as any human remains.
- Controlled grading will be conducted with a wheeled motor grader. The motor grader uses an angled blade that excavates 1 to 2 inches at a pass, pushing the spoil to the side to form a low windrow. Monitors follow about 20 feet behind the motor grader, examining the ground for evidence of burials.
- When a burial is identified during controlled grading, the soil in windrows that may contain fragments of bone from that burial will be screened. Soil from windrows within 25 feet of any burial will be transported to another location on the property for observation and screening.
- If additional burials are found during controlled grading, additional ETUs will be excavated in the radial patterns described above.
- Human remains may be exposed but shall not be removed from the ground until the exploratory test units described above have been completed. If the exposure and testing fails to reveal evidence that the remains are additional or unexpected the remains may be treated consistent with this mitigation plan. However, it is recognized that some burials may be considered additional or unexpected, such as but not limited to, a concentration of burials or burials of individuals that may have been culturally significant, and would be considered potentially significant. In such instances work shall stop and the procedure identified in Special Condition 19 of the CDP shall be followed including submittal of a recommendation regarding significance and mitigation by the archaeological monitor in consultation with the Native American monitors and the MLD to the Executive Director for review and approval

CA-ORA-260

One burial (no. 15) was identified during controlled grading at ORA-260, and has been removed to the temporary storage area. In consultation with the Native American monitors and the MLD, eleven 1 x 1 m test units were hand-excavated in the vicinity of the burial, with negative results. Following this, controlled grading was continued, and all portions of the site within the property have been graded to the underlying marine terrace. No additional monitoring is necessary at this site.

CA-ORA-261

Approximately the northern half of this site has been graded into the marine terrace, with no burials identified. The southern portion, adjacent to the boundary fence, currently remains to be graded. Because no burials have been discovered, no ETUs are currently planned. However, some exploratory hand excavation will be conducted prior to the grading, in the form of roughly 20 shovel test pits (STPs) in the intact portion of the site. This area will be graded using controlled grading techniques and monitored by an archaeologist and Native American. If any burials are found at the site, grading will be halted and the remaining portion preserved under fill.

CA-ORA-262

One burial (no. 16) was identified during controlled grading in the western portion of ORA-262 and was removed and transported to the temporary storage area. Immediately to the east of the burial location is a deposit of fill temporarily stored in the eastern portion of the site. To the west, controlled grading had removed the upper portion of the cultural deposit prior to the burial's discovery. However, a few inches of intact cultural deposit remains in the western portion of the site. When the temporary fill is removed from the eastern portion of the site, a series of 1 x 1 m ETUs will be excavated according to the methods described above. It is estimated that approximately 36 ETUs will be excavated in a radial pattern in the eastern portion of the site. Controlled grading will proceed after the excavation of these units, if no additional burials or other potentially significant additional or unexpected archeological features are found. If additional burials or other potentially significant additional or unexpected archeological features are found, additional ETUs will be excavated in consultation with the MLD and Native American monitors.

CA-ORA-263

To date three burials (nos. 5, 12, and 13) have been found at CA-ORA-263, all in the south-central portion. Most of the site area has now been graded to the underlying marine terrace, with intact cultural deposit remaining in the vicinity of Burials 5 and 12. To date, 37 1 x 1m units have been excavated at this site during the monitoring program, including 12 standard 1 x 1 m adjacent to burials and 25 ETUs. The following measures will be implemented to complete the treatment plan for the areas in the vicinity of these burials:

- An additional 15 ETUs will be excavated in the vicinity of Burial 5. These will be placed within the remaining intact deposit immediately surrounding and to the east of the burial location
- An additional 17 ETUs will be placed in a radial pattern around Burial 12 to supplement test units already excavated. These also will be placed in a radial pattern as described above.

If additional human remains are discovered and determined to represent a burial, a 2 x 2 m unit will be excavated at that location and screened through 1/8-inch mesh. In consultation with the MLD and Native American monitors, additional ETUs may be excavated in the vicinity in order to achieve a sufficient hand-excavated sample within the 50-foot radius. If no additional human remains or other potentially significant additional or unexpected archeological features are discovered during the course of excavating these additional units, the area will be graded in 1 to 2 inch increments under the monitoring of the archaeologist or Native American monitor. Controlled grading will continue

until the marine terrace is exposed. If no human remains or associated burial artifacts or other potentially significant additional or unexpected archeological features are discovered during the course of the controlled archaeological grading, the area can then be graded for development.

CA-ORA-264

This site appears to have the highest concentration of burials within the project area, including Burials 1a, 1b, 2a, 2b, 3, 6 through 10, and 17 through 20. Several of these were found within relatively discrete clusters, i.e., less than 1 m apart. At present much of the eastern portion of the site has been graded to marine terrace, while the western portion, due largely to the initial discovery of burials in this area, remains largely intact. As discussed above, the landowner and MLD have agreed that maximum preservation would be achieved under the Proposed Mitigation Plan. The following procedures for identifying and treating burials at this site are proposed under the Proposed Mitigation Plan.

As noted above, under the Proposed Mitigation Plan the great majority of the intact cultural deposits remaining at this site would be preserved. Additional grading of these deposits within the site boundaries would be limited to those within Lots 13 and 14, in the eastern portion of the site. The upper portion of the cultural deposit within these two lots has already been removed, and the lots have been covered with temporary fill. However, excavation of a temporary drainage ditch through the lots has revealed what appears to be a thin layer of remaining deposit at one location beneath the fill. Although the extent of the remaining cultural deposit within Lots 13 and 14 is unknown, it appears to be fairly thin, i.e., less than 12 inches or so.

Proposed mitigation in this portion of the site will begin with the excavation of approximately 15 to 20 STPs to assess the depth and extent of the deposit in Lots 13 and 14. Based on the results of these, up to 6 ETUs may be excavated. The next step will be controlled mechanical removal of the cultural deposit (i.e., 1 to 2 inches at a time), monitored by an archaeologist and Native American. If a human burial is encountered during either the ETU excavation or controlled grading, a 2 x 2 m unit will be excavated at that location. In consultation with the MLD and Native American monitors, up to eight additional ETUs may be excavated in the vicinity in order to achieve a sufficient hand-excavated sample. If no additional human remains or other potentially significant additional or unexpected archeological features are encountered, the controlled mechanical soil removal will continue.

CA-ORA-1472

One burial (no.11) has been identified within the area recorded as ORA-1472, and another (no.4) a short distance to the west. Both of these have been removed and transported to the temporary storage facility. All areas in the vicinity of these burials have been graded to expose the marine terrace, and no further mitigation is required.

Burial Removal and Storage

Burials slated for removal will be first pedestaled, and then removed according to the methods described in Chapter 3 and described under 'Identification of Additional Burials' above. After

pedestaling is completed, the top of a burial will be covered with paper towels to act as a cushion, and then a heavy ply plastic will be placed over the top to retain surface moisture. Duct tape will be wrapped around the entire pedestal, securing the plastic bag and supporting the pedestal. Labels will be placed on the plastic indicating the burial number and the direction of true north in relation to the individual burial. Sections of rebar will be hammered across the bottom of the pedestal and parallel to the ground. When a sufficient number of parallel rebar sections have been placed this way, they will be lifted simultaneously, cracking the pedestal loose from the ground. The pedestal will then be pushed onto a thick plywood board and lifted onto a pallet. A forklift will carry the pallet to a storage area located on the adjacent Hellman Ranch property.

Currently, the burials that have been removed from the sites (Burials 1 – 16) are stored in locked metal storage containers located near the Hellman Ranch offices. Because the enclosure is situated within the restricted Hellman Ranch oil development area, it is not accessible to the public.

Study of Burial Remains

The MLD has expressed a desire for some additional exposure and study of the skeletal material removed from the sites. Such study would not involve removal of the remains from the project area, but rather would be undertaken near the storage area. To the extent allowed by the MLD, the bones would be further exposed within the existing pedestals and additional measurements taken to determine sex, age, and pathologies. Based on recent findings in coastal southern California, the MLD has determined that it would be important to contemporary Native Americans to explore possible relationships between the burials on the HRSP area and those at other locations important to the Gabrielino, such as Bolsa Chica and Puvungna. To this end, the MLD has asked that samples be taken from the burials for radiocarbon and DNA analysis. It is anticipated that the radiocarbon and DNA samples will be taken from teeth.

Repatriation of Burials and Associated Artifacts

Once all portions of the project area have been graded to a point that is completely within the underlying culturally sterile marine terrace deposits, the repatriation process will be initiated for all recovered human remains and associated artifacts. Once a reburial site has been identified and prepared, the remains and associated artifacts will be transported from the temporary storage area to the site for reburial. Specific aspects of the reinterment ceremony, including scheduling and attendees, will be at the discretion of the MLD. Supplies needed for the ceremony, such as animal skins and other materials, will be paid for by the landowner.

ADDITIONAL STUDIES

Because the discovery of substantial numbers of human burials and other archaeological features during the construction monitoring for the development provide considerable additional data relating to regional research issues, it is proposed that some additional analysis be conducted. The analysis will be designed to more completely address the research issues discussed in Chapter 5, and to

provide additional mitigation of impacts to the sites in light of the new finds. The following studies are proposed:

Radiocarbon Dating

In considering the implications of the burials in interpreting site use and regional settlement, it is critical to assess the time range represented by the interments. Do they correspond to the full temporal range of site use, or only a limited timeframe? The MLD initially approved the removal of a single shell from the interior of each burial for dating. Although this would not provide a direct date of the burial, assuming the shell was part of the burial fill it should provide a maximum age (that is, the burial should not be older than the shell). Shell dating of Burials 1 through 20 has already been completed. In addition, an equivalent number of additional samples from non-burial contexts would also be taken for comparative purposes. These data would supplement the dating information already compiled for the sites (York and Underwood 2002) and would provide a more secure measure of the intensity of occupation during different periods. As noted above, the MLD has now approved direct radiocarbon dating of dental material. This will greatly improve the reliability of our information on cultural and chronological relationships. If possible, stable isotope analysis (carbon and nitrogen) will be conducted on the tooth samples to provide additional data on prehistoric diet.

Sediment Cores

As discussed in Chapter 5, the dating results obtained to date suggest a possible link between the use of the sites within the project area and the productivity of the adjacent lagoon and estuary systems. To assess this link using independent environmental data, two sediment cores will be taken from suitable locations in the lower portions of the property. Sediments in the cores will be examined and described in the field by a geologist, and samples collected for dating and pollen analysis. These data will then be used to help reconstruct the habitats present in the adjacent wetlands during the periods the sites were occupied. This analysis will be included in the final report documenting the testing, data recovery, and construction monitoring phases of this investigation.

Comparative Studies

The substantial assemblage of artifacts recovered during the monitoring provides a basis for comparison with other sites and will contribute to an understanding of regional patterns. For example, because it appears likely that a representative sample of groundstone is being recovered during the monitoring, the assemblage can be compared to other sites in the region to develop regional patterns relating to resource processing. Just as important are comparative studies of ceremonial objects such as charmstones, in that they can provide clues relating to the distributions of important cultural elements. This analysis will be included in the final report (see below). The perspectives of Native American consultants, monitors, and the MLD will also be included in this analysis. In addition, materials from the Hellman sites, including the Redwine collection and artifacts that are in private collections, will be examined if possible.

Animal Interments

To date, one animal interment (a badger burial) has been discovered within the project area, and it is possible that more will be found. Because these are not human remains, somewhat more intensive study is possible. Because these features are uncommon and represent very culture-specific religious practices, they are useful in reconstructing cultural areas during certain times in prehistory. Analysis of animal interments will include: (1) exposure to determine burial position; (2) photodocumentation; (3) examination of skeleton for age/sex, traumatic injury, pathology, butchering, or other cultural modification; (4) radiocarbon dating; and (5) examination of grave dirt for evidence of grave goods or stomach contents. In addition, Native American perspectives will also be incorporated into the analysis of the animal interments.

CURATION

Cultural materials recovered from the cultural resources monitoring and mitigation program for the development will be curated either at an appropriate facility in Orange County, or, in consultation with the City, at the San Diego Archaeological Center. The curation agreement will specify that the materials are held in trust for the Gabrielino/Tongva tribe and may be transferred to an appropriate tribal curation facility at a future date.

ADDITIONAL OR UNEXPECTED FINDS

As discussed above, the intact cultural deposits that remain to be graded within the HRSP area include portions of ORA-261, ORA-262, and ORA-263, as well as a small portion of CA-ORA-264 that is outside the preservation area established in this mitigation plan. The current Plan specifies procedures to document artifacts and features within these areas that are similar to those that have already been discovered. In addition, the Plan includes procedures to identify and relocate human remains discovered during hand excavation or grading to the degree that these do not constitute an additional or unexpected find that is deemed significant. CDP Special Condition 19.F(1) requires that the City of Seal Beach and the CCC Executive Director be notified "if additional or unexpected archaeological features" are discovered during site preparation, grading or construction. If additional mitigation beyond the scope of this plan is recommended, this will require the review and approval of the Executive Director and may require Commission approval. Based on consultation among the City of Seal Beach, CCC staff, MLD, archaeological monitor and JLH, it is the stated intent of this Plan to provide a mitigation program that is fully consistent with these requirements but which also allows routine mitigation measures as specified herein to proceed without undue impact on CCC staff time or on the ability of the archaeological and Native American monitors to work efficiently. Nevertheless, nothing in this plan supercedes or takes precedent over the permittee's responsibility to fully comply with the entirety of Special Condition 19 of the CDP. To achieve this goal the following standards will apply:

1. In consultation with the Native American monitors, the archaeological monitor will provide weekly reports to the City of Seal Beach and the Executive Director covering routine implementation of the mitigation measures contained within this Plan. These weekly reports will summarize the cultural materials discovered during the week and the mitigation measures implemented; they will also make any recommendations deemed necessary by the Native American and/or archaeological monitors.
2. All parties understand that the potential exists that discoveries could be made that have significance beyond that which can be adequately mitigated within the context of the present plan. All parties also acknowledge that there may be additional discoveries that are simply unexpected or different in scope or nature from those that have already been found, which may or may not require additional mitigation measures. In such cases immediate notification of the City of Seal Beach and the Executive Director is required and the provisions of Special Condition 19 of the CDP shall be followed, including the requirement that work shall stop as specified therein. Hereinafter, such instances will be referred to as "additional or unexpected new finds." If a subsequent determination is made that these finds are significant and/or cannot be addressed adequately by the current plan, they will be referred to as "**significant** additional or unexpected new finds."
3. The archaeological monitor in consultation with the Native American monitors is charged with the responsibility to assess each find to determine whether it constitutes an additional or unexpected new find, and if so, whether it is potentially significant. Based on this consultation, the Executive Director will be immediately notified if the find is determined to be additional or unexpected and if it is found to be potentially significant and work shall stop as specified in Special Condition 19 of the CDP.
4. In order to clarify the types of cultural materials that may constitute an additional or unexpected new find, the kinds of materials discovered to date and the normal mitigation measures are discussed below.

Based on the findings to date, the following kinds of cultural deposits are anticipated to be encountered during the investigations of the remaining intact deposits:

- Artifacts and Ecofacts – Shell, animal bone, groundstone implements, flaked stone and bone tools, fire-affected rock, bone tools, and manuports have all been found at the sites, and additional such materials undoubtedly remain within the intact deposits on the property. Adequate samples of these materials have generally been collected from the sites, and their identification in the remaining deposits would not normally be considered unexpected or in addition to what is covered by this plan, nor would they normally be considered of special significance. However, it is recognized that an unusual concentration of such artifacts or the discovery of new types of artifacts would be an additional or unexpected new find, and might be significant. An unexpected or additional location, orientation or grouping might also render a find "additional or unexpected" and might be significant. Our expectations regarding artifacts and ecofacts include the following:

- Shell detritus – A variety of shell-fish species consumed by the site inhabitants has been recovered. Additional sampling of shell detritus is not anticipated unless a new type, an unusually rich or intact deposit, or an unexpected or additional location, orientation or grouping is encountered.
- Disarticulated animal bone – This material may reflect dietary practices or may be intrusive into the cultural deposit. Disarticulated animal bone will normally be recovered through the archaeological excavations stipulated herein. However, articulated animal bone that is possibly, but not necessarily indicative of a ceremonial burial would be evaluated as a potentially significant additional or unexpected new find. In addition, a new type, unusual concentration, or unexpected or additional location, orientation or grouping would be considered to be “additional or unexpected.”
- Groundstone tools - Groundstone tools will normally be recovered and mapped during monitoring of controlled grading. An unusually rich concentration or the discovery of a new type or unexpected or additional location, orientation or grouping of groundstone tool would be considered to be “additional or unexpected” and will require special consultation between the archaeological and Native American monitors. If, based on this consultation, the find is considered potentially significant, work shall stop in accordance with Special Condition 19 of the CDP and the City of Seal Beach and the Executive Director will be immediately notified and recommendations will be provided by the archaeological monitor in consultation with the Native American monitors and the MLD.
- Flaked stone debitage, flaked stone tools, and bone tools –These types will normally be sampled through the archaeological excavations stipulated herein unless found in unusually rich concentrations or unless previously unidentified types or unexpected or additional location, orientation or grouping are discovered.
- Ceremonially-related artifacts – Charmstones have been recovered, and other culturally sensitive artifacts such as cogged stones could be encountered. Although ceremonially-related artifacts have been previously found at the site, the discovery of a new type or unexpected or additional location, orientation or grouping of such artifacts shall be treated as “additional or unexpected” and potentially significant. If such artifacts are encountered, particular attention will be paid to determining whether they are in a feature context, and the archaeological monitor and Native American monitor will confer regarding whether they find it is potentially significant. If it is determined that the find is potentially significant, work shall stop in accordance with Special Condition 19 of the CDP and the City of Seal Beach and the Executive Director will be immediately notified, and the archaeological monitor in consultation with the Native American monitors and the MLD will make a recommendation regarding significance and mitigation.
- Features – As noted above, prehistoric features identified to date have included a badger burial, the remains of hearths, and artifact clusters. If such features as hearths or artifact clusters similar to those already recorded are found in the remaining deposits, they will be recovered and either repatriated or curated in accordance with the conditions set forth in the present plan. If

ceremonial animal burials are found, they will be considered to be "additional or unexpected" and potentially significant new finds and work shall stop in accordance with Special Condition 19 of the CDP. The City of Seal Beach and the Executive Director will be immediately notified, and the archaeological monitor in consultation with the Native American monitors and the MLD will make a recommendation regarding significance and mitigation.

- **Burials** – It is expected that additional human remains will be encountered during the controlled grading or hand excavations within the remaining cultural deposits. Based on the numbers and distribution of burials discovered to date, the present plan anticipates the finding of limited numbers of burials within the remaining portions of ORA-262 and -263. In addition to the parties required to be notified under State and Federal law, whenever human remains are encountered, the City of Seal Beach and the Executive Director shall be immediately notified by the landowner or their designee. Human remains may be exposed but shall not be removed from the ground until the exploratory test units described under 'Identification of Additional Burials' in this mitigation plan have been completed. If the exposure and testing fails to reveal evidence that the remains are additional or unexpected the remains may be treated consistent with this mitigation plan. However, it is recognized that some burials may be considered additional or unexpected, such as but not limited to, a concentration of burials or burials of individuals that may have been culturally significant, and would be considered potentially significant. In such instances work shall stop and the procedure identified in Special Condition 19 of the CDP shall be followed including submittal of a recommendation regarding significance and mitigation by the archaeological monitor in consultation with the Native American monitors and the MLD to the Executive Director for review and approval

As noted above, the possibility exists that significant additional or unexpected new finds will be encountered. In accordance with Special Condition 19 of the CDP additional mitigation planning will be conducted if additional or unexpected location, orientation, grouping, concentration, quantity or type of burials, artifacts or features or an unusually rich or intact deposit are found during the investigations, and those finds are then determined to be significant. If an additional or unexpected new find is encountered work shall be temporarily halted in the vicinity of the discovery site while the find is evaluated by the archaeologist in consultation with the Native American monitors and MLD. At the discretion of the MLD or archaeologist, an independent archaeological peer reviewer may be consulted to provide additional input. A list of potential peer reviewers will be provided to the CCC prior to commencement of construction at the site. A summary report will be submitted to the permittee, the City and the Executive Director. If either party considers the find to be of sufficient significance to require additional mitigation planning, a summary report of the find and a written supplemental mitigation plan will be submitted immediately to the Executive Director of the CCC for review and approval, as required by Special Condition 19. It is understood by all parties that such notifications will need expedited review. Accordingly, the CCC will make a good faith effort to provide approval or comments within ten working days.

PREPARATION OF SYNOPSIS AND FINAL REPORTS

Within six weeks of completion of the fieldwork specified in this mitigation plan and prior to issuance of the coastal development permit for vertical construction, including monitoring, archaeological excavation, and burial relocation, a synopsis report of the investigations will be submitted to the City and the Executive Director of the Coastal Commission, State Office of Historic Preservation, the Native American Heritage Commission and the Gabrieleno/Tongva MLD. This synopsis report will summarize the work undertaken and the cultural materials that were recovered or relocated.

The monitoring and burial removal fieldwork has generated an abundance of additional archaeological materials, relevant to the additional research questions discussed in Chapter 5. On completion of the monitoring, additional laboratory analyses of the non-burial related materials will be undertaken. This will include:

- Identification of artifacts in accordance with regional typologies, including comparisons with related sites along the coast and in the interior.
- Identification of the sources of raw materials to the extent possible.
- Additional investigations of subsistence remains for purposes of establishing seasonality and intensity of occupation.
- GIS plotting of recovered materials and spatial analysis of artifact distributions, both intra-class and inter-class.
- Additional radiocarbon dating – one shell from each burial, plus an equivalent number of samples from non-burial contexts for comparative purposes. Direct dating of dental material.
- If possible, mitochondrial DNA (mDNA) lineage identifications from dental material.
- Thorough regional comparison of all results.

The final technical report will contain a complete reevaluation of the cultural resources within the HRSP area, including discussions of cultural and chronological relationships along the coast and with the interior and the role of the sites within regional and tribal settlement systems. It will be prepared and submitted to the City and the Executive Director of the Coastal Commission, State Office of Historic Preservation, the Native American Heritage Commission and the Gabrieleno/Tongva MLD within 12 months of the completion of the archeological field work or prior to JLH or any successor in interest seeking a certificate of occupancy for the 40th residential structure authorized under the vertical construction permit, whichever occurs first. The report will conform to the guidelines developed by the California Office of Historic Preservation for Archaeological Resource Management Reports (ARMR). It will be prepared in sufficient quantity to distribute to interested regional researchers and Native American groups. It will thoroughly document and synthesize all of the findings from all phases of the cultural resources program.

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APPENDIX A
ALTERNATIVES ANALYSIS
(from January draft of Mitigation Plan)

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(from January draft of Mitigation Plan)

It is the goal of John Laing Homes to treat the Native American burials with full respect and dignity in accordance with recommendations of the MLD to the fullest degree possible consistent with the approved development plans. This will include continued Native American consultation, consideration of avoiding impacts where possible, respectful removal of burials that cannot be avoided, and repatriation of burials to the MLD for reburial, and providing assistance and finding an appropriate reburial site.

Mitigation of impacts to significant cultural resources to date has included the following components:

Site preservation – Sites ORA-256 and 1473, which were in the original development plan, have been avoided and put into open space as part of Gum Grove Park.

Archaeological research design – An archaeological research design addressing important regional research problems has been developed, reviewed by various agencies and Native American individuals, and implemented.

Archaeological testing and data recovery – Controlled archaeological excavations were conducted. These resulted in the recovery of a sample adequate to address the regional research problems.

Archaeological and Native American monitoring – Construction grading in culturally sensitive areas was monitored by professional archaeologists and Native American representatives. Upon discovery of human burials, construction was stopped and consultation with the MLD was initiated. Subsequently, all grading within 200 feet of a burial was conducted in a very controlled manner – one to two inches per pass. In addition over 100 archaeological units (one meter by one meter) have been manually excavated during the monitoring program. Native American burials have been pedestaled and placed in secure storage pending repatriation.

MITIGATION ALTERNATIVES

Additional mitigation in light of the discovery of the Native American burials would include a combination of the following elements:

- Sensitive treatment of Native American burials and associated materials.
- Possible avoidance of additional impacts to some of the culturally sensitive area that has not yet been graded.

- Possible funding of an off-site cultural enhancement program (in lieu of on-site avoidance).
- Field procedures to identify and remove human remains at sensitive areas that cannot be avoided.
- Repatriation and respectful reburial of removed human remains.
- Dedication of a memorial to Native American ancestors on-site.
- Complete reevaluation of the Landing Hill sites in a final technical report which synthesizes the information generated by all phases of cultural resources investigation and puts the results in a regional context. The additional research questions discussed in Chapter 4 (above) would be included in this analysis.

Drawing on these elements, the landowners have formulated four mitigation alternatives for consideration. Maps of these alternatives are presented in Appendix A.

Alternative A – Existing Gum Grove Park Alternative. This alternative would include the continued development of the Hellman Ranch SPA per the City's adopted Specific Plan and approved tentative tract map and the approved CDP. Remaining ungraded areas would be treated as described below (see "Procedures for the Identification and Treatment of Burials"), including the excavation of manual units and controlled grading. The remaining Native American burials at ORA-264 and any other burials that are discovered would be removed on pedestals and placed in storage for reinterment. Reinterment of all recovered human burials would occur within the existing Gum Grove Park. This alternative would include financial support by the landowner of an off-site cultural enhancement program.

Alternative B – Gum Grove Park Extension Alternative. This alternative is identical to Alternative A except that reinterment would occur within the new 4-acre extension of Gum Grove Park. It should be noted that one of the burials (No. 15) was found in this area at ORA-260.

Alternative C – ORA-264 Alternative. This alternative would save a portion of the ungraded area in site ORA-264 that is considered highly sensitive by the MLD. The distribution of previously identified burials in this vicinity suggests that additional burials exists there. Planned Lots 32 and 33 and the triangular area between the two cul-de-sacs would not be developed as planned. The land would be preserved as private open space and available for reinterment. Maintenance and access would be the responsibility of the homeowner's association.

Alternative D – Enlarged ORA-264 Alternative. This alternative would save a significant portion of the ungraded area in site ORA-264, including the location of Burials 17-20 and the area to the west that is most likely to contain undiscovered Native American burials. Lots 11, 12, 32, and 33 and the

triangular area would not built upon. No structures would be built, and this area would be dedicated to open space similar to Alternative C above.

Evaluation Criteria

In order to evaluate these alternatives the following factors need to be considered:

1. Preservation of intact cultural deposits – The MLD and several other interested Native Americans have requested that consideration be give to the preservation of the remaining part of ORA-264. *In situ* preservation is generally the preferred mitigation alternative from a cultural resource management perspective. It must be acknowledged, however, that in this case very little of the original site is still intact. Therefore, avoidance of further impacts would not provide as full a range of preservation benefits as might otherwise be expected. For example, the historic setting of ORA-264 is so altered that a future visitor to the site would have difficulty in comprehending the historic character or “feel” of the place. Moreover, future scientific research potentials would be very limited, both by the impacts that have already occurred and by restrictions placed on investigations by the presence of Native American remains. Even given these caveats, *in situ* preservation would protect some of the burials from further damage and thus has a strong appeal to many Native Americans.
2. Economic loss – Preservation of intact deposits would entail the loss of residential lots. This would be an economic loss to the landowners and to the City of Seal Beach. Additionally, the costs of maintaining open space in a residential neighborhood and liability costs must also be taken into account. Alternatives C and D would presume that some party would have to assume these costs and risks.
3. Proximity of reinterment areas to original burial locations – As a general rule, reinterment in close proximity to the original burial location is preferred. Thirteen of the 20 human burials were discovered at ORA-264.
4. Adequacy of reburial space – Twenty Native American burial (plus the badger burial) have been identified to date. It is estimated that an area of about 1200 square feet (0.03 acre) would be need to reinter these. If additional burials are encountered, each would require about 57.5 square feet. If possible, the reinterment area should be devoid of other burials to avoid additional impacts.
5. Quality of reburial space – A natural setting would be preferred over a developed setting. Additionally, the appropriateness of the space for the placement of a memorial or interpretive signage would be an important consideration, as would such qualities as the availability of parking and ease of access for Native Americans wishing to pay respects to ancestral remains.

6. Offsite cultural enhancement – In order to reduce the economic loss that it would suffer from *in situ* preservation, John Laing Homes has offered to fund a cultural enhancement program of the MLD's choosing should Alternative A or B be selected.

The four alternatives logically fall into two groups for purposes of considering these evaluation criteria: the Gum Grove Park alternatives, which do not include *in situ* preservation, and the ORA-264 alternatives, which do.

Gum Grove Park Alternatives

Alternatives A and B would include the completion of the grading of the Hellman Ranch Specific Plan area and the reinterment of the burials at either existing Gum Grove Park (Alternative A) or the extension of Gum Grove Park (Alternative B).

1. Preservation of Intact Cultural Deposits – Neither of the Gum Grove Park alternatives would preserve any of the intact cultural deposits in which Native American burials of have been discovered.
2. Economic Loss – The landowner would provide funding for the mitigation program, including monitoring, burial discovery and removal, reburial, and final report preparation. This would be substantially less economic loss than either of the ORA-264 alternatives.
3. Proximity of Reburial Areas – Alternative B meets this criterion better than Alternative A in that the extension of Gum Grove Park is closer to the majority of the original burial locations. The ORA-264 alternatives would meet this objective better, however.
4. Adequacy of Reburial Areas – Both Gum Grove Park alternatives have more than adequate space. There would be no potential to impact undisturbed burials during reinterment.
5. Quality of Reburial Areas – Both Gum Grove alternatives provide a natural setting with excellent parking and access to both the original Gum Grove Park and the Gum Grove Park extension. Gum Grove Park is one of Orange County's last remaining urban forests, and would offer potential connectivity to other open spaces on Hellman Ranch. In addition, Gum Grove Park is public, and is maintained by the City of Seal Beach. Both Gum Grove alternatives would be good locations for a memorial and interpretive signage. Access would be easier to Alternative B as compared to Alternative A.
6. Off-Site Cultural Enhancement – John Laing Homes is proposing this mitigation measure if either Alternative A or Alternative B is selected.

It is apparent from the above analysis, that Alternative B meets the criteria more effectively than Alternative A.

ORA-264 Alternatives

1. Preservation of Intact Cultural Deposits – Both Alternative C and Alternative D preserve some of the intact cultural deposit at ORA-264. Alternative C preserves approximately 0.76 acre of private open space and Alternative D preserves approximately 1.17 acres of private open space, with both areas available for reinterment. In both cases these are areas that are highly sensitive for the presence of known or potential burials. A portion of the existing cultural deposits would be covered with compacted fill. The remaining portion would be graded match to pad grades and to provide adequate drainage.
2. Economic Loss – The ORA-264 alternatives result in a loss of two to four of the planned 70 housing units. This would result in very substantial economic losses for the landowners and would also result in marginal economic loss for the City of Seal Beach. Loss of building lots is by far the greatest cause of economic loss to the landowners. The placement of two to four lots in open space would entail long-term economic costs as well. Potentially the Homeowners Association could pay for landscape maintenance and liability insurance, in which case the lots would have to be open for use by the residents. Alternative C would reduce the economic loss when compared to Alternative D. However, both of the ORA-264 alternatives would be substantially more costly than either of the Gum Grove Park Alternatives.
3. Proximity of Reburial Areas – The ORA-264 alternatives best meet this objective as the majority of the burials are in the vicinity of this site. Because more burials would be preserved *in situ*, Alternative D meets this criteria more effectively than Alternative C.
4. Adequacy of Reburial Areas – Both ORA-264 alternatives set aside sufficient space for the reburial of presently identified remains. However, additional burials could be encountered in intact cultural deposits when attempting to reinter the burials that have already been removed. This would result in some additional disturbance of burial remains and would be most problematic with Alternative C.
5. Quality of Reburial Areas – ORA-264 does not offer a high quality area for reinterment or cultural interpretation. The area will be at the end of a residential cul-de-sac. The original environmental context of the site will not be discernable due to grading, construction and surrounding landscaping. Parking would be at the Gum Grove Park extension, requiring about a quarter-mile walk to the site through the residential neighborhood. This might be an issue for the elderly or handicapped who wished to pay their respects to the ancestral remains. This would be private open space surrounded by development.
6. Off-Site Cultural Enhancement – The ORA-264 alternatives do not offer off-site cultural enhancements due to the already great economic loss that would be suffered by the landowners.

Both ORA-264 alternatives achieve at least partially the objective of preserving intact cultural deposits at this site. Alternative D increases the amount of deposit saved by about 54% over Alternative C, but would be almost twice as expensive since it would double the loss of building lots. In comparing the ORA-264 alternatives with the Gum Grove Park alternatives, it is apparent that the former achieve on-site preservation but at significant economic costs and the sacrifice of the quality of the reinterment area and the potential for off-site cultural enhancement.

APPENDIX B
NATIVE AMERICAN CONSULTATION AND RESPONSES

This appendix contains sensitive information and is not available to the general public.

APPENDIX C
PLANS OF PROPOSED EDUCATIONAL FACILITY

This appendix contains sensitive information and is not available to the general public.

APPENDIX D
CONCEPT PLAN FOR LANDSCAPING AT CA-ORA-264

This appendix contains sensitive information and is not available to the general public.

APPENDIX E
MITIGATION PLAN REVIEW COMMENTS

City of Seal Beach



CITY HALL 211 EIGHTH STREET
SEAL BEACH, CALIFORNIA 90740
(562) 431-2527 • www.ci.seal-beach.ca.us

FILE COPY

May 21, 2003

Mr. Karl Schwing, Coastal Program Analyst
State of California – The Resources Agency
California Coastal Commission
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302

**SUBJECT: COMMENTS RE: "MITIGATION PLAN FOR
SIGNIFICANT CULTURAL RESOURCE
DISCOVERIES, HELLMAN RANCH SPECIFIC PLAN
AREA, SEAL BEACH, CALIFORNIA", PREPARED BY
EDAW, INC., DATED APRIL 2003**

Dear Mr. Schwing

The Archaeological Advisory Committee of the City of Seal Beach reviewed the subject document on May 21, 2003 and is providing the following comments regarding the "Mitigation Plan for Significant Cultural Resource Discoveries, Hellman Ranch Specific Plan Area, Seal Beach, California", Prepared By EDAW, Inc., Dated April 2003.

The Committee is extremely pleased to see that the subject Mitigation Plan has been reviewed and approved by the State-selected Most Likely Descendent (MLD), Anthony Morales, and the property owner, John Laing Homes (JLH). The preparation of the Plan has involved the hard work and agreement between the MLD; JLH; the city archaeologist; and city, Coastal Commission, and Native American Heritage Commission staff.

The Mitigation Plan presents a reasoned and balanced plan to mitigate impacts to significant cultural resources of the Hellman Ranch property that have been discovered during project grading. The Mitigation Plan accomplishes the following actions and activities that are seen by the Committee as beneficial actions and supportable by the Committee:

- ☐ The setting aside of a "Preservation Area" of approximately 1.28 acres as an open space area, with this area to be utilized as a reinterment area for all of the Native American remains discovered during the site grading activities on the subject

property. Existing human remains currently located within this area will not be removed. (Mitigation Measure 2 and 3)

- JLH will assist the MLD in the reinterment of burials within this area and will provide funding for appropriate Native American ceremonies to accompany the reinterment ceremony. (Mitigation Measure 16)
- Reconfiguration of oil access roads and utility services to eliminate impacts to remaining undisturbed midden area. (Mitigation Measure 4)
- Potential development of a cultural-educational facility within Gum Grove Nature Park. Future designs of this facility to be approved by the City and Coastal Commission. (Mitigation Measure 6)
- Establishes an agreed upon methodology for the continued monitoring of grading activities and evaluation processes to be utilized during the remainder of the site grading activities on the property. (Mitigation Measures 5 and 8 through 14)
- Establishes additional evaluation analysis that is acceptable to the MLD (Mitigation Measures 15 and 17)
- Preparation of required technical reports in compliance with guidelines of the California Office of Historic Preservation (Mitigation Measure 19) and
- Establishes a curation program with options for the Gabrielino/Tongva people to consider (Mitigation measure 18).

The Committee has also reviewed the peer review comments of Nancy A. Desautels, Ph.D., Research Director, Scientific Resource Surveys, Inc. and Roger D. Mason, Ph.D., RPA, Director of Cultural Resources, Chambers Group, Inc. The Committee concurs with their suggestions regarding the Mitigation Plan.

In reviewing the Mitigation Plan, the Committee has the following comments that the Coastal Commission may wish to consider as it evaluates the document:

- It is recommended that the Coastal Commission and Gabrielino/Tongva Tribal Council letters discussed in the "Responses to Comments" section of the document immediately before the "Table of Contents" be included as appendices to the document. It also appears from the introductory paragraph to this section that there are two sets of comments from the Gabrielino/Tongva Tribal Council, and only one is responded to in this section. This should be clarified and corrected as appropriate.
- Responses to Comments – Coastal Commission Letter dated February 26, 2003, Comment 21 – replace "sill" with "will".
- Table ES-1, Mitigation Measure 7 – Revise the first line of this Mitigation Measure to read "Assist in the reinterment of burials within ~~Gum Grove Park~~ the Preservation Area [JLH will provide funding . . ." This will clarify the correct location of the reinterment area.
- Table ES-1, Mitigation Measure 19 – Revise the Comments section by adding a second sentence to read, "JLH will implement." This will clarify that John Laing Homes has the financial responsibility to fund the costs of preparation of the final technical report.

- Page 64, Notification of Additional Burials, first sentence – correct reference from "NAHL" to "NAHC".

It is the opinion of the Committee that the proposed "Mitigation Plan" provides appropriate discovery and evaluation methodologies for the probable discovery of additional cultural resources and ancestral Native American burials that still may be encountered as part of the construction activities associated with the proposed project, and also provides sufficient safeguards to ensure compliance with appropriate regulatory requirements if an additional discoveries are encountered. The Committee believes this Mitigation Plan addresses all issues that can reasonably be anticipated to occur once the necessary construction activities are allowed to be re-instituted on the property. The comprehensive program prepared by EDAW and agreed to by the MLD and JLH outlines a program that, in the opinion of the Committee, the Native American community, the City of Seal Beach, John Laing Homes, and the Coastal Commission and Native American Heritage Commission can be proud to have participated in and implemented.

If you have any questions regarding this matter, please contact Mr. Lee Whittenberg, Director of Development Services, at (562) 431-2527, extension 313 or by e-mail at lwhittenberg@ci.seal-beach.ca.us. He will be most happy to respond to any questions or concerns you may have regarding this matter.

Sincerely,



Chairperson, Archaeological Advisory Committee
City of Seal Beach

cc: Anthony Morales, Most Likely Descendent

City Council
City Manager
Director of Development Services

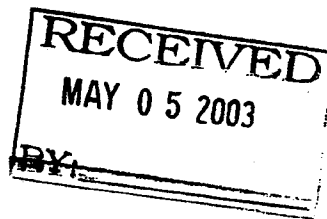
Gordon Craig, Project Manager, John Laing Homes
Jerry Tone, Hellman Properties, LLC
Dave Bartlett, Dave Bartlett Associates



Chambers Group

Environmental Services
Biological Resources
Cultural Resources

May 2, 2003
(5381-2)



Mr. Andrew L. York
EDAW, Inc.
1420 Kettner Boulevard
San Diego, CA 92101

Subject: Review of "Mitigation Plan for Significant Cultural Resource Discoveries, Hellman Ranch Specific Plan Area, Seal Beach, California"

Dear Mr. York:

In general, the Mitigation Plan is clear and well organized. I agree with the measures proposed to protect the Native American human remains. Using data from the sites to address the research questions presented will contribute to knowledge of the prehistory of the region. I noted one typo and I have a few comments on the archaeological aspects of the plan:

Page 12, 4th paragraph: ORA-365 is on Huntington Beach Mesa, not Bolsa Chica Mesa. ORA-83 should also be listed for the early portion of the Millingstone Period. There are a cluster of radiocarbon dates from circa 7,000 BP associated with *Tivela* bead manufacturing.

Page 21 under *Excavation Techniques*: "window" should be "windrow".

Page 49: I doubt that the features and burial data will provide much information on site type and mobility dimensions. However, the subsistence remains and artifacts from the original test and data recovery units combined with the additional 100 or more units excavated during burial recovery can be used to obtain density measures and look at the counts and proportions of artifact types, as was done for the Newport Coast Archaeological Project. Certain ranges of counts per cubic meter of tools, debitage, shell, and animal bone were associated with the site types defined for that project. In addition, it was found that, at least for the Late Prehistoric Period, substantial numbers of awls and beads occurred only in major residential bases.

Page 51, third bullet: the data recovery program was minimal and was focused on finding features, rather than increasing the sample of artifacts and subsistence remains. However, the additional units excavated as part of burial recovery hopefully will provide an adequate sample of these items so that density measures and counts and proportions of artifact types can be used to determine site type, as noted in the previous comment.

Page 65, first bullet: I recommend that all units be wet screened, because of the increased recovery and so that recovery from all units is comparable, making quantitative analysis valid.

Page 68, Radiocarbon Dating: I recommend also doing stable isotope analysis (carbon and nitrogen) to provide information on diet (marine versus terrestrial) using the human tooth samples. The abalone shell and associated charcoal should both be dated using AMS to provide data on the local marine upwelling correction factor. Mark Peterson and Jon Southon at UCI are working on this problem.

Sincerely,
CHAMBERS GROUP, INC.

Roger D. Mason

Roger D. Mason, Ph.D., RPA
Director of Cultural Resources

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Certified Disabled Veteran Business Enterprise (DVBE)

REVIEW OF:
MITIGATION PLAN FOR SIGNIFICANT CULTURAL
RESOURCE DISCOVERIES.
HELLMAN RANCH SPECIFIC PLAN AREA
SEAL BEACH, CALIFORNIA

REVIEW BY:
NANCY ANASTASIA DESAUTELS, PH.D.
RESEARCH DIRECTOR
SCIENTIFIC RESOURCE SURVEYS, INC.

The supplemental mitigation program for the Hellman Ranch Specific Plan prepared by EDAW, Inc. presents a progressive plan of nineteen interrelated mitigation measures which adequately address completion of removal and reburial of the [Landing Hill] Native American interment area with a sensitivity to archaeological professionalism and especially Native American feelings and concerns.

As development continues to occur along the southern California coastline, several previously elusive Native American interment areas have been located- most obviously along the Newport and Bolsa Chica areas of Orange County, and now at Seal Beach. For decades, Orange County has been referred to as a 'backwater' of the early cultural expansion and development of the coast. It was felt that little existed, little could be found, and little would be contributed by work in this region. Archaeological excavations in the past decade, however, have revealed increasing evidence that there existed here the development of complex cultures supported by a unique and intricate religious system that included formal and informal burials and reburials that contained few, if any, grave goods but were part of a culture that produced numerous and diverse prestige items. Procedures for burying the individuals varied in significant ways suggesting status differentiation among the population.

Invariably, the burial areas of these sites have been located only after extensive excavations have occurred, and frequently only due to controlled grading. Archaeological investigations in these areas along the coast have occurred since at least the 1920's and probably began informally before the turn-of-the-century. The elusive nature of these burial areas is intriguing in itself, but more importantly emphasizes the significance of the finds, since few examples exist.

The supplemental mitigation program outlined in the current mitigation plan clearly and strongly supports proper location, removal and reburial of additional individuals as grading continues. It is recommended that the plan be accepted by the California Coastal Commission and City of Seal Beach and that the program continue as soon as possible. There is an urgency in completing the burial removal and reinterment from both a professional and spiritual point of view. Site vandalism is always a fear of archaeologists and Native peoples alike.

With this in mind, Alternatives A and B are the preferred development alternatives because they provide a near-natural setting for the reinterment environment and with these alternatives an interpretative center will be designed and built by John Laing Homes. The center will provide a measure of security and help protect the newly interred individuals from local vandalism. Such a center has been a dream of the Gabrielino/Tongva people for sometime and can realistically become a reality with this project.

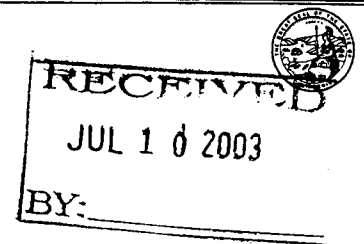
Three comments are offered as suggestions to improve the program:

- 1) That wet screening procedures be used nearly exclusively during the excavation process, if possible. We have personally seen crystals encased in the clay soils matrix and missed by dry screening, as well as beads and other small artifacts.
- 2) That the cultural materials from the cultural resource investigations be kept local and, hopefully, combined with those from the Bolsa Chica and Newport burial areas at a facility such as Biola College that is educational and open to all communities.
- 3) That an additional report be prepared after construction monitoring that is written in conjunction with personnel from both the Newport and Bolsa Chica sites that presents a cohesive and comprehensive culture history of Orange County. There is a unique opportunity here to produce a cultural history that can satisfy a long-needed synopsis for this region, incorporating not yet published results from the Bolsa Chica and Newport excavations. The report can be sold at the proposed interpretative center to enhance public distribution, and also to defray the costs of production and publication. After costs have met, income from this fascicle could be used to support Native American cultural activities conducted on-site and at the new facilities.

EDAW, Inc. has produced a highly workable mitigation program which can accommodate the concerns of the landowner, regional archaeologists and Native peoples. We highly recommend concurrence by all governing agencies and Native American councils.

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

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July 7, 2003

Mr. Andrew L. York
EDAW Inc.
1420 Kettner Boulevard, Suite 620
San Diego, California 92101

Dear Mr. York:

RE: Mitigation Plan for Significant Cultural Resources Discoveries, Hellman Ranch Specific
Plan Area, Seal Beach, California

Thank you for providing me with copies of the above cited Plan. It is my understanding that you seek my comments pursuant to Coastal Development Permit 5-97-367-A1, Special Condition 19 F(1).

In response to the unearthing of 20 burials during the monitoring of construction grading, the revised Mitigation Plan was prepared. In my letter of January 28, 2002, I suggested such a plan be prepared. Now that numerous human remains have been found, refinements to such a plan are even more important.

The previous testing concluded that the data potential of the sites had been achieved. The revised plan only differs from this conclusion on two points. First, significant features have been recorded during the construction monitoring. In addition to human remains, animal burials and artifact clusters have been observed. These features can provide additional information that was not anticipated at the time of archeological testing. Second, numerous additional artifacts have been recovered. To provide additional context for understanding both the artifacts and the features, additional environmental data will be collected. Given the information presented in the revised plan, I do not object to this approach.

The Plan proposes a series of steps to be implemented. These steps provide a means for identifying and considering historical resources found during grading and other earth moving activities. It is my understanding your company is preparing additional guidance should unanticipated significant concentrations of artifacts or features be found. I encourage you to refine these steps to the greatest extent possible to provide meaningful consideration when significant resources are found and avoid project delays when procedures can be implemented to take effects into account.

The Plan provides for reburial of recovered human remains and associated grave goods within the Preservation Area. Since reburial could affect intact cultural and archeological resources, steps should be developed to minimize these effects.

The proposed plan provides for significant refinements to the previous approach. Given the discovery of human and animal burials, these refinements seem appropriate.

If my staff can be of any further assistance, please contact Dwight Dutschke at 916-653-9134.

Sincerely,

Dr. Knox Mellon
State Historic Preservation Officer

APPENDIX F
RESPONSE TO COMMENTS

APPENDIX F
RESPONSE TO COMMENTS:
CALIFORNIA COASTAL COMMISSION (CCC),
GABRIELINO/TONGVA TRIBAL COUNCIL,
JUANENO BAND OF MISSION INDIANS, AND
CALIFORNIA OFFICE OF HISTORIC PRESERVATION (OH)

The following discussion summarizes the revisions to the draft Mitigation Plan for significant cultural discoveries within the Hellman Ranch Specific Plan Area. Responses are presented for six sets of comments that have been received: two sets from the California Coastal Commission (CCC), dated February 13 and 26, 2003, two from the Gabrielino/Tongva Tribal Council, one from the Juaneno Band of Mission Indians, and one from the California Office of Historic Preservation.

For each set of responses, the initial comment is restated or summarized in the left column. The corresponding response is indicated in the right column.

Response to CCC Comments (Letter dated February 13, 2003)

Comment	Response
A cultural context should be presented in order to evaluate the significance of the finds and the mitigation alternatives.	A cultural context has been added to the plan as Chapter 2.
The mitigation plan should include complete comments received from Native Americans, as well as detailed responses to those comments.	Completed response forms received as part of the consultation program are included in Appendix B. The discussion of the responses in the text has been expanded. The identities of respondents that provided verbal comments are kept confidential.
The mitigation plan should be submitted to the SHPO for comment.	The plan was submitted to the SHPO on April 11, 2003. Comments from SHPO are contained in a letter dated July 7, 2003 (see below).
The section regarding "Landowner Concerns" is inappropriate.	The discussion has been deleted.
The stated goal that the mitigation plan be consistent with approved development plans is inappropriate.	The statement of goals has been revised to delete the phrase.
The proposed off-site cultural enhancement program should be described.	The specific nature of the cultural enhancement program was not defined during the consultations with the MLD. As part of the proposed mitigation for Alternatives A and B, the program is not part of the course of action favored by the MLD, who prefers the in-situ preservation provided under the mitigation plan currently proposed.
The purpose for separating Gum Grove Park from Gum Grove Park 'extension' is unclear.	The separation was made in order to distinguish between the two topographically distinct reinterment areas. Neither Alternatives A or B, however, are proposed in the current Plan.
The feasibility of reconfiguring some lots should be explored.	John Laing Homes considered reconfiguration of Lots 11 and 12 to include space for one home while preserving cultural deposits in the western portion of the lots. However, JLH has decided to forego this reconfiguration in favor of the preservation of the entirety of Lots 11 and 12 in the Preservation Area along with Lots 32, 33, 34, and 35 (see Chapter 6).
The evaluation criteria should include an additional category relating to cultural resources mitigation.	The Proposed Mitigation Plan is analyzed in Chapter 6 for how it would avoid or minimize impacts to the sites' cultural values.
It may also be appropriate to add a category relating to consistency with other requirements of the CDP, as amended. For example, it may be appropriate to analyze proposed	Text has been added regarding the planned educational center in Gum Grove Park, including coordination with the Gum

Comment	Response
mitigation measures such as signage and memorials, for consistency with the restrictions on use within Gum Grove Park.	Grove Park Advisory Committee, the City of Seal Beach Parks and Recreation Commission, and the Seal Beach Planning Commission and City Council, as well as the CCC .
The statement that no burials would be impacted during reinterment excavations in Gum Grove Park may not be accurate.	Reinterment within Gum Grove Park is not considered under the current plan.
The question of how resident access to the ORA-264 open space would be detrimental to preservation of cultural resources, and how this is different from the type and intensity of public access to the Gum Grove Park reinterment areas, should be addressed.	Resident access to the open space could potentially be detrimental to cultural resources, if unauthorized excavation is conducted. Text is added indicating that the landscaping of the open space at ORA-264 will be designed to discourage inappropriate use. Furthermore, a deed restriction over the area is now proposed. Under the current proposal, public access to Gum Grove Park is not a concern.
The issue of whether cultural materials could be present in contexts identified as marine terrace should be addressed.	The marine terrace deposits themselves date to the Pleistocene epoch and do not contain cultural materials. However, the surface of the terrace under the topsoil is uneven and may contain low spots where cultural materials (including burials) may remain. Procedures addressing this potential have been added to the mitigation plan.
The issue of screening the windrows should be addressed.	Agreement among all parties has been reached on the procedures for examining the windrows for cultural materials. These have been clarified in the revised mitigation plan (p. 65).
The document should maintain objectivity and minimize the influence of any single party's viewpoint.	The revised mitigation plan is the product of close consultation between the landowner and the MLD. Comments on the initial draft were solicited, and received, from the MLD. The MLD pointed out a number of areas where the Native American perspective should be discussed, and provided that perspective for consideration. All of the comments, corrections, and concerns expressed by the MLD have been incorporated into the document.

Response to Amended CCC Comments (Letter dated February 26, 2003)

Comment	Response
Mitigation measures designed to avoid or minimize impacts from the oil facility access road should be considered.	Under the revised Mitigation Plan, the road would be placed on a layer of fill, avoiding impacts to the underlying cultural deposits (see Figure 7).
Commission has reservations about the long term viability and enforceability of deed restrictions to preserve deposits under Lots 13 and 14.	Given the potential difficulties in the long-term enforcement of deed restrictions, the MLD has agreed that the best approach will be to conduct controlled, monitored grading in lots 13 and 14. If any human remains are encountered, the procedures detailed in the Mitigation Plan and Special Condition 19 of the CDP will be followed.

Response to Gabriellino/Tongva Tribal Council Comments (Received February 27, 2003)

No.	Comment	Response
1	Many manos adjacent to burials are significant and are considered associated grave goods, as well as ochre and shell.	The text has been changed to reflect the Native American perspective on what may be considered associated grave goods.
2	Significant amounts of features have been found since inception of grading.	The text has been changed.
3	This is not a Juaneno site.	The text has been changed to clarify that the sites are within Gabriellino territory .

No.	Comment	Response
4	The remaining portion of ORA-264 is closer to 50% than 25% to 30%.	The percentage indicated in the text also includes the portion of the site that was removed during the 1970s for construction of the police station adjacent to the property. Per discussion with the MLD, no change is made to the text.
5	Indian monitors must also monitor excavation of utility lines, water lines, and other soil disturbances. Cultural areas, marine terrace areas, and what is considered sterile soils may contain cultural material.	Because the surface of the marine terrace under the cultural deposits is uneven, low spots may contain cultural materials even when adjacent areas are well within the marine terrace deposits. The text in Chapter 6 has been changed to clarify that monitoring will be suspended only when all parties agree that the excavation is well within the sterile marine terrace deposits.
6	The statement that 200 foot radii are established around identified burials is no longer accurate.	More detail has been added to the text to clarify how the procedures evolved as a result of the continuing consultation.
7	Wood tools were effectively used to expose burials. The August 5, 2002 meeting is missing from the table.	The text has been changed to reflect this. Information on this meeting has been added to the table.
8	Craig Torres is Gabrielino, not Juaneno.	The correction has been made.
9	To date, the ancestors have not been treated with dignity and respect.	Per CCC comments, the section containing this statement (Landowner Concerns) has been deleted.
10	Three charmstones have been found at ORA 261, not 1 as indicated in Table 5.	The table (now Table 7) has been corrected.
11	The Indian perspective related to abalone shell, charmstones, hearths, and groundstone has not been included.	The information on these finds in the Mitigation Plan is primarily descriptive. Text has been added stating that Native American perspectives on the finds will be solicited and included in the final report.
12	The Indian perspective on the badger burial has not been included.	See response to no. 11 above.
13	The cluster of groundstone at ORA-263 was not referenced.	Text has been added regarding the groundstone at ORA-263.
14	Ochre, a manuport, was found at ORA-1472.	Text relating to this material has been added.
15	No Indian perspective of what may be burial goods is presented.	Text has been added relating to the Native American perspective on materials found in the vicinity of burials.
16	Because much of the soil was piled into windrows and swept up by paddle scrapers, the statement that nearly 100 percent of the larger artifacts were recovered during controlled grading is not accurate.	The text has been changed to say the "most" large artifacts were recovered.
17	Monitoring of vegetation removal should be included as mitigation.	Text has been added stating that mowing and grubbing are among activities to be monitored.
18	The 200 foot perimeter around burials, and later the 50 foot perimeter, was not consistently honored during grading.	Procedures proposed in the Plan are designed to minimize the potential for disputes. The passage referred to here has been modified.
19	Dry and wet screening of soils in culturally sensitive areas will be mandatory.	Text was added under <i>General Methodology</i> regarding the screening of soil from windrows and ETUs.
20	One monitor will be exclusively assigned to each burial. In the event burials are clustered, such as 17, 18, 19, and 20, the general area could require less than one monitor per burial. Each situation needs independent evaluation.	Text was added under "Continued Native American Monitoring" to reflect this change.
21	All windrows will be screened to prevent any additional loss of human bone.	Text has been added to indicate this, per agreements with MLD reached on February 27, 2003.
22	Indian consultants and monitors are necessary for cultural interpretation when artifacts are unearthed. It is vital to create a team effort, to assess culturally significant areas.	In consultation with the MLD, it is agreed that the archaeologist will make the initial assessment of artifacts and non-burial features in consultation with Native American monitors. If the Native American monitors have further concerns, the MLD may be consulted. Text has been added to reflect this.
23	The MLD will update the Coastal Commission regarding the status of human remains.	This has been added to the text.

No.	Comment	Response
24	Marine terrace may contain cultural deposits and artifacts.	All parties agree that the marine terrace itself is culturally sterile, but that cultural materials can be encountered at the contact between the marine terrace and the cultural deposit. The text has been changed to say that ETUs will be limited to areas not graded <u>well into</u> the marine terrace deposits.
25	All soils removed from ETUs will be screened.	Text has been added to indicate this.
26	Windrows will be systematically dry or wet-screened in all cultural areas.	Text has been added to indicate this.
27	Monitoring will be required even when marine terrace has been identified by the soils geologist. Screening will be required on all windrows, ETUs, and burial excavations.	Because the surface of the marine terrace under the cultural deposits is uneven, low spots may contain cultural materials even when adjacent areas are well within the marine terrace deposits. The text in Chapter 6 has been changed to clarify that monitoring will be suspended only when all parties agree that the excavation is well within the sterile marine terrace deposits. Text has also been added regarding screening on windrows, ETUs, and burial excavations.
28	All marine terrace deposits are not sterile.	The text has been changed to indicate that sterile deposits will be considered to have been reached only when the grading or hand excavation is <u>completely within</u> the marine terrace deposits.
29	The comments of all Indian consultants, monitors and the MLD will be included in the final report.	A statement has been added that the perspectives of Native American consultants, monitors, and the MLD will be included in the analysis.
30	Indian interpretation must be included on the topic of the animal interment.	A statement has been added that Native American perspectives will be incorporated into the analysis of this find.
31	Unearthed cultural artifacts from the site will be held in trust for the Gabrielino Tongva Education Center at Gum Grove Park. EDAW will facilitate the curation.	Text is added stating that the artifacts will be held in trust for the Gabrielino/Tongva tribe, and that they may be returned to the tribe at a future date for curation in an appropriate facility.
32	Due to the tremendous cultural significance of the site, the Education Center is a more appropriate memorial than "a masonry memorial and outdoor signage."	Preliminary concept designs have been prepared in close consultation with the MLD. These are described and illustrated in the revised plan.

Response to Gabrielino/Tongva Comment (Letter dated February 27, 2003)

Comment	Response
The plans for the oil access road across ORA-264 as outlined in the site visit on February 18, 2003 are of concern due to the possibility of encountering additional human remains. Alternatives for realignment should be considered.	In close consultation with the MLD, an alternative design was developed for the oil access road and utility corridor that avoids impacts to the portions of ORA-264 within the alignment. Under the Proposed Mitigation Plan, the utilities would be placed within a layer of fill and the oil access road would be developed on top of the fill.

Response to Juaneno Band of Mission Indians (Letter dated June 24, 2003)

Comment	Response
The County of Orange and the State of California should acknowledge the Juaneno as indigenous people of Orange County. The Native American Heritage Commission should designate the Juaneno as an MLD for the project.	In compliance with the Public Resources Code, the Native American Heritage Commission formally identified Anthony Morales as MLD in July 2002. Since that time, Mr. Morales has been closely involved in the development of the Mitigation Plan. The NAHC has confirmed that he should continue as the sole MLD for this project.
The Juaneno request to be involved in the reburial ceremony.	The reburial ceremony is organized and directed by the MLD. Participation at the reburial ceremony is at the MLD's discretion.

Comment	Response
The Juaneno agree that the proposed plan provides appropriate methods for the discovery of additional human remains.	Noted.
A meeting with the City is requested to discuss Figures 3, 4, 6, and 7 of the Mitigation Plan.	A meeting will be scheduled prior to fieldwork.
The Juaneno request to be included in the monitoring effort and that a rotation of tribes be considered.	The Native American monitoring team was developed through consultation between the landowner and MLD. Additions to the team from other tribes would be considered only at the discretion of the MLD.
Radiocarbon and DNA studies of any burial remains is opposed.	Noted. However, the studies are authorized by the landowner in response to a specific request for the studies by the MLD.
The Juaneno request the "same consideration" with respect to curation of archaeological materials recovered from the project as is given to the Gabrielino/Tongva. The Blas Aguilar Adobe, Acjachemen Cultural Center is suggested as a possible curatorial facility.	Given the formal identification of Mr. Morales as MLD, it is most appropriate that the disposition of the collections be determined through consultation between the landowner and the Gabrielino/Tongva.

Response to Office of Historic Preservation (Letter dated July 7, 2003)

Comment	Response
OHP does not object to the collection of additional environmental data to provide context for new finds.	Noted.
Procedures to be followed in the event of unanticipated discoveries should be refined to the greatest extent possible in the Plan.	The discussion of these procedures has been expanded in consultation with the landowner, the MLD, and the CCC.
Steps should be taken to minimize effects to burials or features from reburial excavations within the Preservation Area.	Where it is determined by the archaeologist or the Native American monitors that there is potential for additional human remains or other features to be disturbed during excavations for reburial, the excavations will be conducted by hand techniques.
The proposed plan provides for appropriate refinements to the previous approach.	Noted.

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APPENDIX G
CONSTRUCTION PLANS INCORPORATED BY REFERENCE

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The mitigation measures specified herein have been included in the construction plans for the project. These plans, incorporated by reference herein, are as follows:

1. Hellman Ranch Tentative Track No. 15402 – Water Improvements Plan as Approved by Director of Public Works, City of Seal Beach, Prepared by MDS Consulting, June 24, 2002.
2. Hellman Ranch Tentative Track No. 15402 – Sewer Improvement Plans, Delta Two, Prepared by MDS Consulting, September 16, 2002.
3. Hellman Ranch Tentative Track No. 15402 – Streets and Storm Drain Improvement Plans, Prepared by MDS Consulting, Revised, July 9, 2003.
4. Rough Grading Plan, Hellman Ranch Tentative Track No. 15402, Prepared by MDS Consulting, Revised July 9, 2003.
5. Technical Site Plan, Hellman Ranch Tentative Track No. 15402, Prepared by MDS Consulting, dated July 9, 2003.