TRPA
GOVERNING BOARD
PACKETS

DECEMBER
1996
TAHOE REGIONAL PLANNING AGENCY
GOVERNING BOARD AND COMMITTEE MEETINGS

NOTICE IS HEREBY GIVEN that on Friday, December 20, 1996, commencing at 9:30 a.m., at the South Lake Tahoe Council Chambers, 1900 Lake Tahoe Boulevard, South Lake Tahoe, California, the Governing Board of the Tahoe Regional Planning Agency will conduct its regular meeting. The agenda is attached hereto and made a part of this notice.

Governing Board Committee items are action items unless otherwise noted.

NOTICE IS FURTHER GIVEN that on December 20, 1996, commencing at 8:30 a.m. at the same location, the Finance Committee will meet. The agenda will be as follows: 1) public interest comments (no action); 2) receipt of the November check register and financial statement; 3) revisions to FY 1996-97 operating budget; 4) North Stateline beautification project cooperative funding agreement; 5) Legal Division budget report and salary adjustment; 6) release of $346,000 of Placer County air quality mitigation funds and $140,000 of Washoe County air quality mitigation funds for TART maintenance facility; and 7) member comments. (Committee: Neft, Cole, Heller, Hime, Chairman Bennett)

NOTICE IS FURTHER GIVEN that on December 20, 1996, commencing at 8:30 a.m. at the same location, the Legal Committee will meet. The agenda will be as follows: 1) public interest comments (no action); 2) Secret Harbor, resolution of enforcement, Carson City APN 07-011-23; 3) evaluation of Agency Counsel and Special Projects Attorney (includes closed session without action); and 4) member comments. (Committee: Miner, Cronk, Sevison, Waldie, Chairman DeLanoy)

NOTICE IS FURTHER GIVEN that on December 20, 1996, during the lunch recess at 12:00 noon, at the same location, the Local Government Committee will meet. The agenda will be as follows: 1) public interest comments; 2) finding that South Lake Tahoe, El Dorado County, Placer County, Washoe County, Carson City and Douglas County have demonstrated a commitment to assume their fair share responsibility to provide low and very low income housing; and 3) member comments. (Committee: Cole, Sevison, Bradhurst, Miner, Bennett, Upton)

NOTICE IS FURTHER GIVEN that on December 20, 1996, from 1:00 p.m. to 1:15 p.m., in the same location, there will be a joint meeting of the Rules and Retirement Committees. The agenda will be as follows: 1) public interest comments (no action); 2) amendment of Policy 3.7 of the Personnel Policy Manual to implement authorization of voluntary Internal Revenue Code Section 457 or other similar type program and authorization to contract with 457 plan provider; 3) member comments. (Rules Committee: DeLanoy, Neft, Sevison, Hime, Chairman Bradhurst; Retirement Committee: Miner, Sevison, Solt, Baetge, Chairman Neft)

Date: December 10, 1996

By: Jerry Wells
Deputy Director

OVERFLOW PARKING FOR THOSE ATTENDING THE MEETING IS AVAILABLE ON TATA LANE ACROSS FROM K-MART NURSERY; PLEASE DO NOT DOUBLE PARK IN THE COUNCIL CHAMBER PARKING LOT OR OCCUPY THE 30-MINUTE PARKING SPACES.
All items on this agenda are action items unless otherwise noted.

AGENDA

I. PLEDGE OF ALLEGIANCE

II. ROLL CALL AND DETERMINATION OF QUORUM

III. PUBLIC INTEREST COMMENTS (No Action)

Any member of the public wishing to address the Governing Board on any agenda item not listed as a Project Review, Public Hearing, RTPA, Appeal, or Planning Matter item may do so at this time. However, public comment on Project Review, Public Hearing, RTPA, Appeal, and Planning Matter items will be taken at the time those agenda items are heard.

NOTE: THE GOVERNING BOARD IS PROHIBITED BY LAW FROM TAKING IMMEDIATE ACTION ON, OR DISCUSSING ISSUES RAISED BY THE PUBLIC THAT ARE NOT LISTED ON THIS AGENDA.

IV. APPROVAL OF MINUTES

V. APPROVAL OF AGENDA

VI. CONSENT CALENDAR (see page 3)

VII. MEETING OF THE REGIONAL TRANSPORTATION PLANNING AGENCY (RTPA)

A. Affirmation of the 1992 Regional Transportation Plan/Air Quality Plan (RTP/AQP)

VIII. PUBLIC HEARING (*items include action on the findings plus action on related ordinances, resolutions, environmental documents, and/or plans)

A. Presentation of the Recommendations of the 1996 Threshold Evaluation Report, Appendix B Schedule of Implementation

1. Potential Water Quality, Air Quality, Vegetation, Noise, and Fisheries Threshold Amendments (A List)


3. Other Amendments, Programs, and Studies (B and C Lists)

B. Draft EIS for the Lake Tahoe Shorezone Development Cumulative Impact Analysis
IX. APPEALS

A. Rafton, Appeal of Executive Director Determination Regarding Land Capability, Placer County APN 117-072-08 - 1:30 p.m.

X. PROJECT REVIEW

A. Lakeside Tennis Club Estates, New Multi-Family, Subdivision and Special Use Determination, 977 Tahoe Boulevard, Incline Village, Washoe County APN 127-030-23 and -24

B. Lake Tahoe Cruises, Temporary Use Permit, Tour Boat Operation, Timber Cove Marina, 3411 Lake Tahoe Boulevard, City of South Lake Tahoe, El Dorado County APN 27-090-01

XI. PLANNING MATTERS

A. Lowering the IPES Line for 1997

B. Finding That the City of South Lake Tahoe, El Dorado County, Placer County, Carson City, Washoe County and Douglas County Have Demonstrated a Commitment to Assume Their Fair Share Responsibility to Provide Low and Very Low Income Housing (This item will be taken up in the afternoon session after the noon meeting of the Local Government Committee.)

C. Determination on Beaches (Be) Soil Map Unit Study - 11:00 a.m.

D. Status Report on Incline Village Water Rights

E. Tahoe Coalition of Recreation Providers (TCORP) Uniform Signage Program

XII. ADMINISTRATIVE MATTERS

A. Election of TRPA Chairman and Vice Chairman for Two-Year Terms (1997-1998)

B. Performance Evaluation of Agency Counsel and Special Projects Attorney (including closed session without action), Salary Adjustment

C. Amendment of Personnel Procedures Manual to Implement Authorization of Voluntary Internal Revenue Code Section 457 or Other Similar Type Program; Authorization to Contract With 457 Plan Provider - (This item will be taken up in the afternoon session after the 1:00 p.m. meeting of the Rules and Retirement Committees.)

XIII. COMMITTEE RECOMMENDATIONS AND BOARD ACTION

A. Finance Committee Report
   1. Receipt of November Financial Statement and Check Register
   2. Revisions to FY 1996-97 Operating Budget
3. North Stateline Beautification Project Cooperative Funding Agreement

B. Legal Committee Report
   1. Recommendation on Performance Evaluation of Agency Counsel and Special Projects Attorney

C. Capital Financing Committee Report

D. Retirement and Rules Committee Joint Report

E. Shorezone Policy Committee Report

F. Local Government Committee Report

G. Performance Audit Committee Report

XIV. REPORTS
   A. Executive Director Monthly Status Report
      1. Status Report on Project Applications
      2. Other
   B. Legal Division Monthly Status Report
   C. Governing Board Members

XV. ADJOURNMENT

<p>| CONSENT CALENDAR |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td>1. Prim Investments, Lakeview Office Center, Commercial Rebuild/Expansion, Change in Operation, 224 Kingsbury Grade, Douglas County APN 07-130-06</td>
<td>Approval With Findings And Conditions</td>
</tr>
<tr>
<td>2. Tahoe Secret Harbor, Inc., Resolution of Enforcement, Carson City Rural Area APN 07-011-23</td>
<td>Approval</td>
</tr>
<tr>
<td>3. Resolution Authorizing Release of $346,000 in Placer County Air Quality Mitigation Funds and $140,000 in Washoe County Air Quality Mitigation Funds for TART Maintenance Facility</td>
<td>Adoption</td>
</tr>
</tbody>
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These consent calendar items are expected to be routine and noncontroversial. They will be acted upon by the Board at one time without discussion. The special use determinations will be removed from the calendar at the request of any member of the public and taken up separately. If any Board member or noticed affected property owner requests that an item be removed from the calendar, it will be taken up separately in the appropriate agenda category.
Four of the members of the governing body from each State constitute a quorum for the transaction of the business of the agency. The voting procedure shall be as follows:

(1) For adopting, amending or repealing environmental threshold carrying capacities, the regional plan, and ordinances, rules and regulations, and for granting variances from the ordinances, rules and regulations, the vote of at least four of the members of each State agreeing with the vote of at least four members of the other State shall be required to take action. If there is no vote of at least four of the members from one State agreeing with the vote of at least four of the members of the other State on the actions specified in this paragraph, an action of rejection shall be deemed to have been taken.

(2) For approving a project, the affirmative vote of at least five members from the State in which the project is located and the affirmative vote of at least nine members of the governing body are required. If at least five members of the governing body from the State in which the project is located and at least nine members of the entire governing body do not vote in favor of the project, upon a motion for approval, an action of rejection shall be deemed to have been taken. A decision by the agency to approve a project shall be supported by a statement of findings, adopted by the agency, which indicates that the project complies with the regional plan and with applicable ordinances, rules and regulations of the agency.

(3) For routine business and for directing the agency’s staff on litigation and enforcement actions, at least eight members of the governing body must agree to take action. If at least eight votes in favor of such action are not cast, an action of rejection shall be deemed to have been taken.

Article III (g) Public Law 96-551

This agenda has been posted at the TRPA office and at the following post offices: Zephyr Cove and Stateline, Nevada, and Tahoe Valley and Al Tahoe, California. The agenda has also been posted at the North Tahoe Conference Center in Kings Beach, the Incline Village GID office, and the North Lake Tahoe Chamber of Commerce.

NOTE: Items on the agenda without a time designation may not necessarily be considered in the order in which they appear on the agenda.
TAHOE REGIONAL PLANNING AGENCY
STAFF SUMMARY

Project Name: Lakeview Office Center

Application Type: Commercial

Applicant: Prim Investments

Applicant’s Representative: Paul Kaleta, Basin Strategies

Agency Planner: Jim Lawrence, Associate Planner

Location: 224 Kingsbury Grade, Douglas County

Assessor’s Parcel Number: APN 07-130-06

Staff Recommendation: Staff recommends approval of the project. The required actions and recommended conditions are outlined in Section F of this staff summary.

Project Description: The applicant is proposing to demolish and rebuild an existing two-story commercial building. The existing commercial building consists of 4,849 square feet of commercial floor area which was utilized for a chiropractic office and a timeshare sales office. Professional office space is the proposed use for the new commercial building and will require an additional 3,585 square feet of commercial floor area (8,434 square feet total). The applicant has received a recommendation from Douglas County for the allocation of 3,585 square feet of commercial floor area.

Site Description: The existing office building is on a 6,000 square foot parcel (60’ x 100’) located on an unnamed county road approximately 720 feet from the intersection of Kingsbury Grade and U.S. Highway 50. The parcel is surrounded by Kahle Community Park. A 12,650 square foot access easement within the park boundary is used for access and parking for the existing building. The applicants intend on obtaining approval for a lot line adjustment which will result in a decrease in the size of the park by 6,231 square feet. The applicant has based all land coverage and parking calculations on this proposed boundary line adjustment. Conditions of approval will insure that the boundary line adjustment is approved prior to acknowledgment of this permit.

Issues: The proposed project involves the allocation of commercial floor area and, therefore, requires Governing Board review in accordance with Chapter 4, Appendix A of the TRPA Code of Ordinances. The primary project related issues are:

/JL
12/06/96
1. **Additional Commercial Floor Area:**

   The project, as currently proposed, requires 4,031 additional square feet of commercial floor area. The applicant has received a recommendation from Douglas County to allocate 3,585 square feet of commercial floor area to this project. The applicant has also proposed to transfer the remaining commercial floor area needed for this project to the site (446 square feet). However, transfers of commercial floor area to this site are prohibited pursuant to Subsection 34.4.B(8) of the TRPA Code because the site has a low land capability rating (Class 3). As a result of this prohibition, the applicant shall be required to reduce the size of the proposed addition to the allocation amount (3,585 square feet). The applicant has agreed to this reduction.

2. **Traffic:**

   Based on the adopted TRPA Trip Table the existing uses (medical office/timeshare sales) generate 112 daily vehicle trip ends based on the number of employees. The proposed use will generate 159 daily vehicle trip ends. The increase of 47 daily vehicle trip ends is identified as an insignificant increase in the TRPA Code of Ordinances. Staff has determined that there will be adequate parking to accommodate the project.

3. **Impacts to Kahle Park:**

   The proposed lot line adjustment will decrease the adjacent Kahle Park project area by 6,231 square feet. In 1994, the Governing Board approved a project to allow the first of three phases of Kahle Park to begin construction. These phases were studied in detail in an environmental assessment (EA) prepared for the park. Included in the EA is a detailed land coverage calculation which assigns land coverage to future park construction phases. If this commercial project is approved, staff recommends that, as a condition of the lot line adjustment, the Kahle Park EA be modified accordingly to account for the reduction in park size to determine remaining land coverage (if any) for future park projects.

   As a condition of approval, staff also recommends that an off-site sign advertising this building be removed. This sign is located near Kingsbury Grade within the Kahle Park boundary.

**Staff Analysis:**

A. **Environmental Documentation:** The applicant has completed an Initial Environmental Checklist (IEC) in order to assess the potential environmental impacts of the project. No significant environmental impacts were identified and staff has concluded that the project will not
have a significant effect on the environment. A copy of the completed IEC will be made available at the Governing Board hearing and at TRPA.

B. **Community Plan:** The project is located within the Douglas County - Kingsbury Community Plan (special area #1). The Land Use Classification is Commercial/Public Service and the Management Strategy is Mitigation. Agency staff has reviewed the subject community plan and determined that the project is consistent with the applicable planning statement, planning considerations and goals, objectives and policies. Professional Offices are an allowed use within the Community Plan.

C. **Land Coverage:**

1. **Land Capability Districts:**

   The land capability district for the project area is Class 3. The total project area (after modification with the lot line adjustment) is 12,231 square feet.

2. **Allowed Land Coverage:**

   The allowed land coverage for the project area is 611 square feet. The project area is located on Class 3 land.

3. **Existing Land Coverage:**

   | Building:          | 3,067 square feet |
   | Sidewalk:         | 320 square feet  |
   | Stairs:           | 80 square feet   |
   | AC Paving:        | 8,274 square feet|
   | **Total:**        | **11,741 square feet** (96 percent of project area). |

4. **Proposed Land Coverage:**

   | Building:          | 9,390 square feet |
   | Concrete Stoops:   | 55 square feet    |
   | Columns:           | 16 square feet    |
   | Raised Deck:       | 400 square feet   |
   | AC Paving:         | **1,029 square feet** |
   | **Total**          | **10,890 square feet** |

5. **Land Coverage Mitigation:**

   Based on the above figures, the project area has approximately 11,130 square feet of excess land coverage. In order to mitigate the existing excess land coverage, the applicant shall be required to either pay a mitigation fee, or reduce existing land coverage pursuant to Subsection 20.5 of the TRPA Code of Ordinances. In
addition, the applicant shall be required to provide an increase in landscaping equal to 5 percent of the project area pursuant to Special Policy 6.A of the Kingsbury Community Plan.

D. **Building Height:** Based on a 3 percent cross-slope retained across the building site, and a 8:12 roof pitch, the maximum allowed height for the proposed building is 34 feet 4 inches. The proposed building height is 33 feet 10 inches.

E. **Required Findings:** The following is a list of the required findings as set forth in Chapter 6 and 22 of the TRPA Code of Ordinances. Following each finding, Agency staff has briefly summarized the evidence on which the finding can be made.

1. **The project is consistent with and will not adversely affect implementation of the Regional Plan, including all applicable Goals and Policies, Plan Area Statements and maps, the Code and other TRPA plans and programs.**

   a. **Land Use:** The proposed use (professional offices) is an allowed use in the Douglas County Kingsbury Community Plan. Adjacent uses include Kahle Park and various commercial uses located in the neighborhood. The proposed project will not affect existing land uses.

   b. **Transportation:** The project will result in an increase of 47 additional daily vehicle trip ends which is defined by the TRPA Code of Ordinances as an insignificant increase. Pursuant to Chapter 91 of the TRPA Code of Ordinances, the applicant will be assessed an air quality mitigation fee of $940 to mitigate the increase in daily vehicle trip ends.

   c. **Conservation:** There are no known special interest species, sensitive or uncommon plants or cultural resources within the project area. The applicant will be required to apply permanent Best Management Practices (BMPs) to the project area.

   d. **Recreation:** This project does not involve any recreation facilities or uses.

   e. **Public Service and Facilities:** This project does not require any additions to public services or facilities.

   f. **Implementation:** The project, as currently proposed, requires 4,031 square feet of additional commercial floor area. The applicant has received a positive allocation recommendation from Douglas County for 3,585 square feet of commercial floor area. Since the additional commercial floor area cannot be transferred to this site (class 3 land capability), the project...
shall be revised to 3,585 square feet of additional commercial floor area.

2. **The project will not cause the environmental threshold carrying capacities to be exceeded.**

The basis for this finding is provided on the checklist entitled "Project Review Conformance Checklist and Article V(g) Findings" in accordance with Chapter 6, Subsection 6.3.B of the TRPA Code of Ordinances. All responses contained on said checklist indicate compliance with the environmental threshold carrying capacities. A copy of the completed checklist will be made available at the Governing Board hearing and at TRPA.

3. **Wherever federal, state or local air and water quality standards applicable for the Region, whichever are strictest, must be attained and maintained pursuant to Article V(g) of the TRPA Compact, the project meets or exceeds such standards.**

(Refer to paragraph 2, above.)

4. **When viewed from major arterials, scenic turnouts, public recreation areas or the waters of Lake Tahoe, from a distance of 300 feet, the additional height will not cause a building to extend above the forest canopy, when present or a ridgeline.**

The proposed project will not extend above the forest canopy and will not block the view of a ridgeline.

F. **Required Actions:** Agency staff recommends that the Governing Board approve the project by making the following motions based on this staff summary and the evidence contained in the record.

I. A motion based on this staff summary, for the findings contained in Section E above, and a finding of no significant environmental impact.

II. A motion to approve the project, based on the staff summary subject to the following conditions:

A. The Standard Conditions of Approval listed in Attachment Q.

B. Prior to TRPA final acknowledgement of the permit, the following special conditions of approval must be satisfied:

1. The site plan shall be revised to state "Existing Commercial Floor Area = 4,849 square feet".

/JL
12/06/96
2. Consistent with the site plan submitted to TRPA, the applicant, in conjunction with Douglas County, shall obtain approval for a boundary line adjustment incorporating the parking and access easements into the subject property. All land coverage calculations in the Kahle Community Park Environmental Assessment shall be changed accordingly, and the Kahle Park environmental assessment (EA) shall be amended to reflect the changes. The boundary line adjustment shall be approved by TRPA under separate application prior to acknowledgment of this permit.

3. The security required under Standard Condition 1.2 of Attachment Q shall be determined upon the permittee’s submittal of required Best Management Practices plan and related cost estimate. Please see Attachment J, Security Procedures. In no case shall the security amount be less than $2,500.

4. The permittee shall submit a $940 air quality mitigation fee based on 47 additional daily vehicle trip ends (dvte) assessed at $20 per dvte. This amount may be reduced if the number of employees at the site will be fewer due to the reduced building size.

5. The permittees shall mitigate excess land coverage in the project area by submitting an excess land coverage mitigation fee, or by removing coverage within Hydrologic Transfer Area Number 4, South Stateline (see attached map).

The excess coverage mitigation fee shall be calculated as follows:

(1) Estimated Project Construction Cost (structural only) 
\[ \times 0.025 \]

Please provide a construction cost estimate by your contractor, architect, or engineer

Excess land coverage may be removed in lieu of an excess coverage mitigation fee. To calculate the amount of excess coverage to be removed use the following formula:

(2) Excess coverage mitigation fee (per formula (1), above) divided by $5.00 per square foot.
If you choose this option, please revise your final site plan and land coverage calculations to account for the coverage removal.

6. The permittee shall provide engineered calculations demonstrating that the proposed infiltration devices shall meet or exceed the water runoff level for a 20 year/1 hour storm event. Sand separators are required for pre-treatment of stormwater runoff prior to discharge into an approved infiltration system.

7. The permittee shall provide a landscape plan for the project area. The landscape plan shall be approved by TRPA prior to final acknowledgment of this permit and must demonstrate at least a 5 percent reduction of land coverage within the project area consistent with Kingsbury Community Plan requirements.

8. The permittee shall provide color and material samples for the proposed building. Colors and materials shall be approved by TRPA prior to acknowledgment of this permit.

9. The permittee shall submit a sign plan showing all proposed signs for the project area conforming to all Douglas County Community Plan standards. This plan shall include provisions to remove the existing off-site sign located in Kahle Park.

10. The permittee shall revise the building plans to indicate a building addition that is no larger than 3,585 square feet in area consistent with the allocated amount of commercial floor area. Please be advised that subsection 33.3.B of the TRPA Code of Ordinances defines commercial floor area as the gross square footage of floor area within the outer wall of a commercial buildings, not including stairwells and airshafts. The area identified on the site plan as "lightwell with floor for landscape planters" is considered commercial floor area. No transfers of commercial floor area are permitted to this site pursuant to Subsection 34.4.B(8) of the TRPA Code.

11. The permittee shall submit 3 sets of final construction drawings and site plans to TRPA.

12. The permittee shall submit final lighting plans to TRPA for review and approval. All lighting shall be down directed and conform to Douglas County Community Plan standards.
Description of the Violation

Violation Type: Shorezone Improvements Without TRPA Authorization

Project Name: Tahoe Secret Harbor, Inc. Violation Resolution

Property Owner: Tahoe Secret Harbor, Inc.

Applicant's Representative: Gary D. Midkiff, Midkiff and Associates

Location: 2170 Highway 28, Carson City Rural Area

Assessor's Parcel Number: APN 07-011-23

Agency Staff: Jon Paul Kiel, Associate Environmental Specialist

Staff Recommendation: Staff recommends that the violation be resolved by Governing Board approval of the attached proposed Settlement Agreement. The TRPA Governing Board Legal Committee has reviewed this agreement.

The proposed Settlement Agreement requires the property owner to complete the following;

1. Construct $10,000. worth of permanent water quality improvements to the adjacent U.S. Forest Service access road in accordance with a TRPA approved improvement plan.

2. Provide shoreline stabilization of at least a $5,000. value on the property in accordance with a TRPA approved plan.

3. Forward a payment of $6,135. to TRPA (the total value of this settlement is in excess of $22,000).

4. Pave and construct water quality improvements on the driveway and parking area on the property (this residence is identified as a seasonal use and these improvements are not required by the Code of Ordinances).

5. Reconfigure the pier to dimensions equal or lesser than previous existing dimensions pursuant to a TRPA major structural pier repair permit.

6. Remove improvements made to the boathouse and rock jetty. This has been completed.

7. Stain the boathouse, pier, railings, and stairway to reduce contrast and provide greater blending with the background. This has been completed.
8. Remove the plumbing system from the boathouse.  
This has been completed.

9. Install shutters on the boathouse to eliminate sunlight glare impacts.  
This has been completed.

10. Remove the floating platform.  
This has been completed.

11. Post a $15,000. security deposit with TRPA to ensure completion of these settlement conditions.

VIOLATION AND PROJECT ISSUES

Violation Discovery:

On June 9, 1995, TRPA staff completed an inspection of the subject property in connection with an application required by TRPA staff to remove a septic waste system, and to investigate improvements made to shorezone structures without prior TRPA approval. Previous to the inspection, TRPA staff noted improvements made to shorezone structures while conducting shorezone inventories for other purposes.

On June 9, 1995, photographs were taken and compared to photographs taken on the subject property on May 17, 1989. Comparison of the photographs revealed several unauthorized improvements in the shorezone. On July 17, 1995, TRPA staff issued a CORRECTION NOTICE as a result of the unauthorized activities.

Violations of the TRPA Code of Ordinances include the reconstruction of a pier with minor modifications resulting in the expansion of a legally existing, non-conforming pier. The pier is nonconforming since it is located in fish habitat, and does not conform to TRPA design and construction standards. The parcel is currently is occupied seasonally by Mr. Stuart Gildred. The littoral parcel is owned by Tahoe Secret Harbor, Inc.

The pier was expanded as a result of a reconfiguration of the pierhead. The length of the pier was actually shortened by approximately 2 feet, however, the pierhead width was increased by approximately 6 feet. In addition, the pier deck at the shoreline was increased by approximately 72 square feet, and a handrail was added to the landward section of the pier.

The boathouse located in the backshore was modified. Since this structure is non-conforming, all modifications which resulted in an expansion of the structure or its use are required to be removed or otherwise brought into conformance with the TRPA Code. The boathouse was expanded by addition of wooden walkways and an attached shed structure. The building addition resulted in the creation of 16 square feet of land coverage, however, the overall height and length of the structure did not increase. The structure's bulk did increase. The addition was made to the rear of the boathouse which cannot be viewed from the Lake.
The rock jetty located to the south of the pier had a small quantity of rock added to the top of the structure. Despite the addition of rock, the overall height, length, and width of the structure was not increased. The exact source of the rock has not been determined, but was likely obtained from the backshore or foreshore of the subject property. The rock has since been removed from the jetty and disbursed in the foreshore. This material disposal was not initially approved by TRPA, however, Nevada Division of Wildlife staff have been consulted, and the disposal is not believed to have any deleterious affects on fisheries. Disbursal of rock from demolished structures has been approved in the past as a mechanism to improve feeding and/or escape cover. Due to the rocks relatively smaller size, impacts to navigation as a result of the disbursal are believed to be insignificant. If necessary, the U.S. Army Corps may require issuance of a General Permit to fully authorize the rock disbursal.

The foreshore/nearshore access stairway was reconstructed. Landings have been modified, and the existing safety handrail has been replaced with a bulkier handrail structure.

A floating platform was constructed but has since been removed from the project area. Removal occurred shortly after the property owner was informed that the current shorezone ordinances would not allow the new structure to be permitted.

Violation Resolution Issues: The unauthorized activities involve the expansion of non-conforming structures, and the placement of new structures in the shorezone without prior TRPA authorization. The pier is non-conforming as it is located in prime fish habitat, and exceeds pier width standards. Since the boathouse is located landward of the highwater line, the boathouse is not considered a nonconforming superstructure. The boathouse is nonconforming due to its location in the backshore. The jetty is nonconforming as it is a nearly solid structure, lacking circulation of water and sediment.

The proposed Settlement Agreement includes several requirements to be completed in lieu of monetary penalties. These requirements include the paving of a seasonal driveway, the installation of water quality improvements on the U.S. Forest Service access road, and the installation of shoreline protective structures on the subject property. Cost of improvements to the U.S. Forest Service road are specified to be borne by Tahoe Secret Harbor, Inc. in the amount of $10,000 at a minimum. Cost of improvements along the shoreline are to be borne by Tahoe Secret harbor, Inc., in the amount of $5000 at a minimum. The cost of driveway paving in total is to be borne by Tahoe Secret Harbor, Inc.
Total costs borne by Tahoe Secret Harbor, Inc. to comply with the proposed Settlement Agreement are in excess of $22,000. Additional costs will be borne by the property owner in the process of obtaining permits required to implement roadway and shoreline improvements proposed.

Project Approval Issues:

Implementation of the elements described in the proposed Settlement Agreement will result in modifications to existing structures which may be approved at staff level. Permits which would authorize water quality improvements pursuant to the proposed Settlement Agreement may require Governing Board approval. No permits have been issued at this time. The primary project related issues with respect to existing structures are as follows:

1. Scenic Quality:

The pier is located within Scenic Shoreline Unit 25, Skunk Harbor; which is in attainment with the scenic quality standard. The project is located in an area identified in the Lake Tahoe Shorezone Development Cumulative Analysis-Draft Environmental Impact Statement (shorezone EIS) as being below critical density levels for piers and buoys.

Without mitigation, modification of the stairs and pier result in an increase in the structures bulk and mass, primarily due to the modification and expansion of handrails. The Scenic Quality Improvement Program (SQIP) recommends the use of materials and colors that blend with the environment rather than contrasting with it, and to keep the mass of structures to a minimum.

Staff has determined that the proposed structural modifications, as conditioned, will offset scenic quality impacts of the expanded shorezone structures, and not result in the degradation of the scenic threshold. The structure's bulk will be reduced by the removal of pier pilings which project above the pier deck, the conversion of a double-piling pier structure to a single-piling structure, and the use of wood stains and paint which reduce the apparent mass of structures by reducing the contrast between structures and background elements.

The boathouse addition cannot be seen from the Lake, however, the boathouse will be painted as described above, and window coverings will be added to eliminate glare.
2. **Land Coverage:**

The project proposes to increase land coverage over that existing in the backshore to provide for safe access to the foreshore/nearshore. Prior to permit acknowledgement, the applicant will be required to submit site plans depicting land capability boundaries, backshore boundaries, and include existing and proposed land coverage figures. In order to mitigate existing excess coverage, the applicant shall be required to either pay a mitigation fee, or reduce existing coverage pursuant to subsection 20.5 of the TRPA Code of Ordinances.

3. **Design Standards for Piers:**

The existing pier is non-conforming with respect to width of the pierhead and landward features. The pier was modified such that the pierhead was enlarged further. The pier’s length was actually reduced. The pier is proposed to be modified to a configuration which is actually smaller than that of the pier prior to the unauthorized modifications.

**Required Actions:** Agency staff recommends that the Governing Board resolve the alleged violation by making a motion based on this staff summary and the evidence contained in the record to ratify the proposed Settlement Agreement.
TAHOE REGIONAL PLANNING AGENCY

308 Dorfa Court
Elko Point, Nevada

P.O. Box 1038
Zephyr Cove, Nevada 89448-1038

(702) 588-4547
Fax (702) 588-4527
Email: trpa@sierra.net

SETTLEMENT AGREEMENT

This agreement is made by and between Tahoe Secret Harbor Inc. (hereinafter Tahoe Secret Harbor) and the Tahoe Regional Planning Agency (hereinafter TRPA).

This settlement represents full and complete compromise and settlement of the certain violations alleged by TRPA, as described below:

1. Unauthorized expansion of a nonconforming pier

2. Unauthorized expansion and change of use of a nonconforming boathouse.

3. Unauthorized expansion of a nonconforming rock jetty.

4. Unauthorized expansion and reconfiguration of foreshore access structures.

5. Unauthorized installation of a floating platform.

Execution of this agreement shall not be construed as an admission of the allegations.

This settlement is conditioned upon approval of this agreement by the TRPA Governing Board. Execution of the agreement prior to Board action shall not be binding on either party in the event that the Board does not authorize settlement on the terms set forth below.

In order to fully resolve this matter, the parties hereby agree as follows:

1. The property owner shall construct or cause to be constructed $10,000 worth of permanent water quality improvements to the adjacent U.S. Forest Service access road within one year of a TRPA approved improvement plan. A reasonable time extension may be granted for circumstances beyond the control of Tahoe Secret Harbor.

2. The property owner shall provide shoreline stabilization of at least a $5,000 value on the property in accordance with a TRPA approved plan.

A complete application for the project shall be submitted to TRPA within one-hundred-and-twenty (120) days from ratification of this settlement agreement by the TRPA Governing Board. The shoreline protection project shall be implemented by Tahoe Secret Harbor within one year of project approval.

SETTLEMENT AGREEMENT CONTINUED ON NEXT PAGE

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CONSENT CALENDAR ITEM 2

Planning for the Protection of our Lake and Land
3. Tahoe Secret Harbor agrees to post a $15,000 security deposit with TRPA to ensure completion of these settlement conditions. Should Tahoe Secret Harbor fail to complete these items within agreed upon time frames, the security deposit shall be payable to TRPA. Upon completion of the items, the security shall be returned to Tahoe Secret Harbor.

4. Tahoe Secret Harbor agrees to forward a payment of $6,135 to TRPA. Remittance of the penalty shall occur within thirty (30) days from ratification of this settlement agreement by the TRPA Governing Board.

5. Tahoe Secret Harbor agrees to pave and construct water quality improvements on the driveway and parking area on the property. These improvements shall be completed on or before October 15, 1997.

6. Tahoe Secret Harbor agrees to reconfigure the pier to dimensions equal or lesser than previous existing dimensions pursuant to a TRPA major structural pier repair permit.

Reconstruction of the pier shall occur within twelve months from approval of the rebuild permit, or ratification of this settlement agreement by the TRPA Governing Board, whichever occurs last.

7. Tahoe Secret Harbor agrees to remove the plumbing system from the boathouse.

This has been completed.

8. Tahoe Secret Harbor agrees to stain the boathouse, pier, railings, and stairway to reduce contrast and provide greater blending with the background.

This has been completed.


This has been completed.

10. Tahoe Secret Harbor agrees to remove the unauthorized floating platform.

This has been completed.

SETTLEMENT AGREEMENT CONTINUED ON NEXT PAGE
11. Tahoe Secret Harbor agrees to remove the unauthorized rock from the jetty.

This has been completed.

Signed:

_________________________________________  _________________________
Tahoe Secret Harbor, Inc.,
Authorized Signatory

_________________________________________  _________________________
James W. Baetge, Executive Director
Tahoe Regional Planning Agency

END SETTLEMENT AGREEMENT
December 10, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Release of Placer and Washoe County Air Quality Mitigation Funds for the Construction of the TART Maintenance Facility

Proposed Action: To approve the release of $346,000 from Placer County and $140,000 from Washoe County in air quality mitigation funds as a local match for the construction of the TART maintenance facility in Placer County.

Staff Recommendation: Staff recommends the Governing Board approve the request for $346,000 from Placer County and $140,000 from the Washoe County air quality mitigation funds.

Discussion: Section 93.5 of the TRPA Code of Ordinances specifies the manner in which air quality mitigation funds are to be distributed and used. Mitigation fees are collected by TRPA and held in trust for the jurisdictions. TRPA disperses these funds to the jurisdictions upon their request, provided that TRPA finds that the proposed use of the mitigation funds is consistent with TRPA's adopted Regional Transportation Plan-Air Quality Plan for the Lake Tahoe Region.

For many years Placer County has maintained the TART bus fleet in a building previously used as a lumber yard which is located in the Lake Forest area of Placer County. The building and other facilities are in poor condition, with little or no storage space. In 1994 Placer County received federal capital funds in the amount of $2,430,000 for the construction of a transit maintenance facility. Placer County intends to build a new facility near the town of Truckee. The new facility will have heated storage bays, maintenance bays, office space, and bus washing equipment. The Governing Board, in May of 1996, approved the use of air quality mitigation funds outside of the Tahoe Basin for this purpose. The air quality mitigation funds will be used as the local match for the federal funding. Placer County is contributing $346,000 and Washoe County is contributing $140,000.
Memorandum to Governing Board
Resolution Authorizing Release of $346,000 in
Placer County Air Quality Mitigation Funds
Page 2

Staff has reviewed Placer and Washoe Counties' request for the release of air
quality mitigation funds to be used for the transit maintenance facility. The
proposed use of the funds is consistent with TRPA's 1992 RTP-AQP.

If there are any questions or comments regarding this agenda item, please
contact Richard Wiggins at (702) 588-4547.
MEMORANDUM

December 10, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Affirmation of the 1992 Regional Transportation Plan-Air Quality Plan

Proposed Action: As the Regional Transportation Planning Agency for the Lake Tahoe Region, approve the attached resolution affirming the 1992 Regional Transportation Plan-Air Quality Plan (RTP-AQP) until the 1996 RTP-AQP is complete.

Staff Recommendation: Staff recommends the Governing Board approve the resolution affirming the 1992 RTP-AQP with the understanding that the 1996 RTP-AQP will be completed by July 1997.

Discussion: Section 65080 of the California Government Code requires each Regional Transportation Planning Agency (RTPA) to adopt an updated regional transportation plan every other year. TRPA affirmed the 1992 RTP-AQP in December 1994. This year TRPA staff is asking the Governing Board to again affirm the 1992 plan, but only with the understanding that staff is in the midst of drafting a new version of the RTP-AQP. The 1996 plan is not yet complete and in order to meet the statutory requirements imposed by the California Government Code, the 1992 plan is again being affirmed. Staff anticipates that the 1996 plan will be presented to the Governing Board for consideration in July 1997.

If there are any questions or comments regarding this agenda item, please contact Richard Wiggins at (702) 588-4547.
WHEREAS, the Tahoe Regional Planning Agency is designated by the State of California as the Regional Transportation Planning Agency (RTPA) for the Tahoe Region; and

WHEREAS, Section 65080 of the California Government Code requires RTPAs to update the Regional Plan in December of every even numbered year; and

WHEREAS, TRPA staff is drafting a new Regional Transportation Plan-Air Quality Plan for 1996 but have not completed the document in time to meet the statutory deadline; and

WHEREAS, TRPA staff will continue to meet with the RTP-AQP Technical Advisory Committee and other transportation stakeholders to ensure the 1996 plan reflects the needs of the Region and is completed by July 1997.

NOW, THEREFORE, BE IT RESOLVED by the Governing Board of the Tahoe Regional Planning Agency, sitting as the Regional Transportation Planning Agency, do affirm the 1992 Regional Transportation Plan-Air Quality Plan until such time as a revised RTP-AQP is completed in July 1997.

PASSED AND ADOPTED this _____ of December 1996, by the Governing Board of the Tahoe Regional Planning Agency, by the following vote:

Ayes:

Nays:

Abstain:

Absent:

[Signature]
John E. Upton, Chairman
Tahoe Regional Planning Agency,
Sitting as the Regional Transportation Planning Agency
MEMORANDUM

December 10, 1996

To: TRPA Governing Board
From: TRPA Staff

Proposed Action: No action is requested at this time; however, Governing Board comments would be appreciated since a final report and amendments will be prepared for future Governing Board action. This is a continuation of a series of presentations to inform the APC about the 1996 Evaluation Report.

Presentation: The presentation is based on Appendix B of the 1996 Evaluation Report. The complete draft Evaluation Report was mailed to you under separate cover. The Evaluation Report provides an overview of the status of threshold attainment and the corresponding staff recommendations. Appendix B is a schedule of implementation that lists the recommendations that will require action in the following categories:

1. A List - These recommendations will need to be enacted as part of the approval of the 1996 Evaluation Report.
2. B List - Implementation of these recommendations will be phased in over the next five years.
3. C List - Implementation of these recommendations are subject to other actions by other agencies and/or acquisition of major funding and will also be phased in over the next five years.

Also, attached is the recently updated Proposed Commercial Allocation System. This item is part of the "A" List. The commercial allocation proposal was on the November Governing Board agenda but was not discussed in detail. Staff is revising the residential allocation system in response to Washoe County concerns (see attached letter) and Governing Board direction.

If you have any questions regarding this agenda item, please contact the specific program manager or Gordon Barrett at (702) 588-4547.

GWB/rd

AGENDA ITEM VIII.A.
PROPOSED COMMERCIAL ALLOCATION SYSTEM

I. TOTAL ALLOCATIONS: The commercial allocation for the Region will be 400,000 sq. ft. of commercial floor area, and 200 tourist bonus units for the next 10 years. This is in addition to the 300,000 plus sq. ft. and 200 units of unused 1987-97 allocations. The following special provisions shall apply:

A. The distribution of a reserve of 150,000 sq. ft. of commercial allocations and a reserve of 100 tourist bonus units will be considered for release at the 2001 Threshold Evaluation or upon use of the initial allocations set forth in IV.A and B.

B. The 200 additional tourist bonus units for "Special Projects" will be converted from the residential bonus pool and will be available only when matched by a transfer (1:1 ratio) from sensitive land that has been restored.


III. OUTSIDE COMMUNITY PLAN ALLOCATIONS: The Outside Community Plan Program and allocations will be extended to 2007.

IV. DISTRIBUTION OF ALLOCATIONS: The additional 400,000 sq. ft. of commercial allocations and 200 tourist bonus units will be distributed as follows:

A. 100,000 sq. ft. for Community Plans and Outside Community Plans. This allocation is governed by the existing allocation rules in Chapter 33 and the adopted community plans.

1. Beginning in 1997, 50,000 sq. ft. of allocation will be given to local jurisdictions to re-supply adopted community plan areas. Each jurisdiction will receive 10,000 sq. ft. to distribute to all community plans for which the irrevocable commitments have been met and outside community plan areas. Allocations not allocated by December 31, 1998 shall be transferred to the Special Project pool.

2. In 1999, the remaining 50,000 sq. ft. will be distributed by TRPA based on a ranking comparison of the accomplishment of environmental improvements set forth in the community plans of that jurisdiction.

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B. 150,000 sq. ft. and 100 Bonus Units for Special Projects. The majority of the commercial allocations and all of the additional tourist bonus units will be given to a special projects pool administered by TRPA.

C. 150,000 sq. ft. and 100 Bonus Tourist Units Reserved. These allocations are reserved for future distribution based on the success of the above allocation program.

V. SPECIAL PROJECTS: The Special Project Program goal is to promote major projects that result in the construction of threshold related environmental improvements, promote transfer of development that result in environmental benefits, and rehabilitate substandard development. This program will utilize the following concepts:

A. Eligibility: It will be open to major projects (includes assessment districts) in all jurisdictions.

B. Evaluation Criteria: Projects will be judged (and conditioned) on construction of actual environmental projects that:

1. Assist in the attainment of the environmental threshold carrying capacities by constructing projects such as the ones listed in the TRPA Environmental Improvement Program (or equal or superior type projects).
2. Are beyond the normal project and mitigation requirements of TRPA.
3. Encourage the transfer of development from sensitive areas.

C. Public Assistance: Public-private partnerships are encouraged. Public assistance through redevelopment agencies, Tahoe Conservancy, local governments, and other such means can be considered in evaluating the proposed projects. Public projects that would happen any way will not be counted for credit.

D. Maximum Amount: The maximum amount of any project may acquire is 50,000 sq. ft. of commercial allocation and 100 tourist bonus units.

E. Time Limit: Initial awards of allocations will expire in one year unless extended by TRPA upon a demonstration of adequate progress.

F. Applications: In July of each year (if allocations remain), TRPA will consider applications for the allocations. TRPA shall give appropriate notice of the availability of the allocations.

1. Applications will include a project prospectus that includes site plans and elevations and preliminary environmental documentation.
2. Notification will include the general criteria by which the projected will be judged.

VI. CONVERSION OF USE: TRPA will permit conversion of existing tourist units to residential units and existing residential units to tourist units on a one unit for one unit basis. There can be no adverse impact on affordable housing resulting from the conversion. These conversions will be limited to special circumstances such as:
A. **Transfers:** Transfers from sensitive lands to nonsensitive lands will complete retirement and restoration of the parcel.

B. **Conversions:** Conversions from nonconforming use to conforming use with construction that meets standards for new development.

**VII. DEVELOPED SENSITIVE LANDS:** TRPA will develop special criteria for unit of use transfers or allocations to be developed, i.e. covered, sensitive lands.

A. **Commercial Allocations:** Allocations may be permitted in sensitive lands if:

1. matched by transfer of existing floor area from a like sensitive land on a one sq. ft. of transfer to two sq. ft. of allocation basis;
2. In Community Plans where at least one SEZ restoration project has been completed and the local jurisdiction has submitted a CIP list pursuant to the residential allocation system.

B. **Transfers:** Existing units of use may be transferred to sensitive lands if:

1. There is 25 percent reduction in land coverage onsite and no expansion in vehicle trips, parking, cubic volume of structures or other impacts;
2. The transfer is from sensitive lands to like sensitive lands inside Community Plan areas with a reduction in land coverage on or offsite equal to:
   - 300 sq. ft. coverage per unit; or
   - 1 sq. ft. of coverage per 1 sq. ft. of floor area; or
3. The transfer of commercial floor area from nonsensitive lands to sensitive lands results in a restoration of like sensitive lands on a ratio of 1 sq. ft. of floor area requires removal and restoration of 2 sq. ft. of land coverage.

**VII. INDUSTRIAL STORAGE PROVISIONS:** TRPA will develop provisions to encourage location of, relocation to, and retention of storage/industrial facilities in seven Community Plan or Plan Area Statement designated industrial incentive areas. The floor area for commercial uses shall be calculated at half of the requirements of Chapter 33. Projects in these incentive areas with areawide BMPs in place will only require half the normal amount required through allocation or transfer. However, if any floor area is transferred out of the incentive area, regardless if areawide BMPs are in place, it will count at half the normal amount.

Local governments and TRPA at public hearings will consider designation of industrial incentive areas such as: Meyers Community Plan Industrial Area, South Wye Community Plan Industrial Area, Tahoe Vista Community Plan National Avenue, Kings Beach Industrial Community Plan, Ponderosa Community Plan, and Kingsbury Community Plan Shady Lane.
IX. **BANKING**: TRPA should allow the banking of environmental credits with bonuses for tear downs. Environmental improvements occurring on a parcel that are not otherwise required by mitigation or by law may be documented in a project file for consideration in approval of future projects on the parcel.

X. **INCENTIVES**: Create incentives to develop in community plan areas (like the South Lake Tahoe enterprise zones). TRPA will develop streamlined procedures inside community plan areas and give priority to processing community plan projects. Also TRPA will develop mitigation fee accounts based on completed mitigation projects in lieu of the requirement to do actual projects.

XI. **STREAMLINING**: Reduce processing cost and speed up the processing time.
November 25, 1996

Tahoe Regional Planning Agency  
P.O. Box 1038  
Zephyr Cove, Nevada 89448-138

Attn: Board of Governors  
Advisory Planning Commission

Re: Allocation Program 1997-2001

Dear Board Members:

The Washoe County Board of Commissioners reviewed the preliminary allocation program at their regularly scheduled meeting of November 19, 1996. The Board members expressed concern about the punitive aspects of the proposal. The common thread of the systems appears to be punishment; that is, throughout the systems there are penalties. (Reductions for allocation assignment each year resulting from review, monitoring, reporting, exclusion of programs and the like.)

As you know, Washoe County has diligently pursued action plans and projects to provide environmental improvements within the Washoe County portion of the basin. I am told that TRPA staff has stated that Washoe County has done an admirable job administering the Memorandum of Understanding signed earlier this year to implement the Tahoe Regional Planning Agency ordinance for residential construction. To that end, we have increased and trained staff to fulfill our obligations. We have shown a willingness to see the thresholds of the basin are attained.

Therefore, we request a more positive approach be substituted for the negative language in the preliminary proposal. Cooperation must be based on mutual respect and positive encouragement for a job well done.
Additionally, the Board felt that decisions made at staff level must be based on specific criteria included within the language of the ordinance. This is of particular concern in the allocation of the 50,000 square feet of commercial floor area distributed by “rankings” of each county’s accomplishment of environmental improvements and the evaluation criteria for special projects.

Sincerely,

[Signature]

Stephen T. Bradhurst, Chairman
Washoe County Commission

STB/rl
cc: Gabby Barrett, Long Range Planner, TRPA
December 11, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Lake Tahoe Shorezone Development Cumulative Impact Analysis and Draft Environmental Impact Statement (DEIS)

This item is an ongoing issue that is placed on the Governing Board agenda each month throughout the comment period which has been extended to January 31, 1997.

For the past seven months, TRPA staff, along with 24 other representatives of public and private interests, have been working in a partnership to gain consensus on the difficult issues highlighted in the Shorezone DEIS. The Shorezone Partnership Committee meets twice a month for all-day facilitated sessions.

Please contact Coleen Shade at (702) 588-4547 if you have any questions or comments regarding this agenda item.
December 11, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Appeal of Executive Director Decision Denying a Land Capability Challenge for Michael & Jennie Rafton, APN 117-072-08, 6731 North Lake Blvd., Placer County, California

**Proposed Action:** Deny the appeal. In order to deny the appeal, the Governing Board should make a motion to approve the appeal, and that motion should fail. The vote required to approve the appeal, would be an extraordinary vote (5/9), with at least five votes from California.

**Staff Recommendation**

The staff recommends that the Governing Board support the decision of the Executive Director made on July 18, 1996 to deny the land capability challenge on the dune portion of parcel APN 117-072-08, as it relates to the land capability challenge filed under Chapter 20 of the TRPA Code of Ordinances.

**Background**

This parcel is a developed commercial/tourist accommodation parcel. The parcel is approximately 64,750 sq. ft. in size, and is located in the Agate Bay subdivision, in Tahoe Vista, California. It has a slope of 1 to 12 percent.

This parcel is shown as land capability class 1b and 5 on the TRPA Land Capability Overlay Maps (Exhibit 1). The Soil Conservation Service Soil Survey for the Lake Tahoe Basin places this parcel within the Be (Beaches) and the JhC (Jabu stony sandy loam, moderately fine subsoil, variant, 2 to 9 percent slope) map units. The Map shows that the Be portion of the Rafton parcel is in land capability class 1b, and that the JhC portion of the Rafton parcel is in class 5.

TRPA staff completed a land capability verification under Chapter 20 (Land Coverage Standards) of the TRPA Code of Ordinances, in June 1995, and verified the land capability classes were correctly mapped as class 1b and 5. The Raftons then filed a land capability challenge with TRPA in July 1995 to confirm the land capability classes for this parcel.

TRPA staff found that although the mapping of the Rafton parcel was correct, the definition of the Be (Beaches) soil map unit in the soil survey was...
too simplistic, contains typographic errors, and was not sufficiently
detailed to account for the variety of soils and landforms that are contained
within the mapped extent of the Be soil map unit. This inadequate description
severely limited its usefulness to both staff, consultants and the Governing
Board in making determinations regarding land capability classification of the
Be soil map unit. It read as follows:

Beaches (Be) is adjacent to the lake shore, mainly the south shore
near Kings Beach. It is coarse sand derived mainly from granitic alluvium.

Staff has found that this simplistic definition of Be soils in the map unit,
would make it difficult for the Governing Board to utilize it in the context
of this appeal. The soil scientists who mapped the Be soil map unit, included
parcels in the Be soil map unit that had many different landform
characteristics, including pocket beaches, barrier beaches, and dunes, and
among others. Combining all of these landforms in the Be Soil map unit was
appropriate because, in terms of potential environmental impacts and land
use interpretations, they behave similarly.

The soil surveyors recognized that these areas are all sensitive lands in
terms of erodibility, susceptibility to disturbance and proximity to Lake
Tahoe. However, they failed to provide a sufficiently detailed description of
all of the components of the Be soil map unit to explain the way it was mapped
in the soil survey. The failure to provide a complete description in the soil
survey is significant because it has led to challenges of of the land
capability determinations done by staff.

TRPA staff considers all of the landforms currently mapped in the Be soil
unit, to be sensitive and in need of maximum protection from new disturbance.
Staff deemed it essential that the Governing Board have a better detailed,
more workable textual description for evaluating appeals concerning the Be
soil map unit. Therefore, TRPA contracted with Randy Mooy, who in
conjunction with Dr. Lynn Moody, drafted a better detailed textual
description of the Be soil map unit. Dr. Moody is an instructor at
California Polytechnic State University at San Luis Obispo and an expert in
the classification and mapping of shoreline sediments. Copies of abstracts of
her recent scientific journal articles on the subject are included for in the
staff summary for Agenda Item XI.C, Exhibits 3a and 3b.

Randy Mooy, a consulting marine scientist, has been under contract as the
Soil Conservation Mentor for TRPA’S Shorezone Structures GIS and Cumulative
Impact Analysis, and his expertise which is very relevant to the questions of
concern in this matter.

The field work for this study was completed in August, and a draft report
completed in October. The final report is included in your GB packet. The
information from this study is of great assistance in defining and guiding the
appropriate use and management of areas within the Be map unit, and useful to
the Governing Board in considering the Rafton’s Appeal.

The study by Randy Mooy and Dr. Moody, entitled "Criteria for Identification
of the Be Soil Map Unit", (See Agenda Item XI.C, Exhibit 4), consisted of an

12/11/96
AGENDA ITEM IX.A
investigation of the shoreline of Lake Tahoe. Their report contained much more detailed description of the sediments and the landforms that were included in the mapped Be soil map unit. Dr. Moody examined representative soils within each of the beach units using conventional soil survey techniques, including the barrier beaches on the South Shore, the beach area in Incline Village, and the wave-reeled wind blown sand dunes in Tahoe Vista.

The soils within the Be map unit are described as being very young with little soil horizon development as indicated by the lack of concentrations of clay, iron oxides, pedogenic silica, and calcium carbonate, which in addition to organic matter act to cement soil particles together into stable aggregates. According to Dr. Moody, the soil at Tahoe Vista, on which the Raftons' parcel is located, "consists of fine sands, with no aggregation, and very little organic matter... Like the south shore soils, the north shore soils are developmentally very young. No accumulations of cementing agents were noted." Dr. Moody determined that "The X factors (erodibility) of the fine sands are uniform through the profile... and overall, this soil is the most erodible of the four soils examined."

She further states that "The dune and reworked dune soils on the north shore are especially erodible, by both wind and water, if the vegetative cover is removed. Rapid to very rapid permeability will tend to lessen the likelihood of runoff on these sandy beach soils, yet this property, and the proximity of these soils to open water (the lake), means that contaminants that enter the soil could be transported rapidly into the lake."

The draft of the Be Soil Study was reviewed by Dr. Robert Bailey, the author of the Bailey Land Capability System, and currently a geographer with the U.S. Forest Service Ecosystem Management Staff in Washington D.C. After reviewing the draft report, Dr. Bailey concurred with the conclusions of the Be Soil study regarding the sensitivity of the Be (Beaches) soil map unit, and stated that the Be soils are best classified as 1b because they occur in geomorphic settings which lie adjacent to deepwater and wetlands. Dr. Bailey's statement is contained in an e-mail message sent to TRPA (See Agenda Item XI.C, Exhibit 5).

Appellants Position:

The basis of the appeal on the denial of the land capability challenge is contained in the document provided by Lewis S. Feldman (Exhibit 6, enclosed with the packet). This document contains the results of a soil investigation conducted by Mr. Sid Davis, of Davis', Consulting Earth Scientists. Mr. Davis concluded that the entire parcel from State Highway 28 to the high water line at the lakefront was in land capability 7, associated with the Efb (Elmira-Gefo medium sand variant, 0 to 5 percent slopes) map unit. He contends that the eolian material being deposited above the wave cut platform is not consistent with the Be (Beaches) map unit.
As evidence for his conclusion Mr. Davis sites the presence of a buried dark colored horizon which indicates that the eolian deposits have been stabilized by vegetation for long periods of time. According to Mr. Davis this dark colored horizon has resulted in an increase in organic matter content in this horizon. He also concludes that the soil has a slight relative erosion hazard.

Mr. Davis also states that the classification of this parcel as part of the Be map unit is not consistent with the generic definition of beaches.

Staff's Position:

The staff determined that the sand dune portion of this parcel is stream environment zone (SEZ) and land capability class 1b base on the SEZ indicators contained in subsection 37.3.B of the TRPA Code of Ordinances.

Subsection 37.3.B states:

"A stream environment zone (SEZ) shall be determined to be present if any one of the following key indicators is present..."

(1) Key Indicators: Key indicators are:

(a) Evidence of surface water flow, including perennial, ephemeral and intermittent streams, but not including rills or man-made channels
(b) Primary riparian vegetation;
(c) Near surface groundwater;
(d) Lakes or ponds;
(e) Beach (Be) soil; or
(f) One of the following alluvial soils:
   (i) Elmira loamy coarse sand, wet variant (Ev)
   (ii) Marsh (Mh)

Staff has determined that the dune portion of this parcel is an SEZ based on the presence of the Beach (Be) soil (37.3.B {f}), a "key SEZ Indicator". Only one "key indicator" is required under Chapter 37.3.B for the identification of an SEZ. This conclusion is based on the soil investigation conducted on the parcel by staff (Exhibit 2). The staff determination was consistent with the original mapping of this portion of the parcel in the U.S. Soil Conservation Service Soil Survey Published in 1974 (Exhibit 3), which places the lakeward two-thirds of this parcel in the Be (Beaches) map unit.

TRPA staff disagrees with Mr. Davis' conclusions. Staff did not find the "buried dark colored horizon" either during staff field work or during the joint site visit with Mr. Davis in February 1996. The soil colors on the dune are uniformly light colored throughout the soil profile, which is consistent with the mostly unvegetated nature of these dunes. During the
February 1996 on-site meeting TRPA Staff examined the soils in the pits and collected several samples for further analysis and as documentation of the soils found in the pits. After careful examination of the samples including their color and structure, staff determined that the deeper soil samples did not significantly differ from the surface Be soil samples. Both layers consisted of light colored (10 YR 7/2, dry & 10 YR 4/3, moist) structureless, single grain to massive, fine sand soil particles.

There were very few roots present in the pits examined, and staff did not observe the number and size of roots described in the profile descriptions contained in the Davis report. The current unvegetated state of this barrier beach/dune does not mean that at some point in the past that it was not vegetated, but aerial photographic evidence substantiates the fact that the barrier beach/dune area has not been vegetated in at least the last 40 years. These soils are not consistent with either the Elmira or Gefo series in terms of the color of the surface horizons, the soil structure, the texture of the surface horizon, the relative erosion hazard, and the amount and type of vegetation on the surface. They are, however, consistent with the better detailed Be soil more detailed description drafted by Randy Moony and Dr. Moody.

Staff’s position is consistent with the findings of Dr. Moody, who stated that the soil at Tahoe Vista, on which the Rafton’s parcel is located, "consists of fine sands, with no aggregation, and very little organic matter..."

This determination is also consistent with the 1b (SE2) classification of the Beaches (Be) map unit by Dr. Robert Bailey on page 29 (Appendix) of his report, "Land Capability Classification of the Lake Tahoe Basin, California-Nevada, A Guide to Planning, 1974" (Exhibit 4). Dr. Bailey’s determination that the Be soil is sensitive land and should therefore be placed in land capability class 1b, is consistent with the criteria that is laid out on page 20, Table 4, of the Bailey Report (Exhibit 5). The categories used to classify the soil map units include, slope percent, relative erosion potential, and runoff potential. Each of the categories are peremptory, in that the most restrictive property (slope, erosion potential, or runoff potential) moves the soil map unit into the next lowest category.

In the case of the Be soil map unit, the highly erodible nature of the soil places this in the "High" category in terms of relative erosion hazard. By definition this places it in high hazard lands in terms of sensitivity to new disturbance. Dr. Bailey determined that 1b was the most appropriate land classification class to place the Be soil map unit within the sensitive land classes (1a, 1b, 1c, 2, and 3).

The sensitivity of the surface soils on the sand dune portion of the Rafton’s parcel is demonstrated by its susceptibility to high relative erosion rates from both wind and water. On the lake side of the dune, the soil is subject to major water erosion due to wave action in periods of high lake level. For example, in the last 6 months since the lake has risen to the 6229.1 level.
(maximum high Lake level), wave action has eroded the dune fronting the Rafton parcel a distance of 30 feet landward, and has created a three and one-half foot high cut face. On the leeward side of the dune there are large accumulations of wind blown sand, which originate in the foreshore portion of the lake. Wind-blown sand accumulation is especially significant during periods of low lake levels, such as the recent drought period from 1988 to 1994. The Bailey report recognized the high erosion potential of Be dune soil, by both water and wind, and this is why it classified it as land capability class 1b, associated with the Be (Beaches) map unit.

With regard to erodibility, the Moory and Moody study agrees with staff. The study states, "The Be soil unit is highly erodible with little or no cohesiveness. The soil has little or no cementing agents to lend to aggregate stability. Soil erodibility increases if vegetation and surface (soil) horizons are disturbed.... The lakeshore sand dunes are especially erodible, susceptible to both wind and water erosion. The high hydraulic conductivity of these soils lessens the importance of runoff on these soils, but this property, and the proximity of these soils to Lake Tahoe increases the potential for contaminant that might enter the soil to be transported rapidly to the waters of the Lake."

Mr. avis' use of a generic description of beaches to justify excluding the Rafton parcel from Be soil map unit is totally inappropriate. As the Be (Beaches) soil map unit was mapped in the 1974 Tahoe Basin Soil Survey, and as is documented in Moory and Moody Be study, it includes several other landforms.

The conclusions contained in Moory and Moody report fully support the staff's position concerning the Rafton's parcel soil classification. After examination of all evidence including four soil pits, the representative soil profile which was described in detail, historical aerial photographic information, and onsite meetings with both the soil consultant and the property owners, staff concluded that the dune portion of the parcel was properly classified as the Be (Beaches) map unit, which is land in capability class 1b as depicted on the TRPA Land Capability Overlay maps.
LAND CAPABILITY OVERLAY MAP E-4

Class 4

Class 5

State Highway 28

Class 1b

Raffin Pegac

APN 117-072-08

Lake Tahoe
TAHOE REGIONAL PLANNING AGENCY

308 Dorla Court
Elks Point, Nevada

P.O. Box 1038
Zephyr Cove, Nevada 89448-1038

(702) 588-4547
Fax (702) 588-4527
Email: trpa@sierra.net

July 17, 1996

SOIL INVESTIGATION
FOR
PLACER COUNTY APN 117-072-08
6731 NORTH LAKE TAHOE BLVD

INTRODUCTION

A soil investigation was conducted on APN 117-072-08, Placer County, on September 30, 1995. This parcel is approximately 64,750 square feet in size and is located in Tahoe Vista, California. A land capability verification was completed on this parcel in June 1995 by TRPA staff, and the parcel was verified as land capability classes 1b, and 5, associated with the Be (Beaches), and JnC (Jabu stony sandy loam, moderately fine subsoil variant, 2 to 9 percent slopes), map units, respectively. A land capability challenge was filed to confirm the soil series and land capability class for the parcel.

ENVIRONMENTAL SETTING

This parcel was originally classified as land capability classes 1b and 5, on the TRPA Land Capability Overlay Maps. The Soil Conservation Service Soil Survey for the Lake Tahoe Basin places this parcel within the Be (Beaches), an

The Jabu soil map units. The parcel is mapped within geomorphic unit E-2, (Outwash, till, and lake deposits, low hazard lands) in the Geomorphic Analysis of the Lake Tahoe Basin. The JnC soil map unit is consistent with this geomorphic unit classification. The Be map unit is not. The Jabu soil formed in alluvium from mixed sources deposited over older lake sediments.

This dune portion of the parcel is on a southwest facing slope. The natural slope is 2 to 12 percent. On the dune portion of the parcel there is little natural vegetation except for small patches covered by dune grasses. On the portion between the dune and State Highway 28 the natural vegetation is lodgepole pine, a few Jeffrey pine, greenleaf manzanita, and whitethorn.

PROCEDURES

Six soil pits were dug on this parcel by TRPA staff, using hand tools. The soils in two of the pits were examined and described in detail. A copy of these descriptions are included in this report. Slopes were measured with a clinometer.

FINDINGS

Two soil series and soil map units were identified on this parcel. The soil series on the sand dune portion of the parcel is deep, excessively well
drained and is characterized as having a light gray and fine sand surface layer over a light gray fine sand underlying layer.

The surface soils on the sand dune portion of the parcel have a high relative erosion hazard from both wind and water. On the lake side of the dune, the soil is subject to major water erosion due to wave action in periods of high lake level. In the last 6 months since the Lake has risen to the 6229 level, wave action has eroded the dune a distance of 30 feet landward, and created a three and one-half foot high cut face. On the leeward side of the dune there are large accumulations of wind blown sand, which originate in the foreshore portion of the Lake. Wind-blown sand accumulation is especially significant during periods of low lake level, such as the recent drought period from 1988 to 1994. Due to the high erosion potential of this dune soil by both water and wind it is classified as land capability class 1b, associated with the Be (Beaches) map unit.

The soil series on the portion of the parcel adjacent to State Highway 28 is deep, somewhat poorly drained, and is characterized as having a very dark grayish brown and dark brown fine sand surface layer over dark yellowish brown and yellowish brown fine sand underlying material. The surface soils on this portion of the parcel have a slight relative erosion hazard and a moderately low runoff potential.

Based on this determination, TRPA staff has identified one similar to a series named in the Tahoe Basin Soil Survey and one unnamed series which is part of a soil map unit named in the Tahoe Basin Soil Survey.

The named soil series identified is similar to the Gefo series, except that it is somewhat poorly drained and has a water table at a depth of 40 to 60 inches. The Gefo series is excessively drained and does not have a water table within 60 inches of the soil surface. This similar soil has a B hydrologic group and a slight relative erosion hazard. Based on these characteristics it would be classified as a land capability class 6 under the Bailey Land Capability system.

Mr. Sid Davis, of Davis², Consulting Earth Scientists completed a soil investigation on this parcel in December 1994. Mr. Davis concluded that the entire parcel from State Highway 28 to the high water line at the lakefront was in land capability 7, associated with the EfB (Elmira-Gefo medium sand variant, 0 to 5 percent slopes) map unit. He contends that the eolian material being deposited above the wave cut platform is not consistent with the Be (Beaches) map unit.

As evidence for his conclusion Mr. Davis sites the presence of a buried dark colored horizon which indicates that the eolian deposits have been stabilized by vegetation for long periods of time. According to Mr. Davis this dark colored horizon has resulted in an increase in organic matter content in this horizon. He also concludes that the soil has a slight relative erosion hazard.

TRPA staff disagrees with Mr. Davis' conclusions. Staff did not find the "buried dark colored horizon" either during staff field work or in the joint site visit with Mr. Davis in February 1996. The soil colors on the dune are uniformly light colored throughout the soil profile, which is
consistent with the mostly unvegetated nature of these dunes. During the February 1996 on-site meeting TRPA Staff examined the soils in the pits and collected several samples for further analysis and as documentation of the soils found in the pits. After careful examination of the samples including their color and structure, staff determined that there wasn’t much evidence to differentiate this soil from that above it in the soil profile. Both layers consisted of light colored (10 YR 7/2, dry & 10 YR 4/3, moist) structureless, single grain to massive, fine sand soil particles.

There were very few roots present in the pits examined, but staff did not observe the number and size of roots described in the profile descriptions contained in the Davis report. The current unvegetated state of this barrier beach/dune does not mean that at some point in the past that it was not vegetated, but aerial photographic evidence substantiates the fact that the barrier beach/dune area has not been vegetated in at least the last 40 years. These soils are not consistent with either the Elmira or Gefo series in terms of the color of the surface horizons, the soil structure, the texture of the surface horizon, the relative erosion hazard, and the amount and type of vegetation on the surface.

Staff also disagrees that the soils on the site are uniform from Highway 28 to the backshore boundary. Staff found a very dark soil which developed under a fairly dense stand of lodgepole pine on the portion of the parcel north of the dune area. This vegetation has been in place for at least 50 to 70 years. This soil also has a seasonal high water table at a depth of 40 to 60 inches. This water table was found during the TRPA soil investigation work.

With regard to the relative erosion hazard, staff also disagrees with Mr. Davis’ conclusion. The Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974), defines three erosion hazard classes. High erosion hazard is defined in the Bailey report as “unprotected bare soil erodes sufficiently to damage severely and permanently the productive capacity of the soil or to yield excessively high volumes of sediment.” Recent evidence demonstrates that the parcel is subject to high rates of both wind and water erosion. This evidence includes photographic evidence of water erosion on the lakefront and the clearly evident accumulations of wind-blown sand on the leeward side of the dunes covering portions of parking lots, walkways, and fences. Mr. Davis acknowledges that the dune soils are highly susceptible to wind erosion on page 7 of his Shorezone Tolerance District Challenge report dated December 18, 1995, where he states "Sand is blowing because lake level has dropped. Blow sand 1 foot depth over boardwalk, this year."

As demonstrated by the lake elevation data collected since 1899 by the Water Master at Tahoe City, the low lake level to which Mr. Davis attributes the recent accumulation of sand to a depth of a foot or more, is a recurring phenomena. As these fluctuations occur, during periods of low water, sand will be blown out of the foreshore area of the Lake and will continue to cover walkways and other man-made features on this parcel. Staff concludes that the dune portion of the parcel has a high relative erosion hazard for both wind and water (particularly due to wave action) erosion.
CONCLUSION

The soils on APN 117-072-08 were determined to be consistent with land capability classes 1b, and 6 in accordance with the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974). These findings are based on the physical characteristics of the soils being most similar to the GeC (Gefo gravelly loamy coarse sand, 2 to 9 percent slopes) and the Be map units. The classification of the dune soil into the 1b land capability class (sensitive lands) is based largely on the highly erodible nature of the soil.

The Be map unit is in land capability class 1b. The GeC map unit is in land capability class 6. The GeC map unit are within geomorphic unit E-2 (Outwash, till, and lake deposits, low hazard lands). The Be soil is allowed 1% coverage, and GeC soil is allowed 30 percent.

Joseph Pepi
Certified Professional Soil Scientist
ARCPACS No. 2372

JP
Enclosure
Representative Soil Profile

Soil Classification: sandy, mixed, frigid, Entic Xerumbrept

Soil Series: Gefo, variant

O -- 2 to 0 inches; Jeffrey pine needles and twigs

A1-- 0 to 9 inches; very dark grayish brown (10YR 3/2) fine sand, very dark brown (10YR 2/2) moist; single grain; soft, very friable, nonsticky and nonplastic; few fine roots; many very fine and fine interstitial pores; 15 percent gravel; medium acid; clear wavy boundary.

A2-- 9 to 15 inches; dark brown (10YR 4/3) fine sand; dark brown (10YR 3/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine and medium roots; many very fine and fine interstitial pores; medium acid; clear wavy boundary.

AC-- 15 to 35 inches; dark yellowish brown (10YR 4/4) fine sand; brown (10YR 3/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; medium acid; gradual wavy boundary.

C1-- 35 to 47 inches; yellowish brown (10YR 5/6) fine sand; dark yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; medium acid; gradual wavy boundary.

C2-- 47 to 50 inches; dark yellowish brown (10YR 4/4) fine sand; dark yellowish brown (10YR 4/4) moist; common medium prominent (10YR 5/6) yellowish brown mottles; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; medium acid; clear wavy boundary. (Soil very moist)

C3-- 50 to 60 inches; yellowish brown (10YR 5/4) fine sand; dark yellowish brown (10YR 3/4) moist; common medium prominent (10YR 5/6) yellowish brown mottles; massive; soft, very friable, nonsticky and slightly plastic; many very fine and fine interstitial pores; medium acid. (Soil wet)
Representative Soil Profile

Soil Classification: mixed, frigid, Dystric Xeropsamment

Soil Series: Unnamed in the Tahoe Basin

C1-- 0 to 12 inches; light gray (10YR 7/2) fine sand, brown (10YR 4/3) moist; single grain; loose, loose, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; clear smooth boundary.

C2-- 12 to 30 inches; light gray (10YR 7/2) fine sand; brown (10YR 4/3) moist; massive; loose, loose, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; grual smooth boundary.

C3-- 30 to 60 inches; light gray (10YR 7/2) fine sand; brown (10YR 4/3) moist; massive; loose, loose, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid.
## Appendix

### CAPABILITY RANKING BY SOIL TYPE

<table>
<thead>
<tr>
<th>Map symbol</th>
<th>Soil name</th>
<th>Capability class</th>
<th>Allowable percentage of impervious cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be</td>
<td>Beaches</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>CaD</td>
<td>Cagwin-Rock outcrop complex, 5 to 15 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>CaE</td>
<td>Cagwin-Rock outcrop complex, 15 to 30 percent slope.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CaF</td>
<td>Cagwin-Rock outcrop complex, 30 to 50 percent slope.</td>
<td>1a</td>
<td>1</td>
</tr>
<tr>
<td>Co</td>
<td>Celito gravelly loamy coarse sand</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>EbC</td>
<td>Elmira gravelly loamy coarse sand, 0 to 9 percent slope.</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>EbE</td>
<td>Elmira gravelly loamy coarse sand, 9 to 30 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>EcE</td>
<td>Elmira stony loamy coarse sand, 9 to 30 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>EfB</td>
<td>Elmira-Gefo loamy coarse sand, 0 to 5 percent slope.</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td>Ev</td>
<td>Elmira loamy coarse sand, wet variant</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>Fd</td>
<td>Fill land</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>FuD</td>
<td>Fugawee very stony sandy loam, 2 to 15 percent slope.</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>FuE</td>
<td>Fugawee very stony sandy loam, 15 to 30 percent slope.</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>GeC</td>
<td>Gefo gravelly loamy coarse sand, 2 to 9 percent slope.</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Ged</td>
<td>Gefo gravelly loamy coarse sand, 9 to 20 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Gr</td>
<td>Gravelly alluvial land.</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>GsF</td>
<td>Graylock extremely stony loamy coarse sand, 30 to 50 percent slope.</td>
<td>1a</td>
<td>1</td>
</tr>
<tr>
<td>IgB</td>
<td>Inville gravelly coarse sandy loam, 0 to 5 percent slope.</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>IsC</td>
<td>Inville stony coarse sandy loam, 2 to 9 percent slope.</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>IsD</td>
<td>Inville stony coarse sandy loam, 9 to 15 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>IsE</td>
<td>Inville stony coarse sandy loam, 15 to 30 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>
Table 4. - Basis of capability classification for Lake Tahoe basin lands

<table>
<thead>
<tr>
<th>Capability levels</th>
<th>Tolerance for use</th>
<th>Slope percent</th>
<th>Relative erosion potential</th>
<th>Runoff potential</th>
<th>Disturbance hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Most</td>
<td>0-5</td>
<td>Slight</td>
<td>Low to moderately low</td>
<td>Low hazard</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>0-16</td>
<td>Slight</td>
<td>Low to moderately low</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>0-16</td>
<td>Slight</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>9-30</td>
<td>Moderate</td>
<td>Low to moderately low</td>
<td>Moderate hazard lands</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>9-30</td>
<td>Moderate</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>30-50</td>
<td>High</td>
<td>Low to moderately low</td>
<td></td>
</tr>
<tr>
<td>1a</td>
<td>Least</td>
<td>30+</td>
<td>High</td>
<td>Moderately high to high</td>
<td>High hazard lands</td>
</tr>
<tr>
<td>1b</td>
<td></td>
<td></td>
<td>Poor natural drainage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1c</td>
<td></td>
<td></td>
<td>Fragile flora &amp; fauna³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Most slopes occur within this range. There may be, however, small areas that fall outside the range given.

2 Low to moderately low = hydrologic-soil groups A and B; moderately high to high = hydrologic-soil groups C and D.

3 Areas dominated by rocky and stony land.

Table 5. - Lake Tahoe basin land area classified by capability

<table>
<thead>
<tr>
<th>Land capability class</th>
<th>Total area</th>
<th>National Forest land</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td>Percent</td>
</tr>
<tr>
<td>7</td>
<td>3,030</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>8,800</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>16,730</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>7,050</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>12,900</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>4,770</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>148,750</td>
<td>74</td>
</tr>
<tr>
<td>Total</td>
<td>202,030</td>
<td>100</td>
</tr>
</tbody>
</table>
NOTICE OF APPEAL

AND

APPEAL OF EXECUTIVE DIRECTOR DECISION

DENYING RAFTON LAND CAPABILITY CHALLENGE

RECEIVED
BY
AUG 15, 1996

TAHOE REGIONAL PLANNING AGENCY

Lewis S. Feldman, Esq.
Feldman, Shaw & DeVore,
A Law Corporation
2311 Lake Tahoe Boulevard, #1
South Lake Tahoe, CA 96150
Attorneys for Appellants
Michael and Jennie Rafton
NOTICE OF APPEAL
AND
APPEAL OF EXECUTIVE DIRECTOR DECISION
DENYING RAFTON LAND CAPABILITY CHALLENGE

NOTICE IS HEREBY GIVEN that Michael and Jennie Rafton appeal the July 18, 1996, decision of the Executive Director denying their Land Capability Challenge.

APPEAL

APPELLANT: Michael and Jennie Rafton

PROPERTY: Vista Shores Motel
6731 North Lake Boulevard
Tahoe Vista, California
APN 117-072-08
Placer County

1. Explanation of the Grounds for Appeal:

TRPA Staff has denied Mr. and Mrs. Rafton’s Land Capability Challenge, declaring the majority of the above-described property to fall within Land Capability Class 1b. Application of the Bailey Land Capability Classification System to the soils present at the Rafton property reveals the site is a virtually flat, excessively drained site that does not have near-surface groundwater, and is not within a stream environment zone (SEZ).

The site is part of a stabilized sand dune land form present on the north shore, formed as a result of the accumulation of blow sand, approximately 10,000 years ago. This land form is stable and the Raftons’ proposed redevelopment of their disturbed site poses no water quality or other environmental threat to Lake Tahoe. Consequently, under Bailey, the site should be assigned Land Capability Class 7.

2. Background:

Michael and Jennie Rafton purchased the eight unit Vista Shores Motel located on the lake side of Highway 28 in Tahoe Vista, California, in 1959. Since their purchase, they have continuously owned and operated this property. The eight units are spread among seven buildings constructed upon a sand dune. Aerial photographs of the site taken in 1966, 1982, and 1992 are attached hereto collectively as Exhibit "A". Examination of these photographs spanning 26 years clearly demonstrates a stable site.
When the Raftons purchased the property, it was improved with a 330 foot long pier/small boat marina, boat hoist and quonset hut/retail facility located at the end of the pier. (See 1966 and 1982 aerials.) Mr. and Mrs. Rafton voluntarily removed the quonset hut in 1985 and the pier/marina in 1991.

The Raftons were hopeful the Tahoe Vista Community Plan would provide a platform for them to redevelop this lake-front property. It is noteworthy the Tahoe Vista Community Plan emphasizes the need for redevelopment in this area. Unfortunately, the Tahoe Vista Community Plan process took longer than anticipated and did little to promote solutions to long-standing issues that serve only to preserve the status quo and thereby maintain the existing state of aged development.

The Raftons are now in their 70’s and quite frankly do not have the luxury of time. They want to demolish the existing seven buildings and construct a quality lake-front lodge in the old Tahoe style. The Raftons’ efforts to do so are frustrated because their site is mapped Land Capability Class 1 (Be-beach soils), even though TRPA Staff concedes it is not a SEZ, it is excessively drained, its slope is minimal, and there is no near surface groundwater. Under existing TRPA code, the Class 1 characterization prohibits the Raftons from either relocating existing coverage or transferring in additional tourist accommodation units (TAU’s).  

The site consists of 69,330 square feet with 28,462 square feet of existing coverage. Under Chapter 21 of the TRPA Code of Ordinances, the site can support 69 conventional TAU’s (40 units per acre), although the Raftons’ goal is to construct a total of 22 units.

The Class 1 Land Capability rating precludes the Raftons from realizing the potential of a site they have owned for 37 years and simply prolongs the state of economic despair imposed by virtue of their inability to redevelop their site to a modest level of economic return. Redevelopment of the site would accelerate the installation of BMP’s.

3. Issues for Resolution:
   a. What criteria are to be applied to the dune area to distinguish low capability lands from high capability lands?
   b. What characteristics predominate at the Rafton site?
   c. What are the potential environmental impacts arising from redevelopment

---

1 Curiously, current code permits a low capability site to receive TAU’s by “allocation” but prohibits an owner from transferring TAU’s from a sending site.
of the Rafton site?

4. **Land Capability Criteria:**

This commercial parcel was originally mapped 1b (Beach Soils) under the Bailey System. John Rogers was employed by Mr. Bailey to do the gross mapping and as indicated by Exhibit "B", Mr. Rogers recently inspected the site and believes the original gross mapping inaccurately depicts the actual land capability of the Rafton site. Mr. Rogers is of the opinion the area above elevation 6,234 feet falls within Land Capability Class 7. (See Exhibit "B"). So is Sid Davis (See Exhibit "C"). So is Resource Concepts, Inc. and Leslie Burnside (See Exhibit "D").

The real question is whether development upon the Rafton site creates an adverse impact to water quality. Bailey applies four common sense criteria to guide this inquiry:

1) **Slope;**
2) **Permeability;**
3) **Groundwater;**
4) **Erodability.**

TRPA Staff concedes the Rafton site slopes gently, is excessively drained, and is not subject to near surface groundwater. Therefore, three of the four criteria militate in favor of a finding of high capability land. The remaining discussion will therefore focus on erodability.

Because the site is lake front, erosion occurs within the area impacted by wave run-up.

A. **Areas of Agreement:**

Staff concedes the portion of the site originally mapped Class 5 by Mr. Rogers is beyond the area of influence of wave run-up; Staff proposes this small portion of the site be assigned Land Capability Class 6. This area is approximately 45 feet from the high water mark and is depicted on Exhibit "E" in the color yellow. Staff and Raftons' consultants agree the area of wave run-up reaches 6,234 feet elevation and this area is depicted in red on Exhibit "E". The area in between 6,234 feet elevation and the Class 5 portion of the site is the Area of Dispute and is shaded brown on Exhibit "E".
B. Area of Dispute:

Under Chapter 55.2 of the TRPA Code of Ordinances, three methodologies may be employed to determine the area of influence of wave run-up. The Raftons do not contest Staff’s selection of the most generous delineation of the back shore boundary (§55.2B): the area of instability plus ten feet. Exhibit "E" depicts this area in red, crossbars. The remaining portion of the Rafton site (depicted in brown and yellow) is therefore beyond the sphere of influence of wave run-up and therefore poses no risk to water quality. Staff contends the brown area is also within the area of influence of wave run-up, thus defining the Area of Dispute.

C. Application of Bailey Criteria to Area of Dispute:

On December 18, 1995, Sid Davis of Davis² Consulting Earth Scientists performed a soil investigation for the Vista Shores in connection with the within Shorezone Tolerance District Challenge.² (A copy of Mr. Davis’ 1995 report is attached hereto as Exhibit "C"). Backhoe excavations were performed and Mr. Davis made the following observations:

"The buried soil horizon, found and documented in two separate backhoe excavations on the Vista Shores project site, confirms that the land form above elevation 6,234' has a long history of stabilization. Many (perhaps several hundred) years of vegetation stability are required to accumulate organic matter (buried A horizon) to the extent viewed in the pit excavations. Situations are common on Tahoe’s north shore where elevated lake terraces have been buried by eolian materials subsequent to prolonged drought, when a broad strip becomes exposed below the level of the lake outfall at Tahoe City. Burial of a surface by blow sand does not constitute prohibitions on the area of deposition under TRPA’s Code of Ordinances. Dunes all along the lake front at the north shore have been developed with no greater adverse effects than any other land form exhibiting excessively drained soils, with rapid permeability and Soil Hydrologic Group A, such as the Elmira-Gefo soils of Land Capability Class 6 and 7. These areas are accumulating materials, not sloughing, and they pose no threat to water quality by way of erodability that might contribute to lake turbidity." (Emphasis added.) See Exhibit "D", at pp. 3-4.

Mr. Davis concludes the area below elevation 6,234 feet falls within the general definition of beaches (Be) under Chapter 37 of the TRPA Code of Ordinances, creating

² Mr. Davis is a State Certified Professional Soil Scientist.
a hinge at 6,234 and a toe of approximately 6,230 feet. He notes there are no escarpments, bluffs, or cliffs along this reach of the lakefront and concludes:

"The Vista Shores Resort resides mainly on high ground, with soils that are rapidly permeable and excessively drained (groundwater > 5 feet depth), nearly level or with gentle slopes. Erosion hazard is low, runoff potential is negligible and the opportunities for excessive sedimentation, beach erosion, or water turbidity are very low. (Emphasis added.) Id, at pp. 4-5.

5. TRPA Response:

Staff has taken a very determined stance in endeavoring to first foreclose this appeal in its entirety and failing that, to prevent reclassification of the soils.

A. Community Plan Barrier

Staff's response to Mr. Davis' findings were presented to the TRPA APC in connection with the certification of the Tahoe Vista Community Plan. Staff proposed to amend the EIS to provide that:

"TRPA establish criteria for determining which sandy areas are probably classified as sensitive before any further challenges or project expansions are approved in these areas." (Emphasis added.)

Obviously, Staff's recommendation would have foreclosed processing the Raftons' challenge. Fortunately, the Raftons' objection to an indeterminate stay of their land capability challenge prevailed, resulting in the deletion of the amendment proposed by Staff.

B. SEZ Barrier

On November 6, 1995, TRPA advised the Raftons application to redevelop their site could not proceed because TRPA verified the Land Capability as a "Stream Environment Zone." A copy of Jim Allison's November 6, 1995, letter is attached as Exhibit "F". The Raftons elected to waive the 180-day review period to enable their land capability challenge to proceed. Sid Davis replied to this letter in November, 1995, pointing out the area was not a SEZ pursuant to TRPA Code of Ordinances §37.3B. A copy of Mr. Davis' November, 1995, letter is attached hereto as Exhibit "G". TRPA Staff concedes the site is not a SEZ.
C. **Barrier Beach Barrier**

By letter dated February 13, 1996, Joseph Pepi replied to Davis’ December 18, 1995, Shorezone Tolerance Challenge (Exhibit "C"). Mr. Pepi reasoned the land capability was properly defined as 1b “because it [the sand dune] is part of a classic barrier beach system, dating back to the last glacial period.” Mr. Pepi concluded, "the entire barrier beach/dune area has more in common with the shorezone area from the back of the dune toward the lake than it does with the upland areas . . . ". Finally, Mr. Pepi disagreed with Mr. Davis’ observation of the presence of buried organic material. A copy of Mr. Pepi’s February 13, 1996, correspondence is attached hereto as Exhibit "H".

D. **Waive Run-up Barrier**

Next, on June 21, 1996, Douglas Smith conducted a site inspection of the Rafton property. It is noteworthy, Mr. Smith did not agree with the cornerstone of Mr. Pepi’s analysis: Mr. Smith did not consider the land form to be a barrier beach at all. He observed the site to be "a stabilized or partially stabilized paleo-parabolic dune . . . formed at least 10,000 years ago when the lake level was about 40 feet lower than present." Low water exposed significant lake bed and prevailing winds blew sand from exposed areas to form the dune. A copy of Mr. Smith’s June 21, 1996, memo to Mr. Pepi is attached as Exhibit "I".

Mr. Smith proposed the methodology referenced above to determine the area of influence of wave run-up, the area of instability plus ten feet, pursuant to Chapter 55.2B. The Raftons do not contest Mr. Smith’s selection of the most generous backshore boundary. Exhibit “E” depicts this area in red cross-bars. Nonetheless, Mr. Smith concludes the entire dune, including the stabilized portion, should be assigned Land Capability Class 1b. It is difficult to reconcile Mr. Smith’s delineation of the backshore boundary with the Chapter 55 criteria and the physical evidence.

Although the cornerstone of Mr. Pepi’s argument (barrier beach) was abandoned by Mr. Smith, Staffs’ resolve to foreclose reclassification is without reservation.3

---

3 Staff now proposes to commission a study of the north shore dune area by contract with Randy Mowry, a littoral drift specialist. This study is intended to re-visit application of the Bailey criteria to the dunes. The Raftons do not object to TRPA pursuing this endeavor, however, they do object to any effort to delay their appeal under existing code, rules and procedures. Specifically, they object to review of their proper and timely Land Capability Challenge under new standards -- standards that do not yet exist. The Raftons have committed significant resources to processing this challenge.
6. June 21, 1996, Meeting With Staff:

On June 21, 1996, Messrs. Davis, Rogers, and the undersigned met with Jim Baetge, Gordon Barrett, Joseph Pepi, and Douglas Smith to find points of agreement. The assembled agreed that the first three criteria, slope, permeability and proximity of near surface groundwater, militated in favor of a high capability finding; however, the assembled disagreed as to the fourth, erodability. The parties generally agreed the dunes were created by wind action scouring the lake bed in periods of low water as documented in Mr. Smith's June 21, 1996, memo (Exhibit "I"). The Appellants' representatives pointed out the dunes were created by accretion, not erosion, and therefore did not present a water quality hazard. Staff postulated yet another barrier to the Rafton project: that accretion of sand might impact sand budgets of adjacent beaches or other areas and suggested that a further study be commissioned to examine this possibility.4

Staff concluded determination of the area of influence of wave run-up was as grossly mapped by Mr. Rogers during the 1974 mapping and would not concede the area of wave run-up to be below that portion mapped Class 5 (yellow area on Exhibit "E"). Staff expressed the belief that such a determination constituted a policy decision for the Governing Board and hence, this appeal.

7. The Villa Vista Resort, APN 117-072-009 (Contiguous Site to the East):

The Villa Vista Motel, 6750 North Lake Boulevard, is east and contiguous to the Vista Shores site. It is located on the same sand dune as the Rafton property. On June 4, 1996, Resource Concepts, Inc. (RCI), conducted an independent soils investigation of this contiguous site under the direction of Leslie Burnside, a Certified Professional Soil Scientist. Ms. Burnside concluded this neighboring parcel, originally mapped as Class 1 Beach Soils, be assigned Land Capability Class 7 above elevation 6,234 feet. Ms. Burnside observed the organic layer Mr. Davis documented, although questioned by Mr. Pepi. More importantly, she too applied the applicable criteria set forth in Bailey and concluded:

under rules currently in place.

4 This is the same study referenced above, however, the proposed scope of work is different than originally discussed with Appellants' representatives.
"Using the Soil Survey at the Lake Tahoe Basin Area, the soils found in the subject parcel most clearly resemble the Elmira series as mapped elsewhere in the Tahoe Basin. The Villa Vista site soils were found to be deep, excessively drained with rapid permeability, potential for very slow runoff and slight erosion hazard." (Emphasis added.) Exhibit "E" at p. 4.

* * * *

"The soil profile descriptions collected in the field provide for soil classification to the series level, Elmira, sandy phase. Using Table 4 (Bailey, 1974), characteristics (very deep excessively drained soils, very rapid permeability, and members of Hydrologic Group A) and physical characteristics (slope percent is 0 to 5; relative erosion potential is slight; runoff potential is low; and disturbance hazard is low hazard) the Villa Vista Resort parcel, above 6,234 feet elevation exhibits characteristics that put it in Land Capability Class 7." (Emphasis original.) Exhibit "D", at p. 6.

It is not surprising that experienced soils scientists investigating the same land form and observing flat, well drained, dry, stable sites, independently reached identical conclusions: above elevation 6,234 feet, the appropriate classification under Bailey is Class 7.

8. Impacts From Redevelopment of the Site:

If the Rafton site is reclassified and redeveloped, total site coverage will not increase, although coverage will be relocated. Improved site drainage will be installed, along with TRPA approved landscaping. The site will be further stabilized. The scenic quality of the project area will improve as a result of the demolition of the seven scattered structures.

The Raftons have hired Jeff Lundahl to design the new project. Mr. Lundahl designed the Edgewood Golf Course Club House and the redesign for the old Ed's Tahoe Nugget building. The Raftons are confident the new project will reflect the "old Tahoe" character the current development lacks.

It is evident the project, if approved, will not cause any adverse water quality or other adverse environmental impacts to Lake Tahoe and will likely result in a net environmental benefit.
9. **Conclusion:**

The site is virtually flat, well drained, and is neither in a SEZ nor subject to near surface groundwater. Taking the most liberal view of the area of influence of wave run-up, and applying the methodology proposed by Mr. Smith, beach soils are present below elevation 6,234 feet and fall within a low capability district, whereas the area above elevation 6,234 feet presents little threat to water quality and under Bailey, should be assigned Land Capability Class 7.

The Raftons started this process in the fall of 1994 and have worked diligently with Staff and their consultants to find areas of agreement and a path to proceed with a modest redevelopment of their aged lakefront motel. They intend to proceed with the redevelopment of their site next building season. Staff initially objected to the project having determined the site fell within a SEZ. Staff later conceded the site was not a SEZ. Staff next endeavored to stall Mr. and Mrs. Rafton indefinitely by proposing their challenge be suspended as part of Staff sponsored mitigation proposed for the Tahoe Vista Community Plan. Alternatively, Staff argued the area was properly classified as beach soils because of a prehistoric barrier beach. Staff later abandoned the barrier beach barrier. Most recently, Staff hypotheses and now advocates the reclassification should be denied due to a tortured interpretation of the area of influence of wave run-up, well beyond the definition of Chapter 55.2B. This proposal would convert Chapter 55.2B from the area of wave run-up plus 10 feet to plus 120 feet. Yet another barrier postulated by Staff is that neighboring "sand budgets" may be adversely impacted if the site is reclassified and redeveloped. Because application of existing criteria does not support Staff’s determined denial, Staff has now commissioned a new study, a study the Raftons fear is preordained to justify denial of their Land Capability Challenge. You don’t have to be a scientist to see that deposition of sand onto the dune is a one-way process: prevailing winds blow sand from south to north. Sand is deposited on the upland portion of the site, on Highway 28, and on the mountain side of Highway 28. The aerial photos demonstrate a stable land form that TRPA concedes has been there for the past 10,000 years. This process will continue whether the site is redeveloped or the status quo is perpetuated. Water quality is not a risk if the site is reclassified.

Independent professional soil scientists have examined not only the Rafton site but the adjacent site. Both Mr. Davis and Ms. Burnside observed buried organic material evidencing long periods of vegetation and therefore a stable land form. Application of Bailey indicates the land form is stable. Common sense indicates the land form is stable. Accordingly, Mr. and Mrs. Rafton request the Governing Board to review the evidence, disregard the speculation and conjecture, and fairly apply the relevant criteria to their site.
The Raftons respectfully submit application of the Bailey criteria reveals a flat, well drained site, free of high ground water, free of any stream zone activity, subject only to an area of influence from wave run-up which is the area of instability, plus ten feet, as defined by Chapter 55.2B. Mr. and Mrs. Rafton respectfully request the Governing Board to draw the line for the area of influence for wave run-up as depicted on Exhibit "E" and to find that the area above elevation 6,234 feet is high capability land, properly assigned Land Capability Class 7.

Respectfully submitted,

FELDMAN, SHAW & DeVORE
A Law Corporation

By: [Signature]
Lewis S. Feldman
Attorneys for Michael and Jennie Rafton.

LSF/ac
February 6, 1996

Re: Vista Shores Resort

Joe Pepi
Tahoe Regional Planning Agency
P.O. Box 1038
Zephyr Cove, Nevada 89448-1038

Dear Mr. Pepi,

This letter is an attempt to address an issue that keeps re-occurring in our discussions with TRPA IPES staff regarding the original mapping by the Soil Conservation Service (SCS) of the shorezone into the land classification of Be/1b (Beaches). In addition, the boundary as mapped by the SCS was also the same as the mapping done by Bailey. As I was part of the original SCS team that mapped the Tahoe Basin, I would like to offer the following information.

1. Beach (Be) was mapped into a category labeled as miscellaneous. (There are miscellaneous areas as well as miscellaneous land types).

2. The definition of a Miscellaneous Area is as follows: Miscellaneous Areas have essentially no soil and support little or no vegetation. This can be a result of active erosion washed by water, unfavorable soil conditions, or man's activities. Map units are designed to accommodate miscellaneous areas, and most mapping units named for miscellaneous areas have inclusions of soils. Source: Soil Survey Manual, USDA Handbook 18, 1993).

3. A recognized miscellaneous area is the designation of Beaches. Beaches are sandy, gravelly, or cobbly shores washed and rewashed by waves. The areas may be partially covered with water during high tides or storms. The mapping unit Beaches (Be) in the Tahoe Basin Soil Survey is described as: Beaches (Be) adjacent to the lake shore, mainly the south shore and near Kings Beach. It is coarse sand derived mainly from granitic alluvium.
4. The definition of miscellaneous land type in the Tahoe Basin Soil Survey is a mapping unit for areas of land that have little or no natural soil, or that are too nearly inaccessible for orderly examination, or that occur where, for other reasons, it is not feasible to classify the soils.

5. Additionally there are other publications, sources, etc. that have defined beaches including the Glossary of Land Form and Geologic Terms, National Soils Handbook April, 1986. This definition of Beach includes: "The unconsolidated material that covers a gently sloping zone, typically with a concave profile, extending landward from the low water line to a place where there is a definite change in material or physiographic form or to a line of permanent vegetation; the relatively thick and temporary accumulation of loose water-borne material that is in active transition along or deposited on the shorezone between the limit of low and high water."

The miscellaneous area (Beach) was broadly defined in the Tahoe Basin Area Soil Survey. There were no attempts to investigate and describe inclusions of other soils or land types, such as dunes, in this mapping unit.

At the beginning of the Tahoe Soil Survey the SCS held meetings with the local planning agencies on their needs for planning. Their response generally was "just make the soil survey". Currently mapping units have become very critical due to regulations on land use issues, TRPA Code prohibitions, etc. If the SCS had known that the Beach (Be) designation was to be so critically scrutinized, we would have examined it more closely.

Because the Beach (Be) is a critical mapping unit for planning on site investigations of properties classified as Beach (Be) can be separated, and accurately delineated into a proper land capability classification.

Since I was present at the on-site soil and land form analysis meeting, I would like to re-affirm that I am in complete agreement with Sid Davis' analysis of the soils on this property.

I hope this information answers any questions you had and if I can be of further assistance, please call.

Sincerely,

[Signature]

John H. Rogers
Certified Professional Soil Scientist No. 1936
DAVIS
CONSULTING EARTH SCIENTISTS
P. O. Box 734 • Georgetown, California 95634 • (916) 333-1405; FAX (916) 333-1009

December 18, 1995

Shorezone Tolerance District Challenge
for
Vista Shores Resort
Placer County, CA
(APN117-072-08)

Introduction:

Concurrent with a Land Capability Challenge on the above referenced parcel, DAVIS\(^2\) has been retained by Leah Kaufman, agent for Vista Shores Resort, to evaluate Shorezone Tolerance District 1, as has been designated for the Vista Shores area of the Lake. As is required under TRPA's Code of Ordinances (53.4) soils, geomorphology, hydrology, and vegetation shall be discussed in the following report.

Technical information derived from the Soil Investigation for Vista Shores Resort (DAVIS\(^2\), 12/21/94) will serve as supportive information for this report. Albeit redundant, it is necessary to explain the findings of the Land Capability report in the context of the Codes for Shorezone regulation.

Environmental Setting:

Vista Shores Resort is located at 6731 Lake Shore Boulevard, Tahoe Vista, Placer County, California at the north shore of the Lake. This is a lakefront parcel which has improvements consisting of approximately seven small cabins configured in an "L" shape near the center of the parcel. Nearest Highway 28 is a vegetated area, dominated by Lodgepole pine and grasses, surrounding an odd shaped paved parking lot. The central portion of the parcel, south of the front line of buildings, experiences intermittent accumulations of sand, blown up from barren flats of the beach area, as a result of lower than normal and fluctuating lake water levels. Void of plant life at the present time, soils show that this area previously had been stabilized by vegetation.

Soils are shown on TRPA map sheet E-4 as Be (Beaches) and JhC (Jabu stony sandy loam, moderately fine subsoil variant, 2 to 9 percent slope). Geology (Mathews, 1968) is shown as Ql (recent lake beds). Bailey's geomorphic analysis places this site in E\(_{2}\) (Outwash, till and lake deposits) and E\(_{3}\) (Alluvial lands).

Other than the active beach area at the lakefront, there are no Stream Environment Zones (SEZ) influencing this property or adjacent parcels.

Methodology:

Soils were examined by utilizing a backhoe to expose the profile for inspection to approximately 5 feet depth, on September 14, 1994. This was done because it was impossible to excavate in the dry sand with hand tools, as loose material collapsed.
back into a small diameter hole. Soil information compiled follows standards of the National Cooperative Soil Survey pertaining to soil classification, erodibility, drainage class assessment, and landform determination. The area of interest is currently void of vegetation.

Findings:

Soils were found to be deep, excessively drained and members of Soil Hydrologic Group A above elevation 6,234 feet. There is a thin mantle of eolian sand burying a horizon rich in organic matter, indicative of accumulations from past vegetation, or long-term stabilization. These soils most closely resemble the Elmira-Gefo series as mapped elsewhere in the Lake Tahoe Basin by the Soil Conservation Service (Rogers, 1974).

A limited area of beach (Be) was delineated on the Land Capability Map (12/21/94). This feature is mainly constrained by the high and low limits of the Lake. As tides are generally inconsequential at Tahoe, the Beach is confined pretty much to the annual water fluctuation, where the high level is governed by the Lake outfall issuing into the Truckee River at Tahoe City (Elev. ~ 6,229 Feet MSL), or a variable low level in response to periodic droughts. Wave run-up is responsible for limited destabilization above elevation 6,229 feet, as can be differentiated by the hinge point of the slope separating the wave-cut bench from materials at higher elevation. Normal wave action at the shore swash zone generally undermines the unconsolidated sand deposits at the upper part of the beach, and occasional wave run-up generated from extreme storms may periodically reach the hinge point where the elevated terrace slope flattens. This boundary is interpreted as the limit of the backshore, at approximately elevation 6,234 feet (see Figure No. 1 - Cross Section of Landforms and Land Capability Districts, Vista Shores Resort). Technically the beach would be delineated from the toe of the slope at elevation 6,230 feet, (instead of the hinge) as the toe of the slope is the true line of demarkation between the landforms, but because waves likely do occasionally rework the incipient bank, that area is also included in the Be map unit.

Areas above elevation 6,234 feet lack SEZ indicators, vegetation, hydrology or soils that place in Class 1b (Chapter 37). Beyond the row of buildings, areas left unimproved are vegetated with conifer and grass species. The beach does not separate the lake proper from marshes or wetlands. There are no tributary streams to the lake in the near proximity of this site, at least within 150 feet east or west.

Analysis:

Lake Tahoe has a well documented geologic history of variable lake levels. Evidence of paleo lake level fluctuation is best substantiated by preserved sandy deposits upon which the Jabu soil series (Rogers, 1974) has developed, probably middle Pleistocene age (~100 ka, bp). The most extensive expression of this event is
a landform that nearly bath tub rings the lake at elevation 6,400 feet, approximately 170 feet higher than the present day outfall at Tahoe City. Birkeland (1963, 64) reports that lake level variation was likely induced by glaciers moving down Squaw Valley, blocking the Truckee River and/or volcanic activity north of Tahoe City. Slope analysis of the basin also suggests that the highest lake level was approximately 6,800 feet (Burnett, 1968). Evidence of this highest stand is spotty - either most of the material eroded away, or the higher stand was shorter lived and deposited less material than the stand at 6,400 feet (or both).

Very recently there has been the discovery of the submerged forests in Lake Tahoe, approximately 90 feet beneath the present high water line, yielding radio isotope data in 5 to 6,000 year range (Rose, 1993), substantiating that the lake water surface was considerably lower. The lake likely did not spill at all for many years.

As the lake level recedes, a period of instability exists until vegetation stabilizes the fresh area of exposure. The interim period of instability provides a source for mobilization and redeposition of eolian materials. The north shore has the most extensive eolian deposits of any area in the basin because it is down gradient of the prevailing wind pattern. Other onsite investigations by DAVIS² (Davis, 1991, 94) at the north shore have shown that eolian deposits are mantled by beach deposits, and vise versa, and that this type of landform evolution has occurred multiple times. The north shore area is now in transition, as periodic dry periods induce lake level drops and exposes an unstable shoreline to prevailing wind. Wind erosion from the freshly exposed and wider beach area causes aggradation on the elevated terraces adjacent. The same eolian deposit carries from Vista Shores Resort north, across highway 28. Part way across this landform vegetation has stabilized it. If the lake level stays near full, fluctuating only a few feet below 6,229 for several years, the dune area will likely revegetate, as there will be a limited unstable area between the high and low water line to provide a sand source. Irrigation and planting of vegetation, say willow or cottonwood, along the transition zone would tend to stabilize the terrace quickly by attenuating wind velocities and dampening deposition.

The buried soil horizon, found and documented in two separate backhoe excavations on the Vista Shores project site, confirms that the landform above elevation 6,234 feet has a long history of stabilization. Many (perhaps several hundred) years of vegetation stability are required to accumulate organic matter (buried A horizon) to the extent viewed in the pit excavations. Situations are common on Tahoe’s north shore, where elevated lake terraces have been buried by eolian materials subsequent to prolonged drought, when a broad strip becomes exposed below the level of the lake outfall at Tahoe City. Burial of a surface by blow sand does not constitute prohibitions on the area of deposition under TRPA’s Code of Ordinances. Dunes all along the lake front at the north shore have been developed with no greater adverse effects than any other land form exhibiting excessively drained soils, with rapid permeability and Soil Hydrologic Group A, such as the Elmira-Geo soils of Land Capability Class 6 and 7. These areas are accumulating materials, not
sloughing, and they pose no threat to water quality by way of erodibility that might contribute to lake turbidity.

Because the elevated terrace area exhibits deep and excessively drained soils, it is unlikely habitat for the endangered plant species *Rorippa subumbellata*. Reported to be a perrenial plant that enjoys moist sites from 6,000 to 8,000 feet elevation, June-July (Munz, 1959), one might expect this species in a capillary zone above a shallow water table, to provide available water below 5-7 bars of tension. This species is more likely nearer the high water zone (Be) or near the mouth of a contributing stream (SEZ) where there is advantage of near surface available water during the growing season. Such is not the case on the elevated terrace at Vista Shores Resort.

Areas above elevation 6,234 feet at Vista Shores Resort have characteristics that place in Land Capability Class 7 with 30 percent allowable coverage (EFB) as defined under Chapter 20, and the Land Classification System (Bailey, 1974).

The area below elevation 6,234 feet on the Vista Shores Resort project site meets the general definition of Beaches (Be) under TRPA's Code of Ordinances (Chapter 37). There is a periodic water table, induced by the lake's high water line, and wave run-up likely reworks sediments in this zone in extreme storm events. What is actually occurring is that the sand in the swash zone (normal day-to-day wave action) undermines the terrace material, and the gentle slope above equilibrates (transition zone) to the elevation of removal, producing in this case a hinge at 6,234 feet and a toe of approximately 6,230 feet. The elevated terrace has a slope of about 0.0 to 4.0 percent; the intervening or transition slope gradient is about 8.0 percent; the beach is approximately 6.0 percent. There are no escarpments, bluffs, or cliffs along this reach of the lakefront.

The maximum extent of the backshore area is determined to be lower than elevation 6,234 feet, a distance that varies between 45 and 70 horizontal feet landward from the lake high water line of 6,229 feet. This and adjacent parcels have no wetlands associated with them, other than the lake itself.

A review of the Code (Chapter 53.6) Shorezone Tolerance District 1: states that:

53.6.A **Nature of the District:** The beach that forms the shoreline in these districts is a low sandy barrier that separates the lake proper from marshes and wetlands. Generally the shorezone is ecologically fragile and any substantial use or alteration can lead to excessive sedimentation, beach erosion and water turbidity.

The Vista Shores Resort resides mainly on high ground, with soils that are rapidly permeable and excessively drained (groundwater > 5 feet depth), nearly level or with gentle slopes. Erosion hazard is low, runoff potential is negligible and the opportunities for excessive sedimentation, beach erosion, or water turbidity are very
low.

Only the area shown as Be on the Land Capability Map (DAVIS\(^2\), 12/21/94) should be considered as sensitive under Chapter 20 (Class 1b). In accordance with the ordinance criteria, this area does not qualify for shorezone regulation under Chapter 53. Please refer to the Land Capability Map showing the pertinent districts, and to Figure No. 1 that shows a cross section of the land profile with respect to the pertinent districts.

Respectfully submitted,

Sidney Davis,
Certified Professional
Soil Scientist No. 1031

References:


Soil Conservation Service. 84 pp.


12. ____ . Chapter 37.


Representative Soil Profile Descriptions

Stop No. 1

C1 0 to 13 inches, pale brown (10YR 6/3) sand, brown (10YR 4/3) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; clear smooth boundary.

C2 13 to 29 inches, pale brown (10YR 6/3) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; abrupt smooth boundary.

Ab 29 to 42 inches, brown (10YR 5/3) sand, dark brown (10YR 3/3) when moist; single grain, loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual smooth boundary.

C1 42 to 67 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 3/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual smooth boundary.

C2 67 to 78 inches, brown (10YR 5/3) sand, dark yellowish brown (10YR 4/6) when moist single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid.

Notes: Hydrologic Group A. Buried surface at 29 inches; evidence of stabilization by vegetation for extended period.

Stop No. 2

C1 0 to 11 inches, pale brown (10YR 6/3) sand, brown (10YR 4/3)
when moist; single grain; loose, very friable, nonsticky and nonplastic; many medium and coarse roots; many very fine and fine interstitial pores; slightly acid; clear smooth boundary.

C2 11 to 16 inches, pale brown (10YR 6/3) sand, brown (10YR 4/3) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; abrupt smooth boundary.

Ab 16 to 21 inches, brown (10YR 5/3) sand, dark brown (10YR 3/3) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual smooth boundary.

C1 21 to 50 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 4/4) when moist single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual smooth boundary.

C2 50 plus inches, yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 3/6) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual smooth boundary.

Notes:

1. Common fine, medium and coarse roots below 4 inches; Hydrologic Group A; Sand is blowing because lake level has dropped. Blow sand 1 foot depth over boardwalk, this year.

2. Observation boring was placed in planter area near the parking lot, on the street side of the buildings. This soil is similar to the above descriptions, with aeolian sand to 60 inches depth. This area supports many Lodgepole pine.

Soil Series: Elmira, sandy variant
Soil Classification: Mixed, frigid, Dystric Xeropsammets
Hydrologic Group: A
Relative Erosion Potential: Slight
Runoff Potential: Low
June 26, 1996

Mr. Dick Davis
Villa Vista Resort
6750 N. Lake Blvd.
Post Office Box 47
Tahoe Vista, California 96148

RE: Soil and Land Capability Classification Verification.

Dear Mr. Davis:

Enclosed please find Resource Concepts, Inc.'s (RCI's) report regarding the Villa Vista Resort. I apologize for the delay and any inconvenience that it may have caused.

Please call me if you should have any questions.

Sincerely,

Leslie Burnside
Leslie Burnside, CPSS No. 11146

cc: Ms. Leah Kaufman w/ attachment
Kaufman Planning and Consulting Services
Post Office Box 253
Carnelian Bay, California 96140
VILLA VISTA RESORT
LAND CAPABILITY VERIFICATION
APN 117-072-009

June 27, 1986

Prepared For:
Mr. Dick Davis
Villa Vista Resort
Post Office Box 47
Tahoe Vista, California 96148

Prepared By:
Resource Concepts, Inc. (RCI)
340 North Minnesota Street
Carson City, Nevada 89703-4152
Ph: (702) 883-1600
Fax: (702) 883-1656
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</tbody>
</table>

**APPENDICES:**

- Appendix A  Figure 1. Project Area Location
- Appendix A  Figure 2. Land Capability APN 117-072-009
- Appendix B  Representative Soil Profile Descriptions
Resource Concepts, Inc. (RCI), was retained by Mr. Dick Davis of Villa Vista Resort to conduct an on-site soils and landform analysis as they pertain to the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974)¹ Table 4 - Basis of capability classification for Lake Tahoe Basin lands (page 20), and the Tahoe Regional Planning Agency's (TRPA's) Code of Ordinances (Chapter 37)² to confirm the Land Capability Classification for the parcel.


Villa Vista Resort/Land Capability Verification

RESOURCE CONCEPTS, INC.

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ENVIRONMENTAL SETTING

Villa Vista Resort is located on APN 117-072-009, Tahoe Vista, Placer County, California at the north shore of Lake Tahoe (Figure 1, Appendix A). The resort is on a lakefront parcel constructed on a stabilized dune with existing tourist accommodations. The improvements include a parking lot adjacent to Highway 28, with office and cabins extending linearly toward the lake. There is little native vegetation associated with the subject parcel. However, in the area that it does exist, Jeffrey pine dominates the overstory, with lodgepole pine, incense cedar, bitterbrush, manzanita and pine bluegrass making up the remainder of the vegetation community adjacent to the parking lot. The on-site community is best represented by Plant Community Type 14: Pine. Adjacent to the walkway between the cabins, garden beds support maintained horticultural species.

Soils are shown on TRPA map sheet E-4 (1987) as Be (Beaches) and Jabu soil. Bailey’s geomorphic analysis places this site in E₁ (Outwash, till and lake deposits) and E₂ (Alluvial lands).

There are currently no functioning or remnant Stream Environment Zones (SEZ) other than the active beach at the lakefront on this parcel.

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METHODOLOGY

Three soil profiles were exposed by hand excavation to a depth of approximately 5 feet for documentation of soil characteristics on June 4, 1996. Figure 2 (Appendix A) illustrate the location of the three soil profiles described. Soil information was recorded in accordance with the standards of the National Cooperative Soil Survey.
FINDINGS

Please refer to Figure 2, Appendix A.

The purpose of a site specific soils and land capability classification verification is to verify or refine information previously provided on plan area maps prepared by TRPA. TRPA's initial land capability mapping presented on the 1987 plan area maps was based on the 1974 Tahoe Basin soil survey, Bailey's land capability classification system and aerial photograph interpretation. Since 1987, TRPA and various professional consultants have worked toward refinement of the earlier land capability mapping via ground truthing site specific areas or individual project areas. Therefore, the findings of this field investigation reflect a ground truthing of the 1987 plan area land capability mapping. Findings were made within two subject areas; soil classification and landform/land capability classification.

Soil Classification: Soil Information recorded in the field (Appendix B) was evaluated against previously collected, mapped and published soil information to determine the correct classification for the subject site soils. Using the Soil Survey of the Lake Tahoe Basin Area¹, the soils found on the subject parcel most closely resemble the Elmira series as mapped elsewhere in the Tahoe Basin. The Villa Vista site soils were found to be deep, excessively drained with rapid permeability, potential for very slow runoff and slight erosion hazard. Roots were documented to 26 inches, with potential rooting depth to 60 inches plus. Buried A horizons were documented in each of the three soil profiles (See Plates 1 through 4, Appendix B). These soils are also members of the Soil Hydrologic Group A above the active beach or that affected by wave action.

Landform/Land Capability Classification: The Villa Vista parcel is comprised of two different landforms; beach and dune. Beach is defined by the Glossary of Land Form and Geologic Terms², as "The unconsolidated material that covers a gently sloping zone, typically with a concave profile, extending landward from the low water line to a place where there is a definite change in material or physiographic form or to a

line of permanent vegetation; the relatively thick and temporary accumulation of loose water-borne material that is in active transition along or deposited on the shorezone between the limit of low and high water.

The low water line of Lake Tahoe is dictated by annual precipitation and/or discharge from the Lake to the Truckee River. The maximum high water level of the Lake is governed by the outfall to the Truckee River at the dam in Tahoe City (~ 6,229 feet elevation MSL). Wave action or run-up is responsible for minimal disturbance above the maximum high water level. This boundary is distinct on the ground and can be described as that area on the slope where the wave-cut bench ends and the higher elevation material begins. This boundary can also be interpreted as the limit of the backshore (~ 6,234 feet elevation MSL).

That portion of the Villa Vista Resort above 6,234 feet elevation does not meet the codified criteria (Chapter 37) of Stream Environment Zone (SEZ).
CONCLUSIONS

The Be or Beach miscellaneous area as delineated by the Lake Tahoe Basin soil survey can be refined based upon the geologic definition of a beach, and the documentation of buried surface horizons in each of the three soil profiles described. The area above the active beach supports grass plants at pit location 3, with roots recorded in pits 1 and 2 below the existing eolian surface material. The presence of root material below the existing eolian surface confirms the long term stability of the dune landform on this parcel. The Be miscellaneous area extends from ~ 6,234 feet elevation lakeward.

The soil profile descriptions collected in the field provide for soil classification to the series level, Elmira, sandy phase. Using Table 4 (Bailey, 1974), characteristics (very deep excessively drained soils, very rapid permeability, and members of Hydrologic Group A) and physical characteristics (slope percent is 0 to 5; relative erosion potential is slight; runoff potential is low; and disturbance hazard is low hazard) the Villa Vista Resort parcel, above 6,234 feet elevation exhibits characteristics that put it in Land Capability Class 7.

This soil classification and land capability verification as reported found no physical evidence on the ground, any TRPA codified criteria, or any landform interpretation in the Bailey Land Capability Classification system that would place the area above 6,234 feet elevation on this parcel in any other than Class 7.

Leslie M. Burnside, CPSS No. 11146
APPENDIX A

Figure 1. Project Area Location
Figure 2. Land Capability APN 117-072-009
APPENDIX B

Representative Soil Profile Descriptions
Soil Profile Photo Plates
Appendix B
REPRESENTATIVE SOIL PROFILE DESCRIPTIONS

STOP NO. 1:

C 0 to 6 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; abrupt wavy boundary.

Ab 6 to 7 inches, light yellowish brown (10YR 6/4) sand and dark yellowish brown (10YR 3/4) moist and dry colors; single grain, loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; abrupt wavy boundary.

2C 7 to 16 inches, light yellowish brown (10YR 6/4) sand, yellowish brown (10YR 3/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; few fine and medium roots; slightly acid; abrupt wavy boundary.

2Ab 16 to 17 inches, pale brown (10YR 6/3) sand, dark brown (10YR4/3) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine interstitial pores; few fine roots; slightly acid; abrupt wavy boundary.

3C 17 to 21 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; few fine roots; slightly acid; abrupt wavy boundary.

3Ab 21 to 22 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 3/4) when moist; single grain; loose very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; few fine roots; slightly acid; abrupt wavy boundary.
4C 22 to 35 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; abrupt wavy boundary.

4Ab 35 to 39 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 3/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; abrupt wavy boundary.

5C 39+ inches, yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid.

STOP NO. 2:

A 0 to 7 inches, light brownish gray (10YR 6/2) sand, with very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) organic accumulation, grayish brown (10YR 5/2) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; few medium and few coarse roots; slightly acid; gradual wavy boundary.

C 7 to 12 inches, yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very and fine interstitial pores; slightly acid; gradual wavy boundary.

Ab 12 to 24 inches, light yellowish brown (10YR 6/4) sand, with very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) organic accumulation, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; common medium and common coarse roots; slightly acid; gradual wavy boundary.

2C 24 to 33 inches, yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual wavy boundary.

2Ab 33 to 36 inches, light yellowish brown (10YR 6/4) sand, with very dark gray (10YR 3/1) and very dark grayish brown (10YR 3/2) organic accumulation, dark yellowish brown (10YR 4/4) when moist; single
grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual wavy boundary.

3C  36 to 48+ inches, yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual wavy boundary.

STOP NO. 3:

A  0 to 6 inches, light yellowish brown (10YR 6/4) sand, with dark yellowish brown (10YR 3/4) organic accumulation, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; many very fine roots; slightly acid; gradual wavy boundary.

C  6 to 15 inches, light yellowish brown (10YR 6/4) sand, dark yellowish brown (10YR 4/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; few coarse roots; slightly acid; gradual wavy boundary.

Ab  15 to 26 inches, yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 3/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; few coarse roots; slightly acid; gradual wavy boundary.

2C  26 to 42+ inches, yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 3/4) when moist; single grain; loose, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; slightly acid; gradual wavy boundary.
November 6, 1995

Ms. Leah Kaufman
Kaufman Planning
P.O. Box 253
Carnelian Bay, California 94611

Dear Ms. Kaufman:

HOLDING REVIEW OF VISTA SHORES 22 UNIT TIMESHARE PROJECT, APN 117-072-08,
PLACER COUNTY

This letter is to inform you that the Tahoe Regional Planning Agency (TRPA) is putting a hold on review of a proposal for a twenty-two (22) unit timeshare project APN 117-072-08 pending resolution of a land capability challenge. The holding period for this proposal may extend beyond the 180 day review period for applications. TRPA will require written authorization from you to extend that review period. If TRPA does not receive such a letter waiving the 180 day review period, TRPA will be required to take action to deny the proposed project, the reasons for which are discussed below.

Subsection 34.4.B(8) of the TRPA Code of Ordinances prohibits the transfer of existing development, tourist accommodation units (TAUs) in this case, to low land capabilities. Your application requires transfer to this property of 14 TAUs. At this time, the land capability verified for the area proposed for the TAUs is Stream Environment Zone (SEZ or 1b), which is a low land capability. On June 28, 1995, the applicants filed a land capability challenge for the property which has the potential to alter the area delineated as SEZ. Pending resolution of the land capability challenge, TRPA will not take action to deny the proposal (the project review is on hold). If the area depicted as SEZ does not change with the land capability challenge, TRPA will take action to deny the proposal as required by subsection 34.4.B(8) of the Code. I have included a copy of this Code subsection for your reference. If the project is denied by TRPA, you will have the opportunity to appeal the decision.

When we met on November 2, 1995, I had not had an opportunity to begin review of the application, other than completing a site visit. Unfortunately, the realization of the applicability of the Code subsection became known to me as I proceeded with review a day later, too late to be mentioned in the meeting. I certainly would have mentioned this if I had recalled or understood the applicability of this Code subsection prior to the meeting. If the land capability challenge is resolved in favor of the project, TRPA staff look forward to working with you to resolve the issues discussed in the meeting.
If you have any questions concerning this matter, please feel free to contact me at TRPA.

Sincerely,

Jim Allison
Associate Planner
Project Review Division

/JA

cc: Jeff Lundahl, Lundahl and Associates
    Mr. and Mrs. Michael and Jennie Rafton
Re: Vista Shores land capability (APN 117-072-08)

Dear Mr. Pepi:

It has come to my attention through a telephone conversation with Ms. Leah Kaufman and from TRPA correspondence (Jim Allison, 11/6/95) that staff is taking issue with our report, where appropriate land capability based upon TRPA's Code of Ordinances is concerned.

My examination of Chapter 37.3.B applied to findings of the Vista Shores property fails to support a SEZ above elevation 6,234 feet, as has been referred to in the Allison letter. If TRPA staff has made a determination of Class 1b (SEZ) in this area, this is contrary to facts borne by physical properties of the soils described on the site, and there has been failure to properly apply them to the Code, as follows:

37.3.B Identification: A stream environment zone (SEZ) shall be determined to be present if any one of the following key indicators is present or, in absence of a key indicator, if any three of the following secondary indicators are present. Plant communities shall be identified in accordance with the definitions and procedures contained in the 1971 report entitled "Vegetation of the Lake Tahoe Region, A Guide for Planning".

1. Key indicators: Key Indicators are:

   (a) Evidence of surface water flow, including perennial, ephemeral and intermittent streams, but not including rills or man-made channels;
   (b) Primary riparian vegetation;
   (c) Near Surface groundwater; (< 20' to H,0) [emphasis added]
   (d) Lakes or ponds;
   (e) Beach (Be) soil; or
   (f) One of the following alluvial soils:
      (i) Elmira loamy coarse sand, wet variant (Ev).
      (ii) Marsh (Mh).

2. Secondary Indicators: Secondary indicators are:

   (a) Designated flood plain
(b) Groundwater between 20 - 40 inches;
(c) Secondary riparian vegetation;
(d) One of the following alluvial soils:
   (i) Loamy alluvial land (Lo);
   (ii) Celio gravelly loamy coarse sand (Co); or
   (iii) Gravelly alluvial land (Gr).

There are no Key indicators present onsite. The site is void of vegetation, near surface groundwater and surface drainages. As was articulated in our initial report, the landform upon which aeolian material is being deposited is above the wave cut platform and is other than a beach. Once again, Beach is defined as:

The unconsolidated material that covers a gently sloping zone, typically with a concave profile, extending landward from the low-water line to a place where there is a definite change in material or physiographic form (such as cliff) or to a line of permanent vegetation; the relatively thick and temporary accumulation of loose water-borne material (usually well-sorted sand and pebbles, accompanied by mud, cobbles, boulders, and smoothed rock and shell fragments) that is in active transit along, or deposited on the shore zone between the limits of low water and high water.¹

Soil types Ev and Mh are also absent.

Above elevation 6,234 feet there are also no secondary indicators - nothing in category (2), above, that can place this land in SEZ, or Class 1b (Poor natural drainage), according to the Land Capability Classification of the Lake Tahoe Basin (Bailey, 1974), Table 4 - Basis of capability classification for Lake Tahoe basin lands (page 20). Soils found are very deep, excessively drained, very rapidly permeable and members of Hydrologic Group A. Utilizing Table 4 and applying physical properties found, the Slope percent is 0 to 5; Relative erosion potential is slight; Runoff potential is low; and Disturbance hazard is Low hazard. Therefore, the soils are Class 7. There is evidence that this platform has been vegetated in the past, confirming that it is above the wave cut shelf between the high and low water line of Lake Tahoe, excluding it from the miscellaneous land type Beach (Be). The soil is classifiable to the series level (Elmira, sandy phase).

In summary, I find nothing in Chapter 37 or in the Bailey Land Capability Classification system that place these soils in any category but Class 7 with 30 percent allowable coverage. When I asked Ms. Kaufman for a copy of TRPA's critique of our report, she stated that none had been presented at their meeting with staff. The only mention of land capability in the Allison letter states that there is a pending resolution to the land capability challenge. I can only presume that no work has

been performed by you or staff, and if your position is that the site is other than our recommendation, you have neglected to study our findings and apply the facts of this parcel to the Code, as they have been presented. Perception of what constitutes a beach is often different and out of context when dealing with standards and codes. Please lay perception aside, and evaluate this parcel based upon facts, physical properties, professional standards, and their applicability to criteria as established by the Codes.

Sincerely,

[Signature]

Sidney W. Davis,
Certified Professional
Soil Scientist / Soil Classifier No. 1031

Cc  Carl Hasty, TRPA
    Leah Kaufman, Carnelian Bay, CA
February 13, 1996

Mr. Sid Davis
Principal Soil Scientist
Davis Consulting Earth Scientists
P.O. Box 734
Georgetown, CA 95634

Dear Mr. Davis:

I agree that the meeting on January 9, 1996, was useful, and a frank, but reasoned discussion of our respective positions and ideas with regard to the land capability classification issues on the Rafter parcel. I appreciate the efforts of everyone involved in keeping the discussion focused on the specific issues of land capability.

I would like to first discuss the issues on which there is complete agreement. We agree that the portion of the parcel which is washed by the wave action of Lake Tahoe, is definitely in land capability class 1b, associated with the Be soil map unit. We also agree that the area to the landward side of this point, to the line of lodgepole pine trees, is a "dune" of aeolian origin, made up almost exclusively of fine sand-sized particles. A final point of agreement is that the sand is currently accumulating at a rate of at least a foot a year, and the amount varies with the elevation of the lake level.

This is the point at which our interpretations diverge. I consider the dune to still be a part of the Be soil map unit (and by TRPA Code definition still within land capability class 1b), not because it is washed by waves, but because it is part of a classic barrier beach system, dating back to the last glacial period. This determination is consistent with the Be soil map unit boundary drawn by the soil scientists who did the original Soil Conservation Service (SCS) soil survey mapping. The boundary drawn by the SCS soil scientists is consistent with the fact that the entire dune area is made up of similar parent material (wind blown fine sand). The deposition and removal of the sand is controlled by the same processes effecting the wave-washed foreshore area, namely the fluctuation of the lake level elevation, and from a use and management standpoint the entire barrier beach/dune area has more in common with the shoreline area from the back of the dune toward the lake than it does with the upland areas toward and beyond Highway 28.

We also disagree on the extent of the barrier beach/dune landform. Your position is that it extends back to a point across Highway 28, while I consider the boundary to be the extent to which the sand is actively aggrading at the point where the thicket of 60 to 80 year old lodgepole pine begins.

Although the influence of the aeolian parent material has historically extended beyond the currently active barrier beach/dune, major deposition is
not presently occurring beyond the line of lodgepole at the back of the dune landform.

An additional point of disagreement is the strength of the evidence showing the presence of a buried surface horizon, which is purported to demonstrate that the dune portion of the Be soil was vegetated at some time in the past. Several backhoe pits were dug on the dune to expose the soil profile, and these pits were examined, and the location of the buried surface soil zone was identified by you. I also examined the soils in these pits and collected several samples for further analysis and as documentation of the soils found in the pits. After careful examination of the samples including their color and structure, I determined that there wasn't much evidence to differentiate this soil from that above it in the soil profile. Both layers consisted of light colored (10 YR 7/2, dry & 10 YR 4/2, moist) structureless, single grain, fine sand soil particles.

There were very few roots present in the pits we examined, but I did not observe the number and size of roots described in your profile description. The current unvegetated state of this barrier beach/dune does not mean that at some point in the past that it was not vegetated, but aerial photographic evidence substantiates the fact that the barrier beach/dune area has not been vegetated in at least the last 30 years. These soils are not consistent with either the Elmira or Gefo series in terms of the color of the surface horizons, the soil structure, the texture of the surface horizon, and the amount and type of vegetation on the surface.

The current unvegetated state and active deposition on the barrier beach/dune brings into question your proposal to stop the movement of sand on this barrier beach/dune by planting grass or other vegetation. As demonstrated by the lake elevation data collected since 1899 by the Water Master at Tahoe City, the low lake level to which you attribute the recent accumulation of sand to a depth of a foot or more, is a recurring phenomenon. As these fluctuations occur, during periods of low water any vegetation would be covered by sand blowing out of the foreshore area, just as the sand has covered walkways on this parcel. Because this parcel is just a part of an active dune system extending along the lakefront at least to Kings Beach, stabilizing the sand on this parcel through the establishment of vegetation as you propose, would have other negative effects on adjacent parcels by depriving them at least partially of their source of sand. Wave action during high water periods would remove sand from these parcels, but less would be replenished during low water, eventually leading to beach erosion.

Although the focus of this letter is on land capability class issues, I would like to make some comments on your determination of the appropriate Shorezone Tolerance Districts. Your designation of this parcel as Shorezone Tolerance District 7, which consists of a level shorezone underlain by morainic and alluvial deposits, is not consistent with the aeolian sand barrier beach/dune present on this parcel. The most appropriate Shorezone Tolerance District designation for this parcel is District 1. The backshore boundary extends to the limit of the area of instability, which is at the back of the active barrier beach/dune. The definition of the backshore boundary is defined not only by the calculation of the wave runup elevation, but by the definition of
the area of instability according to Chapter 55 of the TRPA Code. I contend that this area of instability extends to the leeward side of the dune, adjacent to the lodgepole pine.

I conclude, that after reviewing all of the information that was submitted by Davis², completing extensive field work, and meeting in the office and on the site to discuss the land capability class issues, that the land capability class boundaries should be confirmed as mapped, and the barrier beach/dune area should remain as land capability class 1b, associated with the Be soil map unit.

TRPA staff has made every effort to complete the work on the land capability challenge since it was filed in July 1995. Staff field work was completed by the end of summer 1995 and the results were first discussed with Leah Kaufman, Mr. and Mrs. Rafton and Jeff Lindahl on November 2, and with yourself and John Rodgers on December 6th, 1995. I feel that staff has been diligent in discussing all matters pertinent to this application.

Feel free to contact me at the TRPA office if you have any questions on this land capability challenge.

Sincerely,

[Signature]

Joseph Pepi
Senior Planner/Soil Scientist

/cc: Leah Kaufman, Kaufman Planning
Pursuant to your request, I visited the subject sites on June 14, 1996, with TRPA Associate Environmental Specialist, Brian Judge, and TRPA Environmental Engineering Intern, Chris Vetromile. We needed to visit the sites to conduct a geologic reconnaissance of the area and to observe the two test pits that were excavated in the Villa Vista property. I have interpreted the data collected and have commented on the sites' surface and subsurface conditions, site geology, backshore boundary, land capability and have presented a summary and recommendations section.

SURFACE CONDITIONS

The central portion of both properties was dominated by a small sandy hill that measured, at most, approximately 14 feet in total height above the flatter portions of the properties to the north. The hill was mostly covered with man-made features such as cabins, walkways, a pool and decks so direct observations of natural slopes were not possible. However, the lots to the east and west of the subject lots contained several undisturbed and uncovered areas.

The lot to the east had several mature Jeffrey Pine trees growing at or near the top of the hill with some scattered brush along the south and north facing slopes. The lot to the west was relatively less steep, unvegetated sandy soils and was lacking a definitive hill. Please refer to the enclosed photos of the areas observed for the locations of these features.

The lakeside portion of the properties contained a small vertical seawall with no sandy beach to the east and a small beach (15-20 feet wide that widened westward) to the west. The western portion of the lakeside area contained a three-foot high sandy bluff at the waters edge.

The topographic map, that was prepared by RAM Engineering for the Raffon property in November 1993, did not accurately depict the high water line (HWL). The Lake HWL had migrated landward approximately 30 feet and had eroded the majority of the beach, as evidenced by the presence of the three-foot high bluff at the waters edge on 6/14/96. I drew the approximate HWL on the topographic map based on our site visit and on the photographs that we took that day.
BACKSHORE BOUNDARY

The TRPA sets forth three methods for determining the backshore boundary: one is to calculate the maximum wave run-up and add ten feet, two is to add 1.5 times the bluff height to the HWL plus ten feet, and the third method is to have licensed technical professional delineate the area of instability plus ten feet. Because the HWL has migrated over 25 feet in the past three years, I believe that the first two methods are not the best way to determine the backshore limits because the HWL is not static. Also, the TRPA Code requires that the method be chosen that is the most limiting. In this case at the subject sites, I believe that the third method (area of instability + 10 ft) delineates the most limiting backshore boundary.

Monroe & Wicander (1992) define the limits of backshore as the area of beach that is usually dry, being covered by water only by storm waves or exceptionally high tides. Based on this definition, the landward limits of the sands (soils) that have been acted on by Lake waves should be the limit of the backshore, plus ten feet. The lakeside bluff contained lacustrine, beach waves sediments while the dune consists of entirely aeolian deposits. The boundary, or geologic contact, between these two geologic deposits should be the backshore limit, plus ten feet for a setback. I delineated the approximate geologic contact on the Raftert map based on visual surficial observations. A north-south trending trench can be dug across this boundary for more accuracy in its location.

LAND CAPABILITY

Bailey (1974) describes Class 1 land as those including little or no soil, very steep mountain slopes with little soils, marshes, flood plains, meadows, and beaches. Bailey (1974) does not classify, nor describe, aeolian dune deposits. Thompson & Turk (1993) define dunes as mounds of windblown sand that are characterized by steep cross-bedding and very well sorted sand, while beaches are gently sloping zones between land and water that are washed by waves and tides. The dune deposits are entirely aeolian and cannot be labeled as beach deposits.

Although Bailey (1974) does not directly mention the dune deposits in his report, I believe that the dunes should be placed in the Class 1 category because of the lack of soil mantle, the naturally steep lee side, and the high erosion potential. These sands have a high erosion potential because of their fine-grained texture and because of their active erosion by wind. During my 6/14/96 site visit, I observed a gusty, intermittent north wind, about 20 miles per hour across the site, that caused erosion and saltation of the sand grains and deposition into the two test pits. Over one inch of sand was deposited in the bottom of the pits in only 15 minutes. Even though the eastern portion of the dune is stabilized by mature vegetation, the entire dune can be blown out by prevailing winds because of the dune's highly erosive potential (Zumberge & Nelson, 1982).
COMPARISON OF SOILS INTERPRETATIONS ON THE RAFTON PARCEL APN 117-072-08

After extensive field investigations, meetings, and exchanges of correspondence with regard to the Land Capability Classification of the Rafton parcel (APN 117-072-08), and in some cases adjacent parcels, I thought that it would be useful to summarize TRPA staff’s position. In order to make this position clearer, I have put together a side by side comparison using a number of criteria, contrasting the classification of the dune portion of the parcel as determined by TRPA Staff and that assigned to the dunes by Mr. Sid Davis.

TRPA staff’s position is that the soils on the site are radically different in many different ways from the EfB (Elmira-Gefo lcos, 0 to 5 percent) soil map unit and Land capability Class 7, that they have been designated by Mr. Davis. They are appropriately classified by staff as sensitive lands associated with the Be map unit and land capability class 1b.

<table>
<thead>
<tr>
<th>TRPA Staff</th>
<th>Sid Davis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil Map Unit</td>
<td>Be</td>
</tr>
<tr>
<td>Land Classification</td>
<td>1b</td>
</tr>
<tr>
<td>Parent Material</td>
<td>Bolian fine sand from offshore sources in Lake Tahoe (part of a larger dune field existing during historically low lake levels)</td>
</tr>
<tr>
<td>Landform</td>
<td>Sand dunes directly adjacent to Lake Tahoe</td>
</tr>
<tr>
<td>Surface</td>
<td>Light colored (ochric) soil from surface to five feet</td>
</tr>
<tr>
<td>Current Rate of Deposition of new parent material</td>
<td>Significant rate of deposition of new fine sand eolian material particularly during recent low water associated with drought. Large amounts of sand must be removed from parking areas and buildings in and adjacent to dunes</td>
</tr>
</tbody>
</table>
### Rafton Land Capability Classification

#### Vegetation
Very widely scattered trees, devoid of vegetation over much of dune

#### Stability
Fairly stable when well vegetated, very unstable and dynamic when disturbed. Currently structures, walkways and parking lots are covered with sand, which must be periodically removed.

#### Erosion by Wave action
Subject to major erosion at the Lake shore during periods of high Lake level. Landward erosion can be substantial (up to 30 ft. movement of H.W.L. landward in 1995-1996).

#### Water Erosion Potential
Little surface organic litter and no or little organic matter or no structure in soil to provide soil stability. Easily erodible when subject to concentrated flow.

#### Surface Runoff Treatment Capacity
Rapid infiltration capacity, but little treatment potential before reaching Lake due to texture and proximity.

#### Dense stand of Jeffrey pine, white fir, with bitterbrush, manzanita

#### Vulnerable to a minor amount of wind erosion when vegetation is removed, but no major soil movement occurs

#### None

#### Surface organic matter layer over the soil. Soil has organic matter and weak structure.

#### Rapid Infiltration and significant separation from water table, allowing for runoff treatment.
TAHOE REGIONAL PLANNING AGENCY
STAFF SUMMARY

Project Name: Lakeside Tennis Club Estates

Application Type: Multi-Family Dwellings and Condominium Subdivision, Special Use Determination

Applicant: Tennis Club Estates, Inc.

Applicant's Representative: Phil Gilanfarr

Agency Planner: Paul Nielsen, Associate Planner

Location: 977 Tahoe Boulevard, Incline Village, Washoe County, Nevada

Assessor's Parcel Number/Project Numbers: 124-231-23/960816 and 960817

Staff Recommendation: Staff recommends approval of the subject project. The required actions and recommended conditions are outlined in Section F of this staff summary.

Project Description: The proposed project consists of two separate components. The first component is the construction of 33 detached multi-family dwellings on two parcels totalling eight acres located on Tahoe Boulevard (State Route 28) in Incline Village. Access for each of the units would be provided by a 21 foot wide 1,350 foot long access drive which meanders through the 8 acre parcel. Each of the 33 detached units consists of approximately 1,532 square feet of land coverage which includes a three-car garage and total approximately 3,500 square feet of floor area. The units would be constructed using a combination of allocations, bonus units and transferred existing residential units of use.

The second component involves the subdivision of the 33 units. Chapter 43 of the TRPA Code of Ordinances permits subdivisions in urban areas after the approval of an underlying project. The condominium style (airspace ownership) subdivision will create 33 building envelopes with a common area, and will change the use from a multi-family development into a single family development. Multi-family dwellings are a special use and single family dwellings are an allowed use in the Community Plan Area and require the applicable findings.

Staff is recommending modifications to the proposal to avoid potential water quality impacts and to address certain land use concerns. These items will be discussed in the issues section of the staff summary.
Site Description: The eight acre project area is located immediately east of the Lakeside Tennis Club on Tahoe Boulevard (State Route 28) in Incline Village and is within the boundaries of the Incline Village Tourist Community Plan Area. The verified land capability districts are class 6, 4 and 1b (Stream Environment Zone) which permits a base allowable land coverage of 98,507 square feet. Predominant vegetation consists of Jeffrey pine trees and various shrub species with riparian vegetation present in the Stream Environment Zone areas. There are two derelict tennis courts, a remnant foundation and two pedestrian paths located on the property. Surrounding land uses consist of a condominium complex, the Incline Village General Improvement District (IVGID) Tennis Complex and Recreation Center, Lakeside Tennis Club and the Incline Creek Office Park.

Issues: The proposed project involves a 33 unit multi-family development, the assignment of bonus units, a significant increase in traffic and a special use determination, and therefore requires Governing Board review in accordance with Chapter 4, Appendix A, of the TRPA Code. The primary project related issues are:

1. Water Quality: Staff has concerns that the design of the proposed project may result in adverse effects to water quality and therefore staff is recommending that the project be redesigned to eliminate the proposed SEZ road crossing. More specifically, staff has concerns about permitting development in this area for the following reasons:

A. The site plan proposes additional development in the Stream Environment Zone (SEZ) associated with the Incline Creek watershed. TRPA has identified this watershed as being a priority area for watershed restoration. Only small portions of the historic SEZ in this area remain and therefore additional development in the SEZ will further reduce the capacity of this area to function as a system capable of removing sediments and nutrients from surface waters.

B. Stormwater runoff from the proposed development on this portion of the property will not be fully treated by the proposed Best Management Practices (BMPs). In fact, a key element of the proposed BMP plan includes a drywell and snow storage located in the SEZ which is not permitted by the TRPA Code due to disturbance and high ground water level concerns. Increasing storm water runoff in this area will increase loading into a SEZ which no longer has the capacity to sufficiently treat runoff before reaching Lake Tahoe.
In order to approve the proposed SEZ road crossing TRPA would have to make the finding that there is no reasonable alternative that would avoid disturbance in the SEZ. Staff believes there is adequate room within the 8 acre project area to redesign the proposed access to avoid disturbance in the SEZ and still maintain the proposed density. The redesigned project could also provide additional room in high capability lands for permanent water treatment facilities; some of which are currently proposed in the SEZ.

2. New Roads: The common access drive is designed as, and appears to function as, a new road and is prohibited by Community Plan Policy 5.1.1. which states:

"No new or expanded roads are permitted which allow for increased traffic with the exception of improvements to existing intersections."

Staff believes that the proposed 21 foot wide common access drive is essentially a road due to its length, width and connection to an existing roadway. Although the road is proposed to be gated at the southern end to prohibit through access, staff has concerns that enforcing the gate closure would be difficult. Should the gate be left open in non-emergency situations, or removed completely, the access drive would provide through access which could encourage general public use. The definition of a street includes a private way open to general public use.

3. Subdivision of Post-1987 Structures: The applicant is also proposing to subdivide the 33 residential units into a condominium subdivision. The general standards section of Chapter 43 (Subdivision Standards) states that:

This section (43.3.0(1)) shall not be construed to permit the transfer or modification of an approved multi-residential project to a lot and block subdivision or similar division of land.

Although the TRPA Code does not have a definition for lot and block subdivisions, staff has concerns that the proposed subdivision resembles a lot and block subdivision. These subdivisions are characterized by a series of detached residences with individual driveways connected to a street or roadway. The proposed subdivision will result in 33 detached residences with individual driveways which will served by a 21 foot wide 1,350 foot long street or roadway.
Staff would support a subdivision of the proposed multi-family project if certain design features were included in the project. Clustered and/or attached residential units, common area facilities such as sidewalks, parking areas, passive recreation areas and mailboxes are design features typically associated with multi-family developments. Staff feels that if these features were designed into the proposed project, to the greatest extent feasible, then the resulting subdivision would no longer resemble a lot and block subdivision.

The TRPA subdivision ordinance only allows approval of a subdivision in urban areas for existing or approved projects. Urban areas are defined in the TRPA Code of Ordinances as those areas designated as Residential, Tourist, or Commercial/Public Service by the Plan Area Statement. The land use classification for the applicable Plan Area Statement for this project is Commercial/Public Service. The Plan Area Statement identifies this area as a preferred affordable housing area. The TRPA Code of Ordinance amendments approved by the TRPA Governing Board on December 21, 1994, which limit the ability to subdivide in preferred affordable housing areas, do not go into effect until December 31, 1995. After December 31, 1996, approval of this project would be prohibited unless TRPA finds the County has demonstrated its commitment to assume its "fair share" responsibility to provide lower and very low income housing within the existing urban areas pursuant to Goal #1 of the TRPA Housing Subelement of the Regional Plan Goals and Policies.

4. Traffic/Air Quality Impacts: The proposed multi-family project will result in the creation of 214 daily vehicle trip ends (dvte) and if the subdivision is approved, the project will result in the creation of 330 dvte. Increases in dvte greater than 200 are considered significant increases in traffic. As required by the TRPA Code of Ordinances, the applicants have prepared a traffic analysis to evaluate the impacts of the proposed development. The traffic analysis concluded that there would be no significant impacts to the level of service operation for the key intersections affected by the increase in traffic and therefore no physical improvements to the intersections would be necessary. Staff concurs with this conclusion.

The traffic analysis concluded that an additional 1,619 vehicle miles travelled (VMT) would occur as a result of this project. The Incline Tourist Community Plan states that the fairshare VMT target for Incline Tourist Community Plan is an increase of no more than 1,850 VMT. Therefore, this project represents 91% of the fairshare VMT target for the entire Community Plan area. Staff has concerns that the project will generate more than its fair share of the VMT target. Redesigning the project to include the design elements previously mentioned such as sidewalks, passive recreation areas and mail boxes could help to reduce VMT.
5. **Affordable Housing and Bonus Unit Incentives:** Twelve of the units are proposed to be built using allocations and bonus units, while the remaining 21 units will be built using transferred existing residential units of use. However, the proposal also includes a request that the applicant be allowed to use an additional six allocations which are expected to be issued to the property by Washoe County in early 1997. Should the additional six allocations be issued to the property, then only 15 existing units of use would be transferred to the property. This latter option would require the use of additional bonus units or development rights to be matched with the six additional allocations.

In regard to the first option, the applicant is proposing to transfer 21 residential units of use from the Bitterbrush development. These units were previously approved development but only five had foundations installed. A condition of approval for the transfers would be to remove the five foundations and restore the site to a natural condition. Transfer of the 21 units from Bitterbrush will generate 210 bonus unit points which will allow 21 bonus units to be created whether the project is subdivided or not and the applicant is requesting 12 bonus units out of the remaining 17 in the Community Plan be assigned for this project. These 12 bonus units will then be matched with the 12 residential allocations.

The second option will only require the transfer of 15 units from Bitterbrush. The other 18 units are proposed to be constructed using allocations and bonus units. 150 bonus unit points will be generated from the transfer of the 15 Bitterbrush units and the applicant is requesting 15 bonus units out of the 17 remaining bonus units in the Community Plan. Another 30 bonus units points will be subtracted from the 116 reserve bonus unit points reserved in connection with the previously-approved County Club Estates project. There are enough bonus units available in the Community Plan area to accommodate the proposed project.

The Incline Village Tourist Community Plan Area contains the following policy (ITCP.1.5.1):

Projects utilizing the bonus unit incentive program provided under Chapter 35 of TRPA's Code of Ordinances, which are required to provide mitigation measures to acquire residential bonus units, shall participate in capital improvement projects within the community plan area provided under 35.3 of the Code.

This policy requires project proponents to participate in capital improvement projects within the community plan area in order to earn bonus units. However, the transfer of existing residential units from low capability lands are not listed as capital improvements within the.
community plan. By allowing this project to earn bonus units through the transfer of development funds will not be generated for the community plan capital improvement projects. The project as proposed may use up substantially all remaining bonus units assigned to the community plan.

The applicant believes that the community plan does allow the transfer of residential units as a method of obtaining bonus units. At this time the issue remains unresolved and staff will be working with the applicant to try and resolve the issue prior the Governing Board meeting.

6. **Floodplain:** In 1991, the Army Corps of Engineers conducted a study of the lower reaches of Incline and Third Creeks to identify the approximate limits of a 100 year flood. The maps prepared as a result of that study indicate that a portion of the project area is within the 100 year floodplain of Third Creek. Chapter 28 of the TRPA Code of Ordinances prohibits additional development, grading or filling within the 100 year floodplain.

The applicants have submitted preliminary information prepared by a qualified professional which indicates that the 100 floodplain for Third Creek does not encroach into the project area. TRPA staff have reviewed the information and determined that sufficient information exists to make the finding that no additional development, grading or filling will occur within the 100 year floodplain. TRPA staff is recommending a condition of approval that requires the submittal of a final floodplain analysis report to TRPA for review and approval prior to commencement of construction.

7. **Basic Services:** Chapter 27 of the TRPA Code of Ordinances states that all projects shall have adequate water rights and water supply systems. The applicant has provided documentation that the proposed development has adequate water rights. The Nevada State Engineer has reviewed and approved the amount and proposed method of obtaining water rights.

**Staff Analysis:**

A. **Environmental Documentation:** TRPA staff has completed an Initial Environmental Checklist (IEC) in order to assess the potential environmental impacts of the project. No significant environmental impacts were identified and staff has concluded that the project will not have a significant effect on the environment. A copy of the completed IEC will be made available at the Governing Board hearing and at TRPA.
B. **Plan Area Statement:** The project is located within Incline Village Tourist Community Plan Area Statement 048. The Land Use Classification is Tourist and the Management Strategy is Mitigation. The Plan Area Statement identifies this area as a preferred affordable housing area. TRPA staff has reviewed the Plan Area and has determined that the project is consistent with the planning statement, planning considerations and special policies. Multi-family dwellings are listed as a special use and single family dwellings are listed as an allowed use.

C. **Land Coverage:**

1. **Land Capability District:**
   
The verified land capability district of the eight acre project area is class 1b, 4 and 6.

2. **Total Base Allowable Coverage:**
   - Class 1b: 18,188 square feet x 1% = 182 square feet
   - Class 4: 11,015 square feet x 20% = 2,203 square feet
   - Class 6: 320,410 square feet x 30% = 96,123 square feet
   - Total allowable coverage = 98,508 square feet

3. **Existing Coverage:**
   - Tennis courts: 42,260 square feet
   - Dirt path: 628 square feet
   - Gravel path: 1,002 square feet
   - Concrete: 6 square feet
   - Total Existing Coverage = 43,896 square feet

4. **Proposed Coverage:**
   - Streets: 28,399 square feet
   - Driveways: 13,712 square feet
   - Buildings: 50,564 square feet
   - Decks: 3,193 square feet
   - Entry walks: 2,310 square feet
   - Pedestrian paths: 1,408 square feet
   - Total Onsite: 99,586 square feet
   - Offsite: 330 square feet

Note: The proposed land coverage exceeds the maximum allowable land coverage and therefore the applicant will be required to revise the site plan to include a minimum reduction of 1,078 square feet of land coverage.

12/04/96
D. Building Height:

Cross slopes through the 33 building sites range from between 2% to 16% and the proposed roof pitch is 4:12. The proposed building heights range between 27'3" and 32'9". All proposed building heights are within the maximum allowed heights allowed by Chapter 22 of the TRPA Code of Ordinances.

E. Required Findings: The following is a list of the required findings as set forth in Chapters 6, 18 and 22 of the TRPA Code of Ordinances. Following each finding, agency staff has briefly summarized the evidence on which the finding can be made.

1. The project is consistent with and will not adversely affect implementation of the Regional Plan, including all applicable Goals and Policies, Plan Area Statements and maps, the Code, and other TRPA plans and programs.

(a) Land Use: The applicant is proposing to construct 33 detached multi-family dwellings which would then be subdivided into condominiums. The condominium subdivision will change the use from multi-family to single family residential. Multi-family dwellings are listed as a special use in the Community Plan area and single-family dwellings are listed as an allowed use in the Plan Area. The project modifications recommended by staff will encourage a land use that reduces the need for travel as encouraged by the Community Plan. Surrounding land uses consist of a condominium complex, the Incline Village General Improvement District (IVGID) Tennis Complex and Recreation Center, Lakeside Tennis Club and the Incline Creek Office Park.

(b) Transportation: The permittee shall submit a $200 air quality mitigation fee for each dvte (daily vehicle trip end) generated as a result of the additional (new) development. For each unit of additional (new) development, the air quality mitigation on a per unit basis will be based on 6.47 dvte if the project is approved as multi-family dwelling or 10.1 dvte if each unit is subdivided.

The traffic analysis concluded that an additional 1,619 vehicle miles travelled (VMT) would occur as a result of this project. The Incline Tourist Community Plan states that the fairshare VMT target for Incline Tourist Community Plan is an increase of no more than 1,850 VMT. Therefore, this project represents 91% of the fairshare VMT target for the entire Community Plan area. Staff has concerns that the project will generate more than its fair share of the VMT target.
Redesigning the project to include the design elements previously mentioned such as sidewalks, passive recreation areas and mail boxes (home mail delivery) could help to reduce VMT.

(c) **Conservation:** The applicant will be required to apply Best Management Practices (BMPs) to the project area. The modifications recommended by staff will eliminate disturbance in the SEZ. The project is located within Scenic Roadway Unit 22, Crystal Bay, which is not in attainment with Travel Route Ratings. The proposed project will include the construction of three units which will be located approximately 120 feet to 200 feet from the travelled way of State Route 28. The other units will be located in the southern portion of the property and visibility of these units will be limited from State Route 28. The existing forest cover, a landscape plan prepared pursuant to the Community Plan and proposed building materials which are compatible with the natural surroundings will ensure the Travel Route Rating is not adversely affected. There are no known special interest species, sensitive or uncommon plants or cultural resources within the project area.

(d) **Recreation:** This project does not involve any recreation facilities or uses.

(e) **Public Service and Facilities:** This project does not require any additions to public services or facilities.

(f) **Implementation:** Construction of the 33 residential units will utilize a combination of transferred existing residential units of use, residential allocations and bonus units.

2. The project will not cause the environmental threshold carrying capacities to be exceeded.

The basis for this finding is provided on the checklist entitled "Project Review Conformance Checklist and Article V(g) Findings" in accordance with Chapter 6, Subsection 6.3.B of the TRPA Code of Ordinances. All responses contained on said checklist indicate the project, as modified, is in compliance with the environmental threshold carrying capacities. A copy of the completed checklist will be made available at the Governing Board hearing and at TRPA.
3. Wherever federal, state or local air and water quality standards applicable for the Region, whichever are strictest, must be attained and maintained pursuant to Article V(g) of the TRPA Compact, the project meets or exceeds such standards.

(Refer to paragraph 2, above.)

4. The project, to which the use pertains, is of such a nature, scale, density, intensity and type to be an appropriate use for the parcel on which, and surrounding area in which, it will be located.

The areas to the south east of the project area is developed with multi-family dwellings. A condominium complex exists next to the adjacent Lakeside Tennis Club. To the east is a small commercial complex and recreational facilities exist in close proximity to the project area. The 4.12 units per acre proposed is a lower density than adjacent residential uses.

5. The project, to which the use pertains, will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water and air resources of both the applicant's property and that of surrounding property owners.

There is no evidence that the proposed project will be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the Region. As conditioned, the project may reduce the need for travel. The applicant will be required to apply both temporary and permanent Best Management Practices to protect the land, water, and air resources of the subject property and that of the surrounding property owners.

6. The project, to which the use pertains, will not change the character of the neighborhood, detrimentally affect or alter the purpose of the applicable planning area statement, community plan and specific or master plan, as the case may be.

The proposed use is consistent with the residential uses located to the southeast and is not expected to alter the character of the neighborhood. The plan area statement lists multi-family dwellings as a special use and single family dwellings as an allowed use. The project is within the Incline Village Tourist Community Plan Area and the project site is identified as a multi-residential area in the Land Use Concept Plan.
This project may use a substantial amount of the bonus units remaining in the plan area. As proposed the project may not be consistent with the community plan which requires participation in a capital improvement project in order to earn bonus units. Staff will be working to resolve this issue prior to the Governing Board meeting.

7. **When viewed from major arterials, scenic turnouts, public recreation areas or the waters of Lake Tahoe, but not from a distance of less than 300 feet, the additional height will not cause a building to extend above the forest canopy, when present, or a ridgeline.**

The proposed project is not visible from a scenic turnout, public recreation area or the waters of Lake Tahoe. The maximum proposed building height is 32 feet, 9 inches which is below the height of the forest canopy as viewed from State Route 28.

8. **When outside a community plan, the additional height is consistent with the surrounding uses.**

The project is not located outside a community plan area.

9. **The maximum height at any corner of two exterior walls of the building is not greater than 90 percent of the maximum building height. The maximum height at the corner of two exterior walls is the difference between the point of lowest natural ground elevation along an exterior wall of the building, and point at which the corner of the same exterior wall meets the roof. This standard shall not apply to an architectural feature described as a prow.**

With an average proposed building heights of 29 feet 4 inches and respective wall heights of approximately 23 feet, the proposed buildings meet this requirement.

F. **Required Actions:** Agency staff recommends that the Governing Board approve the project by making the following motions based on this staff summary and the evidence contained in the record:

I. A motion based on this staff summary, for the findings contained in Section E above, and a finding of no significant environmental effect for the construction of the project, as modified by staff recommendations.

II. A motion to approve the 33 unit multi-family dwelling project based on this staff summary subject to conditions 1 thru 8 listed below.
III. A motion based on this staff summary, for the findings contained in Section E above, and a finding of no significant environmental effect for the condominium subdivision of the 33 residential units.

IV. A motion to approve the condominium subdivision of the 33 residential units based on the staff summary, subject to conditions 9 thru 11 listed below.

1. This permit is for the construction and subdivision of 33 detached multi-family dwellings on property located at 977 Tahoe Boulevard (State Route 28) in Incline Village (APN 127-030-23 & 24).

2. The Standard Conditions of Approval listed in Attachment R.

3. Prior to permit acknowledgement the following special conditions of approval must be satisfied:

(a) The site plan shall be revised to include:

(1) The following revised land coverage calculations:

(a) **Existing Coverage:**

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Square Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennis courts</td>
<td>42,260</td>
</tr>
<tr>
<td>Dirt path</td>
<td>628</td>
</tr>
<tr>
<td>Gravel path</td>
<td>1,002</td>
</tr>
<tr>
<td>Concrete</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43,896</strong></td>
</tr>
</tbody>
</table>

(b) Proposed land coverage which does not exceed the maximum allowed land coverage on the property.

(2) Location and details of all proposed exterior lighting. All lighting shall be conformance with Subsection 30.8 of the TRPA Code of Ordinances.

(3) A note indicating that the area outside the proposed building envelopes is "Common Area."

(4) A construction equipment and material staging area shall be identified on the site plan.

(5) Relocation of snow storage and infiltration areas outside the SEZ.
(6) A note indicating all on-site utilities shall be placed underground.

(7) Elimination of the proposed SEZ crossing.

(8) Sidewalks along one side of the proposed access road.

(9) Integration of common area facilities, to the greatest extent feasible, such as passive recreation areas, mailboxes and pedestrian walkways which link adjacent land uses.

(10) Modifications that include clustered and/or attached residential units with an common access drive that does not connect with the existing easement located to the south. Any other use of the easement for purposes such as pedestrian walkways shall be approved, in writing, by the Incline Village General Improvement District.

(b) A proposed grading plan shall be submitted to TRPA for review and approval. The grading plan shall include spot elevations for existing and proposed grades. The grading plan shall be designed to retain all existing vegetation, to the greatest extent feasible and in no case shall excavations exceed five feet in depth. The grading plan shall also show the proposed staging area for construction equipment and materials.

(c) A landscape plan shall be submitted to TRPA for review and approval. The landscape plan shall be designed to provide additional vegetation in the front areas of each unit in conformance with Subsection 30.7 of the TRPA Code of Ordinances and the Incline Village Tourist Community Plan. The common area behind the units shall remain as natural vegetation. Landscaping shall also be shown in the area located between State Route 28 and the proposed units.

(d) Prior to permit acknowledgement the permittee shall submit a final report from a qualified professional on the limits of the 100 year flood plain. Should the report conclude that the proposed project is not located within the 100 year flood plain then the permittee shall record a deed restriction (acceptable to TRPA)
indemnifying TRPA from any and all liability associated with flood damage. This approval specifically prohibits development within the 100 year flood plain.

(e) The permittee shall provide evidence demonstrating how the lot lines associated with APN 127-030-11 were adjusted to their current configuration. Should it be determined the lot lines adjustment required TRPA approval, the applicant shall apply for a minor boundary line adjustment, subject to TRPA approval, or revise the project plans to be consistent with the legal lots of record recognized by TRPA.

(f) Prior to permit acknowledgement, the permittee shall agree, in writing, to join an assessment district which may be formed to generate funds for the undergrounding of the overhead utility lines along State Route 28. In lieu of this agreement, or should the assessment district not be formed the applicant shall agree to pay a fair share sum in the amount of $82,875 for the undergrounding of the overhead utility lines as specified in the Incline Village Tourist Community Plan Scenic Quality Capital Improvement Program. The fee is calculated based on 255 feet of linear frontage and a cost of $325.00 per linear foot of utility line to be placed underground.

(g) Prior to permit acknowledgement, the permittee shall specify the methods of obtaining the required number of existing residential units of use, residential allocations and bonus units. All transfers of development shall be completed prior to acknowledgment of the permit. The method used to generate the required number of bonus units is subject to the approval of TRPA.

(h) A water quality mitigation fee shall be paid to TRPA at a rate of $1.25 per foot for any additional land coverage being created as a result of the project.

(i) The permittee shall submit a $200 air quality mitigation fee for each dvte (daily vehicle trip end) generated as a result of the additional (new) development. For each unit of additional (new) development, the air quality mitigation on a per unit basis will be based on 6.47 dvte if the project is approved as multi-family dwelling or 10.1 dvte if each unit is subdivided.
(j) The permittee shall submit an offsite coverage mitigation fee based on $5.00 per foot for any additional land coverage being created as a result of the project.

(k) The security required under Standard Condition A.3 of Attachment R shall be determined upon the permittee's submittal of required Best Management Practices plan and related cost estimate. Please see Attachment J, Security Procedures. The Best Management Practices plan shall include engineered calculations demonstrating the proposed infiltration facilities have the capacity to accommodate a 20 year, 1 hour storm event.

(l) The applicant shall submit a BMP effectiveness monitoring plan to TRPA for review and approval.

(m) The permittee shall submit a projected construction completion schedule to TRPA prior to commencement of construction. Said schedule shall include completion dates for each item of construction, as well as BMP installations for the entire project area.

(n) The permittee shall provide evidence that all basic service requirements for minimum fire flow will be met or exceeded in accordance with Subsection 27.3.B, Table 27-1 of the TRPA Code.

(o) The permittee shall incorporate, as determined by TRPA, elements of the Incline Creek watershed restoration program which may encroach onto a portion of the property.

(p) The permittee shall submit three (3) sets of final construction drawings and site plans to TRPA.

(4) Excavation equipment be limited to the foundation footprint to minimize site disturbance.

(5) Ground disturbance shall be limited to the area within the building footprint and the footprint of the proposed common driveway. The areas outside the proposed building envelopes shall be left in a natural condition. The clearing of vegetation in the common area for any purposes except for creating a "defensible space," is prohibited.
(5) The permittee shall not construct any finished floor which is five feet or more below natural grade measured at the location where the bottom of the excavation meets the foundation wall. Any modification of these structures shall conform to TRPA's height standards.

(7) This permit does not address any signage. Any proposed signage will require a separate TRPA permit.

(8) All utilities shall be underground.

(9) If the TRPA Governing Board approves the subdivision, the permittee shall provide, prior to recordation, a final map, or a similar document, for an approved subdivision which contains a signature block for TRPA to document regional approval. A final subdivision map shall be submitted to TRPA within 30 days of recording.

(10) If the subdivision is approved, the permittee must submit covenants, conditions, and restrictions (CC&Rs) pursuant to Subsection 43.4.M of the TRPA Code of Ordinances for review and approval prior to construction, which must include the following:

(i) A requirement that all resident vehicle parking must be in the garages and on the driveway serving each unit so long as the parked vehicle does not extend into the common access way.

(ii) A requirement that each residence comply with the exterior lighting standards as applicable in section 30.8 of the TRPA Code of Ordinances.

(iii) A requirement that all residential units receive home mail delivery.

(iv) A requirement that all common area BHPs and other common area facilities be maintained year-round.

(11) If the approval for the construction of the 33 residential units expires, in whole or in part, then the subdivision map approval is void as to the subdivision of incomplete or unbuilt units. The final subdivision map, if recorded prior to completion of all units, shall include, on its face, this condition. The incomplete or unbuilt units shall revert to common area. In no event shall this approval operate to create a subdivision of land unassociated with a complete residential unit.
TAHOE REGIONAL PLANNING AGENCY
STAFF SUMMARY

Project Name: Tahoe Queen, Temporary Use Permit, Tour Boat Operation

Application Type: Shorezone

Applicant: Lake Tahoe Cruises/Timber Cove Marina

Applicant’s Representative: Mike Dill

Agency Planner: Jim Lawrence, Associate Planner

Location: Timber Cove Marina, 3411 Lake Tahoe Boulevard, City of South Lake Tahoe, El Dorado County.

Assessor’s Parcel Number: APN 27-090-01

Staff Recommendation: Staff recommends approval of the temporary use permit. The required actions and recommended conditions are outlined in Section E of this staff summary.

Project Description: The applicant is proposing to temporarily operate the Tahoe Queen Tour Boat from Timber Cove Marina. The proposed cruises are as follows: (1) Two daily round-trip excursions (12:00 pm and 7:00 pm to Emerald Bay and (2) one mid-week round trip ski shuttle excursion to the Homewood High and Dry Marina (8:00 am departure and 5:00 pm return). The tour boat will utilize the fueling facilities and sewage pump-out facilities at Homewood High and Dry Marina and all passengers will be required to be shuttled to Timber Cove Marina via shuttle buses. If approved, the temporary permit would be valid for one month, January, 1997, with the possibility of obtaining staff approval for an extension through February, 1997.

The applicant presently has a pending application to permanently operate the Tahoe Queen Tour Boat from Timber Cove Marina and Lakeside Marina. TRPA staff received the Environmental Assessment for the permanent operation on November 4, 1996. TRPA staff has reviewed the EA and determined that document lacks adequate information regarding the following: 1) traffic circulation; 2) parking; 3) sewage disposal; 4) refuse disposal; 5) water quality; 6) operation during low lake levels; and 7) noise. Lake Tahoe Cruises is requesting the temporary permit in order to continue operations until TRPA takes final action on the proposed permanent operation at Timber Cove Marina and Lakeside Marina.

Site Description: The project area is the Timber Cove Marina, which is located in the City of South Lake Tahoe just east of the intersection of Highway 50 and Johnson Boulevard. The site is occupied by a motel, restaurant, pier and public beach. The pier is approximately 1000 feet in length and 16 feet wide. The pier extends to lake bottom elevation, 6220’. There are no pump-out facilities or diesel fuel available at the Marina. Adjacent land uses are a mixture of commercial, tourist accommodation, residential and public beach.

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Tahoe Queen, Temporary Use, Tour Boat Operation
Page 2

Issue: The proposed project is located within the Bijou/Al Tahoe Community Plan Area (Bijou District). The Community Plan lists tour boats as a special use and therefore requires Governing Board approval in accordance with Chapter 4, Appendix A, of the TRPA Code. The primary project related issue is adequacy of support facilities.

The TRPA Code of Ordinances requires that TRPA finds that there are sufficient accessory facilities to accommodate a shorezone project. Although TRPA staff is presently unable to make this finding for the proposed permanent operation, the finding can be made for the proposed temporary operation based on the following:

* Parking: Presently there is insufficient paved parking at Timber Cove Marina to accommodate the operation of the Tahoe Queen. Conditions of approval for the temporary permit will require that all passengers be shuttled to Timber Cove Marina via shuttle bus. The applicant has an agreement with Harvey’s Casino to use a portion of their parking area for Tahoe Queen passengers. In addition, Lake Tahoe Cruises has two shuttle buses that are able pick up passengers at a various locations.

* Fueling/Sewage Disposal: Timber Cove Marina does not have fueling or pump-out service to accommodate the Tahoe Queen. Conditions of approval will require that all fueling and sewage pump-out occur at Homewood High and Dry Marina which has sufficient facilities to accommodate the tour boat.

* Lake Access: The pier at Timber Cove Marina extends to Lake Bottom Elevation 6,220’ (Lake Tahoe Datum). According to the Federal Water Master’s office, the elevation of Lake Tahoe was 6227.77’ on December 5, 1996. The draft of the Tahoe Queen is approximately 4 feet, thus lake levels would have to drop to 6224’ before mooring at the pier would be impacted. There will probably be adequate water depth to support the Tahoe Queen (due to current high lake levels) for the duration of the temporary permit, however, contingency plans for low lake levels are needed for the proposed permanent operation.

Staff Analysis:

A. Environmental Documentation: The applicant has completed an Initial Environmental Checklist (IEC) in order to assess the potential environmental impacts of the project. No significant environmental impacts were identified and staff has concluded that the project, with mitigation, will not have a significant effect on the environment. A copy of the completed IEC will be made available at the Governing Board hearing and at TRPA.

B. Community Plan: The project is located within the Bijou/Al Tahoe Community Plan (Bijou District). The Land Use Classification is Commercial/Public Service and the Management Strategy is Redirection. TRPA staff has reviewed the subject Community Plan and has determined that the proposed temporary relocation is consistent with the

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applicable planning statement, planning considerations and special policies. The proposed tour boat operation is listed as a special use in the Community Plan.

C. Shorezone Tolerance District: The subject parcel is located within Shorezone Tolerance District 1. The project does not involve modifications to existing structures or new shorezone structures, and is consistent with all development standards for the tolerance district.

D. Required Findings: The following is a list of the required findings as set forth in Chapters 6, 18 and 50 of the TRPA Code of Ordinances. Following each finding, Agency staff has briefly summarized the evidence on which the finding can be made.

1. The project is consistent with and will not adversely affect implementation of the Regional Plan, including all applicable Goals and Policies, Plan Area Statements and maps, the Code, and other TRPA plans and programs.

   (a) Land Use: The site is occupied by a motel, public beach, marina, pier and buoy field. The temporary operation of the Tahoe Queen at Timber Cove Marina will not alter the existing land uses. Conditions of approval will require that all passengers are shuttled to the site which will minimize any impacts to existing uses.

   (b) Transportation: Conditions of approval will require that all passengers will be shuttled to the site via shuttle bus. Temporary activities are exempt from the traffic and air quality mitigation measures identified in Chapter 93 of the TRPA Code of Ordinances.

   (c) Conservation: The project is consistent with the fisheries, shorezone, and scenic subelements of the Conservation Element of the Regional Plan. There are no sensitive plants or special interest species identified within the project area. The project does not involve any additional structures or expansions and, therefore will not have any adverse impacts to fisheries, the shorezone, or scenic thresholds.

   (d) Recreation: The proposed project will continue to provide recreation to Lake Tahoe and is consistent with the Recreational Element of the Regional Plan.

   (e) Public Service and Facilities: The tour boat will not require any additional public services or facilities.

   (f) Implementation: The proposed project does not require any allocations of PAOTs or commercial floor area.
2. The project will not cause the environmental threshold carrying capacities to be exceeded.

The basis for this finding is provided on the checklist entitled "Project Review Conformance Checklist and Article V(g) Findings" in accordance with Chapter 6, Subsection 6.3.B of the TRPA Code of Ordinances. All responses contained on said checklist indicate compliance with the environmental threshold carrying capacities. A copy of the completed checklist will be made available at the Governing Board hearing and at TRPA.

3. Wherever federal, state or local air and water quality standards applicable for the Region, whichever are strictest, must be attained and maintained pursuant to Article V(g) of the TRPA Compact, the project meets or exceeds such standards.

(Refer to paragraph 2, above.)

4. The project, to which the use pertains, is of such a nature, scale, density, intensity and type to be an appropriate use for the parcel on which, and surrounding area in which, it will be located.

The proposed project is temporary and the permit will be valid through January, 1997, with the possibility on one permit extension (recommended not to extend through February, 1997) and, as such, is an appropriate use for parcel and surrounding area. In addition, passengers will be required to be shuttled to the project site. Fueling and sewage disposal will occur at the Homewood High and Dry Marina which has adequate facilities to accommodate the Tahoe Queen.

5. The project, to which the use pertains, will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect the land, water and air resources of both the applicant's property and that of surrounding property owners.

Sewage disposal and fueling will occur at the Homewood High and Dry Marina. All passengers will be required to be shuttled to Timber Cove Marina to minimize impacts to traffic and air quality.

6. The project, to which the use pertains, will not change the character of the neighborhood, detrimentally affect or alter the purpose of the applicable planning area statement, community plan and specific or master plan, as the case may be.

The proposed project is temporary and, as such, will not affect the purpose of the applicable community plan.

7. The proposed project will not adversely impact: (1) littoral processes; (2) fish spawning; (3) backshore stability; and (4) on-shore wildlife habitat, including wildfowl nesting areas.

The proposed temporary operation will not have an impact on

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littoral processes because the project does not involve the
collection of a structure that is less than 90 percent open or
require modifications to the backshore. The proposed project is not
located within an area that is mapped as on-shore wildlife habitat.

8. **There are sufficient accessory facilities to accommodate the
project.**

There is approximately 8 feet of water depth to accommodate the
docking of the Tahoe Queen, which is adequate for the duration of
the temporary permit. Fueling and sewage disposal will occur at
Homewood High and Dry Marina which has adequate facilities to
accommodate the Tahoe Queen. All passengers will be required to be
shuttled to Timber Cove Marina via shuttle bus to minimize any
traffic and parking impacts.

9. **The project is compatible with existing shorezone and lakeszone uses
or structures on, or in the immediate vicinity of, the littoral
parcel, or that modifications of such existing uses or structures
will be undertaken to assure compatibility.**

The project does not require the construction or modification of any
shorezone structures. The tour boat will be based out of Timber
Cove Marina and is consistent with the lake recreation use of that
marina.

10. **The use proposed in the foreshore or nearshore is water-dependent.**

The tour boat utilizes the nearshore or foreshore of Lake Tahoe and
is water-dependent.

11. **Measures will be taken to prevent spills or discharges of hazardous
materials.**

Conditions of approval will require that the Tahoe Queen utilize the
permanent fueling and sewage disposal facilities at Homewood High
and Dry Marina to prevent spills and discharges of hazardous
materials.

12. **Construction and access techniques will be used to minimize
disturbance to ground and vegetation.**

The proposed temporary operation does not require the construction
or modifications of structures.

13. **The project will not adversely impact navigation or create a threat
to public safety as determined by those agencies with jurisdiction
over a lake's navigable waters.**

The proposed project does not involve additional structures. The
United States Coast Guard has certified that the vessel is safe to
carry 500 passengers and 42 crew. There is no evidence that the
project will adversely impact navigation or create a threat to
public safety.
14. TRPA has solicited comments from those public agencies having jurisdiction over the nearshore and foreshore and all such comments received were considered by TRPA prior to action being taken on this project.

Comments were solicited from the Lahontan Regional Water Quality Control Board, U.S. Army Corps of Engineers, California Department of Fish and Game, and the California State Lands Commission. All comments were considered prior to staff recommendation of this proposal.

The Lahontan Regional Water Quality Control Board objects to the issuance of a temporary permit because the temporary operation was not included in the environmental document that was circulated under the provisions of the California Environmental Quality Act (CEQA). TRPA is not an agency that is governed by CEQA and TRPA staff has determined that the project is consistent with TRPA ordinances regarding environmental documentation.

The U.S. Army Corps of Engineers and California Department of Fish and Game do not require review of this project.

The California State Lands Commission indicated that they had no objections to TRPA issuing a temporary permit. However, they did indicate they are requiring that the lease between the California State Lands Commission and Timber Cove Marina be renewed.

E. Required Actions: Agency staff recommends that the Governing Board approve the project by making the following motions based on this staff summary and the evidence contained in the record.

I. A motion based on this staff summary, for the findings contained in Section D above, and a finding of no significant environmental effect.

II. A motion to approve the project, based on the staff summary, subject to the following conditions of approval.

A. This approval is for the temporary operation of the Tahoe Queen tour boat at Timber Cove Marina. The permit is valid through January 31, 1997. The permittee may request one permit extension through February 28, 1997. Any extension request must be in writing and reviewed and approved by TRPA staff. This permit authorizes the following cruises:

(1) Two daily round-trips excursions (12:00 p.m. and 7:00 p.m.) to Emerald Bay; and

(2) One mid-week round trip ski shuttle excursion to the Homewood High and Dry Marina (8:00 a.m. departure and 5:00 p.m. return).

B. The Standard Conditions of Approval listed in Attachment S.
C. Prior to commencement of operation the applicant shall:

(1) Submit a $25,000 performance security. Please refer to attachment J, Security Procedures.

(2) The permittee shall submit documentation, from a qualified engineer, that the pump-out facilities are adequate to accommodate the Tahoe Queen.

(3) The permittee shall submit a solid waste disposal plan approved by the City of South Lake Tahoe and the El Dorado County Department of Environmental Health.

(4) The permittee shall provide documentation, from a qualified engineer, that the Timber Cove pier is structurally sound and capable of accommodating the tour boat operation.

(5) The permittee shall provide authorization from the California State Lands Commission for operation of a tour boat at Timber Cove Marina. It is the permittee responsibility for obtaining all required leases and/or permits.

D. All passengers boarding the Tahoe Queen shall arrive to Timber Cove Marina via shuttle buses. Passengers arriving via private vehicles is prohibited. The permittee shall provide TRPA with copies of all off-site parking agreements.

E. In the event that lake bottom substrate is disturbed during the tour boat operation (except for the operation of the mooring spuds), the permittee shall notify TRPA immediately and the tour boat operation shall cease.

F. This approval is based on utilizing the fuel and pump-out facilities at the Homewood High and Dry Marina. If in any event these facilities are not available, or alternative marina facilities are not available, the permittee shall notify TRPA immediately and the tour boat operation permit will be suspended until such facilities are available. A suspension of operation shall not be cause for permit extension.

G. Unless necessary for emergencies or repairs, the Tahoe Queen shall not idle for more than 60 consecutive minutes. Idling shall be limited to the minimum necessary for efficient operation of the vessel.

H. The fuel hose ending shall be totally manual.

I. Fuel pumps shall be switched off when not actually filling the vessel.
J. An absorbent material in a bucket or tray shall be placed under the hose ending to catch drops after filling the vessel.

K. The discharge of petroleum products, waste, or earthen materials to the waters of the Lake Tahoe Basin is prohibited.

L. The vessel docking area and vessel shall each carry sufficient absorbent powder (or pads) to soak up an oil spill of up to 400 gallons. Written fuel spill clean-up procedures shall be prepared and quickly available on the vessel, the operator’s office, and marina offices. A copy of said procedures shall be submitted to the TRPA prior to operation.

M. Nontoxic or low toxicity material shall be used on the hull. In particular organo-tin materials shall not be used.

N. Until a cleaning and maintenance plan is submitted and approved by the Lahontan Regional Water Quality Control Board and TRPA, the operator shall not wash the boat’s hull, shall use sponges or mops to wash the deck, shall use only biodegradable and phosphate free detergents, and shall not allow overflow of waste water into the lake.

O. Persons on exterior decks shall be discouraged from shouting or making loud noises when the Tahoe Queen is operated within 300 feet of the shore, especially during nighttime hours.

P. Signs shall be placed at the entrance to the Tahoe Queen, and on the top deck, which clearly state prohibited behavior.

Q. No amplified music or live music shall be played while the Tahoe Queen operates on the waters of Emerald Bay.

R. Except in case of emergency, while the Tahoe Queen operates on the waters of Emerald Bay, the exterior speakers shall not be used.

S. To effectively contain music within the Tahoe Queen, windows on the second deck shall remain closed when band music is being played and when the Tahoe Queen is making a passage in close proximity to shore.

T. The on-board public address system shall be operated at the minimum level necessary to convey information to passengers.

U. Use of whistles and/or horns shall be limited to those necessary for navigational and emergency purposes.

V. The maximum passenger capacity shall be limited to 500 passenger per cruise, plus 42 crew.

W. Use of the subject vessel at any other location other than those specifically included as part of this approval requires further review and approval of the TRPA.

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Y. This approval does not authorize the subject vessel to pick-up or drop off passengers at any locations other than Timber Cove Marina except as provided below:

Winter ski shuttle operations are allowed to the Homwood High and Dry Marina in Homewood, California, under the following restrictions:

1) Passenger may only disembark at the Homwood High and Dry Marina for the purpose of being transferred to mass transportation to area ski resorts.

2) Only those passengers transported by the Tahoe Queen from Timber Cove Marina to the Homewood High and Dry Marina, as outlined above, may reboard at Homewood High and Dry Marina. No one-way passenger cruises are authorized.
December 11, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Lowering of IPES Line in 1997

PROPOSED ACTION: The proposed action is to lower the IPES line in 1997 in Washoe and Douglas Counties.

STAFF RECOMMENDATION: Staff recommends that the Governing Board lower the IPES line in Washoe and Douglas Counties.

APC RECOMMENDATION: A quorum of the APC was not present at the time for this agenda item, but, of the nine APC members present, all voted to recommend lowering the IPES line.

BACKGROUND: Chapter 37 of the Code sets forth the five findings which must be made for a jurisdiction for the IPES line to be lowered. Those findings are:

1. All parcels included in the top rank are otherwise eligible for development under the applicable state water quality management plans for the Lake Tahoe Basin (208 plans) and other legal limitations;

2. For any jurisdiction, the number of parcels having scores below the level defining the top ranked parcels, divided by the number of parcels in that jurisdiction that were identified as sensitive by TRPA on January 1, 1986, does not exceed the following percentages:

   El Dorado - 20 percent       Washoe - 33 percent
   Placer - 20 percent         Douglas - 33 percent

3. The monitoring program for that jurisdiction is in place pursuant to Chapter 32 and the TRPA monitoring plan;

4. Demonstrable progress is being made on capital improvement programs for water quality within that jurisdiction; and

5. The level of compliance with conditions of project approvals within any jurisdiction is satisfactory.

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The above findings are further defined in Volume I of the 1988 TRPA 208 Plan at pages 118-120, as amended.

At the December 1995 meeting, the Governing Board lowered the IPES line in Washoe and Douglas Counties for the third consecutive year. The current IPES line is 635 in Washoe County and is 674 in Douglas County.

DISCUSSION: Since lowering the line is an annual event, staff has compiled the necessary information from the preceding calendar year (1995) or fiscal year (FY 95-96), as appropriate, for consideration of lowering the line in Nevada in 1997. As before, the California counties are ineligible because the vacant lot finding cannot be made. The current vacant lot equation for the California counties is included in the staff summary for informational and predictive purposes.

FINDING 1. ELIGIBILITY UNDER 208 PLAN

Staff recommends the first finding regarding eligibility and legality of IPES parcels below the IPES line for development because the TRPA 208 Plan was certified by both states and approved by U.S. Environmental Protection Agency (EPA), in 1989. The 1990 amendment to the 208 Plan which redefined "in place" monitoring, was certified by Nevada in 1990, by California in 1992 and approved by EPA in 1993.

FINDING 2. VACANT LOT EQUATION

The "vacant lot equation" is the requirement that the number of parcels with IPES scores below the line (725 or less), divided by the number of parcels deemed sensitive (i.e., land capabilities 1, 2 or 3) on January 1, 1986, cannot exceed 20 percent in the California counties and 33 percent in the Nevada counties.

Numerator = Number of vacant parcels with IPES score 725 or less.

Denominator = Number of vacant parcels deemed sensitive (Bailey 1, 2 or 3) on January 1, 1986.

The current calculations are based on the December 1996 inventory of IPES parcels, to which has been added unscored...
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parcels which are mapped predominantly land capability 1-3 and parcels which purchased points within the past two years. The denominators are taken from a September 1986 memorandum from William Morgan to the Governing Board. The denominators are constant and do not change.

Douglas County: 227/1067 = 21%
Washoe County: 286/2350 = 12%
Placer County: 927/1667 = 55%
El Dorado County: 1399/4363 = 32%

(For informational purposes, the percentages for Placer and El Dorado County last year were 57% and 33%, respectively.)

Staff recommends making this finding for Washoe and Douglas Counties.

FINDING 3. MONITORING FINDING

The monitoring finding requires a monitoring program pursuant to Chapter 32 and the TRPA monitoring plan to be in place in a given jurisdiction. "In place" is defined in the amended 208 Plan as:

"This monitoring program shall be in place in a local jurisdiction, and shall characterize water quality conditions, before the numerical level defining the top rank for the jurisdiction is lowered. [cite omitted] The term "in place" means that a TRPA-approved monitoring system, with established procedures and responsibilities, is physically located on the selected tributaries, and samples have been collected and analyzed for the previous water year. The monitoring program, to be effective, should remain in place on a continuing and long term basis pursuant to stringent QA/QC procedures, improved tributary water quality data which will be used to better assess average and existing conditions and to understand water quality trends and compliance with state and federal water quality standards."

In summary, the program consists of permanent monitoring stations at the mouths of ten streams, stream flow gauges

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and monitoring upstream locations on five of the ten streams (Incline, Trout, Ward and Edgewood Creeks and the Upper Truckee River), and eleven additional upstream sites in Nevada on both the monitored streams and in other watersheds (developed and undeveloped).

The monitoring program has been in place in Nevada since the spring of 1991, so samples have been collected for at least five previous water years. The monitoring program is the same one that was in place in 1993-1995 when the Governing Board lowered the line in Nevada.

Staff recommends making the finding that the monitoring program is in place for Washoe and Douglas Counties.

FINDING 4. CIP PROGRESS

The CIP finding requires that a jurisdiction make demonstrable progress on capital improvement programs for water quality within that jurisdiction. The 200 Plan defines demonstrable progress as requiring one of the two following findings to be made:

1. Funding is committed and there is a strong likelihood that construction will commence on one or more high priority watershed improvement projects in the current or upcoming year and the construction of one or more high priority projects has taken place in the previous or current year. (High priority projects are projects with substantial water quality benefit.); OR

2. The performance of the local jurisdiction on implementation of SEZ restoration and capital improvement projects is consistent with progress necessary to meet the benchmarks established on pp. 183-184 (now superseded by 1991 evaluation benchmarks).

Because the amount of SEZ restoration has consistently lagged behind the 1996 interim target of 700 acres, this second finding cannot be made for any county in the Tahoe Region. Estimated SEZ restoration to date is 300 acres. Accordingly, the focus has been on the first finding.

Following is the list of CIP projects for Washoe County for the applicable three-year period of 1995-1997:

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1997(Upcoming) Skiway Water Quality, approx. $600,000; Third Creek Watershed Restoration, approx. $500,000

1996(Current) Third Creek Watershed Restoration Project - approx. $150,000; Hwy 28, Erosion Control, approx. $??? (to be reported at meeting)


Following is the list of CIP projects for Douglas County for the applicable three-year period of 1995-1997:

1997(Upcoming) Kingsbury Drainage, $314,000; Elkpoint Erosion Control, approx. $115,000

1996(Current) Skyland Erosion Control, approx. $210,000

1995(Previous) Glenbrook Curve Rev., $15,000

The Washoe County projects include several SEZ restoration projects which have substantial water quality benefit. Douglas County has implemented significant portions of its high priority projects and the above-listed projects do have substantial water quality benefit. Staff is concerned that the implementation of water quality projects has slowed considerably in the past few years.

Staff recommends making the first alternative CIP finding for Washoe and Douglas Counties.

FINDING 5. COMPLIANCE WITH PROJECT CONDITIONS

A satisfactory level of compliance with conditions of project approvals, within the jurisdiction, is the last required finding for lowering the line. The four criteria listed in the 208 Plan are used as indicators of the level of compliance within a jurisdiction. The Governing Board has set numerical performance standards for each of the four criteria in Resolution 93-19.

The attached compliance data memorandum prepared by Mike Solt, Compliance Division, which pertains to the lowering of

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the IPES line, has been updated for 1995. The data is  
consistent with the format of the numerical performance  
standards in Resolution 93-19.

Staff recommends making the compliance finding for Washoe  
and Douglas Counties.

MOVING THE LINE: The new line is set by moving the IPES  
line down by the number of parcels equal to the number of  
residential allocations used in that county in 1995. Used  
residential allocations are those for which complete  
applications were filed, or transfers completed, by December  
31, 1995. The approximate number of used allocations in  
Douglas County in 1995 was 35, and the approximate number of  
used allocations in Washoe County in 1995 was 67. If the  
findings are made, then, based on the 1996 rankings, the new  
eligible scores would be approximately 539 in Washoe County  
and 646 in Douglas County.

The California State Water Resources Control Board requires  
a 90-day notice period for the lowering of the line.  
Therefore, the effective date of the lowering of the IPES  
line would be March 21, 1997.

ACTION REQUESTED: In order to lower the IPES line, the  
Governing Board should adopt the resolutions which will be  
provided at the Board meeting.

If there are any questions regarding this matter, please  
contact Susan Scholley, Special Projects Attorney, at (702)  
568-4547, Ext. 230.

/sgs  
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AGENDA ITEM XI.A.
TAHOE REGIONAL PLANNING AGENCY

308 Doda Court
Elko Point, Nevada

P.O. Box 1038
Zephyr Cove, Nevada 89448-1038

(702) 588-4547
Fax (702) 588-4527
Email: trpa@sierra.net

MEMORANDUM

December 10, 1996

To: Susan Scholley, Special Projects Attorney

From: Mike Holt, Senior Environmental Specialist

Subject: Compliance Data Associated With Lowering of the Individual Parcel Evaluation System (IPES) Line For Washoe and Douglas County

The following compliance data which pertains to the lowering of the IPES line is being submitted for your review. The type and sources of data are consistent with those used to establish the compliance criteria numerical standards, and evaluate lowering of the IPES line in previous years. A "satisfactory level of compliance" with conditions of project approvals, within any jurisdiction, is one of the required findings for lowering the line.

I have included data for Washoe and Douglas Counties only. The security release data for Criteria #1 is for projects started three or more years ago, going back to 1988. The compliance data for Criteria #2 is based upon projects with 50% or 100% completion of BMP retrofits required by June 30, 1996. The data for Criteria #3 and #4 is being submitted for fiscal year (July 1 - June 30) '95-'96.

The sources utilized in compiling this data include: TRPA computer database, project files, reading files, compliance personnel's inspection records and daily logs, previous compliance activity summaries, TRPA security database, and TRPA security index card tracking system.

Criteria #1: The percentage of projects which commenced construction three or more years earlier, but which have not had their securities returned for water quality related practices, shall not exceed 30 percent of the number of project securities which were posted within that calendar year.

The set of data is based on all projects which posted a security within the specified calendar year. Data is presented for the years 1988 through 1992.

1988 Security Returns

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1989 Security Returns

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1990 Security Returns

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<td>81</td>
<td>24</td>
<td>30%</td>
</tr>
</tbody>
</table>

Criteria #2: The percentage of BMP retrofit plans behind approved schedules shall not exceed 30 percent of the number of projects with BMP retrofit schedules as a condition of project approval and reach the five-year or ten-year deadlines set in Chapter 25.

The Code requires 50% completion within five years and 100% completion within ten years. A total of 18 projects within the two jurisdictions have reached the five-year date for completion of phase 1 of the BMP retrofit as of June 30, 1996.

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Projects</th>
<th>On Schedule</th>
<th>Behind Schedule</th>
<th>% Non-Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washoe County</td>
<td>15</td>
<td>13</td>
<td>2</td>
<td>13%</td>
</tr>
<tr>
<td>Douglas County</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>17%</td>
</tr>
</tbody>
</table>
Memo to Susan Scholley  
December 10, 1998  
Page three

Criteria #3: The percentage of projects which required TRPA issuance of CEASE AND DESIST ORDERS for failure to observe conditions of approval shall not exceed 20 percent of the number of projects which were inspected the previous fiscal year.

The data for the number of projects inspected is based on the number of pre-grade inspections completed.

Fiscal year 95/96, July 1, 1995 through June 30, 1996

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th># of Projects Inspected</th>
<th># of Projects Issued Cease and Desist Orders</th>
<th>% of Projects Issued Cease and Desist Orders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washoe County</td>
<td>63</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Douglas County</td>
<td>32</td>
<td>3</td>
<td>9%</td>
</tr>
</tbody>
</table>

Criteria #4: The percentage of projects which were issued notices of violations or were identified as alleged violations and which remain unresolved at the end of the fiscal year shall not exceed 20 percent of the number of projects which were issued notices of violation or were identified as alleged violations within the fiscal year. Noticed or alleged violations which are resolved within 90 days of being reported as an alleged or noticed violation shall not be counted as unresolved, even if the resolution occurs in the next fiscal year. Alleged or noticed violations for which litigation has been filed shall be deemed resolved for purposes of this finding.

The data includes the number of notices of violations and pre-notice of violation settlements requiring Governing Board approval.

Fiscal year 95/96, July 1, 1995 through June 30, 1996

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th># of Violations Resolved</th>
<th># of Violations Unresolved</th>
<th>% of Violations Unresolved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washoe County</td>
<td>2</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Douglas County</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Please let me know if you need any clarification or further information regarding the contents of this memo.

NS/jsd

C Jim Baetge, TRPA Executive Director  
Steve Chilton, TRPA Environmental Compliance Division
MEMORANDUM

December 12, 1996

To: TRPA Governing Board

From: TRPA Staff and the Housing Advisory Group

Subject: Finding that the City of South Lake Tahoe, El Dorado County, Placer County, Carson City, Washoe County, and Douglas County Have Each Demonstrated a Commitment to Assume Its Fair Share Responsibility to Provide Low and Very Low Income Housing.

Proposed Action: The Governing Board is requested to make a finding that the above jurisdictions have each demonstrated a commitment to assume their fair share responsibility to provide low and very low income housing.

Staff Recommendation: TRPA staff recommends the finding be made for all jurisdictions until December 31, 1997.

Housing Advisory Group Recommendation: The Housing Advisory Group convened on December 5, 1996 and agreed to make the following recommendation to the Local Government Committee. It is recommended that the moratorium be lifted for Carson City, Douglas County, Washoe County, Placer County, El Dorado County, and the City of South Lake Tahoe until December 1997.

Local Government Committee Recommendation: The Local Government Committee will meet on December 20, 1996 at 12:00 to discuss making the recommendation to the Governing Board that they adopt the findings as written concerning the Carson City, City of South Lake Tahoe, El Dorado County, Washoe County, Douglas County and Placer County.

Background: In 1986 the Tahoe Regional Planning Agency Governing Board adopted the Regional Plan for the Lake Tahoe Basin. The Housing Subelement of the Regional Plan Goals and Policies states:

"To the extent possible, affordable housing will be provided in suitable locations for the residents of the region."

The Goals and Policies go on to state:

"Local Governments will be encouraged to assume their fair share of the responsibility to provide lower and very low income housing."
Finding that the City of South Lake Tahoe, El Dorado County, Placer County, Carson City, Washoe County, and Douglas County have each demonstrated a commitment to assume its fair share

In December of 1994 the TRPA Governing Board amended the Code of Ordinances as it pertains to affordable housing. 43.4.F(2) states that:

"Approval of subdivisions after December 31, 1995 of post-1987 residential projects which do not qualify as affordable housing are prohibited until TRPA finds the city or county, with zoning jurisdiction, has demonstrated its commitment to assume its 'fair share' responsibility to provide lower and very low income housing within existing urban areas pursuant to Goal #1 of the TRPA Housing Sub-element of the Regional Plan Goals and Policies."

The Tahoe Regional Planning Agency, in 1996 pursued, received funding for, and produced an Affordable Housing Needs Assessment. The report defines what the "fair share" for each jurisdiction is based on a variety of sources. A draft version of this report is currently available. The Housing Advisory Group has reviewed the findings in this report and utilized those guidelines in assessing each jurisdiction’s commitment to providing their "fair share."

The Housing Advisory Group has identified three stages to the development of a commitment to "fair share" of affordable housing. Those three stages are: 1) an existing conditions report has been written; 2) a program that pursues rehabilitation, new construction, weatherization, first-time home buyers, and others is in place; and 3) a means to implement these programs is in place.

In December of 1995 the Governing Board made the finding that all jurisdictions were committed to providing their "fair share" of affordable housing with the exception of Douglas County who was given an extension until such time that their Master Plan was available. In March of 1996, the same finding was made for Douglas County. These findings were interim findings and scheduled to be reviewed again in December of 1996 to assess each jurisdiction’s continued efforts to provide their "fair share" of affordable housing in the Tahoe Region.

Affordable Housing Programs Status: An overview of each jurisdiction’s affordable housing efforts during the last year follows. This overview will present highlights of housing efforts and programs for El Dorado County, Placer County, City of South Lake Tahoe, Douglas County, Washoe County, and Carson City.

**El Dorado County**

- Public Housing Authority created in 1993.
- Board of Supervisors passed resolution 342-93 (1993) recognizing need for housing and affordable housing programs for the county.
- El Dorado County’s Housing Element identifies Meyers area and unincorporated South Lake Tahoe as target areas for affordable housing programs.
- A report on housing conditions for El Dorado County (inc. Meyers) completed in September of 1995 (Connerly).
Finding that the City of South Lake Tahoe, El Dorado County, Placer County, Carson City, Washoe County, and Douglas County have each demonstrated a commitment to assume its fair share

- Primary programs for El Dorado County include weatherization, Section 8 Housing Assistance, rehabilitation, loan programs, and energy assistance.

- 2.2 million dollars spent in the Lake Tahoe Basin in loan programs.

Placer County

- Placer County Housing and Community Development continues to provide low cost loans for substandard housing upgrades in the Tahoe Region.

- A report on housing conditions for Placer County completed in January 1995 (Connerly).

- The "Connerly Report" identifies Kings Beach, Lake Forest, and Tahoe City as areas where the County should concentrate its efforts.

- The report mentions Kings Beach as having the highest concentration of substandard housing in Placer County.

- Placer County maintains a housing database. This database is used for identifying households with special needs and ensuring eligibility for Community Development Block Grant (CDBG) funds.

- Housing rehabilitation programs for Kings Beach have been implemented (ON-GO), including weatherization efforts.

- Placer County staff feels that they are meeting their targets for affordable housing and housing assistance programs in the Tahoe Region.

City of South Lake Tahoe

- City of South Lake Tahoe (CSLT) continues to commit staff to search for and obtain funding for housing programs.

- The City has requested funding in the amount of $1,000,000 to pursue the development of a 32 unit project.

- The City is continuing to pursue the construction of a senior citizen complex near Barton Memorial Hospital. This development will be 34 units and is slated to begin construction on May 1st of 1997.

- In the last 12 months, the City has rehabilitated 9 units, funded 3 first-time homebuyers, and has converted 5 illegal second units into affordable housing.

Douglas County

- Douglas County completed work on a Master Plan which includes a detailed housing element. The Housing and Population Element of this plan was officially adopted in April, 1996.
Finding that the City of South Lake Tahoe, El Dorado County, Placer County, Carson City, Washoe County, and Douglas County have each demonstrated a commitment to assume its fair share.

- In December of 1996, the County adopted the Consolidated Development Code which implements the Master Plan. Included in this Code are provisions which allow for:
  
  Increased residential density in exchange for providing affordable housing.
  
  Accessory dwelling units on parcels between one half acre and five acres contingent upon administrative approval.
  
- The County is actively working with the owners of residential projects such as Tahoe Village in the interest of making changes to their available housing market.
  
- The County participates actively in the Community Development Block Grant Program which promotes affordable housing projects and economic development in Nevada.
  
- Efforts with private developers are being made to pursue affordable housing in the Carson Valley area that could potentially satisfy Tahoe needs through mitigation such as alternative transportation options for those residents who would be working in the Tahoe Region.

**Washoe County**

- Washoe County has committed staff for managing and implementing affordable housing programs.
  
- Washoe County has completed a "Housing Consolidation Plan" that addresses housing needs throughout the County.
  
- The Consolidated Plan addresses issues in the Incline Village and North Stateline area.
  
- The County has also completed an Impediments Analysis (AI) report that assesses those factors that inhibit affordable housing efforts within the County.
  
- These two studies will be utilized in ongoing efforts to modify the County's Master Plan. Emphasis will be placed on standardizing affordable housing terms amongst the County entities so as to facilitate efforts in the future.

- A community training seminar was held in Incline Village for financiers and developers interested in developing affordable housing within the Washoe County portion of the Tahoe Region. This seminar was hosted by the Affordable Housing Resource Council in Reno. Currently, two private developers from that seminar are actively pursuing affordable housing efforts in Incline Village.
Finding that the City of South Lake Tahoe, El Dorado County, Placer County, Carson City, Washoe County, and Douglas County have each demonstrated a commitment to assume its fair share

Carson City

- Carson City is currently consulting with a technical advisory group in an effort to revise their Housing Element.

- Carson City has dedicated staff to housing issues.

- Programs in Carson City include single family rehabilitation, sewer hook-ups, new multi-family and single family construction, and first-time homebuyer programs.

- Carson City does not have existing housing or any land available for future housing in the Lake Tahoe Basin. At the same time, it is recognized that Carson City supplies a substantial housing stock for employees of the Lake Tahoe Basin.

If you have any questions regarding this agenda item, please contact David Atkins at (702) 588-4547.
December 11, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Technical Report on Criteria for Identification of the Be Soil Map Unit

Proposed Action: No action is requested on this item, the report is being presented for informational purposes only.

APC Recommendation: The APC unanimously voted to continue this item to the next agenda and have it noticed as a public hearing item.

Background

In response to land capability challenges filed on parcels which have been within the boundaries of the Be (Beaches) soil map unit since the original soil survey and land capability districts maps were completed in the 1970’s, TRPA commissioned this study to provide additional technical background to assist the staff in reviewing these challenges.

The definition for the Beaches (Be) map unit in the Soil Survey for the Tahoe Basin was too simplistic, contains typographic errors, and is not sufficiently detailed to account for the variety of soils and landforms that are contained within the existing mapped extent of the Be soil map unit.

The description in the soil survey reads as follows:

Beaches (Be) is adjacent to the lake shore, mainly the south shore near Kings Beach. It is coarse sand derived mainly from granitic alluvium.

Staff has found that this simplistic description of Be soils in the text of the Tahoe Basin Soil Survey, is inadequate to deal with the variety of soils and landforms which are contained within the mapped extent of the Be map unit. This presents interpretation difficulties for all users of the soil survey and the Bailey report. The soil scientists who mapped the Be soil map unit, included areas in the Be soil map unit that had many different landform characteristics, including pocket beaches, barrier beaches, and dunelands among others. Combining all of these landforms in the Be soil map unit was appropriate because, in terms of potential environmental impacts, land use interpretations, they behave similarly.

/jp
12/11/96
The soil surveyors recognized that these areas are all sensitive lands in terms of erodibility, susceptibility to disturbance and proximity to Lake Tahoe. However, they failed to provide a sufficiently detailed description of all of the landform and soils components of the Be soil map unit to explain the way it was mapped in the soil survey. The failure to provide an complete description in the soil survey is significant because it has led to challenges of the land capability determinations done by staff.

TRPA staff considers all of the landforms currently mapped in the Be soil unit to be sensitive and in need of maximum protection from new disturbance. Because of these challenges, it is essential that there be a clarification of the description of the Be soil map unit for use in making land capability class determinations concerning this soil map unit.

Rationale:

The determination of the 1b (SEZ) classification of the Beaches (Be) map unit is consistent with that of Dr. Robert Bailey found on page 29 (Appendix) of his report, "Land Capability Classification of the Lake Tahoe Basin, California-Nevada, A Guide to Planning, 1974" (Exhibit 1). Dr. Bailey's determination that the Be soil is sensitive land and should therefore be placed in land capability class 1b, is consistent with the criteria that is set out on page 20, Table 4, of the Bailey Report (Exhibit 2). The categories used to classify the soil map units include, slope percent, relative erosion potential, and runoff potential. Each of the categories are peremptory, in that the most restrictive property (slope, erosion potential, or runoff potential) moves the soil map unit into the next lowest category.

In the case of the Be soil map unit, the highly erodible nature of the soil places this in the "High" category in terms of relative erosion hazard. By definition this places it in high hazard lands in terms of sensitivity to new disturbance. Dr. Bailey determined that 1b was the most appropriate land classification class to place the Be soil map unit within the sensitive land classes (1a, 1b, 1c, 2, and 3).

To clarify the identification of the Be map unit, TRPA contracted with Randy Moory, who in conjunction with Dr. Lynn Moody, prepared a more detailed description of the Be soil map unit. Dr. Moody is an instructor at California Polytechnic State University, San Luis Obispo and an expert in the classification and mapping of shoreline sediments. Copies of abstracts of her recent scientific journal articles on the subject are included for review (Exhibit 3a and 3b).

Randy Moory, who is a Consulting Marine Scientist, has been under contract as the Soil Conservation Mentor for TRPA's Shorezone Structures EIS and Cumulative Impact Analysis, and his expertise is very relevant to the questions of concern in this matter.

The field work for this study was completed in August, and a Draft report completed in October. The final report is included in your GB packet. The information from this study is of great assistance in clarifying and guiding the appropriate use and management of areas within the Be map unit.

12/11/96

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The study by Randy Moony and Dr. Moody, entitled "Criteria for Identification of the Be Soil Map Unit", (Exhibit 4), consisted of an investigation of the shoreline of Lake Tahoe. Their report contained much greater detail in the description of the sediments and the landforms that were included in the mapped Be soil map unit. Dr. Moody examined representative soils within each of the beach units using conventional soil survey techniques, including the barrier beaches on the South Shore, the beach area in Incline Village, and the wave-reworked wind blown sand dunes in Tahoe Vista.

The soils within the Be map unit are described as being very young with little soil horizon development as indicated by the lack of concentrations of clay, iron oxides, pedogenic silica, and calcium carbonate, which in addition to organic matter act to cement soil particles together into stable aggregates.

According to Dr. Moody, the soil at Tahoe Vista, "consists of fine sands, with no aggregation, and very little organic matter.....Like the south shore soils, the north shore soils are developmentally very young. No accumulations of cementing agents were noted. "Dr. Moody determined that "The K factors (erodibility) of the fine sands are uniform through the profile... and overall, this soil is the most erodible of the four soils examined."

She further states that " The dune and reworked dune soils on the north shore are especially erodible, by both wind and water, if the vegetative cover is removed. Rapid to very rapid permeability will tend to lessen the likelihood of runoff on these sandy beach soils, yet this property, and the proximity of these soils to open water (the lake), means that contaminants that enter the soil could be transported rapidly into the lake."

The draft of the Be Soil Study was reviewed by Dr. Robert Bailey, the author of the Bailey Land Capability System, and currently a geographer with the U.S. Forest Service Ecosystem Management Staff in Washington D.C. After reviewing the draft report, Dr. Bailey concurred with the conclusions of the Be Soil study regarding the sensitivity of the Be (Beaches) soil map unit, and stated that the Be soils are best classified as 1b because they occur in geomorphic settings which lie adjacent to deepwater and wetlands. Dr. Bailey’s statement is contained in an e-mail message sent to TRPA (Exhibit 5).

The findings in the Be Soil Map Unit study confirm staff’s conclusion that the soils and landforms found within the Be soil map unit are sensitive and should be protected from new coverage and disturbance. The conclusions in the study do not change, but only clarify the present and the staff considers the correct classification of the Be soil map unit as 1b.
## Appendix

### CAPABILITY RANKING BY SOIL TYPE

<table>
<thead>
<tr>
<th>Map symbol</th>
<th>Soil name</th>
<th>Capability class</th>
<th>Allowable percentage of impervious cover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ba</td>
<td>Beaches</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>CaD</td>
<td>Cagwin-Rock outcrop complex, 5 to 15 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>CaE</td>
<td>Cagwin-Rock outcrop complex, 15 to 30 percent slope.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>CaF</td>
<td>Cagwin-Rock outcrop complex, 30 to 50 percent slope.</td>
<td>1a</td>
<td>1</td>
</tr>
<tr>
<td>Co</td>
<td>Celio gravelly loamy coarse sand</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>EbC</td>
<td>Elmira gravelly loamy coarse sand, 0 to 9 percent slope.</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>EbE</td>
<td>Elmira gravelly loamy coarse sand, 9 to 15 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>EcE</td>
<td>Elmira stony loamy coarse sand, 9 to 15 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>EbB</td>
<td>Elmira-Gefo loamy coarse sand, 0 to 5 percent slope.</td>
<td>7</td>
<td>30</td>
</tr>
<tr>
<td>EbF</td>
<td>Elmira loamy coarse sand, wet variant</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>Fd</td>
<td>Fill land</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>FuD</td>
<td>Fugawee very stony sandy loam, 2 to 15 percent slope.</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>FuE</td>
<td>Fugawee very stony sandy loam, 15 to 30 percent slope.</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>GeC</td>
<td>Gefo gravelly loamy coarse sand, 2 to 9 percent slope.</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Ged</td>
<td>Gefo gravelly loamy coarse sand, 9 to 20 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Gr</td>
<td>Gravelly alluvial land</td>
<td>1b</td>
<td>1</td>
</tr>
<tr>
<td>GsF</td>
<td>Graylock extremely stony loamy coarse sand, 30 to 50 percent slope.</td>
<td>1a</td>
<td>1</td>
</tr>
<tr>
<td>IgB</td>
<td>Inville gravelly coarse sandy loam, 0 to 5 percent slope.</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>IsC</td>
<td>Inville stony coarse sandy loam, 2 to 9 percent slope.</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>IsD</td>
<td>Inville stony coarse sandy loam, 9 to 15 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>IsE</td>
<td>Inville stony coarse sandy loam, 15 to 30 percent slope.</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>
Table 4. – Basis of capability classification for Lake Tahoe basin lands

<table>
<thead>
<tr>
<th>Capability levels</th>
<th>Tolerance for use</th>
<th>Slope percent</th>
<th>Relative erosion potential</th>
<th>Runoff potential</th>
<th>Disturbance hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Most</td>
<td>0-5</td>
<td>Slight</td>
<td>Low to moderately low</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>0-16</td>
<td>Slight</td>
<td>Low to moderately low</td>
<td>Low hazard</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>0-16</td>
<td>Slight</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>9-30</td>
<td>Moderate</td>
<td>Low to moderately low</td>
<td>Moderate hazard lands</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>9-30</td>
<td>Moderate</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>30-50</td>
<td>High</td>
<td>Low to moderately low</td>
<td>High hazard lands</td>
</tr>
<tr>
<td>1a Least</td>
<td></td>
<td>30+</td>
<td>High</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>1b</td>
<td></td>
<td></td>
<td></td>
<td>Poor natural drainage</td>
<td></td>
</tr>
<tr>
<td>1c</td>
<td></td>
<td></td>
<td></td>
<td>Fragile flora &amp; fauna</td>
<td></td>
</tr>
</tbody>
</table>

1. Most slopes occur within this range. There may be, however, small areas that fall outside the range given.

2. Low to moderately low – hydrologic-soil groups A and B; moderately high to high – hydrologic-soil groups C and D.

3. Areas dominated by rocky and stony land.


differences

Table 5. – Lake Tahoe basin land area classified by capability

<table>
<thead>
<tr>
<th>Land capability class</th>
<th>Total area</th>
<th>National Forest land</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acres</td>
<td>Percent</td>
</tr>
<tr>
<td>7</td>
<td>3,030</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>8,800</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>16,730</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>7,050</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>12,900</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>4,770</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>148,750</td>
<td>74</td>
</tr>
<tr>
<td>Total</td>
<td>202,030</td>
<td>100</td>
</tr>
</tbody>
</table>
Geomorphic and pedogenic evolution in coastal sediments, central California

L.E. Moody *, R.C. Graham

Department of Soil and Environmental Sciences, University of California, Riverside, CA 92521-0424, USA
Received 17 August 1994; accepted 16 November 1994

Abstract

Studies of soil chronosequences on marine terraces facilitate the use of terraces for tectonic and paleoclimatic interpretation. However, many areas on the California coast have received substantial eolian deposits after pedogenesis began, so do not qualify as chronosequences. These areas are worthy of study because they are widespread coastal landscape features, and they enable us to interpret pedogenic and geomorphic processes in sandy regolith. The objective of this study was to use soil and deep regolith morphology and chemistry to interpret pedogenic and geomorphic evolution on a sequence of four marine terraces, San Luis Obispo County, California. The terraces are numbered 1, 2, 3, and 4, from oldest to youngest. The eroded terrace platforms have been tentatively dated at 560, 420 or 480, 320, and 120 ka, respectively. The sand deposits on each platform may be considerably younger. The amount of land surface dissection and the depth of stream incision increase with increasing terrace age and elevation. Morphological features suggest that the soils (Xeropsamments on Terrace 4, Haploxerolls on Terrace 3) on the two youngest terraces are well drained, and their morphological development is typical of soils in eolian sand deposits. Morphological and chemical features of the basal regolith contrast with those of the soils. Clay, Fe oxides, and opaline silica were deposited by groundwater flow above the bedrock platform. Above the shoreline angle, where the deep regolith receives additional groundwater from higher terraces, redoximorphic features have developed. Gray mottles are larger, more common, and more distinct in the basal regolith of progressively older terraces. Erosion has removed much of the overburden on Terraces 2 and 1, and soils (Epiaquolls on Terrace 2, Epiaqualfs on Terrace 1) have developed in what was once deep regolith. The landscape, soils, and deep regolith show an evolution of processes, whereby the path and direction of water movement through the regolith is controlled first by terrace morphology and stratigraphy, then by the development of pedogenic features in the soil and deep regolith, and by terrace dissection.

1. Introduction

Marine terraces are records of the interaction of worldwide sea level fluctuations, tectonic activity, and coastal erosion and sedimentation, throughout the late Quaternary. Terrace

* Corresponding author. Present address: U.S. Department of Agriculture, Soil Conservation Service, 4481 North Date Avenue, Suite D, Lancaster, CA 93534, USA.

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SSDI 0016-7061 (94) 00078-6

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Pedogenic Processes in Thick Sand Deposits on a Marine Terrace, Central California

L. E. Moody and R. C. Graham
University of California
Riverside, California

ABSTRACT

Pedological studies in thick sedimentary sequences are generally limited to the upper few meters. Field investigation of thick (≤50 m) sand deposits on an emergent Pleistocene marine terrace in central California showed morphological differences between the solum at the surface and the deep regolith. Based on morphological and geochemical features, four units were identified within the regolith. Two zones of active pedogenesis occur within three of these units. The surficial unit is in Holocene sand deposits (mixed, thermic, Argic Xeropshamments), and has darkened A horizons, a slightly reddened subsoil, and incipient lamellae at the depth of wetting front infiltration. These lamellae have slightly more clay and Fe oxides than the soil above. Mineral weathering is intense at the surface. The other zone of active pedogenesis is at the base of the regolith, where a lithologic discontinuity above the terrace platform forms an aquitard, and throughflow occurs. Meteoric water percolates through thin regolith deposits above the shoreline angle, and at other locations on the terrace where sediment has been removed by erosion. Percolating water carries clay, organic matter, and solutes to the water table. Weathering is intense within this basal unit. Illuviation of clays and Fe oxides, and precipitation of Fe oxides and silica occur within this unit. As pore space is filled, fractures and channels become paths for saturated water flow. Eluviation of Fe occurs at these sites. Most of the intervening regolith is isolated from current pedogenesis by its great depth and a relatively dry Holocene climate. Well-developed lamellae are preserved as relicts of Pleistocene episodes of soil formation. These lamellae formed by illuviation of clay and Fe oxides, and were sites of silica precipitation. The conceptual model presented here is intended to facilitate understanding of pedogenic and geomorphological evolution of marine terrace deposits, and to assist with the interpretation of groundwater flow in these terrace systems.
Criteria for
Identification of the Be Soil Map Unit

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Prepared for
Tahoe Regional Planning Agency

by
Randall L. Moory, Consulting Marine Scientist

Dr. Lynn Moody, Consulting Soil Scientist
Criteria for Identification of the Be (beaches) Soil Map Unit

The Tahoe Regional Planning Agency adopted a land capability classification as an environmental threshold and carrying capacity to address the response of lands in the Lake Tahoe basin to development or more specifically coverage and disturbance by development activities. The basis for this land capability classification is the report by Robert G. Bailey entitled “The Land-Capability Classification of the Lake Tahoe Basin, California-Nevada” (Bailey, 1974). This land capability classification system ranks lands in the Lake Tahoe basin into 7 capability levels and 3 sub-capability levels as shown in Table 1. Geomorphic setting and soil type are the principal factors used in the Bailey land-capability classification system. It should be noted that minimum mapping unit for geomorphic setting as defined by Bailey was 1 (one) square mile. For the purposes of this study, Be (beaches) classified by Bailey as 1b are of concern. According to the Soil Survey of the Tahoe Basin Area (Rogers, 1974), Be (beaches) represent 0.1 percent or 275 acres of the Lake Tahoe Basin.

The Bailey land capability classification system reflects conditions and land uses expected in the Lake Tahoe Basin. Soil erodibility is the principal measure for determining capability in this land capability system. This capability classification uses soil type, erosion hazard, hydrologic soil group, soil drainage, rockiness and stoniness, geomorphic setting, and ecological sensitivity, to classify land and soil types into 7 capability groups. The Bailey system defines lands having low capability as easily eroded or least tolerant to disturbance without sustaining permanent damage. One of the principal soil units falling into this low capability definition are the soils characterized as Be (beaches) map unit on the 1972 Soil Survey for the Lake Tahoe Basin area (Rogers, 1974). The Bailey Land Classification system classifies the Be (beaches) soil unit as subclass 1b or one of the least capable lands in the basin. This soil unit is capable of sustaining 1 percent coverage without permanent damage (Bailey, 1974). According to Bailey, subclass 1b are characteristically “a narrow one including stream channels, marshes, flood plains, and meadows. These lands are naturally wet, poorly drained and critical areas for management and protection of water resources. Policy for use of these lands should reflect their value as floodwater and sediment storage, wildlife habitat,
and fish spawning grounds.\(^1\)

The soil map unit Be (beaches), occurs as narrow, arcuate bands immediately adjacent and in contact with Lake Tahoe. The Soil Survey of the Lake Tahoe Basin area (Rogers, 1974) reports 0.1 percent (275 acres) of the Tahoe Basin area to be in the Be (beaches) soil unit. According to the Soil Survey, the Be (beaches) soil unit is geographically associated with soils in the Elmira and Elmira Variant, Jabu, Fugawee, Cagwin, Inville, Gefo, Tallac and Umpa series, and March and Rock Outcrop miscellaneous land types. The Elmira, Elmira Variant, Jabu, Inville, Gefo, and Tallac formed soils formed in granitic alluvium and outwash; the Cagwin soils formed in granitic grus; and the Fugawee and Umpa soils formed in latite and andesite (Rogers, 1974).

**Purpose of this Study:**

Recent evidence suggests that the Be (beaches) soil unit is more variable than the single differentiation shown in the 1974 Soil Survey. In order to provide more complete criteria for field investigation of the Be (beaches) soil unit, the Tahoe Regional Planning Agency requested a study to determine criteria for identification and differentiation of the Be (beaches) soil unit. These criteria will be used for future mapping of the Be (beaches) soil unit in the Lake Tahoe Basin. The criteria developed in this study include landform, soils, and hydrologic factors that can be used to differentiate the Be (beaches) soil unit from surrounding soil units. This study defines the landforms that represent environments where the Be (beaches) soil unit exists. It characterizes soil, geomorphological, and vegetation factors involved in determining soil erodibility, and provides differentiation for future mapping of the Be (beaches) soils unit.

**Methodology:**

To prepare this study and draw conclusions about the Be (beaches) soil unit, the

authors relied upon their knowledge of Lake Tahoe and coastal soils formation, other published references, and field reconnaissance of the Be (beaches) soil unit. Principal references used by the authors include the "Land-Capability Classification of Lake Tahoe Basin, California-Nevada" (Bailey, 1974), "Soil Survey of the Tahoe Basin area, California and Nevada" (Rogers, 1974), "Sedimentology of the littoral zone in Lake Tahoe, California-Nevada" (Osborne, 1985), and the "Lake Tahoe Shorezone Development Cumulative Impact Assessment, Draft Environmental Impact Statement" (TRPA, 1995).

The authors conducted a field reconnaissance of representative Be (beaches) soil map units in August, 1996. During this reconnaissance, representative soils within each landform were described using conventional methods (Soil Survey Division Staff, 1993; Soil Survey Staff, 1993). At each site, a professional soil scientist examined the soil horizons. Bulk samples were collected by horizon from Baldwin Beach and Tahoe Meadows. Particle size distribution was measured on these samples by sedimentation (ASTM hydrometer) and sieving (Gee and Bauder, 1986). These distributions were correlated with size distribution data reported by Osborne in 1985. Field textures and particle size distributions of these soils, and field textures and examination of cumulative frequency curves for beach samples (Osborne, 1985), were used to estimate soil erodibility (K) factors, using unpublished "alternative" method developed by the Natural Resources Conservation Service (Kenneth J. Oster, NRCS Area Soil Scientist, 1995, personal communication). Joseph Pepi, Senior Planner for the Tahoe Regional Planning Agency provided other soil and site descriptions from several beach locations which were used to assess the spatial variability of soils within each beach unit.

**Landforms:**

No single landform description represents all the environments that contain the Be (beaches) soil unit. However all the landforms have common features: (1) the Be (beaches) soil units are located along the margins of Lake Tahoe, in contact or potentially in contact with the Lake; (2) portions of the Be soil units lie within the area defined as the backshore of the shorezone; and (3) the landforms are subject to attack by waves that may generate over Lake Tahoe. The shorezone of Lake Tahoe is divided into three zones: the, nearshore, foreshore, and backshore. Accurate delineation of the landward limit of the backshore by mapping the area of instability
is critical to understanding each landform and the location of the Be (beaches) soil unit.

Three landforms represent the different environments where the Be (beaches) soil unit are found. These are the lakeshore strand, barrier beaches, and lakeshore sand dunes. We further divide the barrier beach setting into a younger, active forming barrier beach and older barrier beaches.

Lakeshore Strand

The lakeshore strand landform represents the lands lying along the margin of Lake Tahoe and managed by TRPA under the Shorezone Ordinance. This area is the dynamic zone between the lake and the upland. Within this zone active erosion and deposition occurs and sediments in this zone are in a state of dynamic activity at various times depending on lake water levels and the presence of wind and waves. The zone exists between the offshore area, where wave action contacts the lake bottom and begins initiation of sediment motion, and the upland area exposed to wave run up. This upland area provides a significant source for sediments found on the lakeshore strand.

Characteristics of the lakeshore strand are unstable and unconsolidated sediments in the nearshore, on the foreshore slope and backshore, active erosion of sediment from the upland as a result of wave attack, and exposure to wave action. Sediment sizes range from fine sands to cobbles and boulders. This sediment size is largely dependent on the backshore upland sediments which provides source for the beach sediments and the depth of water nearshore. The lakeshore strand at Lake Tahoe can be grouped into three major types based upon grain size. Bedrock, boulder, and cobble beaches with mean grain diameter greater than 64 mm occurs in areas backed by granodiorite and/or volcanic strata. Cobble, pebble, and granule beaches with mean grain diameter ranging from 2.0 to 64 mm are backed by glacial moraine and older lake bed deposits. Sand beaches with mean grain diameter ranging from 0.0625 to 2.0 mm and backed by fluvio-glacial outwash and younger lake beds.

In this landform, we surveyed sandy beach soils at Incline Beach. Incline Beach is characteristic of sandy beaches associated with the lakeshore strand. Soils at Incline Beach were investigated to a depth of 35 to 39 cm. The soil is
developmentally very young. No accumulations of cementing agents were noted in
the soil and the soil contains substantial amounts of magnetite. The soil is actively
worked by wave action and derived from younger lake beds from the upland. Strata
described in the soil column represent the impact of wave action on the soil under
different water levels and wave conditions. The mean particle size is very coarse to
course sand, with no aggregation and very little organic matter (Table 2). The K
factor of the surface soil at Incline Beach is low, but values are higher in the
subsurface (Table 3). Susceptibility of the soil to erosion will increase if the surface
horizon were removed or disturbed. In addition, the presence of man-made vertical
retaining walls in the backshore disrupt the natural littoral processes and increase
erosion of adjacent shorezone properties by disrupting the natural wave attenuation
processes that occur on beaches.

According to the TRPA Shorezone Ordinance, the lakeshore strand can be
classified into several of the 8 distinct districts based upon upland type and slope.
The 8 shorezone tolerance district are described in (Table 4). Of these 8 tolerance
districts, the lakeshore strand exists within all except, shorezone tolerance districts 3
and 5.

Vegetation along the lakeshore strand is sparse or non existent until the upland.
Only vegetation capable of withstanding the dynamic suspension of the sediments
and high water saturation in the substrate can survive in the lakeshore strand. The
endangered plant *Rorippa subumbellata* *Roll.* can be found in sandy to cobble soils
in the lakeshore strand setting.

**Barrier Beaches**

The classic form of the barrier beach landform is a low lying berm separating Lake
Tahoe from an upland flooded area or marsh. In the Lake Tahoe basin, barrier
beach forms fall into two categories, one where the berm is young and actively
forming and an older established berm. Each barrier beach form may be subdivided
into three phases: (a) the lakeside of the berm, containing little vegetation and
actively reworked by wave action; (b) the berm crest, relatively flat and commonly
vegetated; and (c) a lagoon or wetland which has plentiful riparian vegetation. Lake
Tahoe waves rework the entire barrier beach and can overtop the berm crest during
periods of high wave action. Barrier beach Be (beaches) soils are entirely within
the shorezone and continue from the nearshore to the backshore wetland.
Young and actively forming barrier beaches are associated with active upland drainage into the lake. This form of the barrier beach consisting of a narrow berm that blocks a stream mouth from flowing directly into Lake Tahoe, forming an upland lagoon area. The barrier berm is actively being built by the discharge of bedload at the stream mouth which is reworked and distributed by lake wave action. The berm can have a steep foreshore slope (up to 10%) to the crest of the berm. The berm crest is narrow and then slopes back to a lagoon area. The berm crest is commonly vegetated with willows, pines, and other related vegetation.

The other form of the barrier beach has an older low lying berm that is significantly wider and contains more established vegetation than the young active forming barrier beach. These older barrier beaches are backed by wet marsh area that may be flooded during the spring. This barrier beach is considered older because the back lagoon area is filled with sediments as compared to the lagoon behind a younger barrier beach, such as Baldwin Beach, which is mostly open water. The form of the berm in this landform is a sloping foreshore slope ranging from 2 to 9% topping to a wide flat berm crest that can be 10s of feet wide.

In both cases of the barrier beach form, the sedimentary structure is coarse sand that is highly mobile and easily transported. However, the young barrier beach sand is usually coarser than the sand grains found on older barrier beaches. For this study samples of the Be (beaches) soil unit were taken in this landform at Baldwin Beach and Tahoe Meadows. The Baldwin Beach site represents a young active forming barrier beach and the Tahoe Meadows site represents the older barrier beach form. At Baldwin Beach, the soils consist of poorly sorted, coarse to very coarse sands (Table 2). Below a thin O horizon, the surface mineral horizon (A1) is slightly hydrophobic when dry, and has very weak coarse granular structure. Below this horizon, the soils are structure less and noncohesive. At the 19 to 34 cm depth, the soil contains about 10 percent fibrous organic material, which appears to be decomposed roots. This organic material binds a few sand grains together but itself disperses when wetted, and contributes little to the aggregate stability of the soil.

The soil at Tahoe Meadows also has a thin O horizon (Table 2). Below this, the A1 horizon consists of loamy sand at the surface and sands below the 9 cm depth. The A1 is structureless, the A2 at 9 to 30 cm depth has very weak coarse granular structure, and the A3 (below 30 cm) is structureless. The A1 and A3 horizons are slightly hydrophobic when dry. Between 9 and 35 cm, the soil contains fibrous
organic matter. This matter contributes little cohesiveness to the soil.

The Tahoe Meadows soil contains magnetite in very fine sand silt fractions, inherited from weathering of mafic igneous rocks. The magnetite is unlikely to affect hydraulic properties such as hydraulic conductivity. Magnetite influences erodibility and particle density of the soil due to its high specific gravity of 5.2 compared to the specific gravity of the quartz and feldspar, 2.6 and 2.7 respectively. Due to this higher specific gravity, it is heavier than the more abundant quartz and feldspars. This increased weight makes it less susceptible to physical motion caused by wave action or wind. Thus soils high in magnetite may be less inclined to be eroded by wave or wind action.

The soil erodibility (K) factor of the A1 horizon of Baldwin Beach soil was slightly higher than the K factor of the Tahoe Meadows soil A1 horizon (Table 3). However, below the surface, the K factors of the Baldwin Beach soil were lower. Erodibility of the Tahoe Meadows soil would increase if the surface horizon were removed or disturbed.

Estimated available water holding capacity is low to very low in coarse sands and sands of the Baldwin Beach and Tahoe Meadows soils (California Soil Survey Staff, 1993). Hydraulic conductivity in these soils should be very rapid in the sands and coarse sands (California Soil Survey Staff, 1993).

Very little pedogenic development exists in the soils in the barrier beach landform surveyed for this study. These soils are very young, and have not developed concentrations of materials such as clay, iron oxides, pedogenic silica, and calcium carbonate, that (in addition to organic matter) cement soil particles together into stable aggregates. These soils exhibit slight hydrophobicity when dry (Table 2). Hydrophobicity is associated with plant oils and waxes coating soil particles, and often exists in forests and brush lands (DeBano, 1969a). Hydrophobicity decreases infiltration (DeBano, 1969b), thus influential in increasing runoff and erosion.

**Lakeshore Sand Dune**

Lakeshore sand dunes represent a unique landform on the north shore of Lake Tahoe. This form in its natural state has a gentle sloping windward side up which
the sand is moved by the wind and a steeply sloped backside (usually around 33%) referred to as the sand slip face. The dunes may be divided into 2 phases: (a) the foredune, which undergoes active wind and wave erosion and contains little or no vegetation; and (2) the vegetated back dune. The impact of wave action on the foredune is significant and the Be (beaches) soil unit in the active wave area has a considerable higher percentage by weight of very coarse to medium coarse sands (Osborne, 1985). The wind-eroded (eolian) portion of the foredune consists of well-sorted fine sands. At relatively low lake levels wind transports sediment form the beach on to the foredune and across to the backdune. As lake level rises, the net deposition of sand on the dune decreases until erosional processes dominate. Wind continues to erode the foredune and transport the finer sands to the backdune and beyond while at the same time wave action in Lake Tahoe rapidly erodes the foredune sands. The sand dune landform may terminate at the margin of a wetland if drainage of the upland is blocked by the dunes.

Sampling of the Tahoe Vista (Snow Creek) sand dunes occurred in August of 1996. The Be (beaches) soil unit in the sand dune setting is composed of wave reworked colian sands and colian sands. Soils were described to a depth of 35 to 39 cm, where we found the mean soil grain size consists of fined sands, with no aggregation and very little organic matter (Table 2). The K factors of these fine sands are uniform throughout the profile (Table 3), and overall this soil is the most erodible of the four examined during the field reconnaissance. Water holding capacity of these soils is low and the soil hydraulic conductivity is high. The soil is developmentally very young. No cementing agents were present. The soil contains substantial amounts of magnetite.

Vegetation on lakeshore dunes consisted of sparsely distributed grasses on the foredune. The backdune contained Jeffrey and Lodgepole pine, willow, and horsetail. Vegetation on the dunes only temporarily adds stability to the dune surface. As erosional processes dominate, the vegetation is easily removed by erosive processes occurring in the Be (beaches) soil unit. Vegetative cover on dunes should not be considered as evidence for permanent dune stability, but only a temporary condition until such time as erosive processes again dominate.
Criteria for Classification of the Be (beaches) Soil Map Unit:

Examination of the Be (beaches) soil map unit on the orthophotoquads in the soil survey (Rogers, 1974) shows that both vegetated and non-vegetated sections of the shore were mapped with a single map unit. In a detailed study, the single Be (beaches) soil map unit should be differentiated into 4 major units, each unit representing a separate landform. The criteria for each unit is summarized below.

Lakeshore Strand Landform

♦ Lies in the zone of wave action (nearshore to backshore) and encompasses soils in all the Shorezone Tolerance Districts as specified in the TRPA shorezone ordinance, except Tolerance Districts 3 and 5.
♦ Soils range from very fine sand (0.0625 mm) to boulder (>64 mm).
♦ Soils in the nearshore, foreshore, and backshore are unconsolidated and dynamic due to the action of waves generated in Lake Tahoe.
♦ Foreshore and backshore soils are highly erodible when disturbed or cut off from backshore sediment source.
♦ Upland actively being eroded by wave run up as evidence by wave cut berm.
♦ Soils in the backshore and foreshore have low water retention capability and high hydraulic conductivity.
♦ Vegetation sparse or absent on the foreshore and backshore.

Young Barrier Beach Landform

♦ Landform characterized by low narrow berm separating Lake Tahoe from the upland which lies entirely in the area defined as Shorezone Tolerance District 1 by the Tahoe Regional Planning Agency.
♦ Lagoon defines upland side of the barrier beach.
♦ Berm ongoing active creation by the discharge of sediments at stream mouth that are being redistributed and sorted by wave action.
♦ Soils generally composed of very coarse to coarse sands and display very little pedogenic development.
♦ Soils have slight hydrophobicity when dry and are structureless. Limited organic content helps provide slight binding when soil is dry.
Soils are highly erodible when disturbed.
Soils have high hydraulic conductivity and low water retention capability.
Vegetation sparse on non-existent on berm foreshore slope. Crest of berm commonly vegetated with willow, Jeffrey pine, and other similar vegetation.
Vegetation in lagoon representative of Lake Tahoe riparian species.

**Older Barrier Beach Landform**

- Landform characterized by gently sloping foreshore slope, wide nearly flat berm crest, and gently sloping upland side of berm that slopes to a marshy area and lies entirely within the Shorezone Tolerance District 1 as defined by the Tahoe Regional Planning Agency.
- Marsh area which can be flooded during the Spring defines the upland side of the barrier beach.
- Soils generally composed of coarse sands to sands and display very little pedogenic development.
- Soils have slight hydrophobicity when dry and are structureless. Limited organic content helps provide slight binding when soil is dry.
- Soils are highly erodible when disturbed or when vegetation removed.
- Soils have high hydraulic conductivity and low water retention capability.
- Vegetation sparse on non-existent on berm foreshore slope. Crest of berm becomes more heavily vegetated with willow, Jeffrey and Lodgepole pine, and other similar vegetation.
- Vegetation in marsh representative of Lake Tahoe riparian species in marsh environments in the Lake Tahoe basin.

**Lakeshore Sand Dunes Landform**

- Landform in natural state has a gently sloping windward side and a steep sloped back side.
- Landform can be differentiated between the foredune where active wave erosion occurs and consists of a higher percentage of coarse sediments and the dune crest and backdune which have a lower percentage of coarse sediments.
- Soil composed of colian sands which are very fine to fine grained, no aggregation, and little organic matter. The soils are developmentally very young.
Soils are the most easily erodible soils in the Be (beaches) soils unit differentiation and show consistently high erodibility in all horizons.

- Soil water holding capacity is low and its hydraulic conductivity is high.
- Vegetation on the foredune is absent or consists of a few lakeshore grasses. The back dunes can contain heavy vegetation consisting of Jeffrey and Lodgepole pine, willow, horsetail, and similar species.

Land Capability Classification:

The land capability classification system adopted by TRPA follow the criteria and guidelines established in the Land-Capability Classification of the Lake Tahoe Basin, California-Nevada (Bailey, 1974). In this classification, the Be (beaches) soil unit is identified as having capability 1b. This capability classification describes lands in this classification as being poorly drained and naturally wet. The soil survey (Rogers, 1974) describes the Be (beaches) soil unit as a deep soil with high hydraulic conductivity and low runoff potential. The soil survey reports the soil unit to have slight erosion hazard, slight potential for frost heaving, and severe limitations for use as road location, dwelling sites, and for excavations.

The authors agree and disagree with both of these capability classifications. The Be (beaches) soil unit poses unique management challenges for the Lake Tahoe community. The characteristics of the Be (beaches) soil unit make it one of the lowest capable soil units in the Lake Tahoe Basin. The Be (beaches) soil unit is highly erodible with little or no cohesiveness and subject to erosive processes induced by wave action in Lake Tahoe and wind in the case of the lakeshore dunes. The soil has little or no cementing agents to lend aggregate stability. Soil erodibility increases if vegetation and surface horizons are disturbed. The soil has high hydraulic conductivity in all the landforms, low water holding capacity, and no filtering capacity. Water tables in the soil unit are high resulting from being adjacent to Lake Tahoe. Any contaminant entering the soil would be transport directly to the waters of Lake Tahoe.

Be (beaches) soils are sensitive for a number of reasons. The lakeshore sand dunes are highly erodible, susceptible to both wind and water erosion. The high hydraulic conductivity of these soils and low slopes lessens the importance of runoff on these soils, but this property, and the proximity of these soils to Lake Tahoe increases the
potential for degradation of the Lake’s water quality since any contamination entering the soil would be transported rapidly to the waters of the lake without any filtering. Many of the Be (beaches) soil units lie adjacent to wetlands one of the more sensitive environments at Lake Tahoe or are the habitat of the endangered plant species *Rorippa subumbellata* *Roll*.

The sensitivity of the geomorphic units and the nature of the Be (beaches) soils suggests that a detailed evaluation of the extent and properties of this soil unit will serve the planning and management efforts for Lake Tahoe.
### Table 1
Bailey's land-capability classification for the Lake Tahoe Basin lands

<table>
<thead>
<tr>
<th>Capability level</th>
<th>Tolerance for use</th>
<th>Slope Percent&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Relative erosion potential</th>
<th>Runoff potential&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Disturbance hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Most</td>
<td>0-5</td>
<td>Slight</td>
<td>Low to moderately low</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>0-16</td>
<td>Slight</td>
<td>Low to moderately low</td>
<td>Low Hazard</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>0-16</td>
<td>Slight</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>9-30</td>
<td>Moderate</td>
<td>Low to moderately low</td>
<td>Moderately hazard lands</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>9-30</td>
<td>Moderate</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>30-50</td>
<td>High</td>
<td>Low to moderately low</td>
<td>High hazard lands</td>
</tr>
<tr>
<td>1a</td>
<td>Least</td>
<td>30+</td>
<td>High</td>
<td>Moderately high to high</td>
<td></td>
</tr>
<tr>
<td>1b</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1c</td>
<td></td>
<td></td>
<td></td>
<td>Fragile floral and fauna (&lt;i&gt;Areas dominated by rocky and stony land&lt;/i&gt;)</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> Most slopes occur within this range. There may be, however, small areas that fall outside the range given.

<sup>2</sup> Low to moderately low — hydrologic-soil groups A and B; moderately high to high — hydrologic-soil groups C and D
### Table 2. Soil morphological features of representative Be (beaches) soils, with additional site notes

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth (cm)</th>
<th>Color (moist)</th>
<th>Textural Class</th>
<th>Structure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>0-19</td>
<td>10YR 3/6</td>
<td>COS</td>
<td>1COCR</td>
<td>slightly hydrophobic when dry</td>
</tr>
<tr>
<td>A2</td>
<td>19-28</td>
<td>10YR 3/6</td>
<td>VCOS</td>
<td>0 (SG)</td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>29-34</td>
<td>10YR 3/6</td>
<td>COS</td>
<td>0 (SG)</td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>34-39</td>
<td>10YR 4/6</td>
<td>COS</td>
<td>0 (SG)</td>
<td></td>
</tr>
</tbody>
</table>

**Baldwin Beach**

(4 cm of Oi horizon, consisting of willow twigs and catkins, and pine needles and twigs)

Vegetation: Jeffrey pine and willows. Soil was described on the berm. At 19-34 cm depth, there is about 10 percent (by volume) fibrous organic matter, occurring in bands and patches, 1 to 15 cm in diameter, within the profile. This OM appears to originate by decomposition of roots. It binds a few sand grains together, but lends very little cohesiveness to the soil in these horizons, being itself dispersive when wetted.

**Tahoe Meadows**

(4 cm of Oi consisting of pine needles and twigs and bark fragments)

Vegetation: Jeffrey pine on the boundary of the foreshore, willows and Lodgepole pine of the back shore near the wetlands. Soil was described on the berm.
### Table 2 (cont.). Soil morphological features of representative Be (beaches) soils, with additional site notes

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth (cm)</th>
<th>Color (moist)</th>
<th>USDA Textural Class</th>
<th>Structure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incline Beach</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>0-10</td>
<td>2.5Y 5/3</td>
<td>COS</td>
<td>0 (SG)</td>
<td>contains trace amount of organic matter, as bark fragments</td>
</tr>
<tr>
<td>C2</td>
<td>10-14</td>
<td>2.5Y 4/3</td>
<td>S</td>
<td>0 (SG)</td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>14-16</td>
<td>2.5Y 3/2</td>
<td>S</td>
<td>0 (SG)</td>
<td>compacted</td>
</tr>
<tr>
<td>C4</td>
<td>16-18</td>
<td>2.5Y 4/3</td>
<td>S</td>
<td>0 (MA)</td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>18-36</td>
<td>2.5Y 4/3</td>
<td>COS</td>
<td>0 (MA)</td>
<td>compacted</td>
</tr>
</tbody>
</table>

Not vegetated. This beach consists of the margin between the lake and the upland, with no backshore wetland. Soil was described on the foreshore. Horizons are strata.

### Tahoe Vista (near mouth of Snow Creek)

Scattered pine cones, twigs, charcoal fragments on the surface.

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth (cm)</th>
<th>Color (moist)</th>
<th>USDA Textural Class</th>
<th>Structure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>0-13</td>
<td>2.5Y 3/2</td>
<td>FS</td>
<td>0 (SG)</td>
<td>contains about 2% (by volume) pine cone fragments, twigs, and charcoal</td>
</tr>
<tr>
<td>C2</td>
<td>13-34</td>
<td>2.5Y 4/3</td>
<td>FS</td>
<td>1COGR</td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>24-39</td>
<td>2.5Y 4/3</td>
<td>FS</td>
<td>0 (SG)</td>
<td>slightly hydrophobic when dry</td>
</tr>
</tbody>
</table>

Sparingly-distributed grasses on the foredune. Grass roots add cohesiveness through their strength, but contribute little humus. This beach is forming by erosion of dunes, and littoral transportation of materials from the offshore shelf. Dunes (which make up the backshore) contain Jeffrey pines, willows, and horsetail; Lodgepole pines are found further west. Soil was described on the foredune, in a non-vegetated area.

Abbreviations: LS, loamy sand; S, sand; COS, coarse sand; FS, fine sand; 0 (SG), structure single grain; 0 (MA), structureless, massive; 1COGR, weak coarse granular

Moist Colors: 10YR 3/6, 10YR 4/4, and 10YR 4/6, dark yellowish brown; 10YR 3/3, dark brown; 10YR 2/2, very dark brown; 2.5Y 5/3, light olive brown; 2.5Y 4/3, olive brown; 2.5Y 3/2, very dark grayish brown
Table 3. Estimated soil erodibility factors (K).

### Baldwin Beach

<table>
<thead>
<tr>
<th>Depth</th>
<th>K factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-19</td>
<td>0.14</td>
</tr>
<tr>
<td>19-34</td>
<td>0.08</td>
</tr>
<tr>
<td>34-39</td>
<td>0.08</td>
</tr>
</tbody>
</table>

### Tahoe Meadows

<table>
<thead>
<tr>
<th>Depth</th>
<th>K factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>0.12</td>
</tr>
<tr>
<td>9-30</td>
<td>0.18</td>
</tr>
<tr>
<td>30-35</td>
<td>0.12</td>
</tr>
</tbody>
</table>

### Incline Beach

<table>
<thead>
<tr>
<th>Depth</th>
<th>K factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>0.08</td>
</tr>
<tr>
<td>10-18</td>
<td>0.14</td>
</tr>
<tr>
<td>18-36</td>
<td>0.16</td>
</tr>
</tbody>
</table>

### Tahoe Vista

<table>
<thead>
<tr>
<th>Depth</th>
<th>K factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-13</td>
<td>0.15</td>
</tr>
<tr>
<td>13-34</td>
<td>0.16</td>
</tr>
<tr>
<td>34-39</td>
<td>0.16</td>
</tr>
<tr>
<td>District</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>1</td>
<td>Barrier Beach shorezone with low, narrow ridges of mobile sand backed by wetlands.</td>
</tr>
<tr>
<td>2</td>
<td>Volcanic and morainic shorezones with upland slopes over 30% and alluvial backshore and foreshore slopes ranging from 9% to 30%.</td>
</tr>
<tr>
<td>3</td>
<td>Armored granite shorezones with upland slopes exceeding 30%.</td>
</tr>
<tr>
<td>4</td>
<td>Volcanic and morainic shorezones with upland slopes ranging from 15% to 30% and alluvial backshore and foreshore slopes ranging to 9%.</td>
</tr>
<tr>
<td>5</td>
<td>Armored granite shorezones with upland slopes ranging from 15% to 30%.</td>
</tr>
<tr>
<td>6</td>
<td>Shorezones of volcanic and morainic debris with upland, backshore, and foreshore slopes ranging from 5% to 15%.</td>
</tr>
<tr>
<td>7</td>
<td>Shorezones of morainic and alluvial material with slopes ranging to 9%.</td>
</tr>
<tr>
<td>8</td>
<td>Gently sloping (0-9%) armored granite slopes.</td>
</tr>
</tbody>
</table>
References


Phillips Brandt Reddick, McDonald & Grefe, Inc. 1978. The Cumulative Impacts of Shorezone Development at Lake Tahoe. Prepared for the California State Lands Commission, the State of Nevada, the Tahoe Regional Planning Agency, and the US Army Corps of Engineers


Attn: Gabby Barrett

I read the subject report by Moory and Moody, as you requested. I concur with the authors about the sensitivity of the Beaches (Be) soil. Although these soils are not poorly drained, they best fit the 1b classification because they occur in geomorphic settings which lie adjacent to deepwater and wetlands.
December 10, 1996

To: TRPA Governing Board
From: TRPA Staff
Subject: Incline Village General Improvement District
        Water Rights Status

Proposed Action: This is an informational item and requires no action. As a
follow up to the November discussion, staff has put this item on the agenda to
provide representatives of the Incline Village General Improvement District
(IVGID) and the Nevada Division of Water Resources the opportunity to report
on their progress.

Background: The status of water rights is important because the TRPA Regional
Plan has policies and regulations that prohibit approval of development that
is not consistent with state water law. As reported in November, the Nevada
Division of Water Resources indicates that there may be such a conflict in the
portion of Washoe County serviced by IVGID.

The basic issue is that IVGID is pumping water near or over its permitted
water rights. For calendar years 1994 and 1995, IVGID reported pumping 4,061
and 3,899 acre feet respectively. The amount permitted by the State of Nevada
Division of Water Resources is 3,905 acre-feet annually. As stated in the
attached letter, the State Engineer and IVGID are working on the problem.
TRPA staff requested a representative from the State Engineer’s office make a
presentation at the APC and Governing Board meetings to report on the progress
in resolving the problem.

TRPA Response: At this point, TRPA is awaiting the State Engineer’s deter-
mination. For the short term, TRPA is accepting IVGID’s representation that
adequate capacity exists for the remainder of the year for single family
dwellings.

As to other projects and subdivisions, TRPA will require proof of adequate
water right capacity on a project-by-project basis. Because of the complexity
of the water rights issue, TRPA has requested the State Engineer’s assistance
in making the findings required by the Regional Plan. For Regional Plan
amendments and allocations, TRPA is required by the Compact and the Regional
Plan to address the impacts and provide mitigation.

GWB/rd

AGENDA ITEM XL.D.
Memorandum to Governing Board
IVGID Water Rights Status
Page 2

Because of the recently adopted one-year extension on residential allocations, all unused allocations will expire at the end of 1996. The new allocation amendments (adopted by the Governing Board in November) will require the water issue to be resolved before distributing the 1997 allocations. It is TRPA staff’s hope that IVGID can provide the documentation that will permit the Washoe County allocations to be released in a timely manner.

If you have any questions or comments, please call Gabby Barrett at (702) 588-4547.
Gordon W. Barrett
Tahoe Regional Planning Agency
P.O. Box 1038
Zephyr Cove, Nevada 89448-1038

Dear Mr. Barrett:

Unfortunately, neither I nor Hugh Ricci will be available on November 13, 1996, to meet with the TRPA Advisory Planning Commission, nor on November 20, 1996, to meet with the TRPA Governing Board. I will be conducting hearings regarding Truckee-Carson Irrigation District change applications on November 13th and will be in San Diego to attend a Western States Water Council meeting on the 20th.

I can tell you, however, that we met with Bruce Scott and Dan St. John today, November 1, 1996, to discuss a water line replacement program, a conservation plan and other items that will help them stay within their current water allocation. They will be finalizing the various elements of this program and making commitments to implement them within the next few weeks and we will be reviewing that program once it is completed. We agreed that certain milestones must be set and met and we will react through the approval or denial of subdivision maps as the numbers become available.

If need be, we will try to attend a December meeting of either the Governing Board or the Planning Commission.

If you have any questions or if I can be of further assistance, please feel free to contact me.

Sincerely,

[Signature]

R. Michael Turnipseed, P.E.
State Engineer

cc: Incline Village General Improvement District
MEMORANDUM

December 11, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Tahoe Coalition of Recreation Providers (TCORP) Uniform Recreation Access Signage Project

At the October 1996 Governing Board meeting, the Board members requested a presentation on the uniform recreation access signage project presently being developed by the Tahoe Coalition of Recreation Providers (TCORP). Members of TCORP will make a brief presentation about the project.

Please contact Andrew Strain at (702) 588-4547 if you have any questions or comments regarding this agenda item.
December 10, 1996

To: TRPA Governing Board

From: TRPA Staff

Subject: Resolution to Amend Policy 3.7 of the TRPA Personnel Policy Manual Pertaining to Authorization for Participation in any Voluntary Internal Revenue Code Section 457, or other Similar Voluntary Retirement Plan Programs; Authorization for the Executive Director to Select a Section 457 Plan Provider

Proposed Action: Adoption of a resolution which amends Policy 3.7 of the TRPA Personnel Policy Manual by authorizing full-time employees to participate in any voluntary Internal Revenue Code Section 457, or other similar voluntary retirement plan program(s), offered by TRPA. Also, the authorization of the Executive Director to select a Section 457 Plan provider for the Agency.

Staff Recommendation: Staff recommends that the Governing Board review the amendments in Exhibit "A" to the resolution, and if they are deemed desirable, adopt the attached resolution. Staff also recommends that the Governing Board authorize the Executive Director to select a Section 457 Plan provider from the list of qualified bidders whose programs were outlined on Exhibit "B".

Rules Committee Recommendation: The Rules and the Retirement Committees will report on their recommendations at the time of this agenda item since they will be meeting on the same date.

Discussion:

1) Policy No. 3.7 - Retirement Program

An amendment to Policy No. 3.7 is being proposed to allow full-time employees to participate in any voluntary Internal Revenue Code Section 457, or other similar voluntary retirement plan program(s) offered by TRPA.

The Compact says that "Agency personnel standards shall conform as possible to the regulations and procedures of the civil service of the State of California or the State of Nevada as may be determined by the Governing Board of the agency." Both states, and most municipalities in both states, offer...
employees the option of participating in voluntary Internal Revenue Code Section 457 Plans. These plans allow employees to save "pre-tax" dollars towards retirement. These types of programs allow employees to postpone income taxes on the accumulated retirement fund until the money is withdrawn at retirement. This allows employees the opportunity to save a much greater amount of money for retirement by investing and earning income from the funds saved, including the amounts that they would have paid that year in income taxes or those dollars. These amounts can then compound and grow exponentially in a tax-free environment until they are withdrawn.

TRPA can offer these plans at no actual out-of-pocket cost to the Agency, and they are a wonderful employee benefit. All fees are paid out of the individual employee's savings accounts. The staff voted to seek this benefit and a staff committee was formed to explore plans. The staff committee felt that in the interest of caution, it would be safer to amend Policy 3.7 to specifically authorize these types of plans.

Section 401(k) has also recently been amended to allow some government employees to participate in 401(k) retirement savings plans. Therefore, the proposed rule authorizes Internal Revenue Code Sections 457, or other similar voluntary retirement plans (in case the Internal Revenue Code is amended again).

TRPA followed the bidding process outlined in TRPA's Fiscal Procedure Manual to solicit proposals from Section 457 providers. A summary outlining the providers who responded is attached as Exhibit "B". The staff level "457 Committee" voted to eliminate Primerica due to its up front first year administrative fee. This committee also voted to eliminate ICMA since it offered no onsite services to TRPA employees. All ICMA investment advise must be obtained via telephone. Therefore, the 457 Committee has narrowed the choice to PEBSCO or Hartford. Both are major 457 providers who provide services to local clients in the Lake Tahoe Basin. In addition, both would provide onsite group and individual investment counseling. Staff will vote to select one of these providers and inform the Board at the December 20, 1996 Governing Board meeting. Staff requests that the Executive Director be authorized to contract with either the selected 457 plan provider at the terms attached in Exhibit "B".

Findings: Chapter 6 requires the following findings:

1. The project is consistent with and will not adversely affect implementation of the Regional Plan, including all applicable Goals and Policies, plan area statements and maps, the code and other TRPA plans and programs.

Rationale: The amendment is purely procedural, and is consistent with both state open meeting laws.

2. The Project will not cause the environmental threshold to be exceeded.
Rationale: The amendment is purely procedural and will not affect thresholds.

3. Wherever federal, state and local air and water quality standards applicable for the Region, whichever are strictest, must be attained and maintained pursuant to Article V(d) of the Compact, the project meets or exceed such standards.

Rationale: See Finding 2, above.

4. The Regional Plan and all of its elements, as implemented through the Code, Rules and other TRPA plans and programs, as amended, achieves and maintains the thresholds.

Rationale: See Finding 1 and 2, above.

Environmental Documentation:

Due to the procedural nature of the amendment, staff recommends a finding of no significant effect.

Requested Action:

To adopt the proposed amendment, the Governing Board must take the following actions:

1. Hold a public hearing.

2. Make the Chapter 6 findings and a finding of no significant environmental effect; and

3. Make a motion adopting the attached resolution amending Policy 3.7, and authorizing the Executive Director to select and contract with an Internal Revenue Code 457 Plan provider.

If there are any questions regarding this agenda item, please contact Rachelle Nicolle, TRPA Agency Counsel, at (702) 588-4547.

Attachments
TAHOE REGIONAL PLANNING AGENCY
RESOLUTION NO. 96.

RESOLUTION OF THE TAHOE REGIONAL PLANNING AGENCY AMENDING
POLICY 3.7 OF THE TAHOE REGIONAL PLANNING AGENCY
PERSONNEL POLICY MANUAL

WHEREAS, the proposed amendment to Policy 3.7 of the Tahoe Regional Planning Agency Personnel Policy Manual is necessary and desirable to promote, and is reasonably related the public health, safety and general welfare of the Tahoe Region; and

WHEREAS, the proposed amendment complies in all respects, procedural and substantive, with the Tahoe Regional Planning Compact, the Regional Plan, ordinances and rules of TRPA, and is necessary to effectuate and implement same; and

WHEREAS, the proposed amendment is procedural in nature and will not have a significant effect upon the environment and therefore does not require the preparation of an environmental impact statement; and

WHEREAS, prior to adoption of this amendment, the Governing Board made the findings required by Chapter 6 of the Code of Ordinances;

NOW, THEREFORE, BE IT RESOLVED THAT:

(1) The Governing Board of the Tahoe Regional Planning Agency, that the Tahoe Regional Planning Agency Personnel Policy Manual, Policy 3.7, be amended as per Exhibit "A" attached hereto and incorporated hereby by reference; and

(2) The Executive Director is authorized to execute a contract with an Internal Revenue Code Section 457 Plan provider.

PASSED AND ADOPTED by the Governing Board of the Tahoe Regional Planning Agency on this 20th day of December 1996, by the following vote:

Ayes:

Nays:

Abstain:

Absent:

John Upton, Chairman
Tahoe Regional Planning Agency
Full-time employees of TRPA shall participate in the TRPA established pension plan. See the Finance Director for the terms and conditions of the current pension plan. Full-time employees of TRPA shall also be given the option to participate in any voluntary Internal Revenue Code Section 457, or other similar voluntary retirement plan program(s), offered by TRPA.