



DRAFT PERMIT

PROJECT DESCRIPTION: Tahoe Keys Lagoons Aquatic Weed Control Methods Test Project

PROJECT NUMBER: 510-101-00

FILE No: EIPC2018-0011

PERMITTEE: Tahoe Keys Property Owners Association

CITY/LOCATION: City of South Lake Tahoe / Tahoe Keys West Lagoon and Lake Tallac

Having made the findings required by Agency ordinances and rules, the TRPA Governing Board approved the project on January 26, 2022, subject to the conditions found in this permit.

This permit shall expire on January 26, 2025, without further notice unless project implementation has commenced prior to this date and diligently pursued thereafter. Commencement of project activities consists of beginning project implementation. Diligent pursuit is defined as completion of the project within the approved project implementation schedule. The expiration date shall not be extended unless the project is determined by TRPA to be the subject of legal action that delayed or rendered impossible the diligent pursuit of the permit.

NO PROJECT ACTIVITIES SHALL COMMENCE UNTIL:

- (1) TRPA RECEIVES A COPY OF THIS PERMIT UPON WHICH THE PERMITTEE(S) HAS ACKNOWLEDGED RECEIPT OF THE PERMIT AND ACCEPTANCE OF THE CONTENTS OF THE PERMIT;
- (2) ALL PRE-PROJECT IMPLEMENTATION CONDITIONS OF APPROVAL ARE SATISFIED AS EVIDENCED BY TRPA'S ACKNOWLEDGEMENT OF THIS PERMIT;
- (3) THE PERMITTEE HAS OBTAINED ALL REQUIRED PERMITS/AUTHORIZATIONS FOR THE LAHONTAN WATER QUALITY CONTROL BOARD. THE TRPA PERMIT AND THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD PERMIT ARE INDEPENDENT OF EACH OTHER AND MAY HAVE DIFFERENT EXPIRATION DATES AND RULES REGARDING EXTENSIONS; AND
- (4) A TRPA PRE-PROJECT IMPLEMENTATION INSPECTION HAS BEEN CONDUCTED WITH THE PROPERTY OWNER AND/OR THE CONTRACTOR.

TRPA Executive Director/Designee

Date

PERMITTEE'S ACCEPTANCE: I have read the permit and the conditions of approval and understand and accept them. I also understand that I am responsible for compliance with all the conditions of the permit and am responsible for my agents' and employees' compliance with the permit conditions. I also understand that if the property is sold, I remain liable for the permit conditions until or unless the new owner acknowledges the transfer of the permit and notifies TRPA in writing of such acceptance. I also understand that certain mitigation fees associated with this permit are non-refundable once paid to TRPA. I understand that it is my sole responsibility to obtain any and all required approvals from any other state, local or federal agencies that may have jurisdiction over this project whether or not they are listed in this permit.

Signature of Permittee(s) _____ Date _____

PERMIT CONTINUED ON NEXT PAGE

TRPA FILE EIPC2018-0011
PROJECT NUMBER 530-101-00

Required plans determined to be in conformance with approval: Date: _____

TRPA ACKNOWLEDGEMENT: The permittee has complied with all pre-project implementation conditions of approval as of this date:

TRPA Executive Director/Designee

Date

SPECIAL CONDITIONS

1. This permit authorizes a program to test a range of aquatic weed control methods, both as stand-alone treatments and in combination as described in Lahontan Regional Water Quality Control Board Order XXX. (Water Board Order X). The Tahoe Keys Lagoons Aquatic Weed Control Methods Test (CMT) Project is referred to in this permit as the "Project". The CMT treatments are grouped as Group A and Group B methods. Group A methods are initial treatments, both herbicide and non-herbicide, intended to achieve reduction in target aquatic weeds by 75 percent within CMT sites. The Project tests stand-alone treatments using aquatic herbicides, ultraviolet light, and laminar flow aeration (LFA), as well as combined herbicide and ultraviolet light treatments.

The CMT will be implemented at selected sites within the Tahoe Keys West lagoon and Lake Tallac. Permit Exhibit 1 shows the currently anticipated locations of the sites for testing Group A and Group B methods. The CMT site may be adjusted based on (1) flow conditions between the Tahoe Keys West Lagoon and Lake Tahoe; (2) hydroacoustic scans; and (3) physical macrophyte sampling/surveys in the West Lagoon and Lake Tallac. A total of 21 test sites are proposed for treatment using Group A methods (herbicides, ultraviolet light, both herbicide and ultraviolet light, or LFA) in year one of the CMT. An additional three sites will be monitored as control/reference sites for comparison.

The total area proposed for treatment with Group A methods is 41.5 acres (not including 3 control/reference sites), divided among 21 sites. The total area authorized (per Water Board Order XX) to be treated with herbicides is 16.9 acres, including those test sites where herbicides would be used alone or in combination with ultraviolet light treatments. The approved site number, treatment type, area and area of herbicide treatment, subject to Lahontan Water Board final approval, are:

Site Number	Treatment Type	Area (ac)	Herbicide Treated Area
1	Herbicide	1.5	1.5
2	Herbicide	1.5	1.5
3	Herbicide	2.1	2.1
5	Herbicide	2.2	2.2
8	Herbicide	1.6	1.6
9	Herbicide	1.5	1.5

Site Number	Treatment Type	Area (ac)	Herbicide Treated Area
10	Herbicide/Ultraviolet Combination	2.0	0.7
11	Herbicide/Ultraviolet Combination	1.6	0.5
12	Herbicide/Ultraviolet Combination	1.9	0.7
13	Herbicide/Ultraviolet Combination	1.7	0.6
14	Herbicide/Ultraviolet Combination	2.0	0.7
15	Herbicide/Ultraviolet Combination	1.2	0.4
16	Control	1.8	0.0
17	Control	2.2	0.0
18	Control	1.5	0.0
19	Herbicide	1.0	1.0
20	Herbicide	1.0	10
21	Herbicide	0.9	0.9
22	Ultraviolet Light	1.5	0.0
23	Ultraviolet Light	1.6	0.0
24	Ultraviolet Light	1.8	0.0
25	Laminar Flow Aeration	4.1	0.0
26	Laminar Flow Aeration	6.1	0.0
27	Laminar Flow Aeration	2.7	0.0
Total acreage (not including Control Sites)		41.5	16.9

Notes: The numbers 4, 6 and 7 are not used in the site numbering.

See Permit Exhibit 1 for site number locations.

The CMT site locations may be adjusted based on the results of spring macrophyte surveys and Lahontan Water Board final approval to ensure that target weed infestations are dominant in treatment areas. Exhibit 1 illustrates the location and size of each of the 21 proposed treatment sites and identifies the three control sites.

Only a single treatment with aquatic herbicides will occur at all herbicide test sites in late spring of the first year of the test program. Ultraviolet light treatments will extend through the summer and possibly into the fall of the first year. Based on efficacy monitoring results, a second year of ultraviolet light treatments may be necessary to achieve the 75 percent target species biomass reduction. LFA will be installed by the spring of the first year and operated year-round for the entire three-year test program, with monitoring each year to determine progress toward the 75 percent target reduction. The effects of Group A treatments will be monitored and Group B methods may be implemented for up to two subsequent years to manage residual aquatic weed populations in attempts to achieve CMT objectives.

Adjustments to the CMT site locations may be permitted in concert with adjustments to the final Aquatic Pesticide Application Plan (APAP) submitted to, and approved by the Water Board, but adjustments will not result in expansion of the total area to which aquatic herbicides are applied (16.9 acres). Treatment areas and receiving waters (i.e., waters outside of treatment areas) for the Project are located within the Tahoe Keys West Lagoon and Lake Tallac. No treatment areas are located in the East Lagoon or Lake Tahoe proper. Areas of the West Lagoon with herbicide

testing sites will be isolated from other areas of the lagoon using double turbidity curtain barriers, and thus also be isolated from the West Channel and Lake Tahoe. Non-herbicide Group A treatments (i.e., ultraviolet light (ultraviolet-C) and LFA) may be extended to additional years if monitoring indicates further treatment may be needed.

Group B methods are non-herbicide maintenance treatments applied to the test sites to follow up Group A treatments and control regrowth of or residual target aquatic weeds. Group B methods will include such actions as spot treatments with ultraviolet light, bottom barriers, diver-assisted suction, and diver hand pulling techniques. Use of Group B methods will be implemented in years 2 and 3, following Group A methods. The selection of Group B methods will be informed by the decision tree shown below (see Condition 23) and consideration of site conditions including bottom morphology or other physical obstructions.

Mechanical harvesting will continue to be performed at control sites during the testing period as needed to maintain vessel hull clearances in navigation lanes. Harvesting represents a baseline condition of the test project. The current program of mechanical harvesting and fragment control methods will also continue during this period in areas of the lagoons outside of test sites.

2. This permit incorporates by reference the Mitigation Monitoring and Reporting Program approved by Lahontan Water Board and TRPA as part of the 2021 Final EIR/EIS.
3. This permit incorporates by reference all requirements, terms, and conditions of the California Regional Water Quality Control Board Lahontan Region Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for Tahoe Keys Property Owners Association Tahoe Keys Lagoons Aquatic Weed Control Methods.
4. Prior to permit acknowledgement, the following conditions of approval must be satisfied:
 - A. The permittee shall submit final project implementation plans showing all final treatment areas, sizes, and treatment types to TRPA for review and approval.
 - B. The permittee shall comply with the final Mitigation, Monitoring and Reporting Program approved by Lahontan Water Board and TRPA .
 - C. A Resource Protection Implementation and Monitoring Plan shall be submitted to TRPA for review and approval.
 - D. The permittee shall submit a project implementation schedule to TRPA for review and approval. The schedule shall identify each major element of the project to be implemented by calendar year.
5. All project activities shall be performed consistent with the Proposed Project Alternative described in the 2020 Tahoe Keys Lagoons Aquatic Weed Control Methods Test Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS), as modified by the 2021 Final EIR/EIS.
6. Three sites shall be monitored as controls for the testing program (see Permit Exhibit 1 for locations). The control sites shall be of a similar size (1.5 to 2.2 acres each) as the proposed

treatment sites and exhibit a similar plant distribution and abundance. The control sites are the ONLY CMT sites where harvesting will be conducted in a manner similar to that used in the rest of the NON-CMT areas of the West Lagoon. No new weed control methods shall be applied at control sites during the methods test. Information on treatment performance and environmental effects from treatment site monitoring will be compared using similar monitoring at control sites to evaluate the significance of differences in plant populations and environmental conditions resulting from treatments.

7. Detailed hydroacoustic and physical aquatic macrophyte surveys will be completed in the test and control sites in the spring and submitted to TRPA prior to initiating the testing program as soon as water conditions allow. These survey results will provide information on the species composition and biovolumes of macrophytes and will be used to decide (1) final test site locations and boundaries to minimize effects on non-target species, and (2) which of the proposed herbicides to apply at each herbicide test site to best match the target species present. This requirement will be implemented consistent with Lahontan Water Board permit requirements.

Stand-Alone Test of Aquatic Herbicides

8. Each application of an herbicide at an individual test site shall occur in a single day and monitoring for herbicide residues would continue both within treatment areas and in adjacent receiving waters consistent with Lahontan Water Board discharge permit requirements. Monitoring would continue until the herbicide active ingredient and degradate concentrations (i.e., chemical compounds resulting from herbicide degradation) are non-detectable.
9. The approved herbicides, application methods and target plants per product labels are:

Herbicide* Active Ingredient (Product Name)	USEPA Reg. No.	Application Method (s)	Target Plants per Product Labeling
Endothall (Aquathol K) Contact-type	USEPA Reg. No. 70506- 176	Drop hoses	Eurasian watermilfoil Coontail Curlyleaf pondweed
Triclopyr (Renovate 3 [liquid] or OTF [granular])	USEPA Reg. No. 67690-42	Drop hoses (liquid) or granular spreader (solid)	Eurasian watermilfoil

No adjuvants (i.e., additives to enhance herbicide activity) shall be used. Only products approved for use in California shall be used.

10. Double turbidity curtains shall be used as barriers to block the movement of dissolved herbicides from test treatment areas into receiving waters (supplemented by ongoing monitoring to assure the effectiveness of the barriers within the limits prescribed by regulation) and prevent the movement of the herbicides toward the channel connecting the West Lagoon to Lake Tahoe. Turbidity curtains shall be suspended from floating booms stretched across lagoon channels and anchored to the shore and lagoon bottom. (See Permit Exhibit 1 for locations for required double turbidity curtain barriers). All double turbidity curtains shall be maintained in a condition that ensures their effectiveness is maintained until no longer needed. Damage to double turbidity

curtains by events such as weather, boat traffic, and/or vandalism shall be immediately reported to the TRPA Environmental Compliance Officer.

11. A licensed applicator shall apply proposed herbicides in compliance with product labeling and Lahontan Water Board permit conditions to achieve the proper concentrations, proper methods of application, proper equipment, protective clothing, and proper disposal of product containers after use. Registered labels and Safety Data Sheets (SDS) for each proposed aquatic herbicide can be found in the approved Aquatic Pesticide Application Plan (APAP). As required by California State law, aquatic herbicide applications will be made only by a Qualified Applicator Certificate Holder (QAL) approved by the California Department of Pesticide Regulation (CDPR). Staff directed by the QAL shall have knowledge of the proper selection, use, and calibration of the equipment used during the application of aquatic herbicides. The QAL shall follow all Best Management Practices (BMPs), monitoring, reporting, and contingency measures set forth in the APAP. The APAP provides all of the details for aquatic herbicide applications, including containment, monitoring, and contingency measures, and shall be prepared by the project proponent as part of the project NPDES permit requirements. As a condition of the contract with the QAL, the permittee shall receive written documentation and verification of the QAL's training, including any staff used for the project. In addition, proof of liability insurance coverage is required of all contractors that do work for the permittee. These documents shall be in possession of the permittee before any herbicides are applied and shall be made available to staff of TRPA and the Lahontan Water Board at least 30 days before herbicide tests begin.

Stand-Alone Tests of Ultraviolet Light

12. Treatments with ultraviolet light shall be performed through deployment of boats or towed barge-mounted ultraviolet light arrays, by appropriately trained staff, and with associated safety precautionary protocols. Ultraviolet light application shall utilize targeted ultraviolet-C light.
13. Initial ultraviolet light treatments shall occur spring to early summer with the array approximately two to three feet off the lagoon bottom, to stunt growth when the plants are small. A second treatment shall occur later in the season and, in the case of curlyleaf pondweed, will be used to cause mortality before turions have matured and become viable. A final round of treatments may occur late in the season as needed. The light array shall be kept at least one foot above the bottom sediment and any debris or obstructions to prevent turbidity-causing sediment disturbance.
14. Docks and pilings shall remain in place during ultraviolet light operations, and, in those sites designate for "UV-C only" treatments, the ultraviolet light equipment shall work under and around recreational boats to the extent practicable within each treatment area.

Stand-Alone Tests of Laminar Flow Aeration

15. Laminar flow aeration shall utilize microporous ceramic disks placed throughout the area to be aerated. The disks shall be connected by self-sinking hoses connected to an air compressor. Air is pumped through the system, creating a circulation of oxygenated water from near the water surface to the bottom of the water column and upper layers of bottom sediments. This non-turbulent laminar flow increases water circulation and oxygen levels within the lagoon treatment area, particularly at the bottom of the water column where dissolved oxygen is typically the lowest. The use of additional microbes is not permitted.
16. Three test sites shall be treated with LFA. LFA treatment will involve the temporary installation of five to 10 ceramic air diffusers on the bottom of the channel at each treatment site, together with weighted airlines. The diffusers and airlines will be connected to a land-based electrically powered air compressor, which will be placed in a sound-reducing cabinet.

Combination Test of Ultraviolet Light and Herbicides

17. The combination ultraviolet and herbicide test treatment sites will entail application of a single herbicide (endothall or triclopyr) in the dock-to-shoreline zone of a site, and ultraviolet light treatment within the larger central zone. The combination sites will include triplicate sites (three sites), both for the use of endothall and for the use of or triclopyr.
18. The total approved area proposed to be treated with ultraviolet light within the combination sites is 6.8 acres, where ultraviolet light treatment will cover about two-thirds of the combination sites and herbicides will be applied to the other third of these sites.

Use of Group B Methods

19. Group B methods are anticipated to be implemented following the testing of Group A methods, depending on the target aquatic weeds present, size of infestation, and location of infestation. Where the target plant biovolume reduction does not achieve the 75% reduction goal for Group A methods, that site will be considered a failed test and Group B follow-up maintenance would not be performed. During the Spring of the year following Group A testing at each site, hydroacoustic and macrophyte surveys will be performed to determine the size of the regrowth or remaining infestation. Group B methods would be implemented during the 2 years following Group A tests as necessary.
20. The approved follow-up Group B treatment methods are:
 - Diver-assisted suction/hand pulling
 - Bottom barriers (without hot water, steam, or acetic acid injections)
 - Localized spot treatment with ultraviolet light

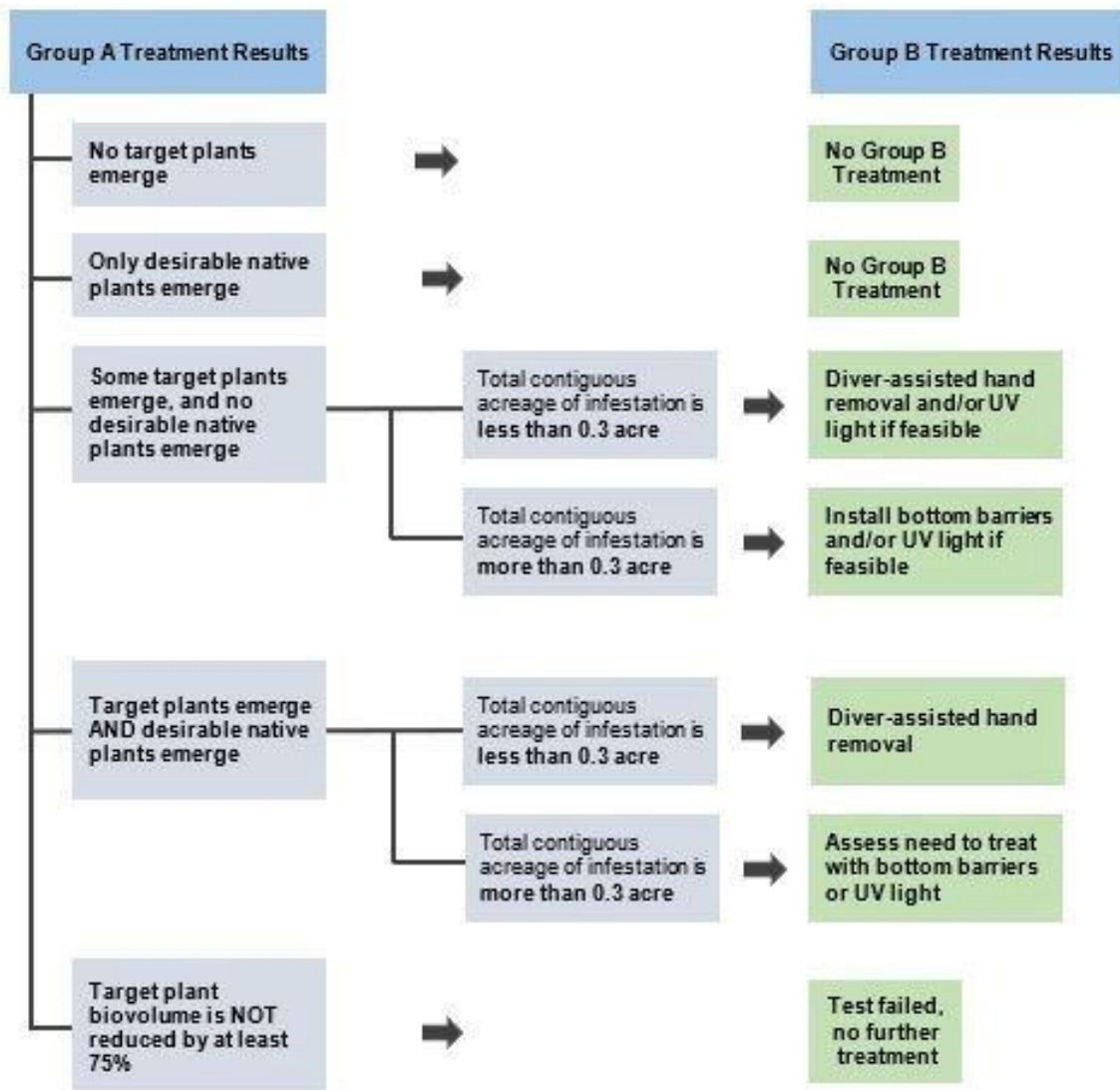
The deployment of the follow-up Group B maintenance actions will depend on:

- the effectiveness of the primary (Group A) treatment (i.e., total biovolume of target aquatic plants remaining to be controlled);
- the extent (size) of infestation, and

- limitations and constraints to the Group B treatment based on lagoon morphology or physical obstructions.

Permit continued on next page

21. The decision tree for selecting Group B (follow-up) treatment methods is:



22. The permittee shall submit annual efficacy monitoring reports for three years from the date of project implementation. Effects of the CMT treatments on plant biovolume, plant species composition, and water quality within the CMT test areas shall be compared with reference (control) sites, consistent with, and as described in the Lahontan Order No. R6T-2022-PROPOSED NPDES and MMRP. Specific efficacy monitoring for the CMT Project will determine if the following CMT goals and objectives are achieved, including the following:
- Reduction of 75% in total invasive and nuisance plant biomass (“biovolume”) within treated sites.
 - Increase in occurrence and percent composition of native plants relative to non-native plants.
 - Reduction of non-native plant and fish habitat, therefore improving habitat for native species.

- Improved water quality in the test sites, such that water quality objectives set forth in Lahontan Waste Discharge Requirements No. R6T-2014-0059 are more frequently met, therefore improving water quality and associated clarity. This includes the following:
 - Reduction in suspended nitrogen, phosphorus, and total dissolved solids in the fall months during normal senescence;
 - Improvement in clarity of the water as measured by turbidity; and
 - Improve water column pH stability in all test areas to achieve pH values between 7.0 and 8.4.
 - Maintenance of the three (3)-foot vessel hull clearance.
 - Improved recreational and aesthetic values.
23. The permittee will submit efficacy monitoring reports by March 1 annually for the length of the Project, not to exceed 3 years. All waste materials generated by Project implementation activities shall be removed from the Project area and deposited only at approved points of disposal. Any refuse accidentally deposited in lake waters shall be immediately removed and disposed of appropriately.
 24. This approval is based on the permittee's representation that all plans and information contained in the subject application are true and correct. Should any information or representation submitted in connection with the project application be incorrect or untrue, TRPA may rescind this permit approval, or take other appropriate action.
 25. Any normal construction activities creating noise in excess to the TRPA noise standards shall be considered exempt from said standards provided all such work is generally conducted between the hours of 7:00 A.M. and 6:30 P.M.
 26. Any change to the Project requires approval (except for TRPA exempt activities) of a TRPA plan revision or permit prior to the changes being made to any element of the Project. Failure to obtain prior approval for modifications may result in monetary penalties.
 27. To the maximum extent allowable by law, the Permittee agrees to indemnify, defend, and hold harmless TRPA, its Governing Board (including individual members), its Planning Commission (including individual members), its agents, and its employees (collectively, TRPA) from and against any and all suits, losses, damages, injuries, liabilities, and claims by any person (a) for any injury (including death) or damage to person or property or (b) to set aside, attack, void, modify, amend, or annul any actions of TRPA related to this permit. The foregoing indemnity obligation applies, without limitation, to any and all suits, losses, damages, injuries, liabilities, and claims by any person from any cause whatsoever arising out of or in connection with either directly or indirectly, and in whole or in part (1) the processing, conditioning, issuance, administrative appeal, or implementation of this permit; (2) any failure to comply with all applicable laws and regulations; or (3) the design, installation, or operation of any improvements, regardless of whether the actions or omissions are alleged to be caused by TRPA or the Permittee.

Included within the Permittee's indemnity obligation set forth herein, the Permittee agrees to pay all reasonable fees of TRPA's attorneys and all other reasonable defense costs and expenses as incurred, including reimbursement of TRPA as necessary for any and all reasonable costs and/or fees incurred by TRPA for actions arising directly or indirectly from issuance or

implementation of this permit. TRPA will have the sole and exclusive control (including the right to be represented by attorneys of TRPA's choosing) over the defense of any claims against TRPA and over their settlement, compromise, or other disposition. Permittee shall also pay all costs, including attorneys' fees, incurred by TRPA to enforce this indemnification agreement. If any judgment is rendered against TRPA in any action subject to this indemnification, the Permittee shall, at its expense, satisfy and discharge the same.

END OF PERMIT