

# Chapter 37

## INDIVIDUAL PARCEL EVALUATION SYSTEM

---

### Chapter Contents

- 37.0 Purpose
- 37.1 Applicability
- 37.2 Evaluation Criteria
- 37.3 Procedures For Establishing SEZ Boundaries And Setbacks
- 37.4 Area To Be Evaluated
- 37.5 Evaluation Teams
- 37.6 Parcels Eligible For Evaluation
- 37.7 Most Likely Building Site
- 37.8 Ranking Of Parcels
- 37.9 Notification Of Property Owners
- 37.10 Change In IPES Score
- 37.11 Allowable Base Land Coverage

- 37.0 Purpose: This chapter establishes the Individual Parcel Evaluation System (IPES), and related procedures, in accordance with Goal #1, Policy #1 of the Development and Implementation Priorities Subelement, Implementation Element of the Goals and Policies. By December 31, 1988 all vacant residential parcels shall be evaluated, assigned a numerical score and ranked within each local jurisdiction from most suitable to least suitable for development in accordance with this chapter.
- 37.1 Applicability: Commencing on January 1, 1989, review and approval by TRPA of the construction of single family dwellings shall be in accordance with IPES. Review and approval of applications for construction of single family dwellings under IPES shall not commence until all vacant residential parcels have been scored and ranked in accordance with IPES.
- 37.2 Evaluation Criteria: IPES shall evaluate and assign a numerical score in accordance with the following criteria:
- 37.2.A Relative Erosion Hazard: The maximum score for relative erosion hazard is 450 points. The formulae set forth in Section A of the Technical Appendices shall be used to assign a Relative Erosion Hazard (REH) score to each parcel.

37.2.B Runoff Potential: The maximum score for runoff potential is 200 points. Each parcel shall receive a score for runoff potential in accordance with Table B-1 of the Technical Appendices. The Hydrologic Soil Group shall be determined for each soil series from Table 6 of the report entitled, "Soil Survey, Tahoe Basin Area, California and Nevada," prepared by the Soil Conservation Service and Forest Service, and dated March 1974. The categories under Hydrologic Conditions in Table B-1 shall be defined as follows:

- (1) Poor - Thin or sparse cover denoting less than 50 percent of the ground surface protected by litter, or by plant cover.
- (2) Fair - Moderate or scattered cover denoting from 50 percent to 75 percent of the ground surface protected by litter or by plant cover.
- (3) Good - Heavy or dense cover denoting more than 75 percent of the ground surface protected by litter or plant cover.

37.2.C Degree Of Difficulty To Access Building Site: The maximum score for degree of difficulty to access building site is 170 points. Each parcel shall receive a score in accordance with the provisions of Subparagraphs (1), (2) or (3), and Subparagraph (4), below. Parcels that are not required to provide vehicular access to the building site, such as parcels in plan unit developments where common parking areas exist, shall receive the maximum score for this subsection.

- (1) Upsloping Parcels Without Existing Access: Parcels without existing access, that slope predominantly upward within the first 20 feet from the public right-of-way or other access road, shall receive an initial score in accordance with Table C-1 of the Technical Appendices. The height of the cut slope shall be measured at the center of the most likely point of access. The Degree of Difficulty for Excavation shall be determined for each soil series from Table 6 of the report entitled "Soil Survey, Tahoe Basin Area, California and Nevada," prepared by the Soil Conservation Service and Forest Service and dated March, 1974. Where construction of access will intercept natural ground water or subsurface flow, or result in disturbance in a SEZ, the parcel shall receive the appropriate score from the column in Table C-1 headed "SEZ."
  - (a) Adjustment For Gradient Above Cut Slope: The initial score received in accordance with the procedure set forth in Subparagraph (1), above, shall be multiplied by the factor from Table C-2 of the Technical Appendices according to the average gradient of the ground for a distance of 20 feet above the top of the cut slope at the access point.
- (2) Downsloping Parcels Without Existing Access: Parcels that slope predominantly downward within the first 20 feet from the public right-of-way or other access road shall receive an initial score in accordance with Table C-3 of the Technical Appendices. The height of the fill slope shall be measured at the center of the most likely point of access. Where construction of access will intercept

natural ground water or subsurface flow, or result in disturbance in a SEZ, the parcel shall receive the appropriate score from the column in Table C-3 headed SEZ.

- (a) Adjustment For Gradient Below Fill Slope: The initial score received in accordance with the procedure set forth in Subparagraph (2), above, shall be multiplied by the factor from Table C-4 of the Technical Appendices according to the average gradient of the ground for a distance of 20 feet below the toe of the fill slope at the access point.
  
- (3) Parcels With Existing Driveways: Parcels that contain existing driveways shall receive a score in accordance with Table C-5 of the Technical Appendices. Where the existing driveway has intercepted natural ground water or subsurface flow, or resulted in disturbance in a SEZ, the parcel shall receive the appropriate score from the column headed "SEZ" in Table C-5.
  - (a) Extent Of Grading Required On Access: The categories under the column headed "Extent of Grading Required on Access" in Table C-5 shall be defined as follows:
    - (i) No Appreciable Grading: To achieve a maximum slope of ten percent on the driveway, the only grading required prior to paving is minor smoothing or leveling of the existing surface or the driveway is paved.
    - (ii) Minor Grading: To achieve a maximum slope of ten percent on the driveway, the extent of grading does not exceed a depth of 3 feet at any point.
    - (iii) Major Grading: To achieve a maximum slope of ten percent on the driveway, the extent of grading does exceed a depth of three feet at any point.
  
  - (b) Excavation For Parking Area Or Garage: The categories under the column headed "Excavation for Parking Area or Garage" in Table C-5 shall be defined as follows:
    - (i) None: The excavation required to construct a parking area or garage does not exceed the amount necessary to construct a conventional foundation.
    - (ii) Less Than Three Feet: The excavation required to construct a parking area or garage exceeds the amount necessary to construct a conventional foundation, but does not exceed a depth of three feet at any point.
    - (iii) Greater Than Three Feet: The excavation required to construct a parking area or garage exceeds a depth of three feet at any point.

- (4) Parcels Requiring Access Through A Stream Environment Zone: Parcels requiring construction of, or with existing access in, a stream environment zone, or parcels where access will intercept natural ground water or subsurface flow, shall receive a score, in addition to the score received under Subparagraph (1), (2) or (3) in this subsection, in accordance with Table C-6 of the Technical Appendices.
- (a) Location Of Disturbance: The categories under the column headed "Location of Disturbance" in Table C-6 shall be defined
- (i) No Disturbance In Stream Environment Zone Or Interception Of Ground Water: Provision of access to the building site will not result in any disturbance, including the removal of vegetation, in a stream environment zone or interception of ground water.
- (ii) Disturbance Only In Secondary Riparian Vegetation Or Setback: Provision of access to the building site will result in disturbance only to secondary riparian vegetation, or within the setback to a stream environment zone, but will not result in disturbance to primary riparian vegetation, a stream channel or interception of ground water.
- (iii) Disturbance In Primary Riparian Vegetation Or Intercepts Ground Water, But Not In Stream Channel: Provision of access to the building site will result in disturbance to primary riparian vegetation, or intercept of ground water but will not result in disturbance to a stream channel.
- (iv) Disturbance In Stream Channel: Provision of access to the building site will result in disturbance to a stream channel.

37.2.D Stream Environment Zone: The maximum score for stream environment zone is 110 points. Each parcel shall receive a score in accordance with Table D-1 of the Technical Appendices.

- (1) Type Of Disturbance In Stream Environment Zone: Construction of vehicular access through a SEZ is accounted for under Subparagraph (4) of Subsection 37.2.C, and is not considered under this subsection. The categories under the column headed "Extent Of Disturbance In SEZ" in Table D-1 shall be defined as follows:
- (a) None: Trenching for utility connections will not result in disturbance in a SEZ.
- (b) Utility Connections: Trenching for utility connections will result in disturbance in a SEZ.

- (2) Location Of Disturbance: The categories under the column headed "Location Of Disturbance" in Table D-1 shall be defined as follows:
- (a) Inside Secondary Riparian Vegetation Or Setback: Trenching for utility connections will result in disturbance to secondary riparian vegetation or within a set back, but not to primary riparian vegetation or a stream channel.
  - (b) Inside Primary Riparian Vegetation But Not In Stream Channel: Trenching for utility connections will result in disturbance to primary riparian vegetation but not to a stream channel.
  - (c) In Stream Channel: Trenching for utility connections will result in disturbance to a stream channel.

37.2.E Condition Of Watershed: The maximum score for condition of watershed is 70 points. Each parcel shall receive the score given in Table E-1 of the Technical Appendices to the watershed in which the parcel is located. This element estimates the overall ability of a drainage basin to deliver nutrients and sediments to Lake Tahoe. Consideration was given to three broad categories:

- (1) Geomorphic, precipitation and stream flow characteristics;
- (2) Nutrients and sediments in stream flow, expressed in production per unit area of drainage basin, e.g. pounds of nitrate nitrogen per square mile of drainage basin; and
- (3) Existing land coverage compared to allowable land coverage.

37.2.F Ability To Revegetate: The maximum score for ability to revegetate is 50 points. Each parcel shall receive a score in accordance with the following provisions:

- (1) Vegetative Groups: Parcels shall receive a score from Table F-1 of the Technical Appendices based on the vegetative group identified in Table 6 of the report entitled, "Soil Survey, Tahoe Basin Area, California and Nevada," prepared by the Soil Conservation Service and Forest Service, and dated March 1974 for the soil series in which the parcel is located. If Vegetative Group J is identified for a parcel, the IPES field evaluation team shall determine which of the other five groups listed in Table F-1 best describes the vegetation on the parcel and points shall be assigned accordingly. The five vegetative groups, Groups A, B, E, F, and G are described in Section F of the Technical Appendices.
- (2) Climatic Conditions: Parcels shall receive a score for climatic conditions as follows:
  - (a) Aspect And Gradient: Each parcel shall receive a score in accordance with Graph F-1 of the Technical Appendices, based on the aspect and average gradient of the parcel.

- (b) Elevation: Each parcel shall receive a score in accordance with Table F-2 of the Technical Appendices. The elevation of a parcel, for purposes of determining a score from Table F-2, shall be the highest elevation within the area evaluated as determined pursuant to Section 37.4. Elevation readings shall be taken from TRPA's 2" = 1 miles base map.

37.2.G Need For Water Quality Improvements In Vicinity Of Parcel: The maximum score for need for water quality improvements in vicinity of parcel is 50 points.

- (1) Preparation Of Map: TRPA shall prepare a map identifying areas within which the need for the water quality improvements listed in Table G-1 of the Technical Appendices is the same. The Lake Tahoe Basin Water Quality Management Plan (208 Plan) maps shall be used as a guideline for determining the level of improvements needed. Areas shall be assigned point values in accordance with Table G-1 of the Technical Appendices. The points assigned shall be equal to the mathematical difference between 50 points and the total of the negative points received due to the combination of water quality improvements needed.
- (2) Assigning Scores To Parcels: Each parcel shall receive the score assigned to the area, established under Subparagraph (1), above, in which the parcel is located.

37.2.H Proximity To Lake Tahoe: The maximum score for proximity to Lake Tahoe is 50 points.

- (1) Preparation Of Map: TRPA shall prepare maps identifying the following areas; Area A - from the highwater line (6229.1 feet Lake Tahoe Datum) of Lake Tahoe to elevation 6240 feet; Area B from elevation 6240 feet to one mile from the high water line; Area C - from one mile to two miles from the high water line; Area D - from two miles to three miles from the high water line; Area E - from three miles to four miles from the high water line; and Area F - beyond four miles from the high water line. Point values shall be assigned to the areas set forth above as follows; Area A - 0 points; Area B - 10 points; Area C 20 points; Area D - 30 points; Area E - 40 points; and Area F - 50 points.
- (2) Assigning Scores To Parcels: Each parcel shall receive the score assigned to the area, established under Subparagraph (1), above, in which the parcel is located.

37.2.I Additional Mitigation: A parcel's score may be increased by an amount, not to exceed that permitted under Subparagraph (2) below, upon approval by TRPA of a water quality improvement project, submitted by the owner of the parcel. A project that qualifies a parcel for an increase in its point score shall be located on a parcel other than the parcel for which the score increase is proposed, and shall be improvements such as slope stabilization, energy dissipators, sediment ponds, and rock-lined channels. A parcel's score shall not be increased unless, as a condition of approval, TRPA requires the water quality improvement

project to be completed prior to construction commencing on the parcel receiving the increase in score. Approvals for additional points shall not be granted under the provisions of this subsection until TRPA makes the following findings:

- (1) Required Findings: The required findings are:
  - (a) The water quality improvements proposed under the provisions of this subsection are consistent with TRPA's 208 Plan;
  - (b) The increase in the IPES score for the applicant's parcel is in compliance with paragraph (2) below; and
  - (c) The proposed water quality improvements would not otherwise be required of the owner to comply with the standards set forth in Chapter 25.
- (2) Limitations On Amount Of Increase In Score: A parcel's score shall not be increased in an amount greater than ten percent of the IPES score at which the line is located establishing the top-ranked parcels in the affected jurisdiction at the time the water quality improvement project is approved. TRPA shall adopt a list assigning point values to types of water quality improvements. Point values shall be based on projected reductions in nutrient or sediment loading resulting from construction of such improvements and shall be intended to result in benefits that fully offset the difference in impacts between developing the subject parcel and developing a parcel with a rating equivalent to the subject parcel's rating without applying the bonus points.

37.2.J Man-Modified Areas: Where an area has been determined by TRPA to be man-modified in accordance with Subsection 20.2.F, or prior to the effective date of the Regional Plan in accordance with Section 8.29 of the TRPA Land Use Ordinance, the IPES field evaluation team shall use the information on which such a determination was made, where applicable, in its evaluation of parcels located in such areas.

37.3 Procedure For Establishing SEZ Boundaries And Setbacks: The IPES field evaluation teams shall use the following procedures and definitions for purposes of determining the presence and boundaries of an SEZ and establishing SEZ setbacks.

37.3.A Definitions: The definitions are as follows:

- (1) Alluvial Soils - All the following soil types owe their major characteristics to the presence of surface or subsurface water:
  - (a) Loamy alluvial land (Lo)
  - (b) Elmira loamy coarse sand, wet variant (Ev)
  - (c) Celio gravelly loamy coarse sand (Co)

- (d) Marsh (Mh)
  - (e) Gravelly alluvial land (Gr)
  - (f) Fill land (Fd)
- (2) Confined - Stream types classified under major categories A and B, and stream type C2, as defined in the report entitled "A Stream Classification System," David L. Rosgen, April, 1985.
  - (3) Designated Flood Plain - The limits of the Intermediate Regional Flood where established for creeks by the U.S. Army Corps of Engineers, or the limits of the 100-year flood where established for creeks by the U.S. Army Corps of Engineers.
  - (4) Ephemeral Stream - Flows sporadically only in response to precipitation, with flows lasting a short time.
  - (5) Groundwater Between 20-40 Inches - Evidence of ground water between 20 and 40 inches below the ground surface (somewhat poorly drained soil).
  - (6) Intermittent Stream - Flows in response to precipitation or snow melt.
  - (7) Lake - A water body greater than 20 acres in size, exceeding two meters deep at low water and lacking trees, shrubs, persistent emergents, emergent mosses or lichens with greater than 20 percent aerial coverage.
  - (8) Man-Made Channel - A channel constructed by man for the purpose of conveying water or a channel created by water being discharged from a man-made source, such as a culvert or pipe.
  - (9) Near Surface Groundwater - Evidence of ground water within 20 inches of the ground surface (poorly drained soil).
  - (10) Perennial Stream - Permanently inundated surface stream courses. Surface water flows throughout the year except in years of infrequent drought. Perennial streams shall be those shown as solid blue lines on USGS Quad Maps, or streams determined to be perennial by TRPA.
  - (11) Pond - A standing water body less than 20 acres in size and/or less than two meters deep at low water.
  - (12) Primary Riparian Vegetation - The following vegetative community types as identified in the 1971 report entitled "Vegetation of the Lake Tahoe Region, A Guide for Planning:"
    - (a) Type 0: Open water - Open water, Swamps and pools and Vernal pools.

- (b) Type 2: Herbaceous - Wet marsh or meadow and Sphagnum bog.
  - (c) Type 7: Riparian shrub - Willow thicket and Alder thicket.
  - (d) Type 9: Broadleaf - Low elevations.
- (13) SEZ Setbacks - A strip of land adjacent to the edge of a SEZ, the designated width of which is considered the minimum width necessary to protect the integrity of the various characteristic of the SEZ. The width of the setback shall be established in accordance with the procedure set forth in Subsection 37.3.D.
- (14) Secondary Riparian Vegetation - The following vegetative types as identified in the 1971 report entitled "Vegetation of the Lake Tahoe Region, A Guide for Planning:"
- (a) Type 2: Herbaceous - Wet mesic meadow.
  - (b) Type 9: Broadleaf - High elevations.
  - (c) Type 19: Lodgepole - Wet type.
- (15) Slope Condition - The condition of the slope located adjacent to the stream channel or edge of the SEZ shall be defined as follows. The extent of existing slope protection, which is defined as the percent cover of original duff layer, down logs, low growing vegetation or rock fragments greater than 1-2 inches in diameter, shall be given primary consideration when determining slope condition.
- (a) Good - Slopes show little or no evidence of surface (sheet, rill, gully) erosion or mass wasting. Slopes are typically covered 90 percent or more with original duff layer, down logs, slash, low growing vegetation or rock fragments greater than 1-2 inches in diameter. Slope gradient is commonly less than 30 percent. Soil horizons are usually cohesive and consolidated.
  - (b) Average - Slopes show evidence of surface (sheet, rill, gully) erosion or mass wasting over 5 to 25 percent of the slope surface. Slopes are typically covered between 50 to 90 percent with original duff layer, down logs, slash, low growing vegetation or rock fragments greater than 1-2 inches in diameter. Slope gradient is commonly between 30 and 70 percent. Soil horizons are typically moderately cohesive and consolidated.
  - (c) Poor - Slopes show evidence of active and pronounced surface (sheet, rill, gully) erosion or mass wasting over more than 50 percent of the slope surface. Slopes are typically covered less than 50 percent with original duff layer, down logs, slash, low growing vegetation or rock fragments greater than 1-2 inches in diameter. Slope gradient is often

greater than 70 percent. Soil horizons are typically non-cohesive and unconsolidated. Evidence of seeping is often present.

- (16) Terrace - A moderately flat land area, above the flood plain, generally less than 20 percent slope.
- (17) Unconfined - Stream types classified under major categories C (excluding stream type C2), D and E as defined in the report entitled "A Stream Classification System," David L. Rosgen, April 1985.

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;
  - (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).

37.3.C Boundaries: The boundaries of an SEZ shall be the outermost limits of the key indicators; the outermost limits where three secondary indicators coincide; or, if Lo, Co, or Gr soils are present, the outermost limits where two secondary indicators coincide, which ever limits establish the widest SEZ at any particular point. The outermost boundaries of a stream shall be the bank full width of such stream, which shall be defined as the level of frequent high flow, i.e., the level of flood with a recurrence interval of approximately 1.5 years.

37.3.D SEZ Setbacks: No buildings, other structures or land coverage shall be permitted in SEZ setbacks, except in accordance with Subsection 20.4.B and the exception for the backshore set forth in Subsection 55.4.D. The restoration requirements set forth in Subparagraph 20.4.A(2)(c) shall not apply within SEZ setbacks. The allowable base land coverage within SEZ setbacks shall be in accordance with Subsection 20.3.A, and may be combined with the allowable base land coverage for the remainder of the parcel to establish a total allowable base land coverage. A portion of the total allowable base land coverage for the parcel may be used to allow construction in the SEZ setback only in accordance with Subsection 20.4.B and the exception for the backshore set forth in Subsection 55.4.D. SEZ setbacks shall be established in accordance with the following criteria (see also Section I of the Technical Appendices).

- (1) Confined Perennial Stream: When a confined perennial stream is present, the following setbacks shall be established based on the corresponding slope condition:
  - (a) Good Slope Condition: When the slope condition is identified as good, the setback shall be 25 feet from the edge of the SEZ or 15 feet from the edge of a terrace, if present, whichever is less.
  - (b) Average Slope Condition: When the slope condition is identified as average, the setback shall be 35 feet from the edge of the SEZ or 20 feet from the edge of a terrace, if present, whichever is less.
  - (c) Poor Slope Condition: When the slope condition is identified as poor, the setback shall be 60 feet from the edge of the SEZ or 35 feet from the edge of a terrace, if present, whichever is less.
- (2) Unconfined Perennial Stream: When an unconfined perennial stream is present, the setback shall be 50 feet from the edge of the SEZ.
- (3) Confined Ephemeral Or Intermittent Stream: When a confined ephemeral or intermittent stream is present the following setbacks shall be established based on the corresponding slope conditions:

- (a) Good Slope Condition: When the slope condition is identified as good, the setback shall be 15 feet from the edge of the SEZ or ten feet from the edge of a terrace, if present, whichever is less.
  - (b) Average Slope Condition: When the slope condition is identified as average, the setback shall be 25 feet from the edge of the SEZ or 15 feet from the edge of a terrace, if present, whichever is less.
  - (c) Poor Slope Condition: When the slope condition is identified as poor, the setback shall be 40 feet from the edge of the SEZ or 25 feet from the edge of a terrace, if present, whichever is less.
- (4) Unconfined Ephemeral Or Intermittent Stream: When an unconfined ephemeral or intermittent stream is present the setback shall be 25 feet from the edge of the SEZ.
  - (5) Channel Absent: When there is an SEZ present but there is no associated channel identified, the setback shall be ten feet from the edge of the SEZ.
  - (6) Lakes and Ponds: Where a lake or pond is present, the SEZ setback shall be 10 feet from the high water line or 10 feet from the edge of the SEZ, whichever is greater, except where a backshore is established in accordance with Section 55.2 in which case there shall be no SEZ setback established.

37.3.E SEZ Documentation: Where the IPES field team identifies the existence of an SEZ on an individual parcel, it shall prepare a permanent written record or drawing applicable to that parcel showing the boundaries of the SEZ, the setback line from the SEZ and setting forth the reasons for its determination. At the time a project is reviewed applicable to a parcel evaluated under IPES as having an SEZ, the SEZ boundaries and setback shall be verified or adjusted based upon additional information then available.

37.4 Area To Be Evaluated: The score received by a parcel shall be based on evaluation of an area established in accordance with the following provisions.

37.4.A Parcels Of 1/3 Acre Or Less: Parcels of 1/3 acre or less in size shall be evaluated in accordance with the following procedures:

- (1) Area To Be Evaluated: The evaluation team shall evaluate the entire parcel, except as provided for under Subparagraph (3), below.
- (2) Slope Length And Gradient Readings: Slope length and gradient readings shall be taken in accordance with the following procedures:

- (a) Segment readings shall be taken perpendicular to the natural contours and through the middle of the most likely building site as determined by the evaluation team in accordance with Section 37.7;
  - (b) Enough segments shall be recorded for each parcel so that the sum of all segment lengths is equal to approximately 120 feet. In cases where segment lengths totaling 120 feet can not be obtained within a parcel's boundaries, segment readings shall be taken on adjacent parcels; and
  - (c) Segment readings shall begin 60 feet above the middle of the most likely building site or at the top of the cut slope or toe of the fill slope adjacent to the public right of-way or other access road.
- (3) Parcels Containing A SEZ: Where a parcel contains an SEZ, the evaluation team shall evaluate only that portion of the parcel located outside the SEZ. The score received by parcels containing less than 5,000 square feet outside an SEZ shall be multiplied by a factor equal to the area outside the SEZ divided by 5,000 square feet. Parcels containing no area outside an SEZ or SEZ setback shall receive a total score of zero.
  - (4) Parcels Less Than 10,000 Square Feet Or With Less Than 10,000 Square Feet Outside An SEZ: The score received by parcels that are less than 10,000 square feet in size or with less than 10,000 square feet outside an SEZ shall be multiplied by a factor derived from the equation set forth in Section H of the Technical Appendices.
    - (a) The score received by parcels that contain less than 5,000 square feet outside an SEZ shall be multiplied by the factors established in Subparagraphs (3) and (4), above.
    - (b) The procedure set forth in Section 37.3 shall be used by the field evaluation teams to establish the area of a parcel outside a SEZ.

37.4.B Parcels Greater Than 1/3 Acre But Less Than Five Acres: Parcels that are greater than 1/3 acre but less than five acres in size shall be evaluated in accordance with the following procedures:

- (1) Area To Be Evaluated: The evaluation team shall evaluate an area of approximately 1/3 acre in size that includes the most likely building site as determined by the evaluation team in accordance with Section 37.7. In determining the location of the area to be evaluated, the team shall select the 1/3 acre that results in the highest score.
- (2) Slope Length And Gradient Readings: Slope length and gradient readings shall be taken in accordance with Subparagraph 37.4.A(2).

- (3) Parcels Containing A SEZ: In the case where the best 1/3 acre contains a SEZ the procedures set forth in Subparagraphs 37.4.A(3) and (4) shall be followed.

37.4.C Parcels That Are Five Acres Or Greater: Owners of parcels that are five acres or greater in size shall be contacted by TRPA and asked to identify the location of the 1/3 acre portion of the parcel which includes their desired building site. Once the 1/3 acre portion has been identified, the evaluation team shall evaluate this portion of the parcel to determine the parcel's score. Slope length and gradient readings shall be taken in accordance with Subparagraph 37.4.A(2) and, if the 1/3 acre contains an SEZ, the procedures set forth in Subparagraphs 37.4.A(3) and (4) shall be followed.

37.5 Evaluation Teams: The members of each evaluation team shall be selected by TRPA and shall consist of professionals in the fields of soil science, hydrology and engineering or planning.

37.6 Eligibility Criteria: Parcels shall be determined to be eligible for evaluation, scoring and ranking under IPES in accordance with the following provisions.

37.6.A Vacant Parcels: Vacant parcels that are permitted a single family dwelling as an allowed or special use in accordance with Chapter 18 shall be eligible, provided the parcel is otherwise eligible under Subsection 37.6.C.

37.6.B Parcels That Are Not Vacant: Parcels that are not vacant and do not contain a single family dwelling shall be eligible as though they are vacant upon receipt by TRPA of a written request by the parcel owner that the parcel be evaluated and provided the parcel is otherwise eligible under Subsection 37.6.C.

37.6.C Special Situations: In the following special situations, parcels are ineligible, except as otherwise stated.

- (1) Right Of Entry: Parcels for which the owner refuses to grant TRPA the right of entry pursuant to Subsection 37.9.A shall not be eligible, unless the owner subsequently grants TRPA the right of entry.
- (2) Building Site Identification: Parcels of five acres or greater in size for which the owner does not identify the desirable building site pursuant to Subsection 37.4.C shall not be eligible, unless the owner subsequently identifies the desirable building site.
- (3) Parcels Owned By A Public Or Quasi-Public Entity: Parcels owned by a public or quasi-public entity as defined in the definition of "Public Service" in Chapter 2, including parcels owned by a local, a state or the federal government, or a public utility district shall not be eligible, unless such public or quasi-public entity requests in writing to TRPA that a parcel be evaluated under IPES and the parcel is otherwise eligible under this section.

- (4) Dedicated Open Space: Parcels that are restricted to open space pursuant to a final subdivision map or other recorded document shall not be eligible.
- (5) No Physical Access: Except for parcels in planned unit developments, parcels for which there is no road providing physical access to the parcel shall not be eligible, unless TRPA receives a written request from the parcel owner that the parcel be evaluated, the parcel is otherwise eligible under this section, and the parcel owner asserts the existence of an access easement and demonstrates that:
  - (a) The basic service requirements can be provided in accordance with Chapter 27; and
  - (b) The corners of the parcel are staked and flagged, if requested by TRPA. TRPA shall notify parcel owners of determinations made under this subparagraph.
- (6) Insufficient Area To Construct A Single Family Dwelling: Parcels that, due to size, configuration, or an easement, may not have a sufficient area to allow construction of a single family dwelling shall not be eligible, unless TRPA receives a written request from the parcel owner that the parcel be evaluated, the parcel is otherwise eligible under this section, and the corners of the parcel are staked and flagged, if requested by TRPA. TRPA shall notify parcel owners of determinations made under this subparagraph.
- (7) Local Zoning Restrictions: Parcels that TRPA determines are prohibited residential uses by local government zoning ordinances shall not be eligible, unless TRPA receives a written request from the parcel owner that the parcel be evaluated and the parcel is otherwise eligible under the provisions of this section. TRPA shall notify parcel owners of determinations made under this paragraph. TRPA review pursuant to IPES is not a determination by TRPA that residential uses are permitted by local government.

37.7 Most Likely Building Site: In determining the location of the most likely building site, the evaluation team shall consider: local building setbacks and open space easements, the relationship between the building site and access from public right-of-way, and minimizing excavation and general site disturbance resulting from construction. Where the IPES field evaluation team has determined a most likely building site in order to undertake its evaluation, it shall make a permanent record of that determination.

37.7.A Alternative Building Site: If at a later time a project proponent selects a site other than the most likely building site, then TRPA shall score the alternative building site selected and shall, upon a written election by the project proponent, adjust the IPES score accordingly. In order to be deemed an alternative building site, the selected site shall not overlap the most likely building site areally by more than 25 percent. The cost of scoring the alternative building site shall be paid by the project proponent.

- 37.8 Ranking Of Parcels: Once all eligible parcels within a particular jurisdiction have received a numerical score, the parcels shall be ranked, by jurisdiction, from the most suitable (those parcels receiving the highest numerical score) to the least suitable (those parcels receiving the lowest numerical score).
- 37.8.A Deadline For Ranking: Ranking of all eligible parcels shall be completed and considered for adoption by December 31, 1988.
- 37.8.B Establishment Of Level Defining Top Ranked Parcels: By January 1, 1989, TRPA shall establish an initial numerical level in the rankings immediately above the most sensitive parcels. The initial level shall be at the same numerical value for all jurisdictions. Parcels having scores above the level established herein, and as lowered pursuant to Subsection 37.8.C, shall be the top ranked parcels within each jurisdiction.
- (1) Procedure For Establishing Initial Numerical Level: Once all eligible parcels have received a score under IPES and TRPA has taken a final action on requests for reevaluation pursuant to Subsection 37.10.C, the initial numerical level defining the top ranked parcels shall be established by TRPA in accordance with the following procedures. Parcels determined by the IPES field evaluation teams to be located in a soil series not identified in the report entitled "Soil Survey, Tahoe Basin Area, California and Nevada," prepared by the Soil Conservation Service and Forest Service and dated March 1974, shall be excluded from this procedure.
- (a) A numerical value shall be established such that the number of vacant residential parcels located above the value equals the number of vacant residential parcels that on March 1, 1988 are shown on TRPA's Land Capability Overlay maps as having at least 51 percent of their area located in Land Capability Districts 4, 5, 6 and 7.
- (b) A zone shall be established between the numerical values that are ten percent greater than and ten percent less than the numerical value established under (a), above.
- (c) Based on the soil series and average slope determined by the IPES field evaluation teams, parcels that would otherwise be classified as Land Capability District 3, in accordance with the soil series and slope ranges set forth for Land Capability District 3 lands in the Bailey Report, shall be identified and the arithmetic mean of the scores received by these parcels shall be determined.
- (d) Based on the soil series and average slope determined by the IPES field evaluation teams, parcels that would otherwise be classified as Land Capability District 4, in accordance with the soil series and slope ranges set forth for Land Capability District 4 lands in the Bailey Report, shall be identified and the arithmetic mean of the scores received by these parcels shall be determined.

- (e) The arithmetic mean of the values established under (c) and (d), above, shall be determined.
- (f) If the value established under (e), above, is within the zone established in (b), above, then the initial numerical level shall be set at the value established under (e), above. If the value established under (e), above, is outside the zone established in (b), above, then the initial numerical level shall be set at the numerical value of the zone boundary that is closest to the value established under (e), above.

37.8.C Lowering Numerical Level Defining Top Ranked Parcels: Provided TRPA makes the findings required under Subparagraph (1) of this Subsection, the numerical level defining the top ranked parcels in any jurisdiction shall be lowered, on an annual basis commencing on January 1, 1990, to include in the top rank a number of parcels equal to the number of parcels in that jurisdiction that used allocations during the previous year in accordance with Chapter 33.

- (1) Required Findings: The numerical level defining the top ranked parcels shall not be lowered unless TRPA makes the following findings with respect to the applicable local jurisdiction:
  - (a) All parcels included in the top rank are otherwise eligible for development under the applicable state water quality management plan for the Lake Tahoe Basin (208 plans) and other legal limitations;
  - (b) The monitoring program for that jurisdiction is in place pursuant to Chapter 32 and the TRPA monitoring plan.
  - (c) Demonstrable progress is being made on capital improvement programs for water quality within that jurisdiction;
  - (d) The level of compliance with conditions of project approvals within any jurisdiction is satisfactory; and
  - (e) 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:
    - (i) El Dorado County - 20 percent
    - (ii) Placer County - 20 percent
    - (iii) Douglas County - 33 percent
    - (iv) Washoe County - 33 percent

37.8.D Limitation On Issuance Of Allocations To Parcels Below Level Defining Top Ranked Parcels: In jurisdictions that do not issue building

allocations by random selection, the percentage of allocations issued to parcels that were below the line defining the top ranked parcels on January 1, 1989, shall be no greater than the percentage resulting from dividing the number of vacant parcels below the initial line that eventually become located above the line defining the top ranked parcels by the total number of vacant parcels in that jurisdiction.

37.8.E Eligibility To Compete For Allocation: All parcels receiving a score under IPES shall be eligible to compete for residential allocations. Top ranked parcels that receive a residential allocation may pursue issuance of a TRPA permit to construct a new single family house. Parcels with score below the level defining the top ranked parcels may, if in receipt of a residential allocation, exercise any of the options listed below:

- (1) Transfer the allocation in accordance with Chapter 34;
- (2) Relinquish the allocation; or
- (3) Transfer other development rights in accordance with Chapter 34.

37.9 Notification Of Property Owners: Property owners shall be notified as follows:

37.9.A Right Of Entry: TRPA shall not enter a parcel for purposes of evaluation under IPES, if the property owner, has refused to grant the right of entry, and the refusal is in writing, delivered by certified or registered mail, to TRPA or by personal delivery, within the deadline set forth in the notification. Parcels for which the owner refuses right of entry shall be scored zero.

37.9.B IPES Score: Owners of parcels evaluated under IPES shall be notified of IPES scores in accordance with the following provisions:

- (1) When eligible parcels evaluated have been assigned a score, the owner of each such parcel shall be notified by mail, in accordance with TRPA's Rules of Procedures, of the parcel's assigned score, the procedures for requesting a reevaluation in accordance with Subsection 37.10.C and an appeal in accordance with Subsection 37.10.D, and other information determined by TRPA to be necessary.
- (2) Once TRPA has taken action on requests for reevaluation in accordance with Subsection 37.10.C and has established the numerical level defining the top ranked parcels in accordance with Subsection 37.8.B and the formula for determining allowable base land coverage in accordance with Section 37.11, the owners of parcels evaluated under IPES shall be notified by mail, in accordance with TRPA's Rules of Procedure, of the parcel's total score, percentage of allowable base land coverage and the numerical value at which the line identifying the top ranked parcels is located. This notification shall also identify the score received under each element of IPES and the procedure for filing an appeal.

- (3) TRPA shall notify each parcel owner of the score resulting from the procedure established in Subparagraph 37.10.D(1) once TRPA has completed its review of the appeal application. This notification shall include the parcel's total score, percentage of allowable base land coverage, the score received under each element of IPES and the procedure for requesting that the appeal be heard by the Governing Board.
- (4) For purposes of notification under this subsection, the owner of a parcel shall be as shown on the most current county tax assessor rolls.

37.10 Changes In IPES Score: IPES scores may be changed as follows:

- 37.10.A Installation Of Water Quality Improvement In Vicinity Of Parcel: If water quality improvements of the type considered in Subsection 37.2.G are installed in an area subsequent to TRPA preparing the map in accordance with Subparagraph 37.2.G(1), TRPA shall amend the map by increasing the point value for such area according to the point values identified in Table G-1 for the improvements installed. The scores received by parcels located in areas where point values are increased in accordance with this subsection shall be increased to reflect the new point value.
- 37.10.B Changes In Condition Of Watershed: If the TRPA finds that the estimated overall ability of a drainage basin to deliver nutrients and sediments to Lake Tahoe has changed, based on consideration of the three categories listed in Subsection 37.2.E, the point value given that watershed shall be changed to reflect the new condition and the score received by parcels located in that watershed shall be changed accordingly. Such changes in the condition of a watershed may cause the score received by a parcel to increase or decrease.
- 37.10.C Reevaluation Procedure: TRPA or the owner of a parcel receiving a score under IPES may request a reevaluation based on the existence of information that was not known to, or considered by, the evaluation team at the time the evaluation was performed, such as existing access easements and lot consolidations. Reevaluation shall not include determination, with respect to the IPES criteria being properly applied. That determination is included under an appeal. To be eligible for reevaluation, a complete application requesting reevaluation shall be filed with TRPA. This procedure shall not apply where a building site other than the most likely building site is selected by a project proponent pursuant to Subsection 37.7.A.
- 37.10.D Appeal Procedure: The owner of a parcel who has received notification of the parcel's score under IPES may file an appeal with TRPA by submitting a complete written appeal application no later than 180 days from the date notification, in accordance with Subparagraph 37.9.B(2). Complete applications shall include, at a minimum, identification of the IPES criteria the parcel owner feels was improperly or incorrectly applied and any data, reports, or other information in support of the appeal.

- (1) Upon receipt of an appeal, the parcel shall be reevaluated by an evaluation team other than the one that performed the original evaluation. A second notification, pursuant to TRPA's Rules of Procedure and in accordance with Subparagraph 37.9.B(3), shall be given to the parcel owner. The determinations of the second evaluation team shall be final, unless the owner of the parcel requests in writing to the Executive Director that the appeal be heard by the Governing Board. The written request must be received by TRPA within 15 working days from the date that the second notification was given pursuant to TRPA's Rules of Procedure.
- (2) Appeals to the Governing Board shall be processed in accordance with TRPA's Rules of Procedure. The Governing Board may change the score for a parcel only if it finds that the IPES criteria were not applied correctly and then the score shall be changed only to the degree resulting from proper application of the criteria.

37.10.E Alternative Appeal Procedure: Those individuals that did not file an appeal pursuant to Section 37.10.D shall be allowed to file an appeal as set forth herein. The Agency shall publish and post notice of the filing period in the same manner required for ordinance amendments. Those parties wishing to appeal shall do so by submitting an application with the proper filing fee to the TRPA office on or before June 29, 1990, at 5:00 p.m. Said application and fee must be received by the Agency at that time. After receipt, the procedure set forth in Chapter 37.10.D(1) and (2) shall be followed. In addition, notice of this procedure shall be mailed to those who have requested notice and to the individuals who in the first appeal had notices returned by the Post Office as being undeliverable.

37.10.F Reversal Of Denial Of Entry: An owner of a parcel for which right of entry was denied, may request in writing, by certified or registered mail or by personal delivery, the scoring and ranking of the parcel. The owner shall bear the cost of the field team evaluation. Upon receipt of the score in accordance with Subsection 37.9.B, the parcel owner may request reevaluation or an appeal in accordance with Subsections 37.10.C and 37.10.D.

37.11 Allowable Base Land Coverage: The allowable base land coverage for residential parcels evaluated under IPES shall be a function of the parcel's combined score under the IPES criteria for relative erosion hazard and runoff potential as correlated with the coverage coefficients and land capability districts of the Bailey Report. The allowable base land coverage under IPES shall be established in accordance with the following procedures and shall be considered for adoption by TRPA no later than January 1, 1989.

37.11.A Procedure For Establishing Allowable Base Land Coverage: Once eligible parcels have received a score under IPES, and TRPA has taken action on requests for reevaluation pursuant to Subsection 37.10.C, the percentage of allowable base land coverage shall be established by TRPA in accordance with the following procedures:

- (a) Based on the soil series and average slope determined by the IPES evaluation teams, all parcels receiving a score under IPES shall be identified as to which of the seven capability classes established in the Bailey Report each parcel would have been classified. Parcels determined by the IPES evaluation teams to be located in a soil series not identified in the report entitled "Soil Survey, Tahoe Basin Area, California and Nevada," prepared by the Soil Conservation Service and Forest Service and dated March 1974, shall be excluded from this procedure.
- (b) The combined scores for Relative Erosion Hazard and Runoff Potential representing the central tendency within each capability class shall be determined. The central tendency shall be described by determining the mode value, or by alternative statistical methods, including mean or median values, whichever is appropriate.
- (c) The central tendency scores established in (b), above, shall be plotted, in graph form, against percentages of allowable base land coverage ranging from one percent to thirty percent. The central tendency score for Land Capability Districts 1a, 1c, and 2, shall be plotted at one percent; for Land Capability District 3 at five percent; for Land Capability District 4 at 20 percent; for Land Capability District 5 at 25 percent; and for Land Capability Districts 6 and 7 at 30 percent. If the central tendency scores of any of the capability classes set forth in (c), above, are determined to be statistically indistinguishable, such classes shall be combined for purposes of establishing a central tendency score. If capability classes are combined, the central tendency score shall be plotted at the percentage that is the average of the percentages established for those classes in Subsection 20.3.A of the TRPA Code.
- (d) TRPA shall develop a formula for a line passing through the points of central tendency plotted in accordance with (c), above. No parcel shall be allowed more than 30 percent, or less than one percent base land coverage.
- (e) Allowable base land coverage for parcels receiving a score under IPES shall be established in accordance with the formula developed in (d), above.

37.11.B Application Of Allowable Base Land Coverage Percentages: The percentages of allowable base land coverage established in accordance with Section 37.11 shall be applied as follows to determine the total allowable base land coverage:

- (1) Parcels Of 1/3 Acre Or Less In Size: The percentage of allowable base land coverage shall be applied to the entire parcel area, except in cases where the parcel contains areas classified as SEZ or backshore. In such cases, the percentage of allowable base land coverage shall be applied to only that area outside the SEZ

and backshore. The allowable base land coverage of one percent in the SEZ and backshore may be combined with the allowable base land coverage for the remainder of the parcel to establish a total allowable base land coverage for the parcel. A portion of the total allowable base land coverage for the parcel may be used to allow construction of access only through the SEZ, provided TRPA makes the findings required in Subparagraph 20.4.B(1), and through the backshore, provided TRPA makes the findings required in Section 55.4.

- (2) Parcels Greater Than 1/3 Acre But Less Than 5 Acres In Size: The percentage of allowable base land coverage shall be applied to the 1/3 acre evaluated by the evaluation team. If the owner of the parcel is able to identify a larger and contiguous area that has the same characteristics as the 1/3 acre originally evaluated and TRPA concurs, the percentage of allowable base land coverage shall be applied to the larger area. Allowable base land coverage on parcels that contain a SEZ shall be calculated in accordance with Subparagraph (1) above.
- (3) Parcels Of Five Acres Or Greater In Size: The percentage of allowable base land coverage shall be applied to all that portion of the parcel that the evaluation team identifies as having the same characteristics as and being contiguous to the area evaluated.

# Chapter 37

## TECHNICAL APPENDICES

---

- A. Relative Erosion Hazard Formulae
- B. Runoff Potential  
Table B-1, Runoff Potential
- C. Degree of Difficulty To Access Building Site  
Table C-1, Upsloping Parcels Without Existing Access.  
Table C-2, Factors For Grading Of Ground Above Cut Slopes.  
Table C-3, Downsloping Parcels Without Existing Access.  
Table C-4, Factor For Gradient Of Ground Below Fill Slope.  
Table C-5, Parcels With Existing Access.  
Table C-6, Disturbance In Stream Environment Zone (SEZ) For Access.
- D. Degree of Difficulty To Access Building Site  
Table D-1, Extent Of Disturbance In SEZ.
- E. Condition Of Watershed  
Table E-1, Condition Of Watershed.
- F. Ability To Revegetate  
Table F-1, Vegetative Groups - Description of Vegetative Groups.  
Graph F-1, Aspect And Gradient Of Parcel.  
Table F-2, Elevation Of Parcel.
- G. Need For Water Quality Improvements In Vicinity Of Parcel  
Table G-1, Needed Water Quality Improvements.
- H. Area To Be Evaluated  
IPES Score Factor's Equation
- I. Setbacks From SEZs
- J. List Assigning Point Values To Off-Site Water Quality Improvements in The Individual Parcel Evaluation System (IPES) Pursuant To Code Subsection 37.2.1  
Table C-1, Upsloping Parcels Without Existing Access.

A. Relative Erosion Hazard Formulae

(1)  $(K)(R)(LS) = x$

Where:

- (a) K = Soil Erodibility Factor: The soil erodibility factor (*K*) shall be as shown on the latest edition of the Single Phase Interpretation Sheets prepared by the Soil Conservation Service for the soil series identified in the Tahoe Basin.
- (b) R = Climatic Conditions Factor: The climatic condition factor (*R*) shall be taken from the R Factors Map for the Tahoe Basin, dated \_\_\_\_\_ and prepared by TRPA.
- (c) LS = Slope Length And Gradient Factor: The slope length and gradient factor (*LS*) shall be derived from the following formula:

$$LS = \frac{\sum_{j=1}^n (S_j)(\lambda_j)^{1.5} - (S_j)(\lambda_j - 1)^{1.5}}{1,022.47}$$

where:

- (i) *n* = number of segments
- (ii) *S<sub>j</sub>* = value of *s* for segment, where; for slopes of 10% or steeper;

$$s = \left[ \frac{\sin(\tan^{-1} s_1)}{0.9} \right]^{1.4}$$

and for slopes of 9% or flatter;

$$s = 65.41 \sin^2(\tan^{-1} s_1) + 4.56 \sin(\tan^{-1} s_1) + 0.65$$

*s<sub>1</sub>* = slope in %/100

- (iii) *λ<sub>j</sub>* = distance in feet from top of slope to lower end of any segment *j*;
- (iv) *λ<sub>j-1</sub>* = slope length in feet above segment *j*; and

$$(2) \quad REH = \frac{899.72 - \sqrt{809,496.1 - 4(x^2 - 1065.45x + 202,612)}}{2}$$

where;

(a)  $x = (K)(R)(LS)$

(b)  $REH =$  Relative Erosion Hazard score

B. Runoff Potential

TABLE B-1  
RUNOFF POTENTIAL

Hydrologic Conditions	Hydrologic Soil Group			
	A	B	C	D
Poor	135 pts.	59 pts.	22 pts.	0 pts
Fair	167 pts	81 pts.	34 pts.	15 pts.
Good	200 pts	98 pts.	44 pts.	22 pts.

C. Degree Of Difficulty To Access Building Sites

TABLE C-1  
UPSLOPING PARCELS WITHOUT EXISTING ACCESS

Height of Cut Slope at Access	Degree of Difficulty for Excavation			SEZ
	Slight	Moderate	Severe	
≤1'	120	120	120	50
>1' - 2'	110	107	104	
>2' - 3'	100	94	88	25
>3' - 4'	90	81	62	
>4' - 5'	80	58	46	5
>5' - 6'	60	45	30	
>6' - 7'	50	32	14	
>7' - 8'	40	19	0	
>8' - 9'	30	6	0	0
>9' - 10'	20	0	0	
>10' - 11'	10	0	0	
>10'	0	0	0	

TABLE C-2  
FACTORS FOR GRADIENT OF GROUND ABOVE CUT SLOPE

Gradient Above Cut Slope	Factor
≤ 4%	1.0
> 4% - 8%	0.9
> 8% - 12%	0.8
> 12% - 16%	0.7
> 16% - 20%	0.6
> 20% - 24%	0.5
> 24% - 30%	0.3
> 30%	0.1

TABLE C-3  
DOWNSLOPING PARCELS WITHOUT EXISTING ACCESS

Height of Fill Slope at Access	Points	
	No SEZ	SEZ
≤3'	120	40
>3' - 6'	110	30
>6' - 10'	90	20
>10' - 15'	70	10
>15'	50	0

TABLE C-4  
FACTORS FOR GRADIENT OF GROUND BELOW FILL SLOPES

Gradient Below Fill Slope	Factor
10%	1.0
10% - 15%	0.9
15% - 20%	0.8
20% - 30%	0.7
30%	0.6

TABLE C-5

PARCELS WITH EXISTING ACCESS

Extent of Grading Required on Access	Excavation for Parking Area or Garage			SEZ
	None	Less Than 3'	Greater Than 3'	
No Appreciable Grading	120	110	80 pts. minus (5) five pts. for each foot greater than 3 feet.	30
Minor Grading	80	70	40 pts minus (5) five pts. for each foot greater than 3 feet.	10
Major Grading	40	30	10 pts. minus (5) five pts. for each foot greater than 3 feet.	0

TABLE C-6

DISTURBANCE IN STREAM ENVIRONMENT ZONE (SEZ) FOR ACCESS

Location of Disturbance	Points
No disturbance in stream environment zone or interception of ground water.	50 pts.
Disturbance only in secondary riparian vegetation or setback.	20 pts.
Disturbance in primary riparian vegetation or intercepts grounds water, but not in stream channel.	5 pts
Disturbance in stream channel.	0 pts.

D. Stream Environment Zone

TABLE D-1  
EXTENT OF DISTURBANCE IN SEZ

Type Of Disturbance In SEZ	Location of Disturbance		
	Inside Secondary Riparian Vegetation Or Setback	Inside Primary Riparian Vegetation But Not In Stream Channel	In Stream Channel
None	110 pts.	110 pts.	110 pts.
Utility Connection	40 pts.	10 pts.	0 pts.

E. Condition of Watershed

TABLE E-1  
CONDITION OF WATERSHED

No	Watershed Name	Points	No	Watershed Name	Points
1.	Tahoe State Park	54	36.	Zephyr Creek	33
2.	Burton Creek	70	37.	South Zephyr Creek	61
3.	Barton Creek	67	38.	McFaul Creek	30
4.	Lake Forest Creek	58	39.	Burke Creek	63
5.	Dollar Creek	67	40.	Edgewood Creek	49
6.	Cedar Flats	58	41.	Bijou Park	40
7.	Watson	53	42.	Bijou Creek	40
8.	Carnelian Bay Creek	61	43.	Trout Creek	36
9.	Carnelian Canyon	61	44.	Upper Truckee River	36
10.	Tahoe Vista	54	45.	Camp Richardson	54
11.	Griff Creek	44	46.	Taylor Creek	47
12.	Kings Beach	54	47.	Tallac Creek	22
13.	East Stateline Point	26	48.	Cascade Creek	30
14.	First Creek	22	49.	Eagle Creek	7
15.	Second Creek	0	50.	Bliss State Park	44
16.	Burnt Cedar Creek	54	51.	Rubicon Creek	33
17.	Wood Creek	18	52.	Paradise Flat	30
18.	Third Creek	30	53.	Lonely Gulch Creek	30
19.	Incline Creek	18	54.	Sierra Creek	26

20.	Mill Creek	26	55.	Meeks	25
21.	Tunnel Creek	33	56.	General Creek	39
22.	Unnamed	33	57.	McKinney Creek	18
23.	Sand Harbor	33	58.	Quail Lake Creek	44
24.	Marlette Creek	30	59.	Homewood Creek	0
25.	Secret Harbor Creek	33	60.	Madden Creek	14
26.	Bliss Creek	44	61.	Eagle Rock	47
27.	Deadman Point	44	62.	Blackwood Creek	7
28.	Slaughter House	44	63.	Ward Creek	21
29.	Glenbrook Creek	53	64.	Truckee River Creek	44
30.	North Logan House	58			
31.	Logan House Creek	67			
32.	Cave Rock	26			
33.	Lincoln Creek	33			
34.	Skyland	54			
35.	North Zephyr Creek	33			

F. Ability To Revegetate

TABLE F-1  
VEGETATIVE GROUPS

Vegetative Groups	Points
Group A	35
Group E	20
Group B	10
Group G	5

Description of Vegetative Groups

Group A: Choice of plants is not limited. Soils have no major limitation. Soils are more than 40 inches deep. Texture of the surface layer is stony sandy loam. Drainage is good, permeability is moderate in the subsoil, and the available water capacity for the entire profile is generally more than 5 inches.

Group B: Choice of plants is limited by droughtiness and low fertility. Soils are mostly more than 40 inches deep over weathered rock, but some are only 20 inches deep. Texture of the surface layer ranges from loamy coarse sand to gravelly loam and in places is stony or very stony. Drainage is moderately good to somewhat excessive, permeability is very rapid to slow in the subsoil, and the available water capacity is mostly less than 5 inches.

Group C: Choice of plants is limited by wetness. Soils are more than 30 inches

deep. Texture of the surface layer ranges from and through silt loam and in places is very gravelly. Natural drainage is poor to somewhat poor and the available water capacity for the entire profile is mostly more than 2 inches.

Group G: Choice of plants is limited by depth. Soils are as shallow as 20 inches over bedrock or a hardpan. Texture of the surface layer ranges from coarse sandy loam to very stony sandy loam. Drainage is moderately good to good. Permeability is moderate to slow, and the available water capacity for the entire profile is more than 3 inches.

Group J: Choice of plants depends on on-site investigation. The group includes all soils and land types in capability classes VII and VIII and steep and very steep soils. For soils listed in this group the evaluation team shall determine which of the other vegetative groups most closely describes the limitations.

GRAPH F-1  
ASPECT AND GRADIENT OF PARCEL

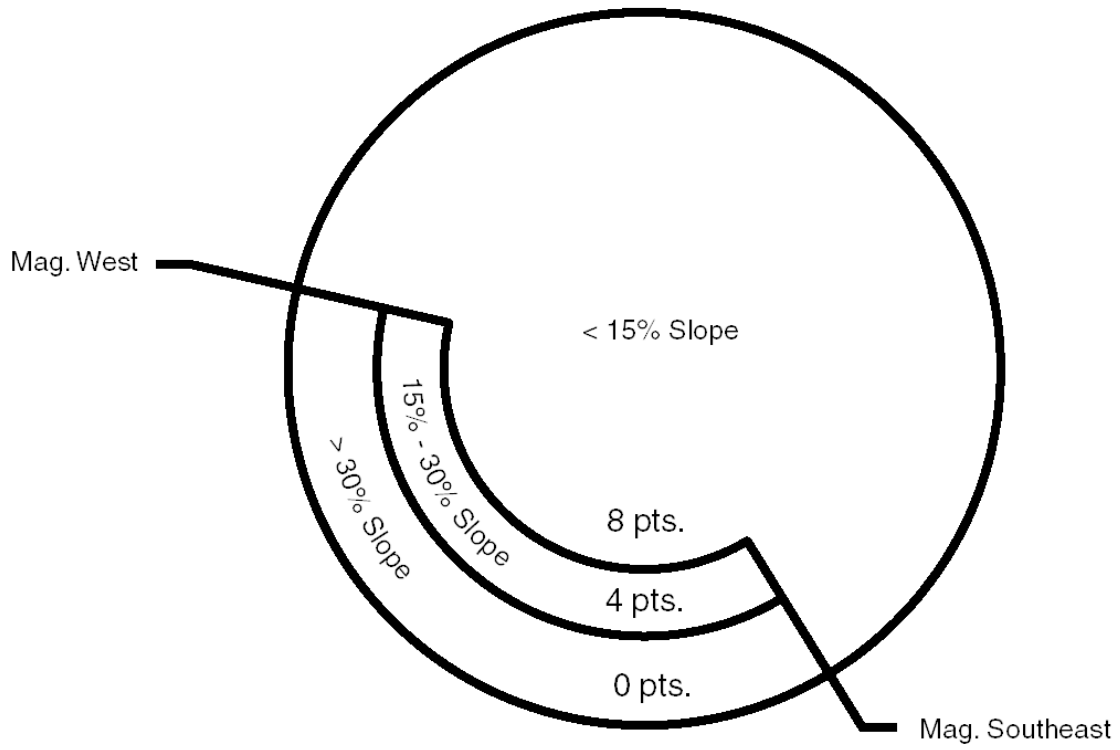


TABLE F-2  
ELEVATION OF PARCEL

Elevation of Parcel	Points
Below 7,000 feet	7
7,000 feet or above	0

G. Need For Water Quality Improvements In Vicinity Of Parcel

TABLE G-1  
NEEDED WATER QUALITY IMPROVEMENTS

Needed Improvement	Points
None	50
Revegetation	-6
Rock-lined or Vegetated Ditches	-8
Curb Gutter or Paved Swales	-8
Storm Drain Pipes	-8
Retaining Walls	-4
Rock Slope Protection	-4
Paved Roads	-8
Sediments Basin	-4

H. Area To Be Evaluated

IPES Score Factor's Equation

$$Y = \frac{\sqrt{100^2 - (100 - (.01)x)^2}}{100}$$

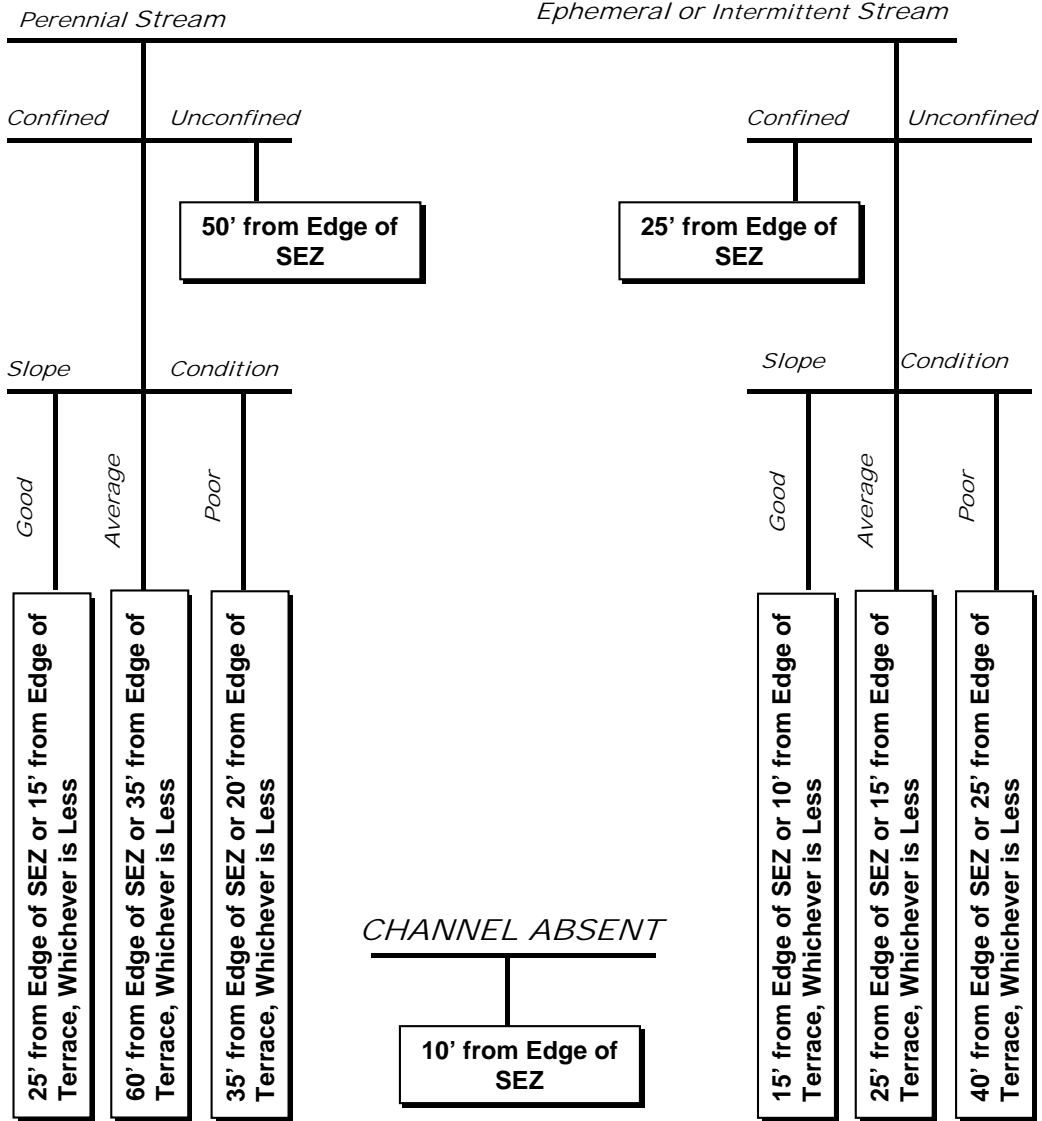
where:

Y = Factor

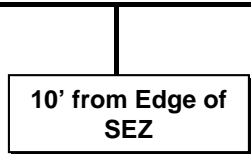
X = Area of parcel outside SEZ if less than 1/3 acre.

I. Setbacks From SEZs

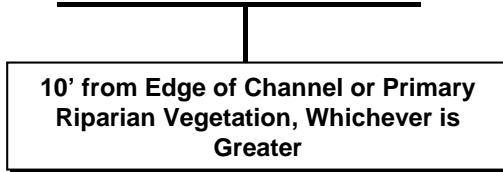
*CHANNEL PRESENT*



*CHANNEL ABSENT*



*MAN-MADE CHANNELS*



J. List Assigning Point Values to Off-Site Water Quality Improvements in the Individual Parcel Evaluation System (IPES) Pursuant to Code Subsection 37.2.I.

Instructions: Pursuant to Subsection 37.2.I of the Code of Ordinances, TRPA may increase a parcel's IPES score upon TRPA approval of a water quality improvement project submitted by the parcel owner. To qualify for the additional points, a parcel owner has two options:

1. Pay a non-refundable and non-transferable fee of \$672 per point to be deposited into the water quality mitigation fee fund, in which case TRPA will unconditionally award the points to the subject parcel; or
2. Implement a water quality improvement project consistent with TRPA's 208 plan and of equal or superior value to the fee calculated in (1), above. Per-unit costs in this appendix will be used to estimate the project's value. TRPA will conditionally award the additional points to the subject property until completion of the water quality improvement project, at which time the condition will be removed.

If option 1 is selected, the applicant is advised that the fee is non-refundable and non-transferable. The applicant shall be required to sign an acknowledgement accepting these restrictions prior to TRPA awarding points.

If option 2 is selected, the applicant shall:

1. submit detailed plans of the proposed water quality improvement project for TRPA review and approval, including a cost breakdown of the project utilizing the per-unit costs contained herein;
2. obtain all necessary authorizations for the required encroachment on the public right-of-way; and
3. make appropriate arrangements for long-term maintenance of the project after its completion.

PER UNIT COST

Treatment	Unit	Unit Cost
<b><i>Slope Stabilization</i></b>		
Rock Retaining Wall (4')	L.F.	\$60.00
Wooden Retaining Wall		
• 2' High	L.F.	\$30.00
• 3' High	L.F.	\$40.00
• 4' High	L.F.	\$50.00
• 5' High	L.F.	\$60.00
Gabions (3' High)	L.F.	\$60.00
Rock Rip-Rap	S.F.	\$2.00
Grouted Rock Rip-Rap	S.F.	\$4.00
Wattling	L.F.	\$1.00
Slope Bottom Bench	L.F.	\$8.00
Slope Serration	L.F.	\$.02
Slope Stepping	L.F.	\$.03
<b><i>Runoff Conveyance, Infiltration, and Collection</i></b>		
Street, Driveway, and Ditch Runoff Conveyance		
Concrete Curb and Gutter	L.F.	\$20.00
A/C Curb and Gutter	L.F.	\$15.00
A/C Rolled Curb	L.F.	\$12.00
A/C Swale	L.F.	\$12.00
Rocklined "V" Ditch		
• Type A (1' x 2')	L.F.	\$10.00
• Type A (2' x 3')	L.F.	\$15.00
• Type A (3' x 4')	L.F.	\$30.00
• Type A (4' x 6')	L.F.	\$60.00
Slotted Drain	L.F.	\$35.00
Wide Valley Gutter	L.F.	\$40.00
<b><i>Collection</i></b>		
Catch Basin	Each	\$5,000
Detention Basin	Each	\$10,000 - \$60,000
Storm Drain (24")	L.F.	\$40.00
Discharge Apron (5'x6'x1')	Each	\$600.00
Check Dam	L.F.	\$45.00
Grease and Oil Trap	Each	\$2000

***Vegetative Matter***

Lawn Seeding (Hand)	S.F.	\$ .03
Erosion Control Grass Seeding (Hand)	S.F.	\$ .05
Erosion Control Grass Seeding and Mulch (Hand)	S.F.	\$ .10
Erosion Control Grass Seeding, Mulch and Fertilizer	S.F.	\$ .15
Hydroseeding	S.F.	\$ .02
Revegetated Channel	L.F.	\$14.00
<b><i>Erosion Control Tree and Shrub Planting</i></b>		
Bare Root Native or Adaptive Trees and Shrubs	Each	\$1.00
Containerized Native or Adaptive Tree and Shrubs		
• Tublings	Each	\$2.00
• 1 Gallon	Each	\$8.00
• 2 Gallon	Each	\$10.00
• 5 Gallon	Each	\$50.00
• 10 Gallon	Each	\$70.00
• 15 Gallon	Each	\$160.00
<b><i>SEZ Restoration</i></b>	Mile	\$66,000 - \$113,000

Note: L.F. = Linear Foot  
S.F. = Square Foot