

Kaua'i Seabird Habitat Conservation Program (KSHCP)

Participant Inclusion Plan (PIP)

Name of Applicant/Participant:

**SOF – XI Kauai PV Hotel, LP
(Princeville Resort Kauai)**

PART 1: Landowner & Property Information; Description of the Facilities; Avoidance & Minimization Measures; Monitoring of Take

Item 1. Provide the name of the landowner, business, agency, or institution and complete contact information. If the applicant/participant is different from the landowner, please attach power of attorney (or other documentation) allowing the party to act on the landowner's behalf.

Participant/Applicant Name: The Princeville Resort Kauai

Physical Address/Location of Facility: The Princeville Resort Kauai
5520 Ka Haku Road
Princeville, Hawaii 96722

Mailing Address: Same as above

Primary Contact: Robert Geimer
Ownership Name: SOF – XI Kauai PV Hotel, LP

Address: 591 West Putnam Ave.
Greenwich, CT 06830
Telephone: (305) 436-4690
Email: geimerb@starwood.com

Alternate Contact: Thomas Meding
General Manager

Address: The Princeville Resort Kauai
5520 Ka Haku Road
Princeville, Hawaii 96722
Telephone: (310) 403-9297
Email: t.meding@shhotelsandresorts.com

Item 2. Provide the legal description of the property at which the existing facilities and Covered Activities are located, including Tax Map Key (TMK) number. Provide a survey of the property and site plan drawings showing the locations of the Covered Activities (lights), property boundaries, buildings & structures, and site features. If properties containing the Covered Activities comprise separate parcels please include all Tax Map Key numbers and maps.

The Princeville Resort Kauai is located at a physical street address of 5520 Ka Haku Road, Princeville, Hawai'i. 96722. The resort encompasses approximately 23.23 acres of land identified as TMK(s): (4) 5-4-004-029, (4) 5-4-004-035 and (4) 5-4-011-004. Copies of these TMKs maps are included in Appendix A.

Item 3. Describe the existing Covered Activities for which incidental take authorization is sought. Include list of buildings, type and description of lights present, purpose and location of lights and current seabird lighting accommodation in place (e.g. shielding, downward pointing, switched off during fledging season etc). . For "Types of lights" please use the following categories:

- **Parking Lights**
- **Signage Illumination**
- **Wall-pack Building Lights**
- **Landscaping/Grounds/Accent/Bollards**
- **Indoor lights visible from outdoors**
- **Roof Floodlights**
- **Other Lights**

Facility lighting plan may be submitted as lighting inventory. Photos may be attached. The suggested light table, and Green Sea Turtle assessment table below may each be modified as needed to provide the necessary information.

The owner of the Princeville Resort Kauai is seeking coverage for operation of artificial lighting in connection with all activities associated with running a resort in Princeville. These activities include, but are not limited to the following: general operation of the hotel, parking lot, grounds, swimming pool and outdoor restaurants, bars and outdoor banquet activities, as well as all physical plant maintenance and landscape maintenance activities. The resort has a full complement of lights that one would expect at a resort of this size and location on the island of Kaua'i. The Hotel covers approximately 115,000 square feet of the site, and paved areas such as the parking lot, walkways, driveway and the pool deck cover an additional 151,400 square feet of the property.

Table 1: Outdoor Lighting

Outdoor Lighting at the Princeville Resort Kauai						
Location	Light Type	Wattage	Bulb Color	Quantity	Purpose	Full cut-off/shielded
Parking lot	Parking Pole Light/Mercury lamp	150 w	Warm White	26	Illuminate parking lot and pedestrian walkway	Full cutoff / shielded
Guard Shack - Entrance and Exit to the Resort	Shielded Flood Light/Florescent	11 w	Warm White	2	Entrance safety	Shielded
Guest walkway between Porte Cohere and Parking lot	Mushroom walkway Lights/Incandescent	20 w	Warm White	23	Illuminate pedestrian walkway	Full cutoff / shielded
Entry Drive and Walkway	Landscaping & grounds lights/Halogen	50 w	Cool white	36	Landscape illumination; accent lighting	Full cutoff / shielded
Coconut Trees around Porte Cohere water feature	Landscaping & grounds accent up lights/Halogen	20 w	Cool white	16	Landscape illumination; accent lighting	Shielded
Water Feature	Water Feature lights/Incandescent	100 w	Warm White	26	Accent lighting in water feature	No
Cooling Tower and Flower Shop	Shielded Flood Light/Florescent	11 w	Warm White	2	Staff safety	Shielded
Various locations around the Pool	Tiki Torches	N/A	Open Flame	18	Accent lighting and illumination for pedestrian walkway	N/A
Various locations around the Pool	Surface Mounted/Florescent	45 w	Cool white	2	Staff safety	No
Pool Restaurant and Pool Activity Desk	Chandelier/CFL	40 w	Cool white	22	Accent lighting and guest safety	Full cutoff / shielded
Pool Restaurant and Pool Activity Desk	Architectural Accent Lighting/Halogen	50 w	Cool white	82	Accent lighting and guest safety	Full cutoff / shielded
Pool walkway	Landscaping & grounds lighting/Halogen	50 w	Cool white	15	Landscape illumination; accent lighting and walkway illumination	Full cutoff / shielded
Pool Walkway	Incandescent	40 w	Warm White	9	Pedestrian walkway illumination	Shielded

The above description of outdoor lighting was current as of 2016. Modifications to lighting have been made since that time on an annual basis. The Resort has minimized lighting to the maximum extent practicable.

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Table 2: Green Sea Turtle Assessment for the Site & Facility

Please provide the information requested below to help determine if measures to avoid impacts to the Green Sea Turtle(s) from the effects of light attraction are required to be implemented at any of the facility(s), parcel(s), or site(s) included in this PIP. Please consult with staff from the DLNR and the USFWS to arrange a site visit, if needed, discuss measures to avoid impacts to the Green Sea Turtle, and provide further guidance.

Are any of the facilities located adjacent to a beach?	<u>YES</u> / No	<p>If yes, provide length of beach frontage & brief description of facilities & lights adjacent to the beach</p> <p>Pu'u Pōā Beach is approximately 200 feet long and is located fronting the swimming pool. Facilities adjacent to the beach include the pool, pool restaurant, pool activity desk and pool walkway.</p>
Are any of the Covered Activities (lights) visible from a beach?	<u>YES</u> / No	<p>If yes, describe the specific lights (type, , height, purpose) & specific location; provide map & photos showing distance from beach</p> <p>See Table 1 above</p>
Have green sea turtles been known to nest on any beaches adjacent to the facilities?	Yes / <u>NO</u>	If yes, provide information about nesting occurrences, if known, including location and date and any other information

Item 4. If applicable, describe any lighting standards (e.g., foot candles/area) required for facility operations or other requirements that necessitate the use of lighting (e.g., required for security, safety, operations). Describe the relevant standard, or regulation, and the areas and Covered Activities at the site (e.g., type of lighting) to which it applies.

There are no specific lighting standards, rules, restrictions or requirements that the Resort must comply with, beyond assuring that lighting is adequate to ensure guest and employee safety and security, and standards in the building code (IECC). Pre-seabird season lighting audits are conducted by a seabird biologist and necessary tweaks to the lighting are completed prior to the start of the seabird season each year – the program is now in its 10th year.

Item 5. Describe any plans/proposals for future facilities or expansion of existing facilities. Include any proposed structures and lighting by type, purpose, and location. Plans (architecture and site plans), photos, and drawings can be attached.

The owner of the Princeville Resort Kauai currently plans a renovation to refresh the property, with a reopening to follow in the first quarter of 2022. This reopening date is subject to change. A project description, approved by the Kauai County Planning Commission on October 30, 2019, is included as Appendix K. Princeville Resort Kauai continues to work with its seabird biologist on appropriate lighting minimization measures for the renovations to ensure that they are dark sky compliant, utilize full cut-off fixtures, shielded fixtures, lights angled downwards, and/or lighting shifts during seabird season as required by Appendix E of the KSHCP. Once complete, the lighting for the renovation will be described in reporting to the agencies as required by 6.6.1.3. of the KSHCP (“Other Relevant Reporting”) under the category “new facilities and facility light changes.” For the period of construction, Princeville Resort Kauai is also working with its seabird biologist who will train construction workers to minimize lighting and search for downed birds.

Item 6. Pursuant to the Endangered Species Act (ESA), Section 10 (a)(2)(A)(iii), describe alternatives to avoid the taking considered and evaluated. Provide reasons why those alternatives are not being utilized. Alternatives can include operational or facility design changes (attach pages as needed). The tables below may be altered as needed.

Activities that the Princeville Resort Kauai has direct control over that may result in covered species landing on the property are restricted to those associated with lighting. Other programs that the Resort implements that result in benefits to seabirds include, increased staff training, guest outreach, and monitoring and rapid recovery of downed seabirds. The resort has addressed all of these issues to the maximum extent practicable. Measures and protocols implemented are detailed in the following sections of the application.

In the following table light attraction avoidance and minimization alternatives that were analyzed are presented.

Table 3: Light Attraction Alternatives to the Taking

Artificial Light Attraction Alternatives to the Taking Considered	Reasons Alternatives are not Being Utilized (provide justification)
<ul style="list-style-type: none"> ▪ Deactivate <u>all</u> outdoor artificial lights from dusk to dawn during the fledgling fall-out season September 15 to December 15 	<p>Guest and staff safety and security precludes this option.</p>
<ul style="list-style-type: none"> ▪ Change operations to eliminate the need for outdoor artificial lighting (e.g., from nighttime to daylight hours) 	<p>Guest and staff safety and security precludes this option. To do this the hotel would need to be closed at night, not a viable business option.</p>
<ul style="list-style-type: none"> ▪ Shield all lights from visibility from the beach, or screen all Green Sea Turtle nests, from May 15 to December 15 to avoid impacting the green sea turtle (Green Sea Turtle) 	<p>Guest and staff safety and security precludes this option at it would entail closing the hotel during those months which is not a viable business option.</p>
<ul style="list-style-type: none"> ▪ Other alternatives to the taking considered, if any. If facility is proposed, include alternative designs considered 	<p>The resort has replaced a very large number of lights on and in the resort to reduce the amount of stray light being produced. Window blinds have been placed in all hallways and rooms in the resort reducing the visible interior lighting. Bulbs have been reduced in lumens over the past 10 years. All upward pointing lights have been removed or are turned off during seabird fledging season. See Seabird Lighting Minimization Procedures on Page 1-14.</p>

Item 7. Describe all site-specific seabird minimization measures considered for the Covered Activities. This item should follow KSHCP minimization objectives and measures as specified in *Appendix E (Guidelines for Adjusting Lighting at Facilities)* of the KSHCP document. Please consult with staff from the DOFAW and the USFWS as needed. The suggested tables below can be altered as needed.

Minimization measures modify the Covered Activities to reduce the effects of the activity on the Covered Species. KSHCP Participants will be required to implement minimization measures that apply to the facility to the “maximum extent practicable” per applicable state and federal laws which regulate incidental take license/permit issuance by the DLNR and the USFWS.

Minimization also entails searching and recovering grounded seabirds to minimize the chance of mortality. In addition, the presence of on-site predators (i.e. feral cats, dogs) should be controlled and removed because these animals can prey on grounded seabirds.

Provide justification, such as policies, regulations, or other rationale for measures that will not be implemented.

Table 4: Seabird Light Attraction Minimization Measures Considered

Minimization Measures Considered	Feasible? (Y / N)	If not Feasible to Implement Measures, Provide Reason
▪ Change time of light use (lights off earlier)	<u>YES</u> / No	
▪ Deactivate unnecessary lights	<u>YES</u> / No	
▪ Replace all outdoor lights with full cut-off fixtures	<u>YES</u> / No	
▪ Shield all outdoor lights with full cut-off shields	<u>YES</u> / No	
▪ Angle all lights downward	<u>YES</u> / No	
▪ Lower intensity (lumens) of outdoor lights	<u>YES</u> / No	
▪ Change bulb color to non-white spectrum	<u>YES</u> / No	
▪ Prohibit/control unleashed predatory animals; prohibit outdoor feeding of animals; require sealed rubbish containers	<u>YES</u> / No	
▪ Provide Worker Seabird Awareness Training to staff	<u>YES</u> / No	See previous section and Appendix C
▪ Provide outreach materials to staff & guests	<u>YES</u> / No	See previous section and Appendices F, G H, I, and J.
▪ Host Save Our Shearwaters (SOS) Aid Station	<u>YES</u> / No	

Item 8. Minimization Plans. Provide a plan to minimize the effects to the Covered Seabirds due to the Covered Activities. KSHCP Participants will be required to minimize the effects of the Covered Activities to the “maximum extent practicable” per applicable state and federal laws which regulate take license/permit issuance. The KSHCP document provides minimization objectives and measures to follow.

The Minimization Plans should include the proposed minimization measures, timeline, and estimated cost for each facility. In this item, the Participant can include measures already completed or in place (new lights, shields, operational changes). Timeline should include estimated completion schedule, and annual schedule for minimization that will occur only during fledging season.

Minimization measures not yet determined but anticipated to occur at the facility; this section should include an estimated cost that will be earmarked for future minimization measures.

If applicable, the participant must provide the reasoning why certain measures will not be implemented. The suggested table below may each be altered to best describe the Minimization Plan. Attach additional pages, photos, and drawings as needed.

Pre-Renovation 8A

The Princeville Resort Kauai is providing two Item 8 write ups due to the rather unusual situation that it applicant found itself in when it was decided in 2008 that the owners of the property were going to remodel the Resort. The following section details the Avoidance and Minimization Plan implemented by the Resort in 2007. The following Section 8B details the Avoidance and Minimization Plan that the Resort implemented in 2008-2009 and has followed for the past ten years.

In 2007 the Resort undertook the following minimization measures to reduce the potential that its lights would result in attracting the covered species onto the property. The lighting modifications presented below are grouped into seven separate locations; these locations are illustrated in the Resort schematic provided in Appendix B.

The 40-watt bulbs in the main lobby chandelier were replaced with 15-watt bulbs. The Living Room and Café Hanalei chandeliers were dimmed to approximately 50% of the intensity that they are traditionally set at. In the Living Room Lanai, two floodlights were fitted with red filters and directed downwards to reflect into the stairwell, rather than the garden.

The three spotlights illuminating the flagpole at the front of the hotel were turned off, for the duration of the seabird season. All of the palm tree accent floodlights along Royal Palm Drive were redirected so as to shine on the ground rather than up at the palm fronds. During the seabird season, half of the parking lot lights were disabled guests are not allowed to park their own cars, all cars are parked by the resorts valet staff.

The large chandelier and the fluorescent trough lighting located in the third floor elevator shaft and hallway were disabled during the seabird season.

The floodlights located on the 3rd floor roof were disabled and new solar powered low wattage landscape lighting was installed to illuminate the walkways formerly illuminated by the 3rd floor roof floodlights.

The landscape accent lighting that illuminates the palm trees in the front of the hotel were redirected at the ground. Light shields were installed on the guardhouse, and the lights were redirected downwards to illuminate the road and entrance rather than the structure. Light shields were installed on the lights that illuminate the entrance sign to the property.

The foregoing avoidance and minimization measures were implemented, and costs associated with implementing these measures have already been incurred.

Light Attraction Avoidance and Minimization Plan

Facility Lights / Description of Action

- Guard shack lights were shielded with in house constructed shields and fixtures redirected downward
- Light shields were installed on the lights illuminating the entrance sign to the property
- Up---pointing landscape accent lighting on the palm trees in front of the fountain were redirected downward
- The three floodlights illuminating the flagpole in front of the Porte cochere were turned off for the duration of the seabird season
- All of the up---pointing accent lighting on the palms along Royal Palm Drive were redirected to shine downward. During the seabird season, the parking lot lights were disabled and guests were escorted to the hotel by valets using flashlights
- The 40---watt bulbs in the main lobby chandelier were replaced with 15---watt bulbs
- The lights within the Café Hanalei and the Living Room were dimmed to approximately 50% of their intensity
- The 2 spotlights on the Living Room Lanai were fitted with Red filters and redirected downwards
- The large chandelier and fluorescent soffit lighting located on the third floor elevator shaft and corridor were disabled during Seabird season
- The three floodlights located on the 3rd floor roof were removed and new solar powered low---wattage landscape lighting was installed to illuminate the walkways formerly lit by the 3 floodlights

Post -Renovation 8b

In 2008 and early 2009 the Princeville Resort Kauai underwent a major resort-wide renovation. This planned upgrade of the property allowed the then-St. Regis to make permanent modifications to its lighting fixtures. Planners and electrical engineers met with the St. Regis' consulting biologist to explore measures that could be taken to reduce extraneous light to the maximum extent practicable as part of the resort renovation. The following changes were made to the lighting at the Resort as part of the Resort renovation.

Where practical, electrical lighting circuits were put on separate circuits so as to make it easier to turn off selected lights during the seabird's season if needed – formerly light bulbs had to be physically removed from some fixtures to turn them off.

The main lobby chandelier was replaced with a much lower intensity fixture, and the glass skylight above the chandelier was covered, preventing light from shining up through the roof. The two exterior floodlights were removed. The chandeliers in the Makana Terrace (formerly the Café Hanalei) were removed and replaced with a trellis, and lit with ribbon accent lighting, which does not put off much light. This new fixture was also lowered preventing it from being seen from outside the hotel. Polarized window shades in the Bar of the Princeville Resort Kauai (formerly the Living Room) are lowered during evening hours during the seabird season to darken the windows that face Hanalei Bay. Lighting within the Makana Terrace consists of low wattage can lighting that is directed at the floor and is under roof.

All of the palm tree and landscape accent floodlights along Royal Palm Drive were removed and replaced with downward facing heavily shielded low wattage LED lights, which cast a small circle of light on the ground and vegetation but are completely shielded. The lights in the parking lot are shielded and downward facing, and if necessary will be turned off during the seabird season.

The large chandelier located in the third floor elevator shaft and hallway is no longer operational.

The landscape accent lighting that illuminates the palm trees in the front of the hotel were changed out to small canister low wattage LED lights that are totally shielded and are aimed at the ground.

Additional Locations – The lighting in the new pool has been placed on a separate circuit and can now be selectively turned off during the seabird season. Bollard lighting with deflection shields (Turtle lights) have replaced floodlights and accent lighting along the walkways on the ocean side of the hotel. A new restaurant / bar, the Nalu Kai has been constructed adjacent to the pool, lighting within the new bar is contained with under-

roof soffits or downwards facing light fixtures, all lights at this location are under roof. The bollard lighting that ran up slope from the Porte Cochere to the Fort Alexander interpretive kiosk has been removed. Additionally, several outside floodlights and work lights that were located in and around the cooling tower and loading dock have been disabled or removed.

The foregoing A&M measures have already been implemented, and costs associated with implementing these measures have already been incurred.

During the seabird fledging season, the Resort implements additional light minimization measures detailed in: Shearwater Lighting Minimization Measures, attached as Appendix F. The 29 measures detailed in that set of procedures requires that the engineering and other responsible parties identified sign off that the procedures have been implemented.

The Princeville Resort Kauai biologist accompanies the head of loss prevention and the engineering departments to conduct a lighting audit of the entire property prior to the onset of the seabird fallout season annually. The resort biologist follows up with the resort to ensure that any lighting minimization modifications that the biologist identified have been implemented. The resort biologist also checks the hotel several times during the season without notifying the Resort to ensure that all measures are in place. At this juncture after more than 10 years of implementing the seabird season specific lighting minimization measures we have found that it takes less than half a day each year to correct any lighting minimization measures that may need to be modified. The biologist monitors the fallout season in real time and returns to the Resort if anything shows up in the data that suggests that there may be a problem with the lighting minimization measures.

During the season the head of loss prevention, and the engineering department manager do regular checks of the lighting minimization measures to ensure that they are still in operation. All of the lighting is now computerized, so maintaining and reduced lighting that may be implemented is very simple and is controlled from one location.

Table 5: Lighting Minimization Measures

List of Buildings	Minimization Measures	Cost to Implement	Responsible Staff	Timeline

See narrative above.

Table 6: Seabird Mortality Minimization Plan

Minimization Measures	Describe minimization method (e.g. trapping, outreach, enact policy)	Cost to Implement	Responsible Staff
Remove & control loose predatory animals at the facility. (Loose animals can kill grounded seabirds and this measure aims to prevent seabird mortality by animals.)	The resort employs commercial pest control services, additionally they deploy cat traps as soon as a cat is spotted on property (very rarely). The resort will meet the biological goals and objectives in KSHCP Table 5-1 to “Minimize mortality of Covered Seabirds downed due to light attraction by implementing actions to reduce presence of free-roaming seabird predators such as cats and dogs at Participant facilities.” It will also satisfy the requirement in Section 5.3.2 of the KSHCP that “All measures to reduce presence of predators must be implemented within Year 1 of an ITP/ITL.”	N/A	
Prohibit outdoor feeding of predatory animals. (feeding animals attracts them to the site and this measure aims to reduce the presence of animals that can cause seabird mortality.)	Staff is trained that this is not allowed, and security monitors compliance	N/A	

Conduct nightly/morning searches to recover downed birds at the property & turn them into SOS following protocols (see monitoring plan below).	See Item 9 below.	N/A	
Train staff to follow minimization measures.	See Item 9 below, and Appendix C.	N/A	

Item 9. Take Monitoring Plan. Provide a plan to monitor take of the Covered Seabirds at the facilities proposed to be covered by the incidental take permit/license. The take monitoring plan describes how the property will be searched for downed Covered Seabirds. The KSHCP document provides standards and guidelines for take monitoring to ensure that take of the species is accurately measured and recorded.

The regulatory agencies will make the final determination as to the adequacy of the take monitoring plan.

Loss prevention personnel search the entire Resort multiple times a day, 365 days of the year. The entire staff is retrained prior to the seabird season every year. As part of their job responsibilities, they are required to search their duty stations every day that they are on the property. Since there are approximately 400 employees, the coverage of the property is complete. If a bird is found, employees are required to call loss prevention and stay with the bird until they arrive to record, handle and deliver the bird to the SOS station and prepare all of the needed reporting.

Table 7: Covered Seabird Take Monitoring Protocols

Please provide the following information for the protocol items below		
Item	Protocol (fill in protocol & provide reasons)	KSHCP Guideline
Percentage of the total property that will be searched & the total area to be searched	The entire built upon portion of the property is searched multiple times a day, as all associates are required to search their duty stations and Security staff search the rest of the property.	Search as much area as possible
Frequency of searches (# per day or per week)	During the Seabird season, security staff inspects the grounds of the hotel at least twice a day and staff members are required to actively look for birds that have landed on the property in the areas that they work during their entire eight hour shifts	Twice daily
Time of day of searches	See above	2-3 hours after sunset, and within 3 hours after sunrise
Number of searchers per search area	The entire staff, amounting to some 400 employees	Depends on site conditions and safety considerations and vegetation, nearby hazards/threats
Proposed training	See Item 7 above, Item 9 below, and Appendix C.	Annual training covering seabird identification, seabird handling, response procedures, verified and documented

Item 10. Components of the Green Sea Turtle Minimization and Monitoring Plan (if required). Monitoring and minimization for the Green Sea Turtle is in two parts: A) Monitoring to detect nests and B) Monitoring and minimizing impacts to nests detected.

Part A: Monitoring to detect Green Sea Turtle Nests

Please provide the following information; the table below may be used and altered as needed.

- 1) Detailed location and description of beaches, including linear distance, at which searching for nests of the green sea turtle will take place. Searches should take place at any beach from which light at the facility can be viewed;
- 2) Monitoring protocols indicating:
 - a) Annual training of searchers;
 - b) Frequency of searches;
 - c) Conduct active searching (searching the beach width);
 - d) Sufficient number of trained searchers to cover the area; and
 - e) Record results of search monitoring.
- 3) All Participants are required to record the results of search efforts. Records should provide:
 - a) Evidence (what was seen). Include description and provide photographs
 - b) Location on the beach (GPS) and physically mark the location if possible
 - c) Date and time of day
 - d) Description of surrounding land use (e.g., vacant, or developed), and
 - e) Proximity to the facility.

Part B: Monitoring of Identified Green Sea Turtle Nests

Each identified nest of the green sea turtle should be monitored and protected from light attraction. Please provide the following monitoring protocols; the tables below may be used and altered as needed.

1. Light avoidance measure for identified nests (either shield/deactivate lights at the facility or install and maintain a light shield around each identified nest);
2. Frequency of searches;
3. Number of searches monitoring the nests. The number of needed to monitor active nests will depend on number of nests identified and amount of beach needed to be covered;
4. Record the results of nest monitoring. Monitoring should provide:
 - a. Evidence of hatchling emergence (description and photos);
 - b. Date and time of emergence,
 - c. Direction of tracks
 - d. Condition of the nest area (e.g., disturbed or not).

Table 8: Green Sea Turtle Monitoring Protocols – Part A: Monitoring to Detect Nests

Please provide search protocols for detecting nests of the green sea turtle (Attach pages as needed)		
Item	Protocol (fill in protocol & provide reasons)	KSHCP Guideline
Location & description of the beach, or beaches, surveyed and the linear distance of the beach.	Pu'u Pōā Beach is approximately 200 feet long and is located directly in front of the pool. Groundskeepers rake the beach every morning shortly after daylight.	Beach area surveyed should coincide with visibility from the facility with the lights.
Frequency of searches (# per day or per week)	Groundskeepers rake the beach every morning shortly after daylight 365 days of the year. Life guards and pool attendants are in the area 365 days of the year as well and are trained to see sea turtles	Weekly during nesting season (typ. May 15 to end of August)
Number of searchers per search area	Groundskeepers rake the beach every morning shortly after daylight 365 days of the year. Life guards and pool attendants are in the area 365 days of the year as well and are trained to see sea turtles	Depends on site conditions and safety considerations
Proposed training	N/A	Searchers should receive annual training conducted by the DLNR or the USFWS, or their designee. See item 9a.

Table 9: Green Sea Turtle Monitoring Protocols – Part B: Monitoring of Identified Nests & Minimization

Please provide search protocols to monitor identified nests (from Part A) of the green sea turtle (Attach pages as needed)		
Item	Protocol (fill in protocol & provide reasons)	KSHCP Guideline
Frequency of checks (# per day or per week)	N/A there has never been a nest recorded on Pu'u Pōā beach since the hotel has been in operation. Should a nest be discovered the Resort would immediately contact USFWS and follow their standard Hawaii protocols for protecting the nest.	Active nests should be monitored every 1-2 days; then daily during expected hatching date
Light avoidance	N/A	If lights cannot be deactivated or shielded from the nest, each nest should be screened from visible light.
Number of searchers per search area	N/A	Depends on site conditions and safety considerations

Item 11. Describe the schedule that will be followed to provide training for staff. Training must be provided to those that will conduct and oversee the searches at the facility.

The training should include:

- 1. Summary of regulations protecting the Covered Species;**
- 2. Search procedures, route, frequency and timing specific to the facility's monitoring plan, for seabirds and green sea turtle nests (if applicable);**
- 3. Response procedures including safe and proper techniques for handling seabirds;**
- 4. Recognizing evidence of green sea turtle nests, proper nest light screening, and hatchling activity (if green sea turtle minimization and monitoring plan is applicable);**
- 5. Procedures to document the results of searches;**
- 6. Downed wildlife agency contacts; and**
- 7. Nearest SOS aid station.**

Rescuing Downed Seabirds—Standard Operating Procedures (SOP)

The following steps provide the procedure for recovering downed seabirds found:

- 1. Take the seabird recovery kit and pet carrier to the downed seabird.**
- 2. Put on gloves.**
- 3. Using towel to gently cover the bird, pick up the seabird.**
- 4. Place the seabird in the pet carrier, and close the pet carrier.**
- 5. Put the gloves and towel back in the seabird rescue kit.**
- 6. Take the bird and pet carrier to an SOS Aid Station.**
- 7. Transfer the bird to the Aid Station's pet carrier.**
- 8. Call SOS at 632-0610 or 635-5117.**
- 9. Return the seabird rescue kit and pet carrier.**
- 10. Complete the Bird Take Field Report.**
- 11. Give the completed "Bird Take Field Report" to the General Manager, or other responsible staff person at the facility.**

Contents of Seabird Recovery Kit

- 1. Latex or nitrile gloves;**
- 2. Three towels;**
- 3. Hand sanitizer;**
- 4. Flashlight or headlamp;**
- 5. Clipboard, pen and blank "Bird Take Field Reports", or similar; and**
- 6. Pet carrier –medium sized. If a box is used it must be well ventilated and marked conspicuously "LIVE ANIMAL".**

The entire staff of the resort is retrained every year, and training is usually conducted in early August. The specific dates for the training are based on the hotel occupancy and other personnel issues, but training always happens prior to the seabird season starting in September.

See Table 7 and Section 9 above and Appendix C.

Item 12. Describe any outreach conducted (e.g., handing out pamphlets on seabird awareness to facility employees or guests,):

During the seabird season an article is printed in the weekly guest newsletter about the shearwater season, this newsletter is placed in every guest room. A copy of a typical seabird season guest newsletter is attached as Appendix G. Additionally, a printed brochure entitled “The Princeville Resort Kauai Seabird Conservation Program” is handed out to each hotel guest during the seabird season at check-in that encourages them to close their louvered window panels at night to shield light sources that may attract fledgling shearwaters and that also provides information on the birds, the SOS program and the Princeville Resort Kauai’s commitment to the conservation of native island resources. A copy of the current brochure is attached as Appendix G. Additionally, in guest rooms, staff close the wooden window louvers each evening during turndown service, and shearwater awareness signage has been placed in all guest rooms that requests that guests keep their window louvers closed during nighttime hours during the seabird season. A copy of this display is attached as Appendix H. Printed cards are placed in the Prince Junior Suites requesting that guests turn off the bathroom lights when not in use during the seabird season. A copy of these signs is attached as Appendix I.

The Princeville Resort Kauai commissioned artist Patrick Ching to produce a children’s coloring book that tells the story of a Newell’s Shearwater that has been downed, told through the eyes of other native species including a Hawaiian Monk Seal, Laysan Albatross, crabs etc. The coloring book is used as part of the resort’s “Young Voyagers Club,” its in-house children’s program that is directed at children between the ages of 5 and 12. A copy of the cover and two typical inside pages of the coloring book is attached as Appendix J.

A seabird awareness-training program is conducted for all employees once a year. It is an employment requirement that all employees undergo the training program. There are two modules to the training program, one is given to every employee and the second “Downed Seabird Advanced Training” is given to the security staff and to the managers. The training module is revised each year prior to the start of the seabird season incorporating any needed changes to the program identified during the previous season’s activities. A seabird specialist initially conducted all of the seabird awareness training, for the first four years. During that period the biologist trained the HR and Security

department to conduct the training on an annual basis. Copies of the 2017 version of the PowerPoint slides used in this training program are provided in Appendix C.

Synopsis of the Princeville Resort Kauai Seabird Awareness Training:

- Agency and Seabird Program Contacts
- Slides illustrating both threatened and endangered seabird species as well as the more commonly occurring species protected under the federal MBTA.
- Regulatory framework, both federal and state
- Definitions of “take”
- Penalties for non-compliance
- Seabird season lighting rules and protocols
- Seabird handling procedures and protocols

Synopsis of the Advanced Seabird Awareness Training:

- Downed seabird response protocols
- Downed seabird security report
- Seabird reporting loop
- Seabird identification
- This module also has a workshop in which the following topics are discussed
- Cameras, camera settings, image numbering
- How to take photos of the birds
- Data recording and reporting

PART 2. Take Estimate, Requested Amount of Take Authorization, and Funding

Item 1. Show the calculation of estimated take for each of the Covered Species.

Following the take estimation methods in the KSHCP for estimating a Participant's take, the tables and charts below show the take estimate calculation for the facility for each of the Covered Seabirds.

The KSHCP take estimate method utilizes the average of the most recent 5 years of SOS recovery data for the facility. Applied to the data is an adjustment for downed birds not found, assumed at 50 percent.

If the landowner-applicant submits a take estimate with an alternate discovery rate, they must provide the reasons why an alternate rate was used to estimate take, including relevant information supporting their reasoning.

We have used the numbers generated by the SOS program, and verified through our own database to determine take. We have generated a lot of empirical data over the more than 10 years that the seabird program has been operating. We have detailed information on the locations of every bird that has been recovered on the property over the past 10 plus years and feel confident that we understand the areas that birds are most likely to fallout on the property. We commissioned a large-scale map of the property and then calculated the amount of the property that is impossible to search due to cliff faces and/or very dense hau bushes, these areas are located predominantly along the northeast facing cliffs. From those calculations we determined that we could not effectively search slightly less than 10% of the property. With that said any bird that came down close to the edge of the cliff or on the cliff face would have no problem getting airborne again.

The entire property with the exception of the cliff faces are searched multiple times a day. We have been training our staff of over 600 employees every year for more than 10 years prior to the start of the fallout season. That training includes general awareness of the fallout issue, search procedures, response, recovery and reporting procedures. In addition, the staff has been searching the grounds each day for more than 20 years for dead chickens, and other wildlife which are promptly removed. Additionally, we provide guest information both at check-in and in their rooms on seabird awareness and reporting protocols if they encounter a downed seabird every fallout season. There is virtually no circumstance under which a fallout bird would escape detection by staff or guests in short order.

The combination of staff training, a mature seabird season set of protocols, active predator control and the nature of this high-end property results in very high searcher efficiency. Technical consultation with USFWS from 2016 through 2018, including a site visit to the

property, resulted in a determination by USFWS that a 90% searcher efficacy rate is appropriate for this PIP.

DRAFT

Table 10: Annual Lethal Take Estimate Calculationⁱ

		Newell's Shearwater	Hawaiian Petrel	Band-rumped Storm-Petrel
1.	Avg. from SOS data—or—monitoring data (5 most recent yrs. = 2012-2016)	18	—	—
2.	Avg. from SOS data—or—monitoring data (15 most recent yrs. =2002-2016)	—	0.33	0
3.	Avg. lethal take estimate = 12% of SOS birds not released	2.16	0.04	0
4.	Adjustment for unobserved take (10% not searchable vs 50% typical)	2	0.04	0
5.	Total annual lethal take from light attraction	4	0.08	0
6.	Requested Annual Take	4	0.2 (1 every five years)	0.033 (1 for 30 year permit)
7.	Requested Take Over Permit Term	125	6	1

ⁱ Title of table revised per email from Kate Cullison on 4/10/20.

Item 2. Select the requested take authorization and permit/license term coverage for each of the Covered Species.

Table 11: Newell's Shearwater:

Age Class	Annual Take Estimate: Fledglings	Annual Take Estimate: Adults or sub-adults	Take Limit for License/Permit Term
Mortality (Lethal)	4 ⁱ	0	125 ⁱⁱ
Injury (Non-lethal)	15.84 ⁱⁱⁱ	0	475.2 ^{iv}

ⁱ This number is repeated from Line 5 of Table 10, above, and should not be added to the number in Table 10.

ⁱⁱ This number is NCL's requested take limit, repeated from Line 7 of Table 10, above, and should not be added to the number in Table 10.

ⁱⁱⁱ This number of nonlethal take is derived by using the formula in KSHCP Section 6.2.2.1. As set forth in Section 6.2.2.1, "Lethal Take = 100% undiscovered birds + 12% of birds that are discovered and turned into SOS." It follows, then, that nonlethal take is 88% of birds that are discovered and turned into SOS, or 88% of Line 1 of Table 10.

^{iv} This number is derived by multiplying 15.84 by 30 years.

Table 12: Hawaiian Petrel:

Age Class	Annual Take Estimate: Fledglings	Annual Take Estimate: Adults or sub-adults	Take Limit for License/Permit Term
Mortality (Lethal)	0.07 ⁱ		6 ⁱⁱ
Injury (Non-lethal)	0.3 (1 every five years) ⁱⁱⁱ	0	6 ^{iv}

ⁱ This number is repeated from Line 5 of Table 10, above, and should not be added to the number in Table 10. It is different than Princeville Resort Kauai's requested annual take for Hawaiian Petrels in Table 10, above, which is 0.2 (1 every five years).

ⁱⁱ This number is Princeville Resort Kauai's requested take limit, repeated from the last line of Table 10, above, and should not be added to the number in Table 10.

ⁱⁱⁱ This number of nonlethal take is derived by using the formula in KSHCP Section 6.2.2.1. As set forth in Section 6.2.2.1, "Lethal Take = 100% undiscovered birds + 12% of birds that are discovered and turned into SOS." It follows, then, that nonlethal take is 88% of birds that are discovered and turned into SOS, or 88% of Line 1 of Table 10.

^{iv} This is Princeville Resort Kauai's requested coverage for nonlethal take.

Table 13: Band-rumped Storm-Petrel:

Age Class	Annual Take Estimate: Fledglings	Annual Take Estimate: Adults or sub-adults	Take Limit for License/Permit Term
Mortality (Lethal)	0 ⁱ		1 ⁱⁱ
Injury (Non-lethal)	0 ⁱⁱⁱ		1 ⁱⁱⁱ

ⁱ This number is repeated from Line 5 of Table 10, above, and should not be added to the number in Table 10. It is different than Princeville Resort Kauai's requested annual take for Band-rumped Storm Petrels in Table 10, above, which is 0.033 (1 for 30 year permit).

ⁱⁱ This number is Princeville Resort Kauai's requested take limit, repeated from the last line of Table 10, above, and should not be added to the number in Table 10.

ⁱⁱⁱ This is Princeville Resort Kauai's requested coverage for nonlethal take.

Item 3. Funding Assurance. Provide proof of adequate funding (see KSHCP document). All participants must demonstrate requisite funding prior to permit/license approval to ensure that the proposed measures and actions, including monitoring, will be undertaken in accordance with the terms and schedule of the KSHCP.

The Princeville Resort Kauai currently undertakes all minimization and conducts all monitoring using its existing staff as part of annual operating budget, and will continue to do so through the term of the KSHCP. The Princeville Resort Kauai will provide financial assurances as required by the KSHCP.

Signature of Participant:

Date: _____

Printed Name :

The undersigned affirms that all the information included is true and accurate to the best of the participant's knowledge and that this PIP is voluntarily submitted.

☐ check to waive confidentiality

Appendices

Appendix A – Tax Map Keys (TMKs) of the Princeville Resort Kauai

Appendix B – Schematic layout of the resort

Appendix C – Staff seabird awareness training program

Appendix D – Typical seabird data recovery form

Appendix E – Seabird season lighting protocols

Appendix F – Typical guest newsletter

Appendix G – Guest Seabird Conservation Program brochure

Appendix H – In room window louver seabird awareness rack card

Appendix I – Prince Junior Suite bathroom lighting seabird awareness rack card

Appendix J – Young Voyagers Club coloring book – Cover and two typical inside pages

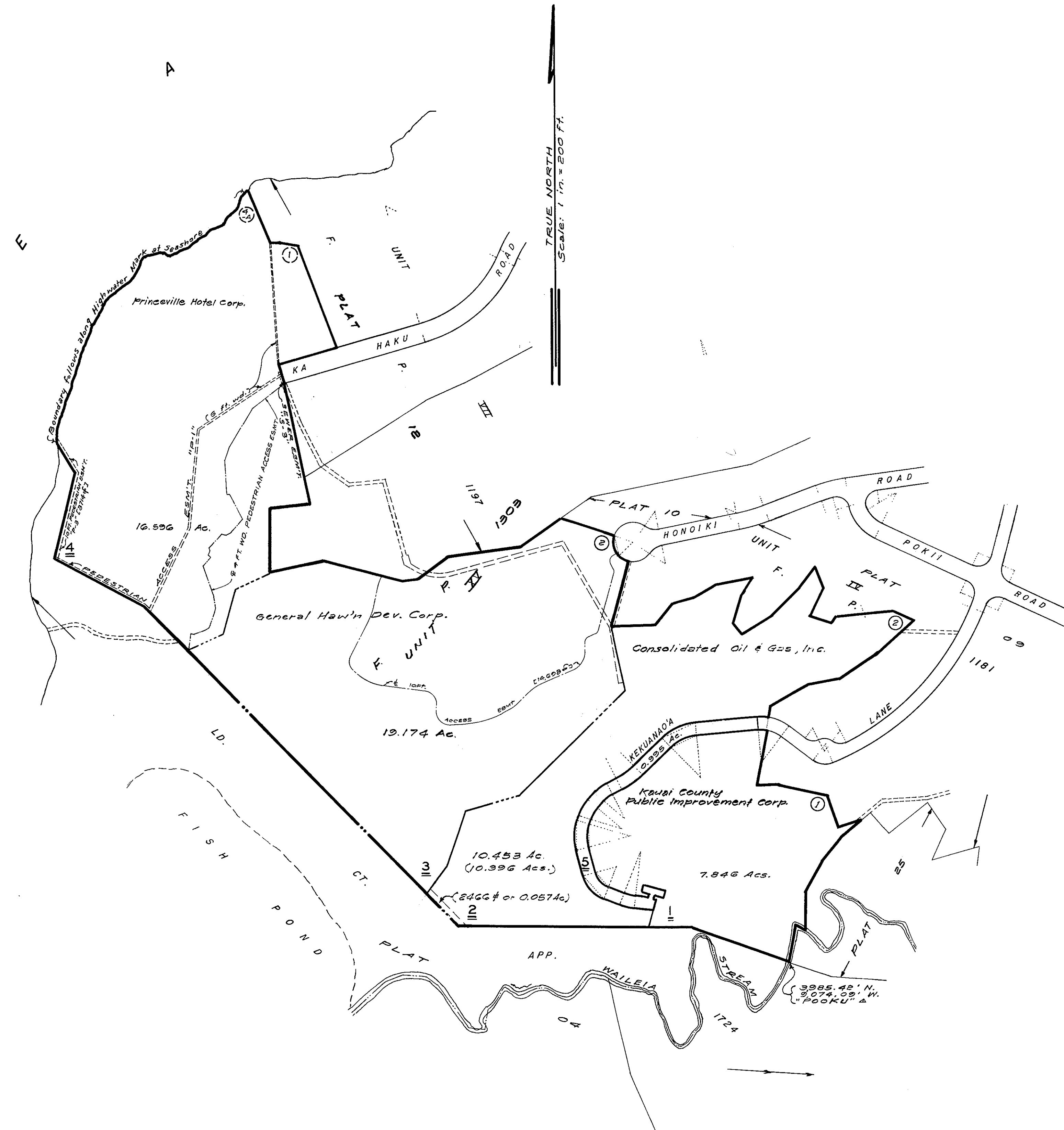
Appendix K – Excerpted Project Description approved by the Kauai County Planning Commission on October 30, 2019

Appendix A – Tax Map Keys (TMKs)

3 Maps

DEC 17 1973
JAN 1 1974
FEB 1 1974
MAR 1 1974
APR 1 1974
MAY 1 1974
JUN 1 1974
JUL 1 1974
AUG 1 1974
SEP 1 1974
OCT 1 1974
NOV 1 1974
DEC 1 1974

DWG. NO.: 6082
DATE: April 30, 1971
BY: H. N. J. L. S.
SOURCE: F. P. 1187



Note: All lots owned by Eagle County Development Corp. unless otherwise noted.

DEPARTMENT OF TAXATION PROPERTY TECHNICAL OFFICE TAX MAPS BRANCH STATE OF HAWAII TAX MAP		
FOURTH TAXATION DISTRICT		
ZONE	SEC.	PLAT
5	4	11
SCALE: 1 IN. = 200 FT.		

FOR PROPERTY ASSESSMENT PURPOSES
SUBJECT TO CHANGE

"PRINCEVILLE AT HANAIEI," PARCEL 1-A, UNIT IX, F. P. 1187, GR. 4845, HANAIEI, KAUAI (Formerly por. 5-4-05).

PRINTED...

"PRINCEVILLE AT HAN"
PLAT

F. UNIT 1903
837

LOT
A

Princeville Corp (58)

50.0/25.0
29 Princeville

Princeville Dev. Corp.

6.593 AC.

Princeville Corp

44 FT. ESMT. "17"

410 FT. ESMT. "13"

412 FT. ESMT. "13"

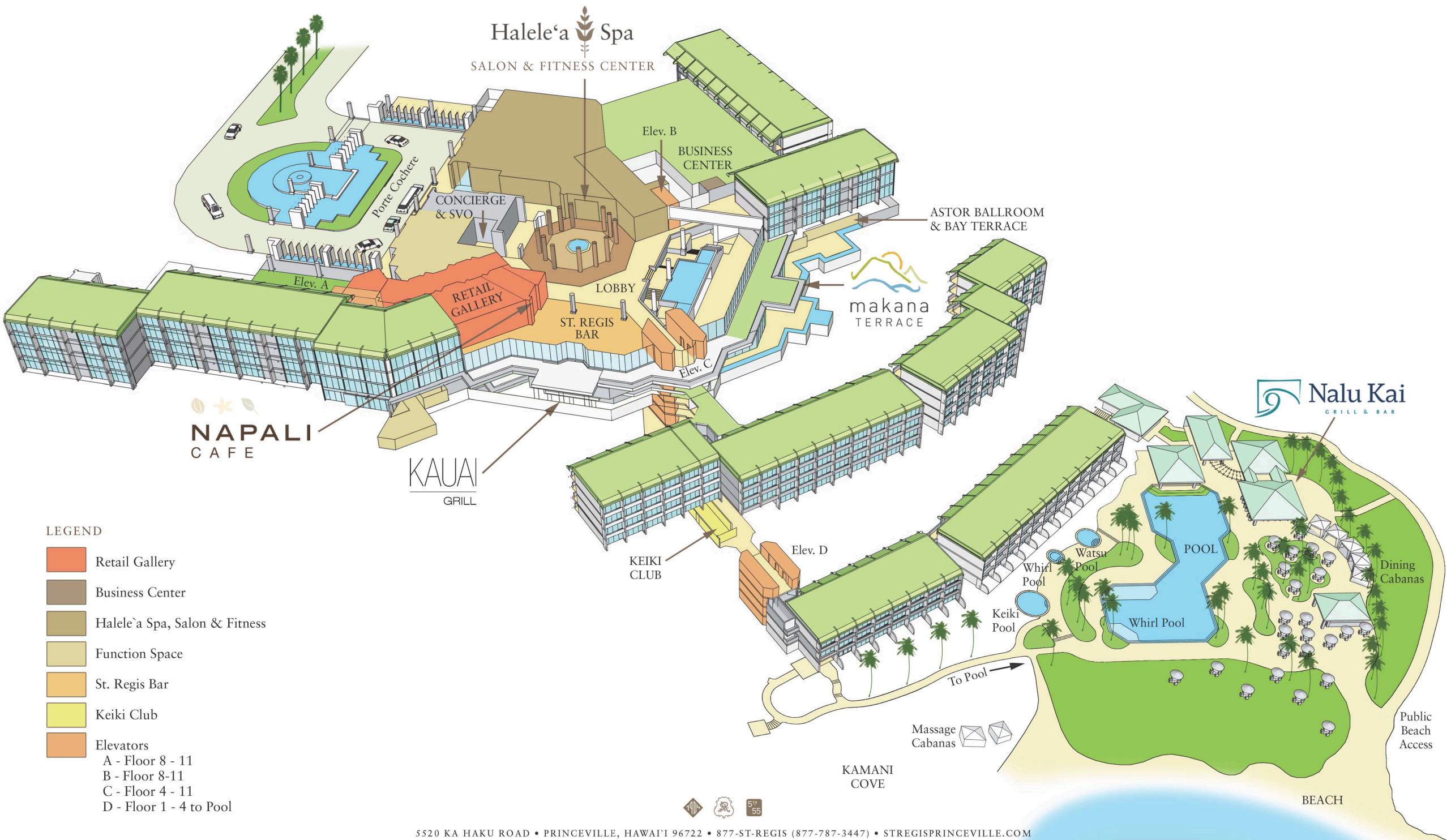
11/24/81

48

(UNIT 1903)

NOT A

Appendix B - Schematic layout of the resort



Halele'a Spa
SALON & FITNESS CENTER

Elev. B

BUSINESS
CENTER

Porte Cochere

CONCIERGE
& SVO

ASTOR BALLROOM
& BAY TERRACE

makana
TERRACE

Elev. A

RETAIL
GALLERY

LOBBY

ST. REGIS
BAR

Elev. C

NAPALI
CAFE

KAUAI
GRILL

KEIKI
CLUB

Elev. D

Watsu
Pool

POOL

Whirl
Pool

Keiki
Pool

Whirl
Pool

Dining
Cabanas

Nalu Kai
GRILL & BAR

To Pool

Massage
Cabanas

KAMANI
COVE

Public
Beach
Access

BEACH

LEGEND

- Retail Gallery
- Business Center
- Halele'a Spa, Salon & Fitness
- Function Space
- St. Regis Bar
- Keiki Club
- Elevators
 - A - Floor 8 - 11
 - B - Floor 8-11
 - C - Floor 4 - 11
 - D - Floor 1 - 4 to Pool

Appendix C - Staff seabird awareness training program

Princeville Resort Kauai Seabird Awareness Training Program



Prepared by: Reginald E. David

Purpose of Training

- Three protected seabird species are recovered on the resort property every fall
- The Princeville Resort is committed to the protection of these species
- The Princeville Resort has specific protected seabird protocols in place that will be followed by all associates
- There are significant legal implications if any of these birds are harmed, or the protected seabird protocols are not followed

Legal Setting - Protected Species

- Federal Law; the Endangered Species Act of 1973, as amended (ESA) and the Migratory Bird Treaty Act (MBTA)
- State Law; Hawaii Revised Statutes (Chapter 195-D)

IT IS ILLEGAL TO: “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct”

Any species listed under any of these statutes.

- Violations of the federal ESA may include civil fines of up to \$25,000 per incident, and criminal fines of up to \$50,000, and up to one year imprisonment per incident.

Why Do Protected Seabirds Land on Resort Property?

- Fledgling birds on their way to sea for the first time are often attracted to lights and can be confused by them
- Confused birds may collide with structures, or simply land on the ground too tired to continue flying
- Once on the ground they cannot take off again and will die from starvation, dehydration or be killed by predators if not rescued
- Approximately 97% of the downed seabirds are fledglings

Seabird Fallout Season

The vast majority of Seabird fallout on Kaua'i occurs between September 15 and December 15 each year

Protected Seabird Species



Newell's Shearwater – 'a'o

- Listed as a threatened species by both the U.S. and State of Hawai'i
- 80% of population nests onKaua'i
- Also breeds on Maui, Hawai'i and possibly Molokai



Wedge-tailed Shearwater – *'u'aukani*

- Protected under the federal MBTA
- Breeds on all of the Hawaiian Islands



Hawaiian Petrel – ‘u‘au

- Listed as Endangered by both U.S. & State of Hawai‘i
- Breeding populations exist on Kaua‘i, Maui, Lana‘i and Hawai‘i



The Princeville Resort Kauai Malama the Shearwater Program

Bird friendly lighting program

- The Princeville Resort Kauai has changed out numerous traditional lighting fixtures with low wattage LED down-pointed shielded lights
- Seabird fallout season lighting protocols turn off or dim many additional lights on the property
- Window shades are being installed on several windows that lights shine out to the sea from – they will be lowered during the seabird fallout season

Downed Seabird Recovery Program

- The Princeville Resort Kauai has an extensive and very comprehensive downed seabird recovery program which works in close collaboration with the Island wide Save our Shearwater Program (SOS)
- The Princeville Resort Kauai hosts an SOS Shearwater Aid Station that birds from the Resort and surrounding entities are placed in and are then admitted into the SOS Program which cares for, rehabilitates, documents and releases the birds back into the wild
- Approximately 92% of the recovered seabirds are released back into the wild

Guest Education and Outreach

- The Princeville Resort Kauai has developed a seabird awareness and educational tri-fold brochure that will be placed in every guest room
- Informational signs are being placed on the window louvers in guest rooms asking guests to keep their louvers closed after dark during the seabird fallout season
- Princeville Resort Kauai has commissioned the creation of a children's coloring book starring an 'a'o, monk seal and an albatross which tells the story of the seabird program
- The Princeville Resort Kauai is currently creating a video about the seabird program at the Resort

Associates Responsibilities

- While on the property be alert for downed seabirds, especially during the September 15 – December 15 peak fallout season
- If you find a downed bird report it to security immediately
- Do not touch the bird
- Standby until a security officer arrives

Mahalo

- The Princeville Resort Kauai takes pride in our continued efforts to protect the natural resources on the Island
- Thank you for your attention to this presentation and your continued kōkua with this program.

If You Would Like More Information

- Please don't hesitate to ask me about any questions you may have about the birds or the program
- My contact information is as follows:

Reggie David
(808) 329-9141 Office
(808) 937-0124 Cell
rdavid@ilhawaii.netemail

The End

Advanced Downed Seabird Training



Modified Seabird Protocols

- Changes have been made to bird retrieval, photography, incident reporting and data management for the 2010 season – these changes primarily reflect the need to correctly identify the birds recovered to species level
- These changes are due to new seabird behavior, changed circumstances and ongoing and changing wildlife regulatory processes and third party legal actions
- These changes are in no way a reflection on the way that the security department responded to downed Seabird incidents over the past two years – you all followed the protocols of the day, and did a good job
- I would like to thank you all very much for the way that you followed protocols, it made my job easier, and has provided some of the information which in part is driving the changes to seabird protocols for the 2010 season

Downed Seabird Response Protocols

- Security will immediately respond to the scene with protective gloves, a clean towel, pet carrier and a digital camera
- Before touching the downed seabird take at least one photo of the scene showing the bird in situ
- Put on protective gloves
- Carefully wrap the bird in a clean towel, place in pet carrier
- Transport the bird to the Security office
- **Summon assistance, and once there are two officers on hand remove the bird from the pet carrier and take at least two identification photographs of the animal** (more on this a bit later)
- Place the bird in the Shearwater Aid Station
- Fill in the “Shearwater Aid Station” log and fill in and submit a security report

Downed Seabird Security Report

- Date and time that the downed seabird was first seen
- Exact location that the bird was found
- Who first noticed the bird
- Who responded
- Photograph identification numbers of the incident
- When was the bird recovered
- Confirmation that the Shearwater Aid Station log was filled out – note in your security report if you were unable to fill in the SAS log (rain, no pen etc.)

Seabird Reporting Loop

- Give a copy of the Downed Seabird Security Report to the Chief Engineer
- Data from the Security report will be entered into a database ASAP
- An updated “Downed Seabird” database along with documenting photographs will be transmitted electronically to the Program Biologist as rapidly as is feasible for confirmation of identification and monitoring of the data

Seabird Species Identification

Newell's Shearwater



Wedge-tailed Shearwater



Newell's Shearwater – 'a'o

- Listed as a threatened species by both the U.S. and State of Hawai'i
- 80% of population nests onKaua'i
- Also breeds on Maui, Hawai'i and possibly Molokai



Hawaiian Petrel – ‘u‘au

- Listed as Endangered by both U.S. & State of Hawai‘i
- Breeding populations exist on Kaua‘i, Maui, Lana‘i and Hawai‘i



Wedge-tailed Shearwater – *'u'aukani*

- Protected under the federal MBTA
- Breeds on all of the Hawaiian Islands



Why is Correct Species Identification Important?

- In the past more than 95% of the seabirds downed on the resort property have been Newell's Shearwaters which as you all know are listed as an endangered species
- In the past we have also recovered one or two Hawaiian Petrels on property each year – this species is also listed as an endangered species
- What is new is that over the past season approximately 20% of the birds we have recovered have been Wedge-tailed Shearwaters, which are not listed under either federal or state of Hawaii endangered species statutes
- Why is this change in bird behavior and recovery important to the Resort?

The simple answer is potential liability under the ESA and HRS 195D

Current Regulatory Situation

- The Princeville Resort Kauai is one of 40 entities on Kauaʻi that have been contacted by both federal and state wildlife regulators over seabird issues
- We along with many of those entities are actively participating in the Kauaʻi Seabird Habitat Conservation Plan – a program which, when complete will issue both federal and state permits to authorize “take” of listed seabird species
- This plan requires that entities minimize their potential threat to these species to the maximum extent practicable – for any unavoidable take that occurs following the implementation of those measures, entities will need to pay a per bird fee
- Currently the per bird fee for the two listed species being discussed is \$10,000 per bird a year for the term of the permit, which is currently expected to be between 20 and 30 years

Changes in Protocols to Meet These Needs

- Responders will take photographs of EVERY bird handled
- Responders will take close-up identification photographs of EVERY bird handled
- Responders will fill in the Shearwater Aid Station log for EVERY bird placed in the “Shearwater Aid Station”
- Data and photographs will be transmitted electronically to the project biologist promptly

Workshop Topics

- Cameras
 - Types
 - Resolution
 - Settings
 - Camera image numbering
- Moving birds & picture taking
 - How do you do it now
 - Pet carriers
- Data recording and reporting
 - Camera image numbering
 - Timelines on security reports
 - Timelines on data entry and transmission to program biologist
- Other Issues

Mahalo

- *The Princeville Resort Kauai deeply appreciates the security departments lead on responding to downed seabirds and the continued professionalism of the department members*
- *We also deeply appreciate your ongoing input into improving a program that is as fundamental and important to the Resort as this one.*

Appendix D - Typical seabird data recovery form

Malama the Shearwater Log Sheet 2009

No.	Report #	Species	Date	Time	Location	Photo	AID S #	Condition	Comments
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

- Photograph the Shearwater and surrounding area and attach to log sheet
- Log sheet is submitted to Director of Engineering the following morning. In the absence of the Director of Engineering submit to the AM MOD.

Appendix E – Seabird Season Lighting Protocols

Shearwater Light Procedures
September – December

1. Engineering – (Sep. 1st for season) Turn off 25% of parking lights or 5 approved light poles
2. Engineering – (Sep. 1st for season) Adjust Guard shack shielded lighting to point downward
3. Engineering – (Sep. 1st for season) Turn off up lights at Royal Palms
4. Engineering – (Sep. 1st for season) Turn off lights in Porte-cochere water feature
5. Engineering – (Sep. 1st for season) Turn off flood lights at Cooling Tower
6. Engineering – (Sep. 1st for season) Turn off flood lights at Flower shop
7. Engineering – (Sep. 1st Removed flood lights) St Regis Bar Lanai – turn off flood lights
8. Engineering – (Lower Daily after Sunset, Raise before Sunrise) Pull shades at 4th floor elevator lobby
9. Engineering – (Lower Daily after Sunset, Raise before Sunrise) Pull shades at Keiki club
10. Engineering – (Lower Daily after Sunset, Raise before Sunrise) Pull shades at 9th and 10th floor B1 wing
11. Engineering – (Sep. 1st for season) Turn off flood lights (3) at 3rd floor rooftop
12. Engineering – (Sep. 1st for season) Turn off soffit lights at 3rd floor elevator landing
13. Engineering – (Sep. 1st for season) Place shroud on all Turtle lights on first floor
14. Engineering – (Daily at 11:00pm) Turn off all Tiki torch lighting
15. Engineering – (All Season) Leave Tiki torch off at Watsu Pool.
16. Engineering/All – (Sep. 1st for season) Turn off florescent lights at Pool manager office and Kitchen area
17. Engineering/All - (Sep. 1st for season) Dim lights at lobby Piko (Ensure cleaners can not turn all lights on to 100% when cleaning in the evening.)
18. Engineering/All - (Sep. 1st for season) Dim lights at Kauai Grill (Ensure cleaners can not turn all lights on to 100% when cleaning in the evening.)
19. Engineering/All - (Sep. 1st for season) Dim lights at Makana Terrace (Ensure cleaners can not turn all lights on to 100% when cleaning in the evening.)
20. Engineering/All - (Sep. 1st for season) Dim lights at Nalu Kai and Pool activities desk (Ensure cleaners can not turn all lights on to 100% when cleaning in the evening.)
21. Engineering/All - (Sep. 1st for season) Dim lights at St Regis Bar (Ensure cleaners can not turn all lights on to 100% when cleaning in the evening.)
22. Engineering - (Sep. 1st for season) St Regis Bar – Replace cfl's in floor lamps with 60 watt incandescent bulbs
23. Manager - St Regis Bar – (Sep. 1st for season) Turn off floor and table lamps after working hours
24. Rooms Division - (Sep. 1st for season) Distribute Shearwater letters at reception desk when Guests check-in.
25. Rooms Division - (Sep. 1st for season) Place Shearwater awareness signage in all Guestroom to keep lovers closed at night.
26. Rooms Division - (Sep. 1st for season) Place cards in Prince Junior Suites to turn off lights in bathrooms when not in use.
27. Human Resources – (Sep. 15th) Ensure all employees are trained on Shearwater awareness.
28. Security/Engineering – (Sep. 15th) Ensure all Security and Engineering staff understands the “Light Procedures” as outlined.
29. Security - (Sep. 1st for season) Security to check and document above procedures (during season) nightly to ensure all measures are in place.

Name

Signature

Appendix F – Typical guest newsletter



September 19–25, 2010



ST REGIS

PRINCEVILLE

ST. REGIS EVENING RITUAL

Welina Mai, Welcome to The St. Regis Princeville Resort!

ARTISAN'S MARKETPLACE

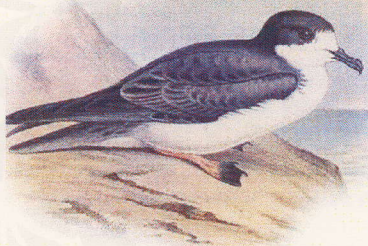
Fridays in the St. Regis Bar
6:15 pm

The evening's host will share the story of the 'Oahi, the ancient fire throwing ceremony of Makana, the northwestern mountain peak that can be viewed from the resort and depicted in the St. Regis Bar Mural. The 'Oahi was performed for the most esteemed celebrations. On the day of the ceremony skilled fire throwers climbed the steep cliffs to the top of Makana with dry logs of *papala* or *hau*. The logs were lit and hurled out over the ocean. The updrafts created by the trade winds kept the firebrands aloft, soaring as far as a mile out to sea.

The evening ritual concludes with a dramatic champagne sabering. Enjoy live Hawaiian entertainment with Maluhia

KOKUA

Help protect Kauai's
native Shearwater birds



Kaua'i is home to many species of seabirds that nest and raise their young in the mountain forests and in the coastal beach vegetation.

These seabirds include the Newell's Shearwater,

Hawaiian Petrel and Wedge-Tailed Shearwater. From September through December, when they leave their nests, seabird fledglings are guided by the light of the moon out to sea. Young seabirds, when traveling at night, can become disorientated by unshielded lights. The urbanization on Kauai has resulted in the ongoing fallout of fledgling on their first nocturnal flight from their nesting burrow to the ocean.

We at St. Regis Princeville Resort are doing what we can to help the young seabirds find their way to the ocean safely. As part of our commitment to help these seabirds find their way to the ocean safely, we ask that you close the guest room louvered window panels after dark to shield the indoor room lights. With your cooperation we can host a safe environment for our native birds. In addition if you should encounter a bird somewhere on our resort grounds, we ask that you do not handle the bird, but instead contact a member of our trained staff.



Amy Christmas
Wednesdays 9:00 am - 5:00 pm
Coconut Fiber Baskets

Hawaiian Palm Baskets are handmade by Amy Christmas, here on Kauai. She has been creating and perfecting them for 12 years.

The baskets are assembled from a wealth of recycled local plant materials, the primary elements coming from an array of local palms. They are adorned with unique combinations of other indigenous plant parts including leaves, pods, fruits, and flowers.

The natural earth-tones accentuate any decor while the various sizes offer endless possibilities for display. They are gifts of aloha that reflect the beauty of the 'Garden Isle' and will truly be treasured by all who receive them.



Please join us in welcoming our
honored guest Kupuna Dora Swain
Mondays 9:00 am - 12:00 pm

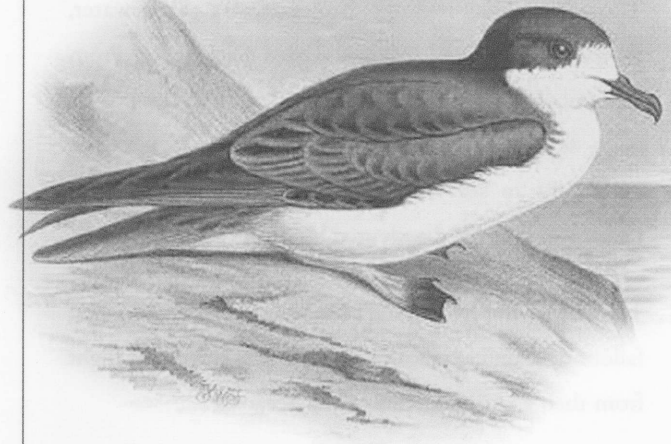
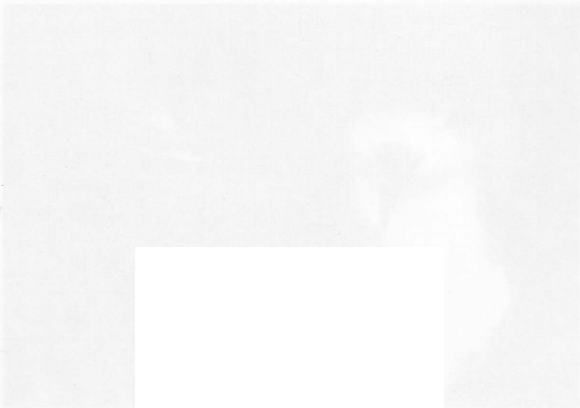
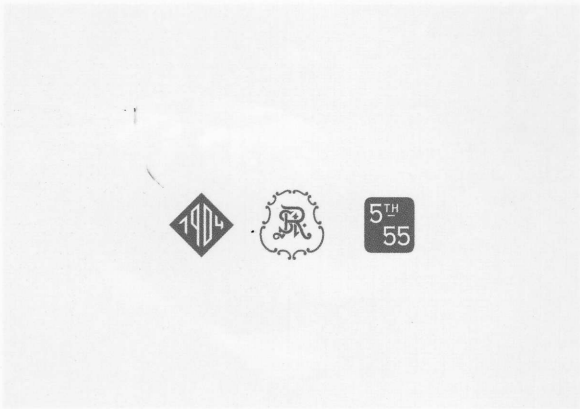
A *kupuna* is an honored elder who has acquired enough life experiences to become a family and community leader. The term has been recognized to be the embodiment of natural respect...

a practitioner of aloha (love), pono (righteousness), malama (caring), and spirituality. Kupuna joins us on

Mondays in the St. Regis Bar to share the many aspects of Hawaiian Culture.

*Since preparation of the brochure, the resort is no longer the St. Regis and is now the Princeville Resort Kauai.

Appendix G – Guest Seabird Conservation Program Brochure



*I malama a I ho'opakele
I na manu 'aukai o Kaua'i*

"To care and protect Kaua'i seabirds."

Seabird Conservation Program

If you should see a seabird, please report it to the Seabird Conservation Program. We are looking for information about the distribution and abundance of seabirds on Kaua'i. Your report will help us to better understand the status of these birds and to develop conservation plans for them.

Kaua'i is home to many species of seabirds that nest and raise their young in the mountain forests and in the coastal beach vegetation.

These seabirds include the Newell's Shearwater, Hawaiian Petrel and Wedge-Tailed Shearwater. From September through December, when they leave their nests, seabird fledglings are guided by the light of the moon out to sea. Young seabirds, when traveling at night, can become disoriented by unshielded lights.

The urbanization on Kaua'i has resulted in the ongoing fallout of fledgling seabirds on their first nocturnal flight from their nesting burrow to the ocean.

In 1980, the Department of Fish and Wildlife on Kaua'i, established the "Save Our Shearwaters" program to aid these precious birds. The SOS program sets up collection aid stations during the fledgling season.

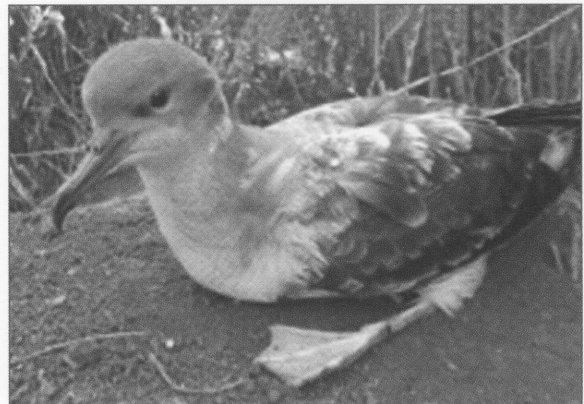
We at The St.Regis Princeville Resort are doing what we can to help the young seabirds find their way to the ocean safely. We volunteer each season as a host aid station site and proactively limit our exterior lighting throughout the resort and grounds. As part of our commitment to help these seabirds find their way to the ocean safely, we will close your louvered window panels during Turndown Service. We ask for your participation by keeping the louvers closed at night until you have turned off your lights for the evening.

If you should encounter a bird somewhere on resort grounds, we ask that you do not handle the bird, but instead contact a member of our trained staff.

Mahalo nui loa.



Newell's Shearwater



Wedge-tailed Shearwater



Hawaiian Petrel

Appendix H – In room window louver seabird awareness rack card



© Robin W. Baird / cascadiaresearch.org

Young Newell's Shearwater birds travel at night to the ocean from September to December and can become disoriented by unshielded light. As part of our commitment to help these seabirds find their way to the ocean safely, we will close your louvered window panels during Turndown Service. We ask for your participation by keeping the louvers closed at night until you have turned off your lights for the evening.

With your cooperation we can host a safe environment for our native birds. Mahalo!



Appendix I – Prince Junior Suite bathroom lighting seabird awareness rack card



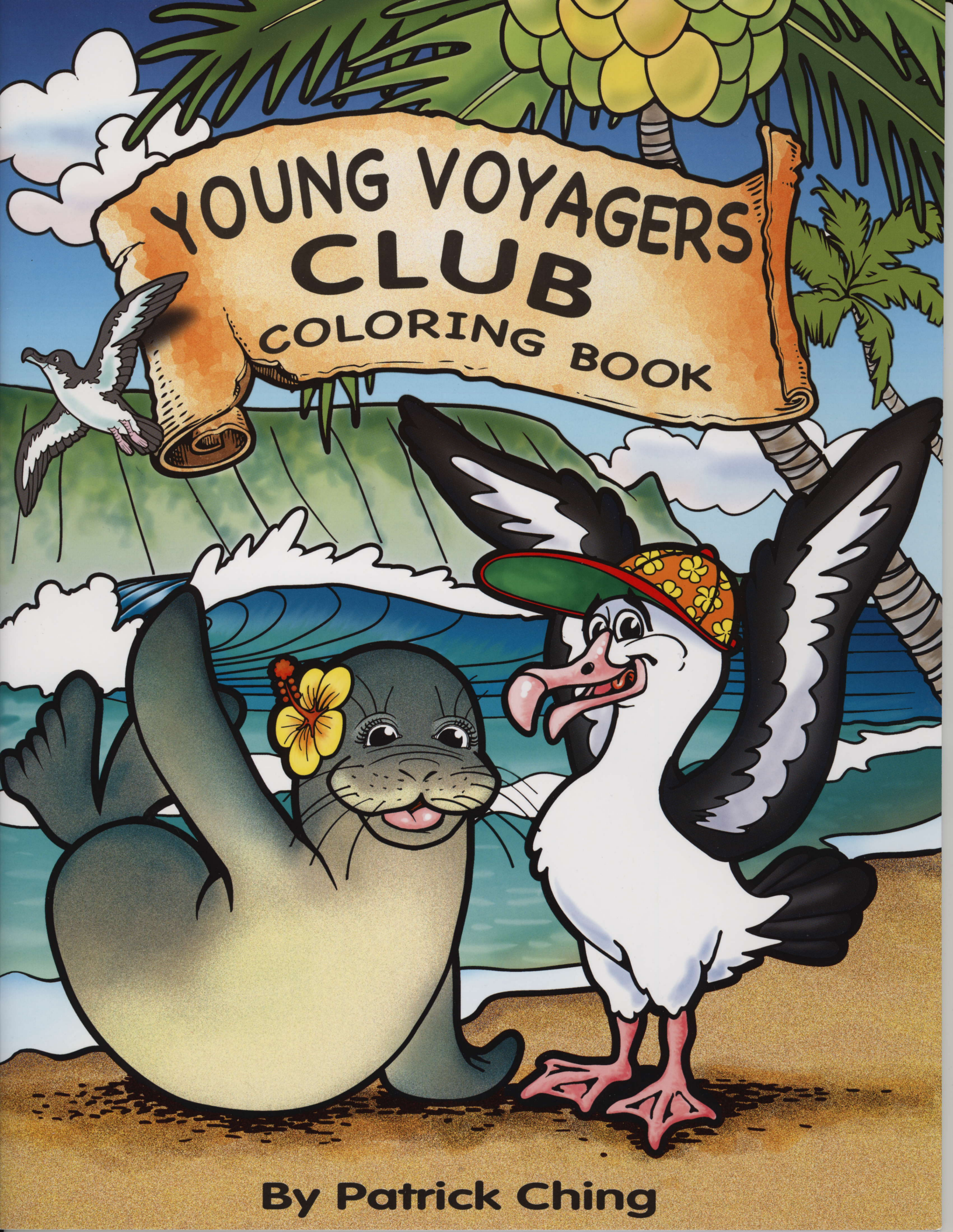
© Robin W. Baird / cascadiaresearch.org

Young native Newell's Shearwater birds travel at night to the ocean from September to December and can become disoriented by unshielded light.

We are committed to helping these endangered seabirds find their way to the ocean safely. We would appreciate you turning off the bathroom lights when not in use. We thank you for your cooperation and support of our Seabird Protection Program.



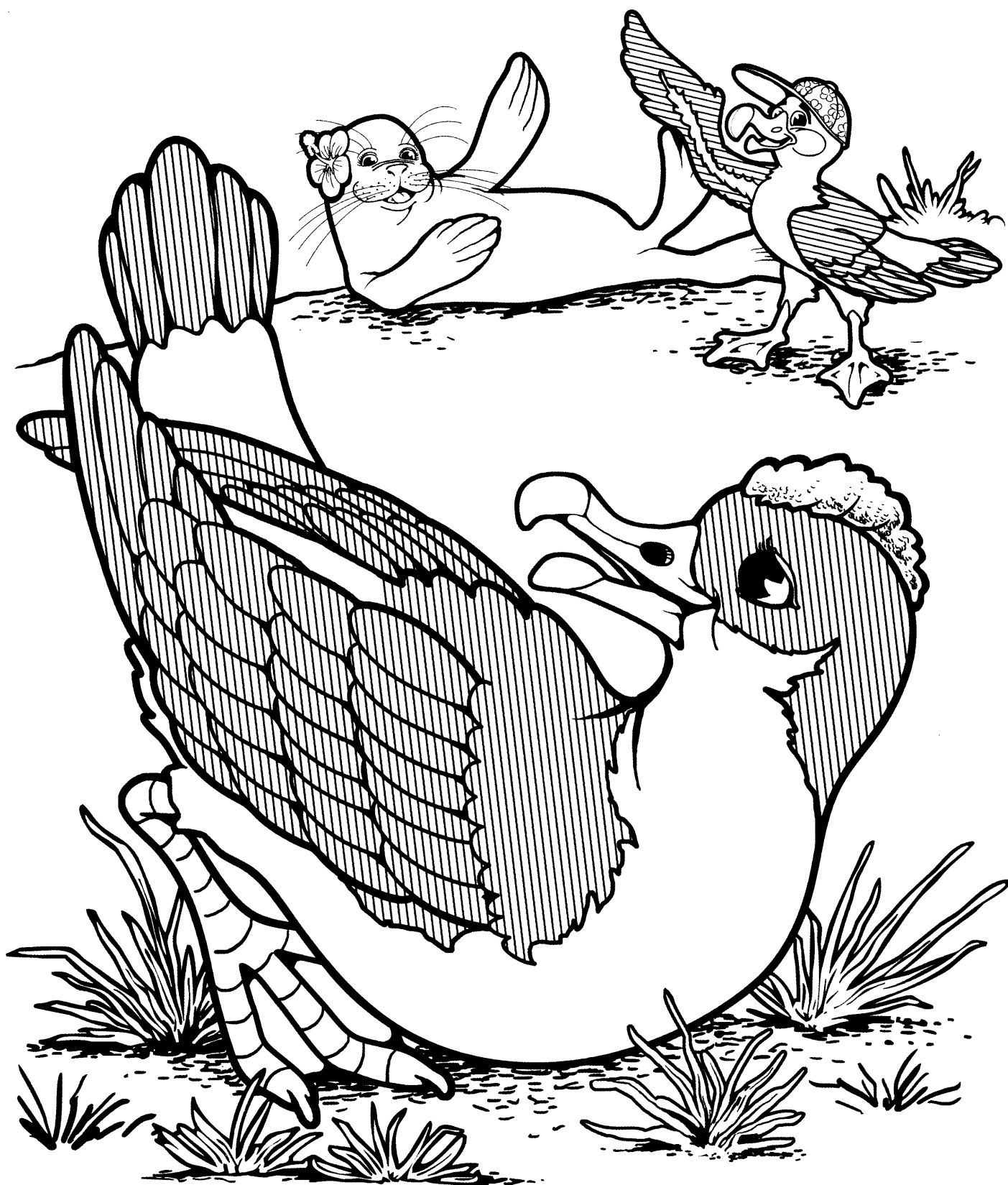
Appendix J – Young Voyagers Club coloring book - Cover and two typical pages



YOUNG VOYAGERS CLUB

COLORING BOOK

By Patrick Ching



Who's that over there?

Aloha, My name is 'A'o (ah-oh). I'm a young Newell's shearwater.

When I learn to fly I do it at night. Sometimes I get distracted by a full moon or bright lights. I may get dizzy and fall to the ground. That's how I landed here.



September through December is the shearwater fledging season. That's when shearwaters learn to fly. At those times the hotel guests are asked to close their louvered window panels to shield their room lights.

Appendix K – Excerpted Project Description approved by the
Kauai County Planning Commission on October 30, 2019

1 HOTEL

Pu'u Pōā, Princeville, Hanalei, Halele'a, Kaua'i, Hawai'i

TMK (4) 5-4-001:004; 5-4-004:029; 5-4-004:035

Site Plan Modification



Applicant:

SOF XI Kauai PV Hotel, L.P.
591 West Putnam Avenue
Greenwich, Ct 06830

Submitted To:

County of Kaua'i
Planning Department
4444 Rice Street, Ste A473
Līhu'e, Hawai'i 96766

Prepared By:

G70
111 S. King Street, Suite 170
Honolulu, Hawai'i 96813

June 17, 2019



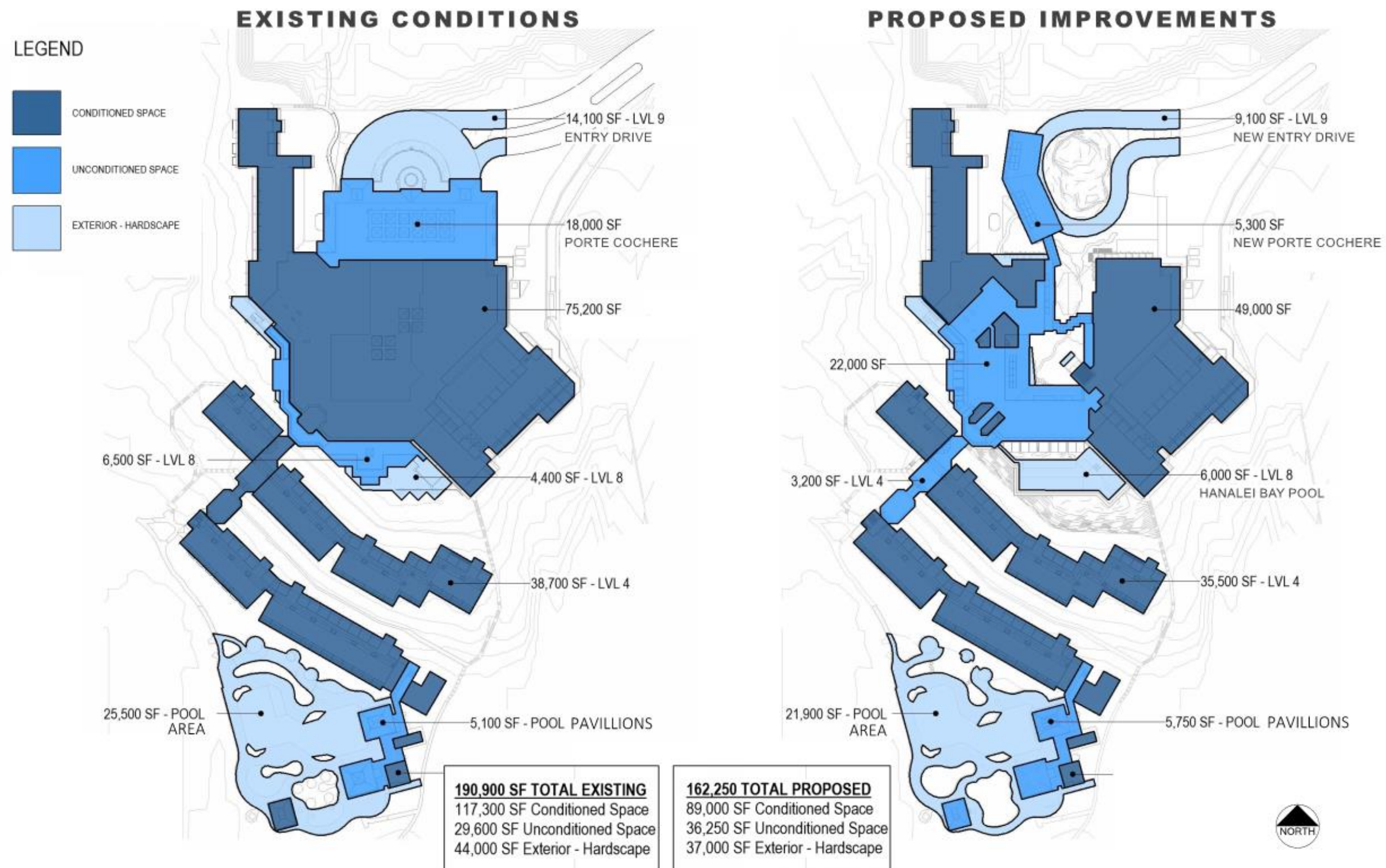


Figure 2-15

2.3 Planned Improvements

The project supports the rebranding of the resort, providing guests with the 1 Hotel vision and experience. The project will provide key repair and maintenance improvements to the hotel exterior, arrival area, lounge, dining area, walkways, pool areas, and landscaping (*Figure 2-13*). Renovations are designed to enhance the guest experience by creating more open spaces and exposing interior spaces to outer elements that provide a more natural aesthetic. These upgrades to existing features will allow visitors at the resort to experience a luxury resort that is immersed with the natural beauty of Kaua'i.

The 1 Hotel project will also improve the existing guest rooms. The interior improvements will provide guests with a private lodging space that displays the luxuries of the 1 Hotel brand and its amenities. Although the interior renovations will occur concurrently with the planned project improvements, the specifics of these plans will be discussed in a separate permit application.

The 1 Hotel project will not result in changes to the existing setbacks or height of the hotel. The overall footprint on the site will be reduced from 190,900 square feet (SF) to 162,250 SF to provide additional open space and landscaping on the resort property (*Figure 2-15*). The proposed improvements to the Princeville Resort Kaua'i will fit with the existing site and are not expected to result in significant adverse impacts to the surrounding area. The resort will continue to be an economic engine for the County and provide employment opportunities for the local community. 1 Hotel will be a flagship resort property that provides a world-class visitor experience while preserving the authentic natural character of Kaua'i's North Shore. The project has been designed to optimize the existing space with improvements that update the hotel's overall appearance while providing a new lodging option for visitors to explore. The proposed project improvements are described in further detail below.

Overall Exterior

The building's existing exterior façade can be viewed from Hanalei Bay (*Figure 2-11*). Improvements to the building exterior are designed to elevate the aesthetic appeal of the resort by blending existing structures into the surrounding environment. The structure's existing white colored exterior will be softened using natural earthy colors and textures (*Figure 2-16*). Inspired by the 'āina of Kaua'i, the improved façade's color pallet contains shades and hues observable in the island's sandy shorelines, eroded lavas, and rocky precipices. Landscaping will also be integrated into the façade to create a living wall that blends the hotel into the natural landscape of Pu'u Pōā. The aging roofs on the resort's three main buildings will be refinished and partially replaced with new green roofs. The integration of green walls and green roofs will beautify the resort's structures while also reducing energy costs.



Figure 2-16

Proposed Overall Exterior, North Facing View

Entry Drive

Visitors arrive to the property via Ka Haku Road to the hotel driveway. As part of the improvements, trees will be planted along the perimeter of the driveway to create a shaded canopy (*Figure 2-14 and Figure 2-17*). The entry drive layout and landscaping are designed to provide a more intimate and leisurely feeling upon arrival. The project will also redevelop the existing roundabout to include a new central conical mound. The mound will block the view of the roadway and muffle vehicular noise, while also improving stormwater retention. The mound's construction will utilize the adaptive reuse of demolition materials to build up its elevation. Both the entry drive and mound will be lushly landscaped with native and tropical plants (*Figure 2-23 and Figure 2-24*).

Porte-Cochere

The existing white concrete porte-cochere will be replaced with a smaller scale structure that will incorporate natural building materials. The improved porte-cochere design will create an airy rustic setting that enhances natural light and air flow (*Figure 2-17*). The porte-cochere arrival area has been designed to provide guests with a memorable first impression to the 1 Hotel's nature-inspired resort setting.

Courtyard Lobby

The main entry to the three-tiered resort is located on the 9th floor. The lobby houses the reception area where visitors are greeted upon arrival. From there, guests may descend to the guestrooms, pool, and other public areas located on the floors below. The entryway and hotel lobby are key areas that help set the tone for the resort escape experience.

The existing lobby of the hotel is a confined space that is closed off from outdoor elements and scenic views. The project will improve the new lobby by providing an open-air courtyard landscaped with lush plants, lava rock, and a new water feature (*Figure 2-14*). The improvements are also designed to reorient the view from the hotel entrance towards Hanalei Bay and the Nā Pali Coast, that will add an element of drama to the arrival experience. Natural air and light will fill the space that helps to blur the boundary between the natural and built environment. A new wooden boardwalk with overhead vegetated trellises will also be constructed to provide wayfinding for guests to the reception area for check-in services (*Figure 2-18*).

The project design will open the arrival area as natural lobby garden setting that includes landscape and water feature elements. Some of these elements will be built above the 8th floor as a rooftop garden. The newly created lobby garden will provide enhanced natural light and ventilation to the existing lounge, spa and dining area. The addition of various natural materials and reconfiguration of circulation flow will create a seamless transition with the interior areas and new lobby garden.



Figure 2-17

Entry Drive and Porte-Cochere



Figure 2-18

Arrival Area at Courtyard Lobby

Makana Lounge

The Makana Lounge located beyond the reception desk, is an area where guests can gather and relax while enjoying the panoramic views of Hanalei from the Makana Lounge (*Figure 2-14*). This area also provides seating and bar service.

The proposed construction within this area will include the demolition of existing finishes and exterior glass walls to create an open-air lounge. The existing bar floor will be raised by one-foot with a new slab to align with the existing outdoor elevation. Waterproofing materials will be installed at the floor and ceiling to protect the newly exposed areas

Māmalahoa Dining Lānai

The Māmalahoa Dining Lānai is located on the 8th floor of the hotel and can be accessed by the steps of the grand stairway from the reception area, or by the elevators in an upgraded elevator lobby (*Figure 2-14*). The dining lānai is a space for guests to indulge in the hotel's fine cuisines while enjoying the picturesque views of the Nā Pali Coast and Hanalei Bay Pool below (*Figure 2-19*).

As part of the project improvements, the existing finishes and exterior glass walls will be removed to open up the Māmalahoa Dining Lānai for a more indoor-outdoor experience that enhances natural light and ventilation. Window and door modifications with trellises will also be incorporated. Various natural materials and reconfiguration of the circulation flow will be done to the interior to flow with new lobby garden experience.

Hanalei Bay Pool

The existing reflecting pool beyond the Māmalahoa Dining Lānai will be converted into a new lap pool as part of the project improvements. The lap pool will provide guests with a place to swim laps for recreation or training purposes. The makai edge of the pool will be bordered by two tiers of planters each stepping down to a guardrail below. Tropical planters will be incorporated to further beautify and blend the pool into the landscape of Pu'u Pōā.

Construction of the lap pool will include demolition of the existing 4,400 SF reflection pool, that will be replaced with a 6,000 SF cast-in-place lap pool and deck (*Figure 2-14* and *Figure 2-19*).

Hotel Circulation Corridor

Modifications to the main circulation corridor will provide access and wayfinding improvements within the resort and will heighten guests experience of navigating down the cascading buildings to the beach below. Improvements to pedestrian circulation will include upgrades to the elevator cores and lobbies, 4th floor circulation space, viewing platform, stairway, and a new trail network (*Figure 2-20*).

The elevator exterior finishes will be painted with neutral colors and interwoven with landscaping. The existing walls in the elevator lobby will be removed to create an open-air lobby. The walkway on the 4th floor circulation corridor will be furnished with wood railings and planks that transform the path into a rustic boardwalk that will extend beyond the elevator lobby to a new 4th floor viewing platform.

As part of the project improvements, the existing stair tower will be upgraded and extended to connect levels 1 through 4. Outside the 1st floor, a new network of public trails will also be created. These trails will guide visitors to the main pool area, Pu'u Pōā Beach, and to viewpoints along the slope of the ridge. The slope will be densely planted with a variety of native and tropical plants to restore native habitats and contribute to the overall sense of place



Figure 2-19

Māmalahoa Dining Lānai overlooking the Hanalei Bay Pool

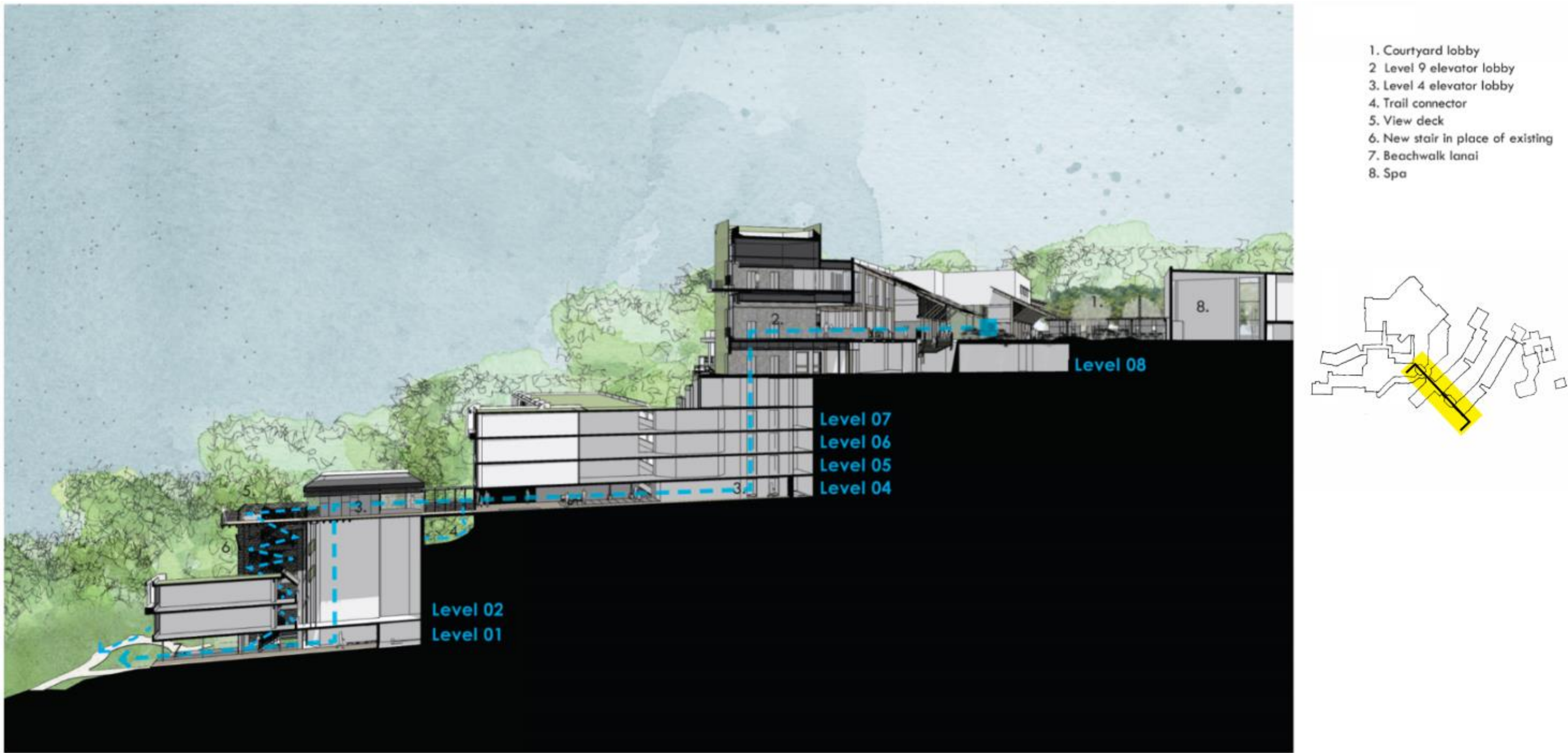


Figure 2-20

Circulation Corridor

Pool Recreation Area

As the focal point of the resort's recreation area, light finishes to the Pu'u Pōā Beach Pool and pool deck will be completed to further invigorate the space and enrich the guest experience. Surrounding the main pool are three covered pavilions for activity, dining, and bar uses. The existing pool pavilions will be retrofitted with new roof tops and wood exteriors on the existing supporting columns (*Figure 2-21*). These pavilions will continue to provide shaded areas for guests to come together and relax near the poolside.

The existing planting areas will be renovated and landscaped with native shrubs and groundcovers (*Figure 2-23* and *Figure 2-24*). Native plants will beautify the pool recreation area and contribute to the Hawaiian sense of place. Many of the proposed coastal native plants are also commonly used for erosion control. These plants may be used to stabilize the landscape and mitigate future coastal erosion.

Honoiki Hillside Garden

The 1 Hotel project improvements will include a hillside garden located on the lower slope of Pu'u Pōā (*Figure 2-22*). The approximately 37,100 SF garden space will replace the existing lawn with native groundcovers, shrubs and trees (*Figure 2-23* and *Figure 2-24*). Biodegradable geo-jute will be installed for slope stabilization until groundcovers and shrubs grow in. Guests will be able to explore the gardens and use this space for gatherings such as family picnics or an impromptu kanikapila session. The Honoiki Hillside Garden will also be an ideal location for guests to relax and admire the beauty of a setting sun along the Nā Pali Coast or view the colorful schools of fish swimming among the Honoiki Reef in the coastal waters below. Beyond the terrace, a new public trail network will lead visitors to secluded garden alcoves and scenic viewing areas. The trails will follow the existing grade so that there is a balance of cut and fill for the area.



Figure 2-21

Pool Pavilions



Figure 2-22

Honoiki Hillside Garden

TREES / PALMS



HALA
INDIGENOUS PLANT USED EXTENSIVELY BY EARLY NATIVE HAWAIIANS FROM FAMINE FOOD, FIBERS USED FOR CORDAGE, LAU HALA WEAIVED FOR BASKETS, MATS, & FANS



HAU
POLYNESIAN-INTRODUCED TREE USED EXTENSIVELY BY EARLY NATIVE HAWAIIANS FOR CANOE OUTRIGGERS, FLOATS FOR FISHNETS, & FOR CORDAGE



KUKUI
POLYNESIAN-INTRODUCED TREE - NUT OIL USED FOR LAMPS, INNER BARK USED AS DYE FOR KAPA, TRUNK USED FOR CANOES



KOU
POLYNESIAN-INTRODUCED TREE - PLANTED THROUGHOUT COASTAL AREAS FOR SHADE, FLOWERS USED IN LEIS, WOOD USED FOR BOWLS & UTENSILS, TRUNKS USED FOR CANOES



MANELE
INDIGENOUS TREE - NATIVE HAWAIIANS USED BLACK SEEDS IN LEIS, CANOPY IS SEASONALLY PARTIALLY-DECIDUOUS



OHIA
ENDEMIC TREE ASSOCIATED W/ HAWAIIAN GODDESS PELE, ONE OF THE FIRST PLANTS TO GROW FROM LAVA, CRITICAL FOR NATIVE BIRDS, BELOVED BY LEI-MAKERS, HARDWOOD PRIZED FOR HOUSE CONSTRUCTION, POI, BOARDS, MUSICAL INSTRUMENTS, WEAPONS, CANOE FRAMEWORK



ULU
POLYNESIAN-INTRODUCED TREE - EDIBLE STARCHY FRUIT, CRITICAL FOOD SOURCE FOR NATIVE HAWAIIANS, NOW COMMON IN LOCAL HAWAIIAN CUISINE



COCONUT PALM
INDIGENOUS PALM EXTENSIVELY USED BY NATIVE HAWAIIANS FOR THATCHING & WEAVING, MUSICAL INSTRUMENTS, CONTAINERS, ETC.; COCONUT JUICE & MEAT WERE IMPORTANT FOR SUSTENANCE



LOULU PALM
ENDEMIC PALM - NATIVE HAWAIIANS USE FRONDS FOR THATCHING AND PLAITING



HAPU tree fern
ENDEMIC UNDERSTORY PLANT PRIZED FOR SOFT WOOL (PULU) AT BASE OF FRONDS USED IN PILLOWS & WOUND DRESSING, NATIVE BIRDS USED PULU FOR NESTING, OVER COMMERCIAL HARVESTING IN MID-1860S ALLOWED INVASIVE SPECIES TO TAKEOVER FORESTS

SHRUBS AROUND MAIN BUILDING



AWA
POLYNESIAN-INTRODUCED PLANT, VALUED AS MEDICINE FOR CHILLS, COLDS, HEADACHES, & RITUAL DRINK, A SEDATIVE THAT INDUCES RELAXATION & SLEEP



EKAHA
INDIGENOUS PLANT - RIBS WOVEN INTO MATS, OILMENT USED FOR SORES, CEREMONIALLY PLANTED ON TREE STUMPS AFTER TREE WAS FELLED FOR CANOES



KOKIO KEOKEO
ENDEMIC TO KAUAI, NATIVE HAWAIIANS CULTIVATED THEM NEAR HOUSES BY FOR BEAUTIFUL FLOWERS



MAMAKI
ENDEMIC PLANT - LEAVES USED FOR CLOTHING WHEN SOFTER PAPER MULBERRY (WAIUKE) WAS UNAVAILABLE, LEAVES DRIED AND USED AS HEALTHY TEA




NAU
ENDEMIC GARDENIA, WILD POPULATIONS EXTREMELY RARE




QLENA
AKA TURMERIC, POLYNESIAN-INTRODUCED PLANT, ROOTS USED AS SPICE & DYE, MIXED WITH SEA WATER FOR SPIRITUAL CLEANSING

Figure 2-23 Plant Pallet (Trees/Palms and Shrubs Around Main Building)


GROUNDCOVERS AROUND MAIN BUILDING




ALAALA WAI NUI
INDIGENOUS PLANT THAT PROVIDES DEEP GREEN DYE
USED FOR KAPA, JUICED FOR TONIC TO TREAT EAR-
INFECTIONS




AWAPUHI
POLYNESIAN-INTRODUCED PLANT, ROOTS USED FOR
STOMACH & INDIGESTION, MATURE FLOWER HEAD USED
AS SHAMPOO




HOIO
AKA POHOLE, NATIVE SPECIES RARE, POLYNESIAN-
INTRODUCED, FIDDLEHEAD COMMONLY FORAGED IN
FORESTS, COMMERCIAL GROWN FOR LOCAL CUISINE




KUPUKUPU
ADAPTIVE INDIGENOUS FERN, COMMONLY USED IN LEIS




LAUAE / DWARF LAUAE
POLYNESIAN-INTRODUCED FERN USED IN LEIS, USED TO
SCENT KAPA




PALAPALAI
INDIGENOUS SOFT FERN BELOVED BY LEI-MAKERS




UKI UKI
ENDEMIC PLANT - LEAVES USED FOR CORDAGE, BERRIES
USED AS DYE FOR KAPA




AWIKAWIKI
ENDEMIC PLANT - FLOWERS USED IN LEIS




GOLDEN POTHOS
TROPICAL NON-NATIVE PLANT FOR FULLY SHADED AREAS




MAILE
INDIGENOUS VINE, SPECIAL LEI MATERIAL



SANDPAPER VINE
TROPICAL NON-NATIVE PLANT FOR TRELLISES, SALT-
SPRAY TOLERANT



UALA
POLYNESIAN-INTRODUCED PLANT - STARCHY TUBER
A MAJOR FOOD SOURCE FOR NATIVE HAWAIIANS,
CONTINUES TO BE POPULAR COMMERCIALY



ULEI
INDIGENOUS PLANT - EDIBLE FRUIT, FLOWERS & LEAVES
USED IN LEIS

COASTAL SHRUBS & GROUNDCOVERS



AKIA
ENDEMIC PLANT - NATIVE HAWAIIANS USED BARK, LEAVES,
ROOTS IN BAIT MIXTURE TO CATCH FISH



NAUPAKA KAHAKAI
INDIGENOUS COASTAL PLANT USED BY NATIVE HAWAIIANS
FOR FAMINE FOOD, LEIS, COMMONLY USED FOR BEACH
EROSION CONTROL & STABILIZATION



NAIO PAPA
ENDEMIC PLANT IN SHRUB-FORM, FLOWERS FAINTLY
SIMILAR TO SANDALWOOD



PILI GRASS
INDIGENOUS GRASS THAT NATIVE HAWAIIANS HARVESTED
TO USE AS THATCHING, CAN DONATE TO LOCAL KAUAI
CULTURAL GROUPS



POHINAHINA
INDIGENOUS PLANT - FLOWERS & LEAVES CAN BE USED
IN LEIS, SPRAWLING GROUNDCOVER USED FOR BEACH
EROSION CONTROL & STABILIZATION



POHUEHUE
INDIGENOUS BEACH VINE WITH SALT TOLERANCE, USED
FOR BEACH EROSION CONTROL & STABILIZATION



NANEA
INDIGENOUS BEACH VINE WITH SALT TOLERANCE,
NITROGEN-FIXING PROVIDES FREE NATURAL FERTILIZER
FOR NEIGHBOR PLANTS

Figure 2-24 Plant Pallet (Groundcovers Around Main Building and Coastal Shrubs/Groundcovers)