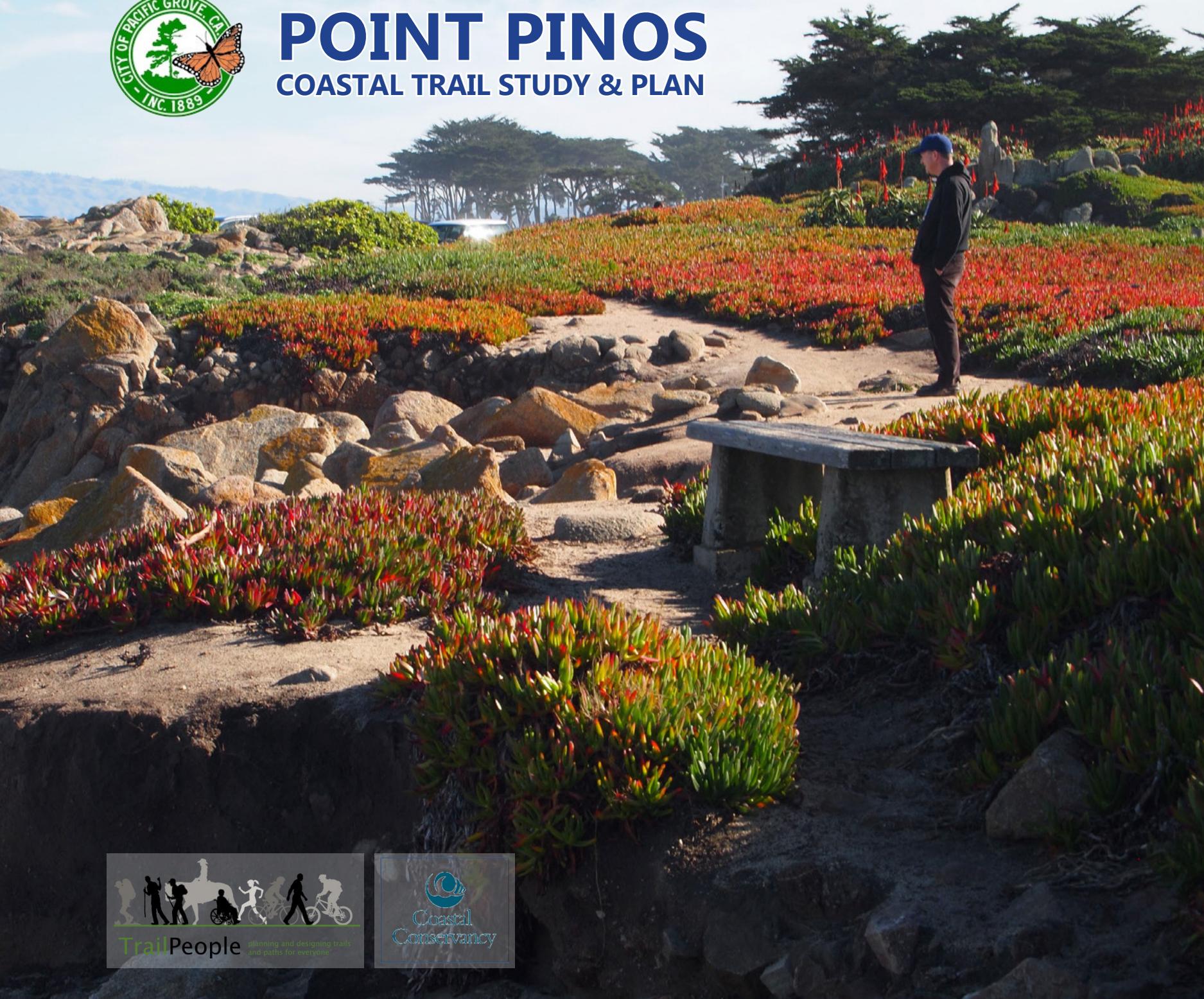




POINT PINOS

COASTAL TRAIL STUDY & PLAN



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COASTAL TRAIL STUDY AND PLAN

City of Pacific Grove, California, 300 Forest Ave, Pacific Grove, CA 93950
June 26, 2017

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1

Introduction and Overview



1 INTRODUCTION AND OVERVIEW

1.1 PROJECT OBJECTIVES AND SETTING

This project study, funded by the California Coastal Conservancy and the City of Pacific Grove, addresses a .8 mile stretch of coastline in the City of Pacific Grove generally known as Point Pinos. Pt. Pinos is at the northern point of the Monterey Peninsula and faces north toward Alaska (see Figure 1). Its rugged rocky shoreline was formed by frequent pounding by storm-driven waves (see Photo 1). Currently, the California Coastal Trail (CCT) exists along the entire coast of the City of Monterey and along 3 of the 4 miles of the City of Pacific Grove's coast, except at Pt. Pinos. The Point Pinos Trail Project will complete the CCT, eliminate existing informal trails that encroach into sensitive dune habitat, improve bicyclist and pedestrian safety and enhance the user experience. The overarching goal is to facilitate public enjoyment of the Point Pinos coastline in a

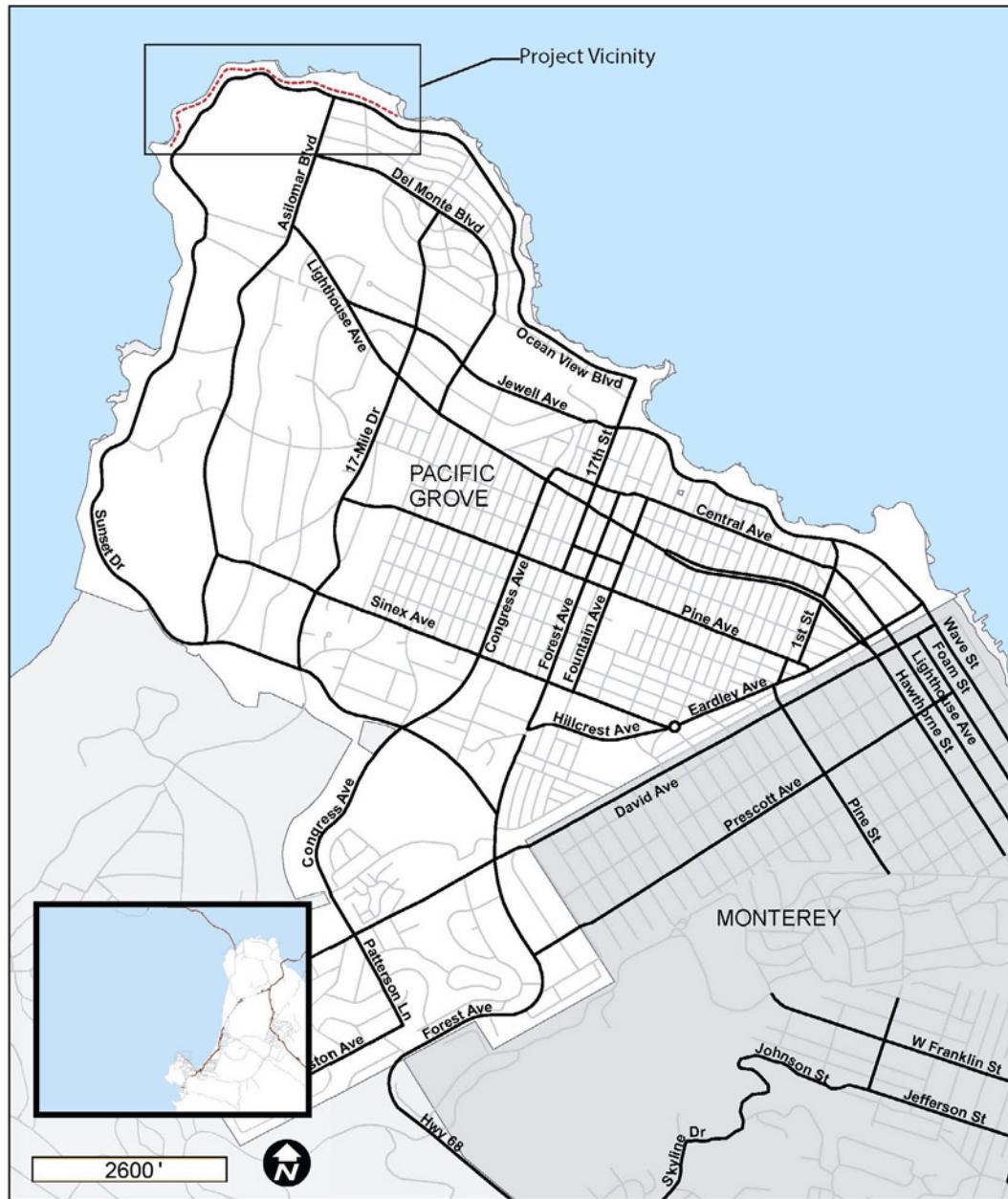
safe and environmentally responsible manner. A formal coastal trail, envisioned as a 5 foot wide decomposed granite (D.G.) surface, will make it easier and safer for people to walk along the coast. This formal trail will provide greater coastal access to those with limited mobility. The project will include formalized and consolidated lateral access to the shoreline in the form of steps or ramps.

The trail will be seaward of Ocean View Boulevard – a city road that follows the coastline. It will be located within a narrow strip of coastal land that features existing informal foot paths and a series of D.G. surfaced parking lots. East of the project area the existing coastal trail ends approximately half way between Coral Street and Acropolis Street in the form of a 5 foot wide D.G. path along the curb adjacent to Perkins Park. Maintenance-level path improvements and an improved shoreline access are anticipated in this area. On the west end are paths in Asilomar State Beach and soon to be constructed paths in the adjacent Great Tidepool site owned by the City.



PHOTO 1: THE ROCKY COAST OF PT PINOS

FIGURE 1: STUDY AREA LOCATION





1.2 CURRENT PROJECT SCOPE

The current study and plan is funded by a grant from the California Coastal Conservancy, a state agency that facilitates implementation of the CCT and other coastal protection and access projects. The grant is augmented by City funds. The scope of the consulting contract for the project includes technical studies of coastal erosion, future sea level rise, biological resources, cultural resources, parking and access, and pertinent existing conditions, plans and policies that apply to the project.

Working with a project advisory committee composed of appointed community representatives and led by the Director of Public Works, the consultant team was responsible for preparing preliminary alternatives, selecting the preferred alternative based on committee and public input, and refining it into a plan. City Council decision and Coastal Commission staff conditions. This entails completing environmental analysis to comply with the California Environmental Quality Act (CEQA), preliminary engineering design and securing a Coastal Development Permit, followed by preparation of construction documents, and assistance with oversight of the bidding and construction process. The project grant does not include funds for construction - they will need to be secured through a separate process.

PHOTO 2: EXISTING INFORMAL TRAILS

1.3 PROJECT CHALLENGES

The Pt. Pinos coastline is very popular with visitors and local residents for views and access to the highly scenic coastline with its beaches, rock formations and tidepools. The free parking immediately adjacent to the shore is an attractive opportunity, and the lots and roadside parking often fill to capacity during peak visitor periods. However, the shoreline is exhibiting significant erosion and loss of native vegetation through a combination of erosion from waves, runoff, compaction by cars and people, and burrowing ground squirrels. Though there are informal trails (see Photo 2) in the gaps between parking areas, parked vehicles, often including large RVs, dominate the scene and occupy the space where a coastal trail would logically go. This project provides the opportunity to address these issues with a thoughtful and balanced design that will improve habitat, protect sensitive coastal resources, and provide trail and parking facilities that will be more sustainable and enjoyable in the long term.

A major challenge for the project is that much of the proposed trail and most of the existing parking lots are in the current wave impact zone and within the area that is estimated by project engineers to erode into the sea within 30 years (see Photo 3). Both City policies and Coastal Act policies enforced by the California Coastal Commission dictate an “adaptive retreat” response to these inevitable coastal forces, rather than adding or maintaining coastal protection structures unless it is determined that there is no feasible alternative. For this reason, rather than simply adding a trail, the project requires planning for adaptive retreat; to potentially remove or move the parking, restore coastal habitat, gradually relocate the trail inward, and even to plan for the eventual relocation or closure of the coast-side road. At the same time, City and Coastal Commission policies call for protection and expansion of coastal access, including the California Coastal Trail. The project must carefully balance accommodating access and with accommodating nature. It is really a plan for the overall future of Pt. Pinos – not just a trail.



PHOTO 3: EXISTING TRAIL
AND EROSION

1.4 PROJECT ADVISORY GROUP

To guide the study and plan the City solicited applications from the public and formed an eight-member volunteer committee. All the members have significant knowledge of coastal resources and/or involvement with City government, including the City Council, Traffic Commission, and Beautification and Natural Resources Commission. An initial meeting was held on December 2, 2016 at which the project scope and objectives were reviewed; challenges and opportunities discussed; and preliminary alternative concepts for the project configuration identified. A meeting to review preliminary alternatives and select short-term and long-term alternatives was held on March 24, 2017. A public workshop was held on May 24, 2017 at which further input was received on the project, in addition to written comments. Meeting and workshop notes are contained in Appendix F.

1.5 EXECUTIVE SUMMARY

The technical studies of existing conditions, constraints and opportunities summarized in this report and detailed in the appendices identified the following key considerations:

Existing Parking and Facilities: The existing parking is not striped with lanes and spaces and it is not possible to do so in a gravel/decomposed granite lot, though with signs and edge barriers it could be more organized and efficient. The parking competes with space for the trail, so the parking would need to be moved back in any scenario where a separate formal trail is established. This would result in loss of parking, especially where the project is designed to respond to coastal retreat. There are areas of iceplant at the eastern area of the project site where parking could potentially be expanded to make up for lost parking. Significant reduction of parking or shifts in parking/access locations could have local traffic or neighborhood parking impact.

There are very few utilities in the project area – only a sewer force main located in Ocean View Boulevard near Crespi Pond, which is within the wave impact zone and may eventually need to be moved, along with other facilities.

Geology and Hydrology: Much of the existing parking areas and prospective formalized trail alignment are within the current wave run-up area (the reason the parking areas have traditionally been closed during storms). Parts of Ocean View Boulevard are also within the

current wave run-up area. These areas are also generally within the estimated 30 year coastal retreat setback line identified in the study, with the implication that all of these facilities will need to be moved out of that zone within the 30 year timeframe. Apparent wave run-up was considered in the analysis of coastal erosion and retreat, but this was not formally delineated as a zone because it is highly variable during storms due to wind, tides, currents, and shifting sandbars.

Surface drainage and erosion from both wave impact and rainfall are significant constraints and considerations for design – existing ditches and culverts need to be accommodated, but generally concentration of drainage should be avoided and the natural “sheet flow off the coastal bluff should be preserved.

There are areas along and within the existing parking areas that are built on fill with informal shoreline protection consisting of local rock. Some of these are deteriorated and would need repair and ongoing maintenance as long as they are used for facilities within the coastal retreat setback area.

Plans and Policies: The California Coastal Act gives the Coastal Commission jurisdiction over the coastal band. Both Coastal Commission regulations and policies and the City's own Local Coastal Plan and implementation program require an approach of adaptive retreat in response to coastal erosion and sea level rise, with shoreline protection structures allowed only when other alternatives are shown to be infeasible.

Biological Resources: The Project area supports a special status species, Tidestrom's lupine (a State and Federally-listed endangered plant species). The location of this species is depicted on the project vegetation maps. In addition, the site may support nesting birds; nesting birds are protected. Records indicate the rocky intertidal supports the black oystercatcher, a “special status species” according to the U.S. Fish and Wildlife Service due to its rarity and vulnerability to a number of threats. Though widespread, the black oystercatcher is on the 2014 State of the Birds Watch List, which lists bird species that are at risk of becoming threatened or endangered without conservation action due to climate change.

Cultural Resources: There are recorded cultural resources – basically shell middens from prior use by Native Americans – located across many areas of the site that are constraints for locating the trail or modifying parking areas. The mapped locations are not being made public due to

their sensitivity. Locating trails in these areas would require measures such as capping the materials with soil to prevent disturbance. These and other measures will be resolved during the environmental analysis and construction document phases of the project.

Preliminary Alternatives

Besides the “No Project” alternative, based on input from the advisory committee, the technical studies, and California Coastal Commission staff four alternatives were delineated:

2012 Concept Plan Alternative – The trail is formalized generally along the edge of the current shoreline and parking areas, with the existing parking set back and reorganized to allow room for the trail.

“Adaptive Retreat” Alternative 1 – Many existing parking areas are closed or reduced to move them, and most of the trail, outside the 30-year coastal retreat setback. The southern portion of the eastern-most parking lots are re-designed and expanded to regain lost parking in the current iceplant areas. The coastal trail is assumed to remain within the 30-year setback where moving inland is constrained by Ocean View Boulevard.

“Adaptive Retreat” Alternative 2A and 2B – The coastal trail is moved beyond the 30-year setback, which requires that Ocean View Boulevard is also moved or removed where it encroaches. Most of Ocean View Boulevard near Crespi Pond is within the setback line. 2A is a concept to close the road but maintain a bike path/maintenance road. 2B is a concept for a one-way road, however this would require encroaching into Crespi Pond, which is assumed to be infeasible.

Selected Phased Project

Based on input at the March 24, 2017 City Advisory Group meeting, Adaptive Retreat Alternative 1 (see Figure 2) was selected as the preferred short-term or Phase I project. Adaptive Retreat Alternative 2A (see Figure 3) was selected as the preferred long-term or Phase II project, which would be undertaken at such time as sea-level rise necessitated it, or earlier if the City decided to proceed with it.

The projects reflect an emphasis in City and Coastal Commission policies on avoidance of formal shoreline protection structures, an adaptive retreat approach to coastal erosion and sea level rise, restoration of natural habitat in this portion of the coast, and a more balanced accommodation

of modes of access – walking, bicycling, and assistive devices along with automobile, RV and bus access.

The following section (Section 2) of this report describes the resulting plan.



2 Plan



2 PLAN

The Final Plan reflects amendments and responses to comments from input provided by the committee and at the public workshop.

2.1 PLAN AND PROJECT DESCRIPTIONS

The basic objective of the project is to construct a 5' wide decomposed granite (DG) surfaced coastal trail to connect from the existing curb side trail near Acropolis Street west to the trail currently under construction at the Great Tidepool site – a distance of approximately 0.8 mile. A further objective is that the trail will be located outside of the 30 year coastal retreat setback line that was identified by the project consultants (the red line on the plan), except where moving the trail beyond this line is constrained by the current alignment of Ocean View Boulevard. In these cases the trail will be along the north side of the road, such as at Crespi Pond (see top cross section in Figure 3).

Constructing the trail beyond the setback line involves removal or relocation of many of the existing informal DG parking areas along the shoreline. Relocating the parking beyond the 30 year setback line is a project objective in its own right, along with restoring the former parking and driveway areas back to natural habitat. Many of these parking areas are built on rubble fill with rock rip-rap edges. The best methods for facilitating their gradual erosion and revegetation back to a more natural condition will be resolved during the construction document phase, but is likely to entail a phased approach with a careful balance between modification of the existing conditions and letting nature take its course.

Another project objective is to avoid net loss of parking. The parking in the existing lots cannot be precisely counted, but an approximate inventory was made on the Existing Conditions map (see Appendix A) based on observed parking patterns and assumptions about the average level of RV use. The existing lots in the western portion of the project area are long and narrow and tend to be within the 30 year coastal retreat setback line.

Short-Term Plan

In the Short-Term Plan, the parking areas are mostly closed or significantly reduced, except for lots 2 and 4a. Conversely, the lots at the eastern end of the project area – 5/5a, 6 and 7, are reorganized, shifted south into existing iceplant areas, and expanded to compensate for the parking lost on the west end. Based on the reorganization and expansion of the eastern parking areas (5/5a, 6, and 7) there is no net loss of parking.

The driveways and parking in the new plan will be more clearly delineated than the current parking. Parking area access will be one-way loops, and parking will primarily be angled, indicated by signs and timber wheel stops. Designated concrete surfaced ADA parking, a tour/school bus drop-off area, and limited designated spaces for RV parking are identified in the plan. A series of beach/shoreline access points are shown, with the objective of closing and consolidating the many “volunteer” access routes that exist. The locations are intended to be mostly sheltered from wave erosion. They would be of timber construction to blend better into the natural setting. Overall all signs and fixtures, including existing regulation and interpretive signs and benches, are intended to be low-key and to blend into what will be a more natural looking shoreline less dominated by vehicles.

Long-Term Plan

Coastal Commission permit requirements dictate, and the City's project objectives also dictate, that there is a plan for further response to coastal retreat the moves all facilities, including the trail and Ocean View Boulevard, beyond the 30 year retreat line. This plan would be a condition of the Coastal Development Permit for the project. Its implementation requirement would be triggered by a specific average sea level measurement that is specified in the City Local Coastal Plan, although it could be implemented earlier if the City desired.

In the Long-Term Plan (see Figure 3) Ocean View Boulevard is closed as a public road between Asilomar Avenue and Sunset Drive/Lighthouse Avenue. The roadway would be converted to a two-way bike path to replace the existing bike lanes (see bottom cross-section in Figure 4). The bike path would also serve as a maintenance access to the sewage treatment plant and restrooms. The surplus pavement areas and former parking areas would be restored to habitat, as indicated by the green areas, except for maintaining lateral access to designated shoreline access points or overlook areas, and retaining paved turnouts at regular intervals so bikes could pull off for maintenance vehicles on the road, or the reverse. This plan results in the closure and removal of all the remaining existing parking in the western portion of the project area – 41 out of 110 spaces. The parking at the eastern portion of the project area remains unchanged from the Short-Term Plan.

The Long-Term Plan would result in a far more natural stretch of coastline, without the presence of parked vehicles and traffic. The reduced access for people who are unable or disinclined to walk or bike to reach the center of the natural shoreline zone could potentially be addressed with an electric shuttle service, if warranted by demand.

FIGURE 2: SHORT TERM PLAN

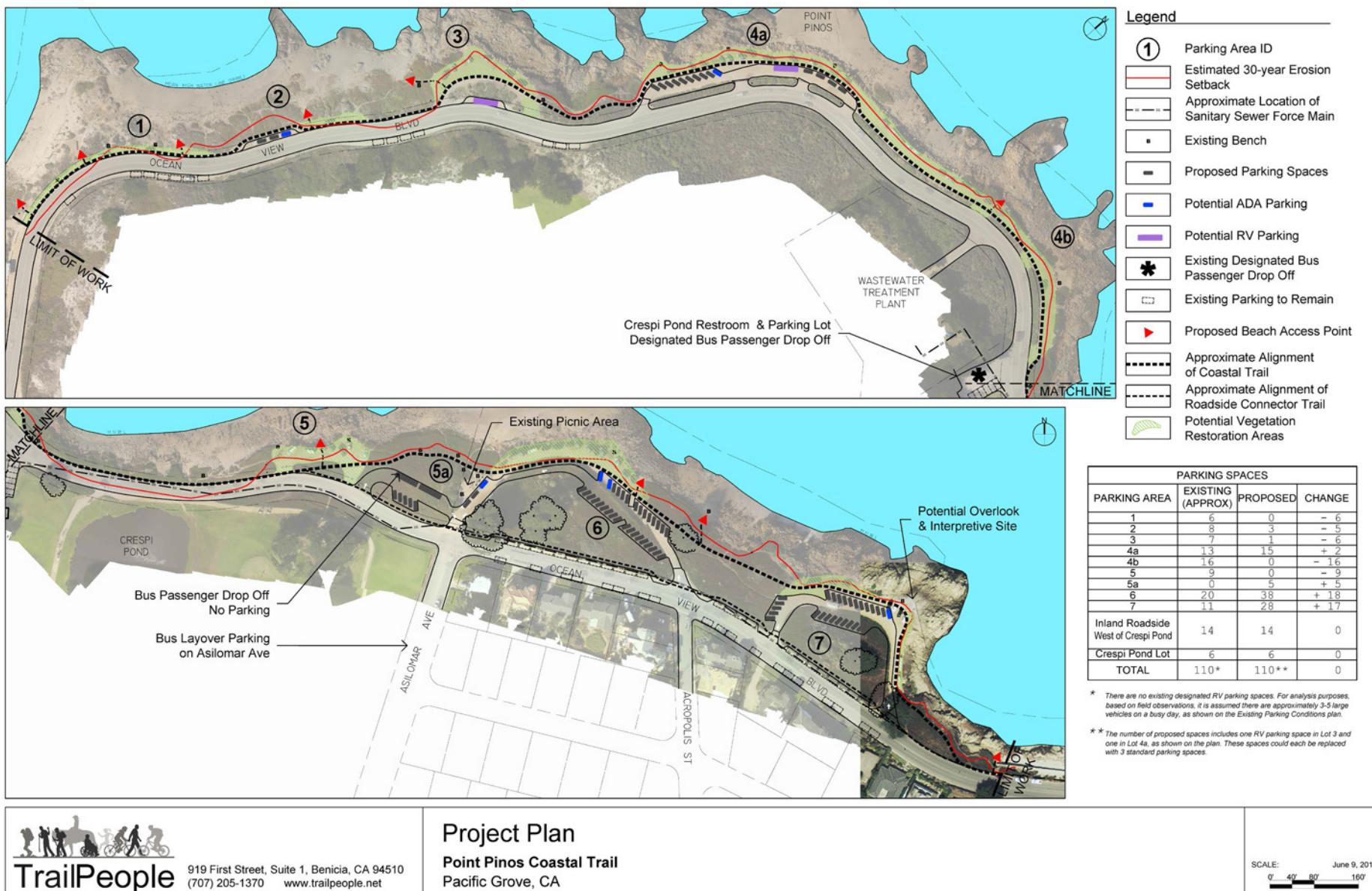


FIGURE 3: LONG TERM PLAN

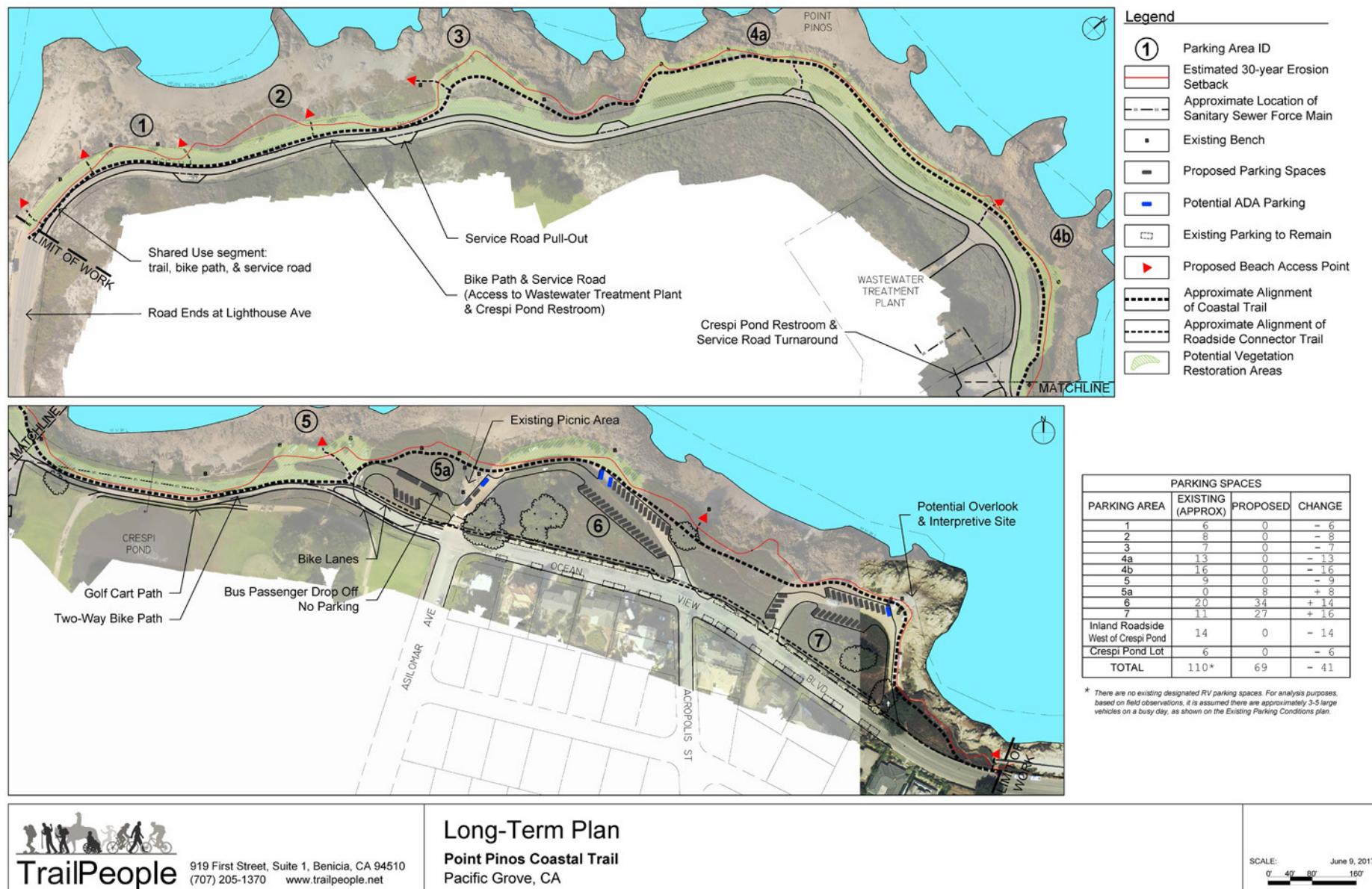
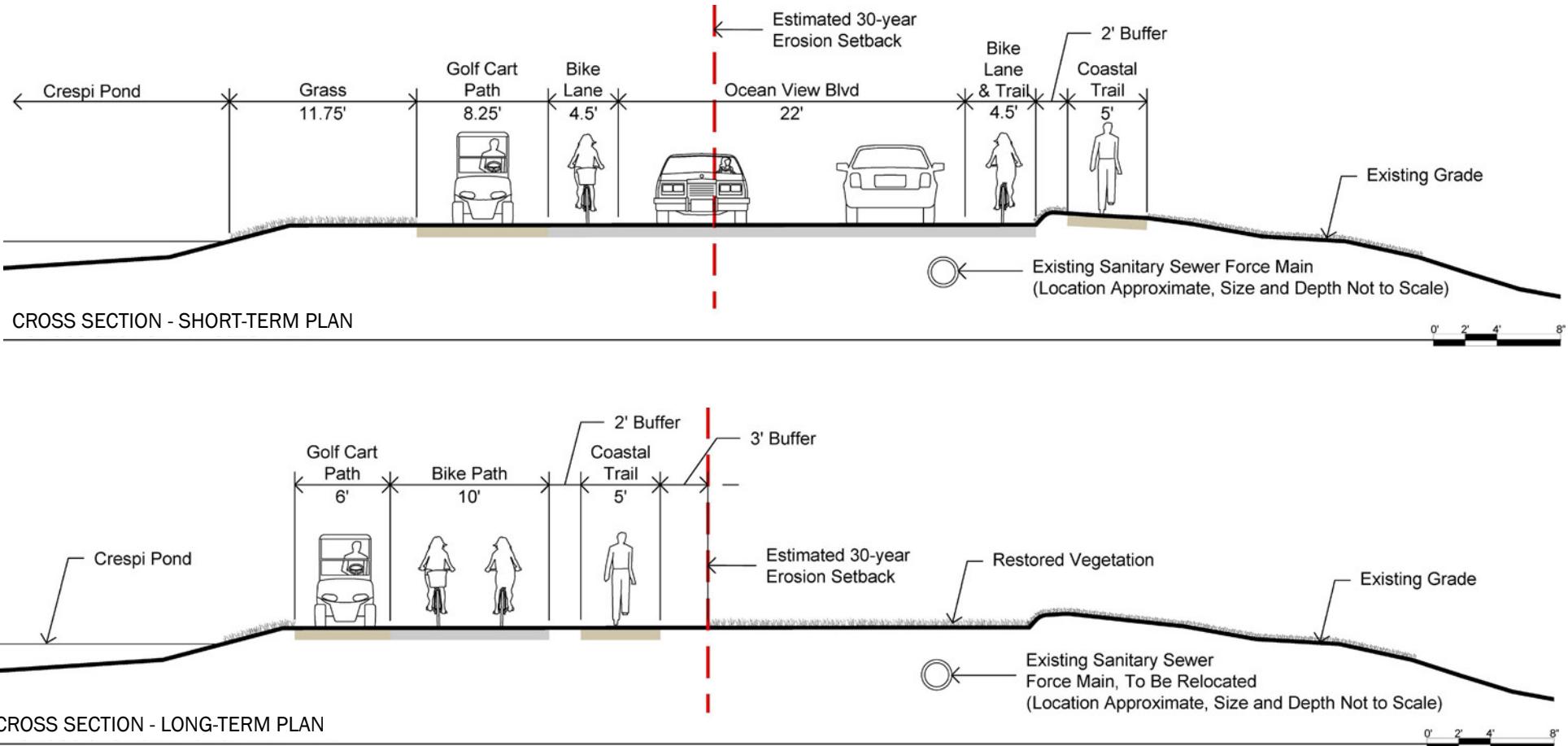


FIGURE 4: SHORT TERM AND LONG TERM CROSS SECTIONS AT CRESPI POND





3

Existing Conditions, Opportunities and Constraints



3 EXISTING CONDITIONS, OPPORTUNITIES AND CONSTRAINTS

This section provides more detail on the conditions in the project area that present opportunities and constraints for the future parking and trail configuration. It summarizes technical studies that are provided in detail in the appendices.

3.1 PARCELS AND OWNERSHIP

PHOTO 4: EXISTING PARKING AREA



3.2 ACCESS AND PARKING

Ocean View Boulevard stretches most of the length of the project area, changing to Sunset Drive at Lighthouse Ave at the east end of the project area. Ocean View Boulevard is a gently curving two lane City road with bike lanes striped on each side.

Vehicular parking is available along the roadway, in a designated paved parking area near Crespi Pond, and in several informal off-street parking areas on the shoreline side of the roadway.

Other than the paved parking lot on the south side of Ocean View Boulevard near Crespi Pond, all parking areas within and near the project area are surfaced with decomposed granite (D.G.)/crushed rock and have no delineation of lanes or spaces. The parking areas are generally bounded by vegetation and the coastal bluff or beach. Vehicles typically park as close to the shoreline as possible. Mid- and large-sized recreational vehicles are common in these parking areas, as are tour buses bringing short term visitors, and school buses for field trips.

At the west edge of the project area, adjacent to the Great Tidepool site there are roadside parallel parking areas adjacent to fenced habitat mitigation areas and trails through the dunes. In these spots, signs urge drivers to pull entirely off the pavement to keep the bike lane clear (see Photo 6).

¹ Rocky Shores is located just south of the Great Tidepool Site in Asilomar State Beach. Rocky Shores was the location of a recently completed pedestrian trail, the Rocky Shores Trail Link, and is cited by the 2012 City subcommittee as a potential guide and regulatory roadmap for the Pt. Pinos Trail project.

A welcome sign and an interpretive sign introduce visitors to the Great Tidepool site. Further east along Ocean View Boulevard parallel parking is available in two lots along the road. Further east is the first of 5 larger crescent-shaped parking lots with space for angled parking. Several of these lots are built on fill that was placed decades ago, with native or imported boulders used along the edge as “rip-rap”. The City has maintained the lots over the years by repairing the fill edge and rip-rap.

There is no existing ADA compliant parking, and no designated large-vehicle parking, however there are specific areas where tour buses access is restricted (see Photo 7). Parking is free and available every day of the year from 5am to midnight, except during large swells and/or big storm events, when the parking lots are closed. Posts and plastic chains are located at each entrance to facilitate these closures.

Due to the informal nature of the parking areas, an exact quantification of the current number of parking spaces is not possible. Based on field observations and examination of aerial photography, there is currently space for approximately 3-5 large vehicles and 90-95 standard vehicles. The nearest public transportation is approximately a quarter mile away. Monterey-Salinas Transit (MST) Bus Route 1 runs buses almost every hour from downtown Monterey with stops at the intersection of Acropolis and Del Monte and at the Lighthouse.

Bike lanes exist on both the east and west directions of Ocean View Boulevard (see Photo 8). Riders of all levels use this route – from families with young riders to experienced long-distance road cyclists. Bike rentals are available in Monterey, and the ride along this stretch between Monterey and Asilomar is advertised as the prime attraction for bike renters. Pedestrians often walk in the bike lane, even when there are adjacent informal trails, sometimes forcing bicyclists to move out into the traffic lanes.



PHOTO 5: EXISTING PARKING AREA WITH RV



PHOTO 6: SIGNS URGING DRIVERS TO KEEP CLEAR OF BIKE LANES

FIGURE 5: STUDY AREA SETTING



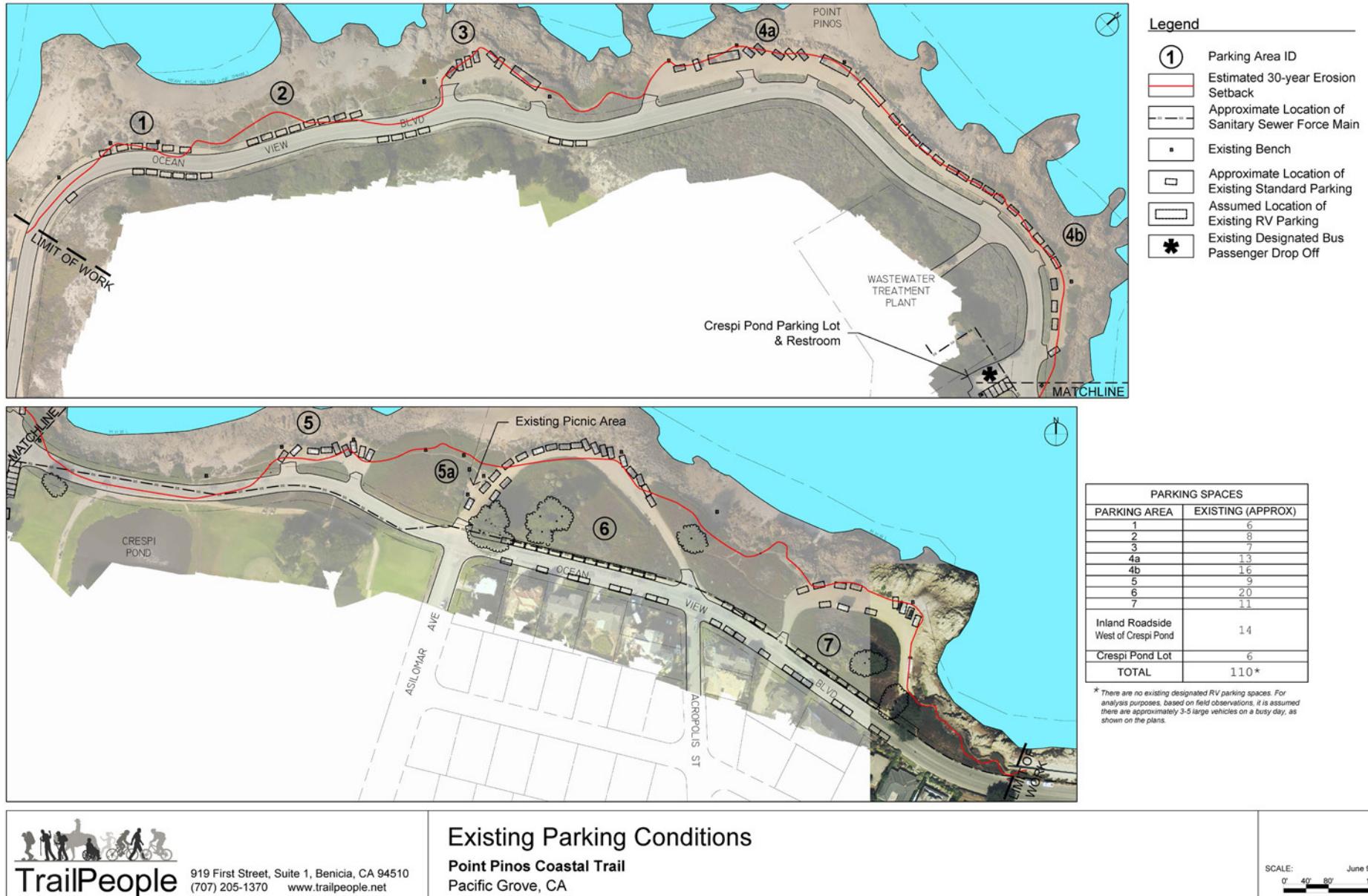


PHOTO 7: AN EXAMPLE OF WHERE TOUR BUS PARKING IS RESTRICTED



PHOTO 8: EXISTING BIKE LANES ON OCEAN VIEW BOULEVARD

FIGURE 6: EXISTING PARKING CONDITIONS



3.3 TRAILS AND AMENITIES

Numerous “social” trails created by use connect the parking lots and provide access to the shore, in some cases exacerbating erosion and/or degrading native vegetation. In some sections pedestrians must walk along the roadway, as the shoreline extends to nearly to the edge of the road. These informal trails provide multiple options for getting down to the beach, many of which are steep and eroding. Erosion at the edges of the parking areas and trails is exacerbated by wave impact, as discussed in the Geology and Hydrology section, and by tunneling ground squirrels, which are often fed by the public, in spite of signs urging them not to.

Set along these trails and within the parking lots are approximately 20 existing benches, 5 interpretative signs, and two monument rocks, including the John Denver crash site memorial in parking area 6. In the eastern part of the project area, in parking area 6, there is a picnic area with 3 tables and barbecue pits.

3.4 USERS

The shoreline and bluffs along Pt. Pinos are a popular destination for visitors and residents alike. Uses include biking, walking, wildlife-watching, photography, picnicking, tide-pooling, scenic driving, and daytime camping. Visits range from very short to day-long stays. Short-term visitors typically stay for just a few minutes – long enough to take pictures and enjoy the view. Medium-term visitors stay long enough to explore the shoreline. Longer term visitors may stay for several hours or the entire day, sometimes setting up tents or other temporary structures adjacent to their vehicle. Some RV users occupy the site virtually every day, moving to Asilomar Avenue near the cemetery or other locations during the night when the coastal parking is closed.

3.5 UTILITIES

There are very few utilities within the project area. A City utilities map is presented in Figure 7. The only facilities in the project area are a few existing culverts that provide drainage across Ocean View Boulevard or the parking lots to the beach, as noted on the Existing Conditions Inventory maps contained in Appendix A. An abandoned concrete pump station sits along the bluff in the middle part of the project area, with an unused discharge pipe extending into the bay. An old sewage treatment facility on the south side of Ocean View Boulevard opposite the middle of the project area is in the process of being upgraded and re-opened by the City as part of a

FIGURE 7: CITY UTILITIES IN THE PT. PINOS AREA

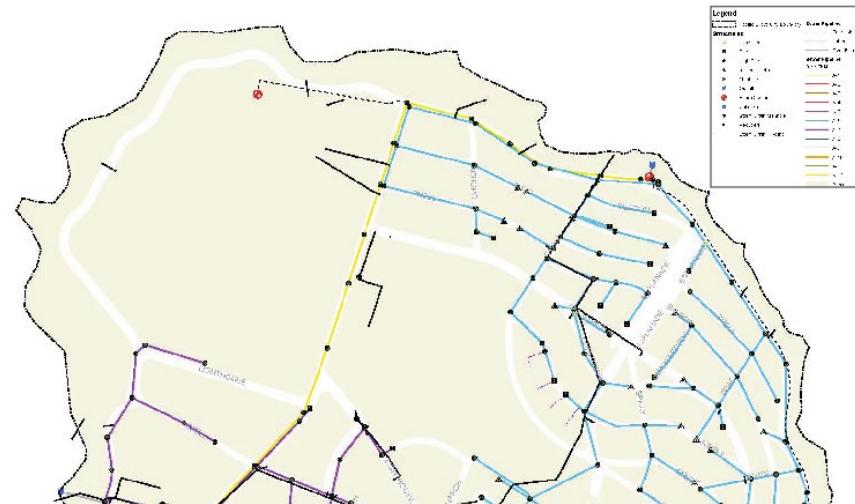


FIGURE 8: RECOMMENDED PLAN FOR THE LOCAL WATER PROJECT



program to reduce discharge of untreated sewage into Monterey Bay, known as the Pacific Grove Local Water Project. In addition to the planned sewage treatment and reclaimed water delivery improvements the project includes a pump station and sewer force main located in Ocean View Boulevard to serve the Crespi Pond restrooms (see Figure 8).

3.6 ADJACENT LAND USES AND FACILITIES

The land uses and facilities surrounding Pt. Pinos are pertinent for context and because they could potentially be affected by changes in parking or access to the site (see Figure 5 for locations).

3.6.1 Along Ocean View Boulevard

The City-owned Great Tidepool site borders the project area to the southwest. In addition to containing a tide pool famous for its use by marine biologist Doc Ricketts, immortalized by John Steinbeck, this site is an approximately 3.5-acre dune restoration area associated with the Asilomar State Park ADA Improvements project. It features native plants, post/cable fencing around sensitive areas, and interpretive signage. Pathway and boardwalk improvements are currently under construction to extend through the site and connect to the envisioned Pt. Pinos Coastal Trail.

The Pacific Grove Golf Links, owned and operated by the City, border the inland side of Ocean View Boulevard for most of the project area. This includes large areas of restored native vegetation. These habitat mitigation areas also extend into some of the medians between Ocean View Boulevard and the Pt. Pinos parking areas, as discussed further in the Biological Resources section.

The northeastern-most corner of the project area along Ocean View Boulevard is opposite a single family residential neighborhood from Asilomar Avenue to approximately half way between Acropolis Street and Coral Street, including approximately ten properties that overlook the project area.

To the southwest of the project area Sunset Drive continues through Asilomar State Beach in a similar character to the project area, with more formalized trails and parking. The parking and access in this area is managed by California State Parks. Asilomar State Beach and Conference Grounds (Asilomar) is managed by the California Department of Parks and Recreation in partnership with a concessionaire that operates the Conference Grounds. Asilomar also contains the 25 acre Asilomar



PHOTO 9: EXISTING SIGNAGE AT THE GREAT TIDEPOOL SITE



PHOTO 10: VIEW OF THE GOLF LINKS LOOKING SOUTH

Dunes Natural Preserve which is an outstanding example of a restored and functioning coastal active dune ecosystem.

3.6.2 Along Lighthouse Avenue

Lighthouse Avenue has approximately 20 feet of pavement width and meets Sunset Drive to the southwest of the project area. This narrow road has three residences on the south side, and a NOAA facility on the north. The current curb-to-curb width precludes any on-street parking.

The former site of the National Oceanic and Atmospheric Agency (NOAA) Southwest Fisheries Science Center (SWFSC) Environmental Research Division (ERD) is located on Lighthouse Avenue at the corner of Asilomar Drive. The site includes four acres and was originally part of the U.S. Coast Guard facilities for the Point Pinos Lighthouse. NOAA no longer has major operations at the Pt. Pinos site, and most ERD employees have been transferred to the neighboring Monterey NOAA facility, or to the new fisheries center in San Diego. The federal Government Services Administration (GSA) is responsible for future use and/or lease or disposal of the parcel.²

² From conversations with Pacific Grove Senior Planner.



PHOTO 11: NOW-CLOSED NOAA ENVIRONMENTAL RESEARCH DIVISION FACILITY

3.6.3 Along Asilomar Avenue

Asilomar Avenue has approximately 40 feet of pavement width and meets Sunset Drive where it turns into Ocean View Boulevard, near the eastern end of the project area (see Figure 9).

The west side of this roadway is abutted by the golf course and the historic Point Pinos Lighthouse facility, which has been transferred from the Coast Guard to the City. The Point Pinos Lighthouse dates to the mid-1800s, and is the oldest continuously-operating lighthouse on the West Coast, having been in service since 1855. There are 21 pull-in parking spaces just south of the Lighthouse entrance, and 15 pull-in parking spaces just north of the entrance. On-street parallel parking is allowed north and south of these parking areas, but not between them.

The east side of the road is lined by residences from Sunset Drive/Ocean View Boulevard to Del Monte Boulevard. South of the residences, a golf course parking area provides 84 off-street parking spaces. South of the parking lot on the west side the road is adjacent to a restaurant, chapel, and cemetery. On-street parallel parking is allowed across the street from the residences and on both sides of the street south of the lighthouse and chapel.

FIGURE 9: EXISTING PARKING ALONG ASILOMAR

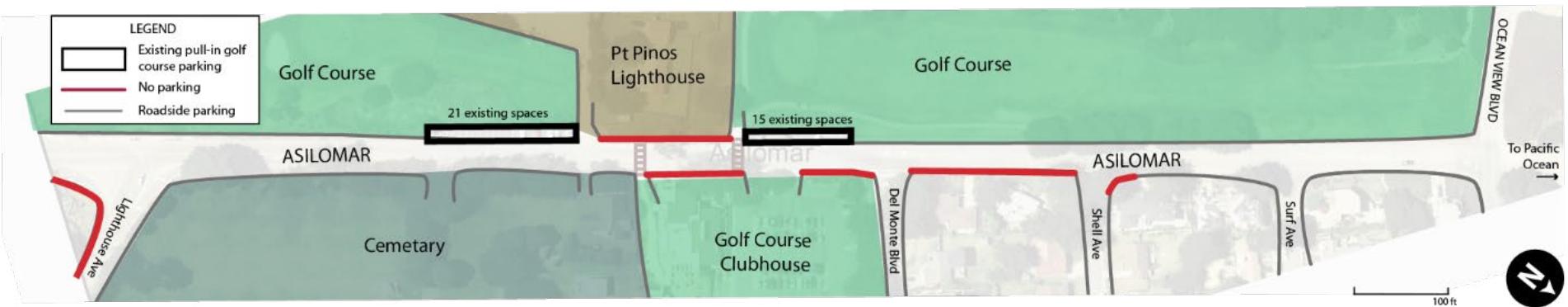


PHOTO 12: ASILOMAR LOOKING SOUTH

3.7 GEOLOGIC & HYDROLOGIC ASSESSMENT

The geologic and hydrologic conditions were assessed based both on existing conditions, and projected factors based on observed rates of erosion and sea level rise. The geologic and hydrologic assessment was completed by Mark Foxx, Engineering Geologist, CEG, of Haro, Kasunich & Associates, Geologists and Geotechnical Engineers; and Timothy C. Best, Engineering Geologist, CEG.

The primary objective of this geologic and hydrological assessment was to establish a 30-year erosion setback line, or where and how far inland the bluff is projected to be in the year 2047. The full Coastal Erosion and Bluff Recession Analysis Report is contained in Appendix D.

3.7.1 Existing Coastal Erosion

The intense public use reflected by the extensive informal parking areas, historic shoreline fill and protection structures, coastal erosion, and sea level rise have resulted in degraded portions of the bluff. Large boulders have been imported and deposited in some locations to create informal rock armoring. However, the bluff has continued to erode around these large rocks. (See photo 13).

PHOTO 13: EXISTING EROSION ALONG BLUFF



3.7.2 Analysis Methodology

The geologic and hydrological conditions analysis identified coastal erosion hazards in the project area that would contribute to future bluff recession. The analysis relied on historical aerial photographic analysis and considered impacts from episodic events to estimate a 30-year bluff setback line.

Specifically, to derive the 30-year setback line, the analysis took into account:

1. Average historical erosion rates
2. Expected surface runoff erosion capable of resulting in significant rilling or gulling requiring repairs outside of normal trail maintenance. This includes expected erosion from wave run-up runoff and dispersed sheet flow from properly drained trails and parking areas.
3. Acceleration of coastal erosion from future sea level rise
4. Small factor of safety

3.7.3 30 Year Erosion Setback

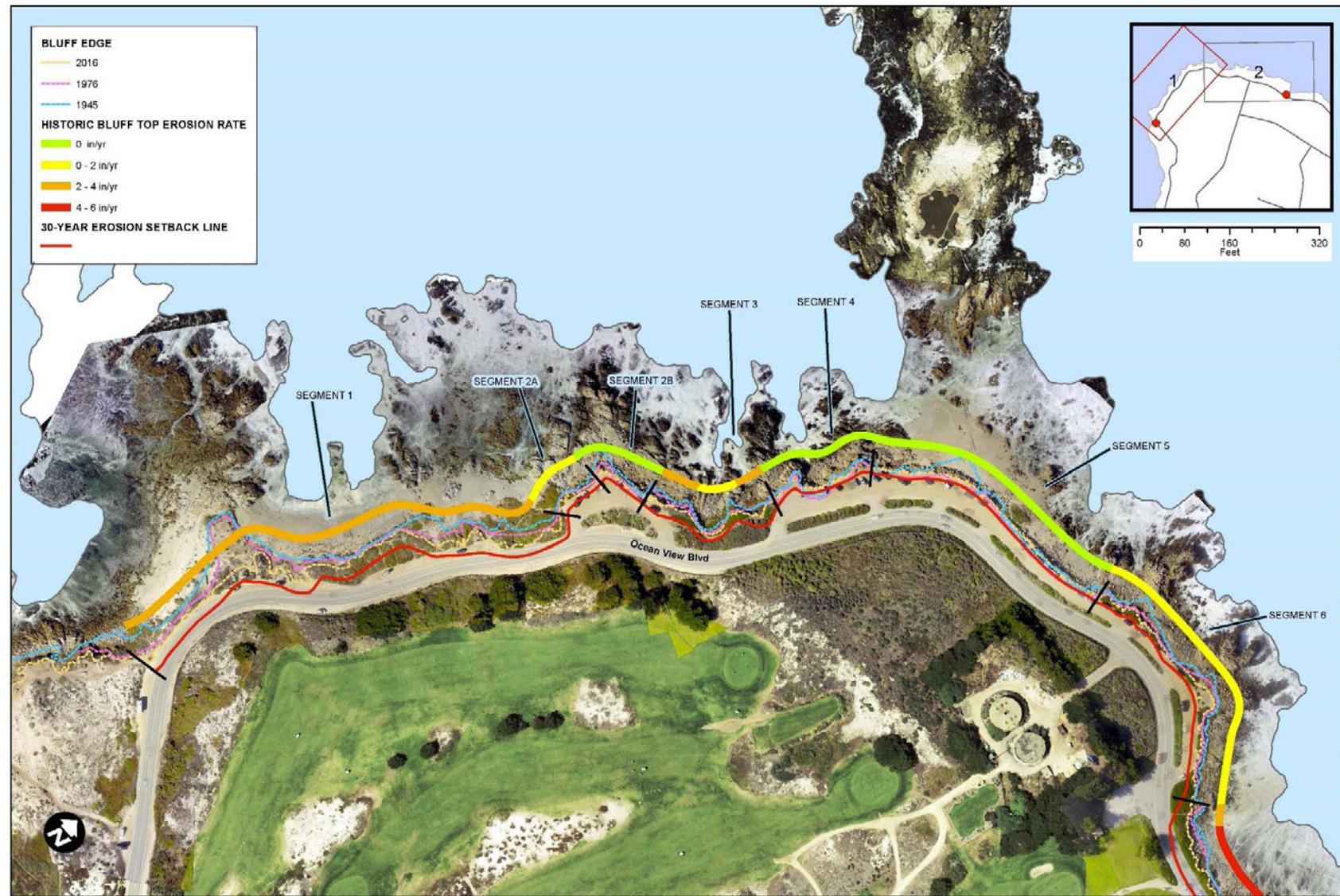
Figures 10 and 11 show the recommended 30-year erosion setback line for trails and associated development (parking areas). These setbacks suggest where to locate the trail and related facilities to avoid the need to relocate them in the next 30 years. Most of the existing parking areas and some portions of Ocean View Boulevard are within this setback line.

Beyond the erosion setback line, the engineers recommend a minimum 3-foot additional setback for pedestrian safety along bluff edge trails, and traffic surcharge loads for bluff edge parking lots. This offset may be greater or smaller depending upon bluff face configuration. Ocean View Boulevard may require greater additional setbacks.

Runoff from the proposed trails and parking areas should not be inappropriately concentrated; this will require a detailed and thoughtful planning and design for how to collect and discharge runoff over the coastal bluff, with or without storm drain pipes and point discharges. Concentrated run-off will most likely not be an issue for the trail but could be an issue with any new or redesigned parking areas, or modifications to drainage from Ocean View Blvd.

Figure 12 shows a cross-section of the existing conditions at Crespi Pond. The 30-year setback line includes most of the existing roadway. If these facilities are moved out of the 30 year setback line there is not sufficient space to accommodate the coastal trail (which would need to be on the seaward side), a public road, and a separate cart path (which would need to be on the inland side). It would be undesirable to have the coastal trail cross the road twice and have an inland alignment in this area where there is limited sight distance - users are likely to continue along the road regardless. In any scenario space for the trail (approximately 10 feet, including a recommended 3 foot buffer from the 30 year setback line) would need to be reserved.

FIGURE 10: RECEDENCE ANALYSIS - WEST



Pacific Grove Pt. Pinos Trail Improvements

Data: Trail People, Monterey County, CA Coastal Conservancy
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1 inch = 160 feet

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TIMOTHY C. BEST, CEG

ENGINEERING GEODESIST AND HYDROLOGY
1000 Columbia Street, Santa Cruz, CA 95060 (831) 423-2412

FIGURE 11: RECEDENCE ANALYSIS - EAST



Pacific Grove Pt Pinos Trail Improvements

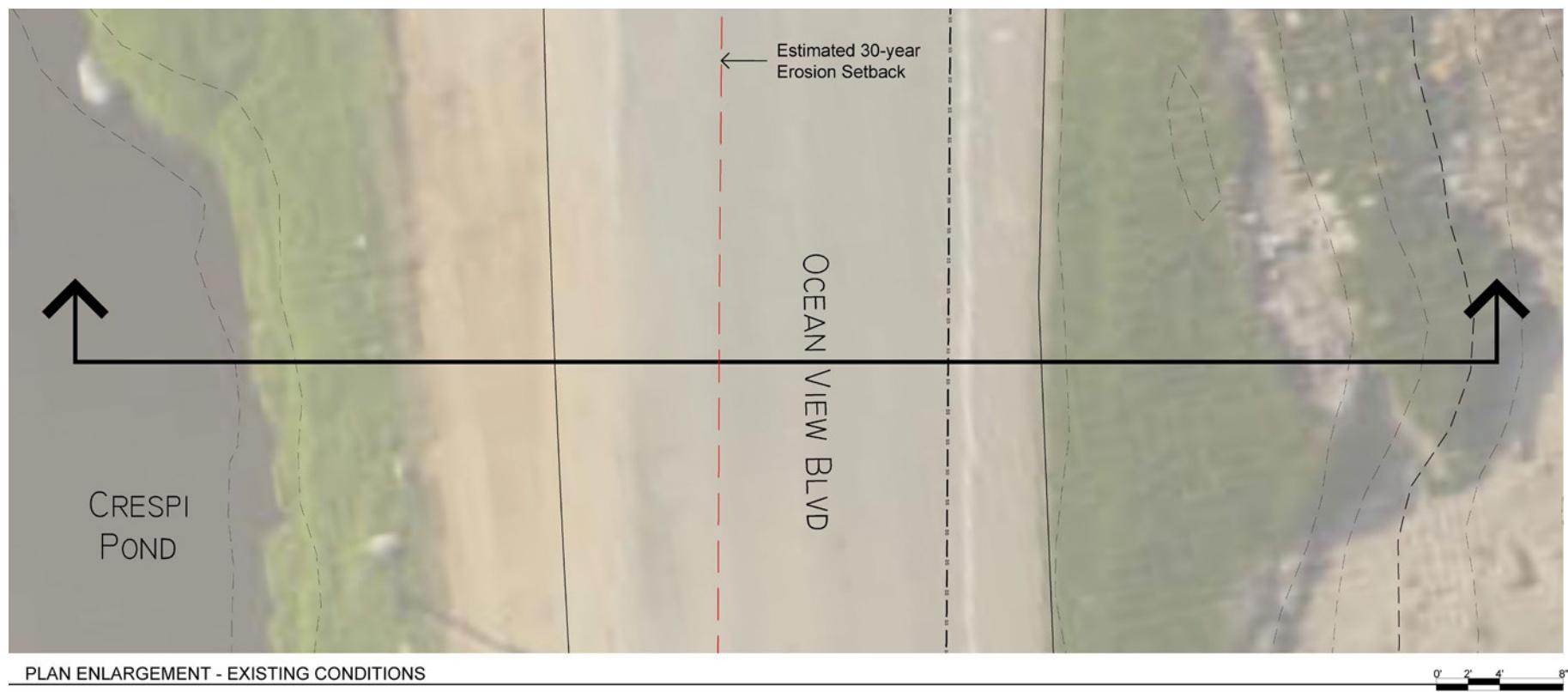
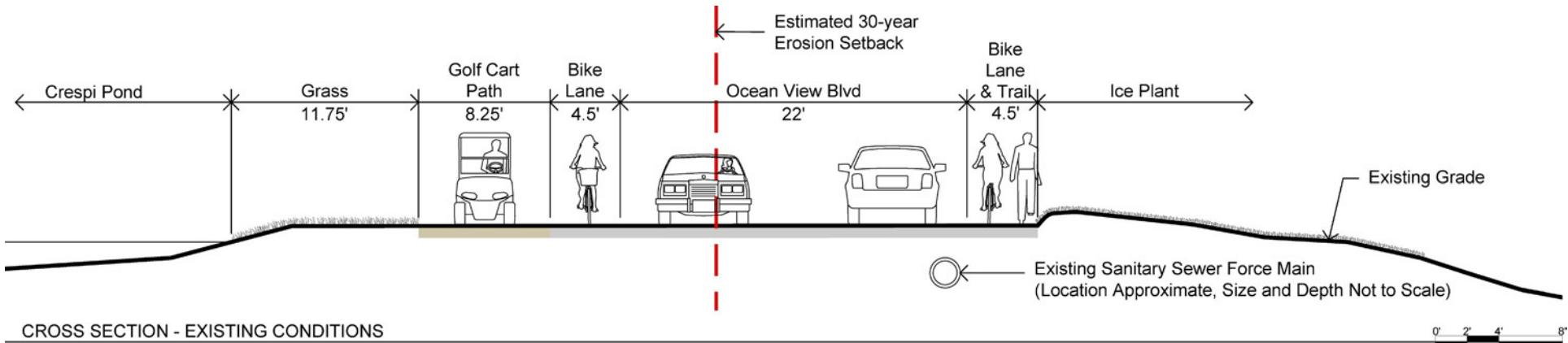
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Data: Trail People, Monterey County, CA Coastal Conservancy
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FIGURE 12: EXISTING CROSS-SECTION AT CRESPI POND



3.8 REGULATIONS, PLANS AND POLICIES

This section covers the regulatory setting and anticipated requirements for the project, including the separate jurisdictions and authorities of the City of Pacific Grove and the California Coastal Commission. Specifically, this section explains the process for securing a Coastal Development Permit, the City's ongoing and near complete effort to develop an approved Local Coastal Program, as well as past City plans and reports related to the Pt. Pinos Coastal Trail.

3.8.1 Coastal Development Permits

Development within the coastal zone typically requires a Coastal Development Permit (CDP) issued by either the California Coastal Commission (the Commission) or a local government. The Coastal Act defines development broadly and this includes activities such as constructing a coastal trail and related modifications to parking and access.

Coastal Development Permits are the regulatory mechanism by which proposed developments in the coastal zone are brought into compliance with the policies of Chapter 3 of the Coastal Act. After the Commission certifies a Local Coastal Program (LCP), most coastal development permit authority is delegated and coastal development permit applications are then reviewed and acted on by cities and counties. However, in the case of the Pt. Pinos area the Coastal Commission has retained permit authority.

3.8.2 Local Coastal Program Update

A Local Coastal Program has two components – a Land Use Plan (LUP) and an Implementation Plan (IP). The City of Pacific Grove has had a certified Coastal LUP in place since 1989, but without an accompanying Coastal Commission approved IP, the City's LCP is incomplete and the Coastal Commission has not granted the City the authority to issue its own Coastal Development Permits. In 1998 the Coastal Parks Plan was adopted and certified as an amendment to the 1989 Land Use Plan. As of this writing, the 1989 LUP and the 1998 Coastal Parks Plan are the governing documents for projects in the coastal zone.

The City is in the process of both updating the LUP and drafting the IP, with the hope of having a full LCP approved by the Coastal Commission some time in 2017. This has already been subject to public review, multiple Planning Commission meetings and edits by Coastal Commission staff to improve clarity and consistency with Coastal Act policies. On December 8, 2016, the Planning Commission unanimously recommended that the amended LCP and IP be forwarded on the City Council for approval, which is tentatively scheduled on February 15, 2017. After approval by

the City Council the documents will be submitted to the California Coastal Commission for certification. Coastal Commission certification process could take several months.

Because at present the City's LCP has not been approved by the Coastal Commission, a Coastal Development Permit for the Pt. Pinos Coastal Trail project must be obtained directly from the California Coastal Commission, whereas if the LCP was approved the City could issue the permit itself. The project could theoretically be made a part of the LCP process, but LCP preparation and review is far along and this would delay and complicate the process. The Point Pinos project involves technical studies of wave run-up, coastal erosion and retreat, biology, cultural resources, and designs for parking and access that are far more detailed and site-specific than the guiding policies in the LCP. Therefore, the decision was made that the Pt. Pinos project would move forward in parallel with the LCP process.

Once adopted by the City Council and certified by the Coastal Commission, the updated LCP will be official City policy. The policies in the amended and pending LCP should be considered as guidance for the Pt. Pinos project. Some of the pertinent policies are listed in Appendix C.

The policies clearly support preserving public access and parking and completing trails, including this specific trail project, as well as maximizing natural habitat. These policies include statements to minimize coastal protection structures and support adaptive retreat in response to coastal erosion, but they also allow coastal protection structures for recreational facilities, and use of natural boulders to dissipate wave energy. These policies cover all the alternatives for how Pt. Pinos could be dealt with in terms of formalizing the coastal trail and addressing the parking that is in the wave impact zone and subject to near-term coastal retreat. The Pt. Pinos project must find a balance between these policies based on technically feasible solutions and community preferences, and reflecting the Coastal Commission staff's interpretation and requirements.

3.8.3 Coastal Parks Plan

The City approved a Coastal Parks Plan in 1998 as an element of the Local Coastal Program Land Use Plan. The Coastal Parks Plan serves as a guiding document and implementation tool for the future of the Pacific Grove shoreline.

Since the pending Implementation Plan will soon serve as the implementation document of the Land Use Plan, the Coastal Parks Plan is included, for informational purposes only, as an appendix to the LCP.³

³ October 2016 Land Use Plan p. 7

The City intends to update the 1998 Coastal Parks Plan, including new sea level rise adaptation strategies, in accordance with the LUP policies and IP actions. For the purposes and timing of the Pt. Pinos project, the 1998 Coastal Parks Plan will be used for reference only.

3.8.4 2012 Pt. Pinos Trail Improvements Project Report

In 2012 the City Coastal Trail Improvement Subcommittee⁴ wrote a report proposing a formal pedestrian trail project along Pt. Pinos. The report summarized existing conditions and proposed a trail alignment along the bluff between the existing parking and the shoreline. The current study refers to the Coastal Trail Improvement Subcommittee alignment as the “2012 alignment,” which is further analyzed within this report as a potential alternative.

The 2012 report also included suggestions on trail design, reviewed mitigation measures, and provided cost estimates and potential funding sources, which are valuable references for the current effort.

3.9 BIOLOGICAL ASSESSMENT

The biological assessment was based on site visits conducted in October and December 2016 by Biotic Resources Group and Dana Bland & Associates to document plant communities and wildlife resources. The complete Biological Resources Assessment is presented in Appendix E. It includes a CEQA checklist to be incorporated into the environmental document.

The biological assessment provides information related to native and non-native plant species, existing degraded conditions, as well as identified potential mitigation areas. The biological assessment captured the following discrete habitats, as displayed on Figures 13 and 14:

Coastal Dune Shrub: 22 areas, 4 of which are degraded
Dune Sedge Meadow: 5 areas
Salt Grass Flat: 3 areas
Ice Plant Mats: 19 areas
Acacia Thicket: 1 areas
Aloe Stand: 3 areas
Cypress Trees: 5 areas

The assessment also identified potential mitigation areas where existing degraded areas of native species that could be restored. Approximately 8 discrete areas of CDS were identified as potential sites for mitigation.

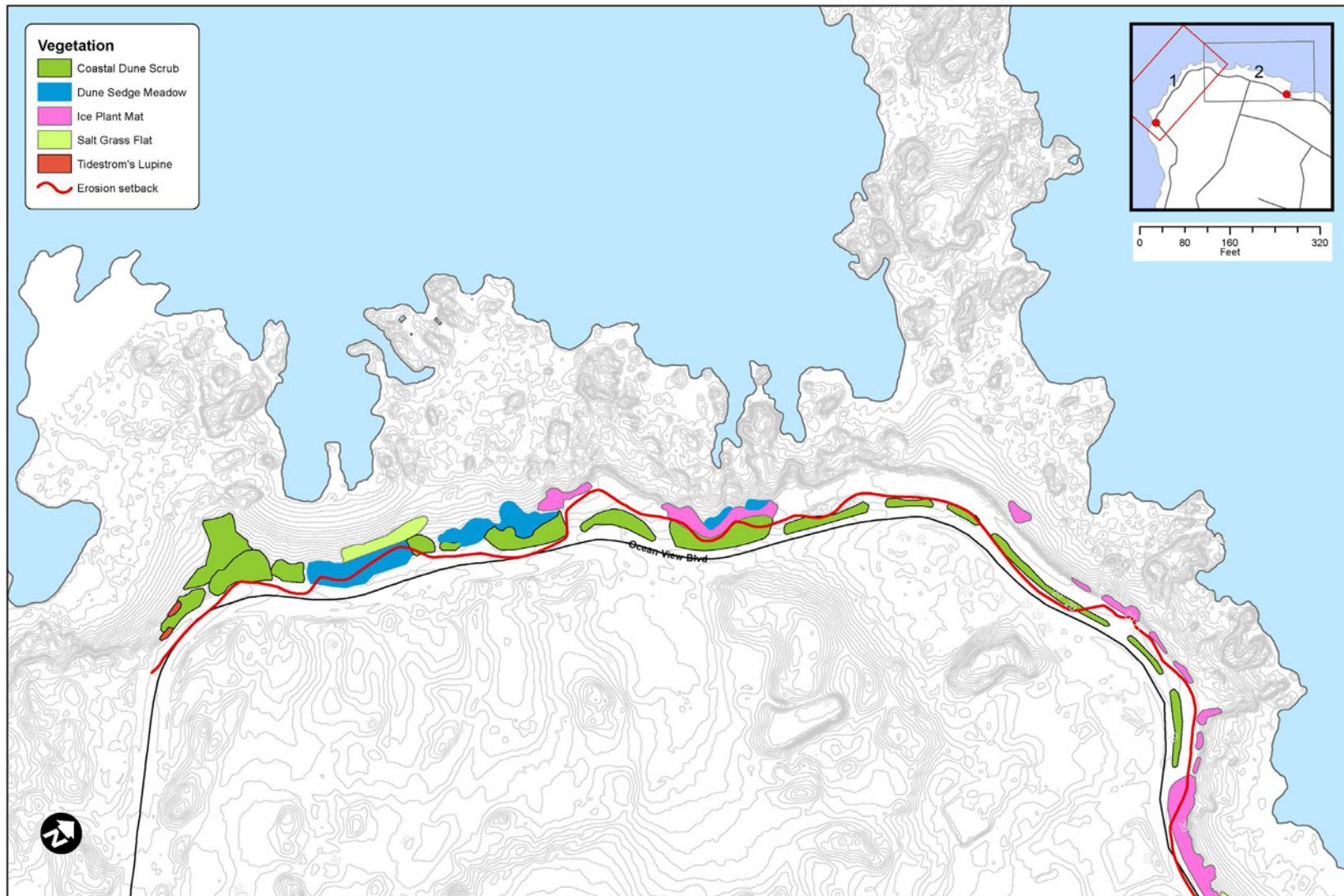
Overall the project provides many opportunities for mitigation and habitat restoration, and relatively few constraints related to biological and wildlife resources. The primary biological concern are 5 large old grove Cypress trees on the northern end of the project. They will not be impacted by the project.

3.9.1 Biological Constraints and Opportunities

Primary biological constraints are coastal dunes scrub and bluff scrub habitat, potential coastal wetlands, and habitat supporting special status species (i.e., Tidestrom’s lupine). All of these areas are considered ESHA under the Coastal Act. In addition, several areas are designated as coastal dune scrub mitigation areas, which may pose a constraint to other land uses. Despite these constraints, the project area offer opportunities to create additional native dune scrub and bluff scrub habitat to offset project impacts and/or to provide habitat enhancement.

⁴ Comprised of members from the Recreation Board, Natural Resources Commission, and Traffic Safety Commission

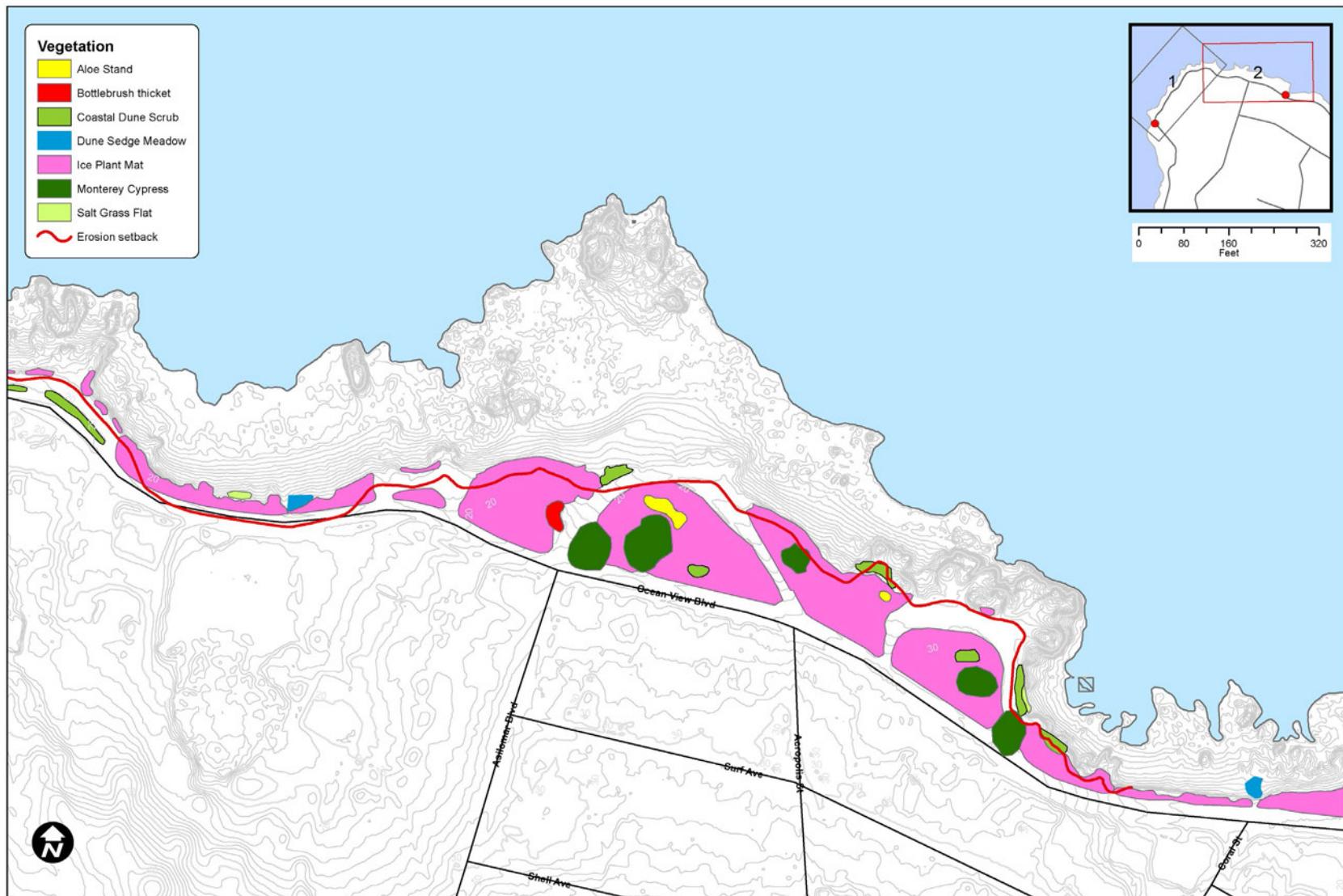
FIGURE 13: BIOLOGICAL HABITAT ASSESSMENT MAP - WEST



Pacific Grove Pt Pinos Trail Improvements
9119 First Street, Suite 1
Brentwood, CA 94510
(707) 205-1370
www.trailpeople.net
TrailPeople
connecting people and trails for everyone

Data: Trail People, Monterey County, CA Coastal Conservancy
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FIGURE 14: BIOLOGICAL ASSESSMENT HABITAT MAP - EAST



Pacific Grove Pt Pinos Trail Improvements

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1 inch = 160 feet

919 First Street, Suite 1
Bodega, CA 94510
(707) 205-1370
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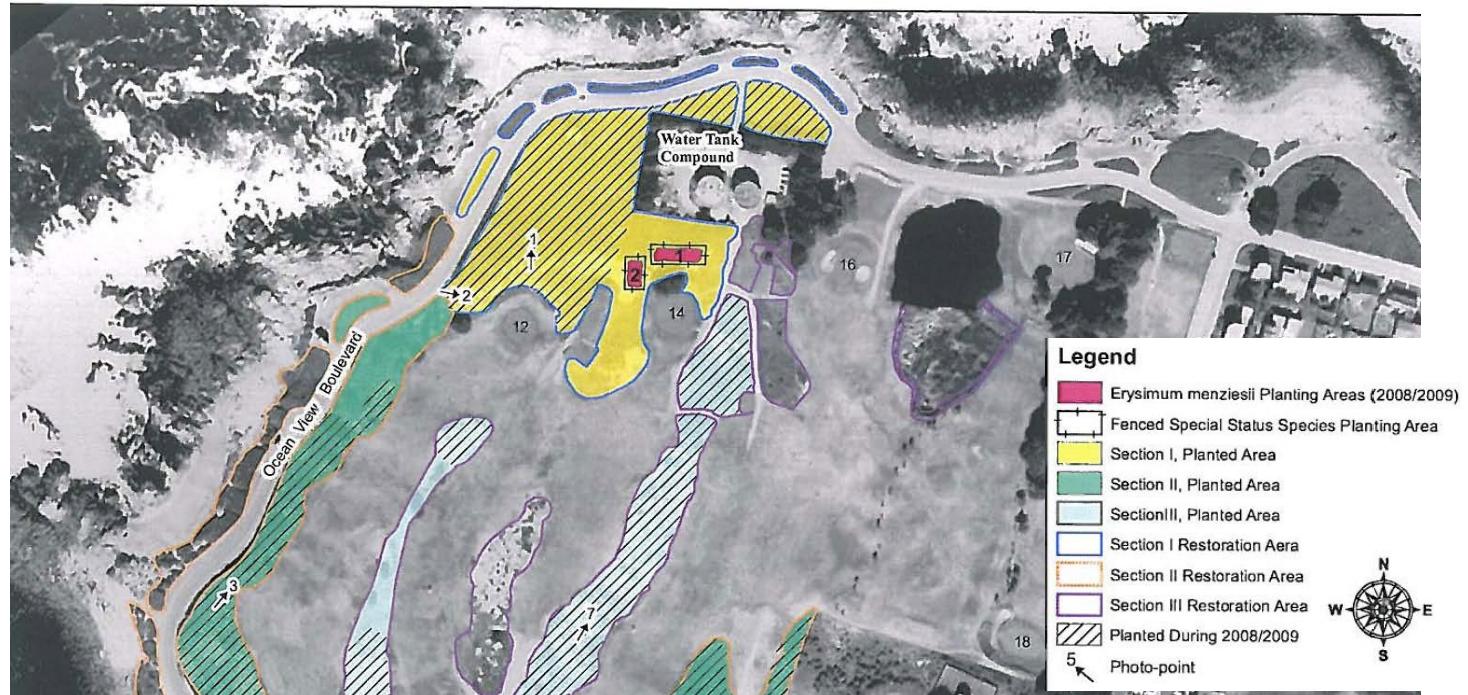
3.9.2 Pacific Grove Golf Links Biological Habitat and Dunes Restoration Plan

Starting in 2005 and completed in 2015 the City of Pacific Grove sponsored an active restoration of the dune areas that occur along portions of the golf course and select areas north and west of Ocean View Boulevard, with the objectives to eradicate invasive non-native plants, especially iceplant; restore, protect, and monitor native dune habitat throughout the site; and protect and increase the populations of two State and Federal listed endangered plant species at the site, Menzies' wallflower (*Erysimum menziesii*) and Tidestrom's lupine (*Lupinus tidestromii*); and to rehabilitate the Federal threatened Monterey spineflower (*Chorizanthe pungens* var. *pungens*) population on site. The mitigation areas include medians between Ocean View Boulevard and some of the parking areas, as shown in Figure 15.

Primary regulatory agencies with jurisdiction over the mitigation areas are the California Department of Fish and Wildlife and the California Coastal Commission. Secondary jurisdiction agencies include the U.S. Fish and Wildlife Service and the City of Pacific Grove.⁵

5 City of Pacific Grove, 2014 Annual Dune Restoration & Monitoring Report, Rana Creek Habitat Restoration.

FIGURE 15: MAP FROM DUNES RESTORATION PLAN



3.10 CULTURAL RESOURCES ASSESSMENT

The cultural resources investigations entailed four steps: 1) A search of relevant records and maps maintained by the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS) at Sonoma State University; 2) A pedestrian reconnaissance of the Project Area and areas immediately adjacent to the Project Area; 3) Consultation with Native American contacts with local knowledge; and, 4) preparing the report and recommendations regarding the Project's potential impact to significant cultural resources.

The records search showed that the entire Project Area has been surveyed multiple times and that six prehistoric resources have been recorded within the Project Area. Locations of all six recorded sites were confirmed during the site reconnaissance. These are basically shell middens and associated artifacts from centuries of shellfish gathering by Native Americans. No new archaeological resources were identified within the Project Area. The Native American consultation resulted in direct contact with one Native American group that stated their objection to the potential disturbance of resources.

Recommendations included in the report include the use of specialized construction techniques to reduce impacts to the recorded archaeological resources within the Project Area (either avoidance or capping with soil to avoid further disturbance) and archaeological construction monitoring to reduce the impact of the Project to less than significant under CEQA.

The Cultural Resources Assessment report is not made public because it contains information on the location of sensitive cultural resources.



PHOTO 14: EXISTING EXPOSED MIDDEN





4 Alternatives Analysis and Conceptual Plans

4 ALTERNATIVES ANALYSIS AND CONCEPTUAL PLANS

4.1 PROJECT ALTERNATIVES

The following alternatives for the project were formulated based on the analysis of opportunities and constraints, input from the City Advisory Group, and input from City staff and California Coastal Commission staff:

No Project Alternative – status quo: no creation of formal coastal trail or modification of parking areas.

2012 Concept Plan Alternative – (see Figure 16). The trail is formalized generally along the edge of the current shoreline and parking areas, with the existing parking set back and reorganized to allow room for the trail. The volunteer trail areas would be restored to natural habitat. ADA-compliant accessible parking spaces would be added. Only two parking spaces are estimated to be lost due to reserving space for the trail, assuming that parking is more efficient with a more organized parking layout. A sub-alternative is to regain some of the lost parking area by expanding parking into iceplant areas at the easternmost parking lots. This approach would require formal coastal armoring structures at the edges of the existing fill/rip-rap areas, or proactive ongoing repair and maintenance of the existing informal coastal protection structures. As the sea continues to erode the coastline, it would be increasingly challenging to maintain the trail and parking alignment.

“Adaptive Retreat” Alternative 1 – (see Figure 17). This alternative assumes that most existing parking areas are closed or reduced to move them, and most of the trail, outside the 30-year coastal retreat setback and current wave run-up zone. Only the southern portion of the eastern-most parking lots are outside this limit. These could be re-designed by moving access and parking into the current iceplant areas. Conceptual areas for ADA parking, drop-off zones and spaces that accommodate RVs and school buses are shown. The former parking areas would be restored to natural habitat as indicated by the green areas. The coastal trail is assumed to remain within the 30-year setback where moving inland is constrained by Ocean View Boulevard. It is assumed that a trail crossing and re-crossing Ocean View Boulevard is not desirable or practical.

Assuming that parking is reorganized and added in the eastern parking areas (5a, 6, and 7) there is no net loss of parking in this scenario.

“Adaptive Retreat” Alternative 2A – (see Figure 18). If the coastal trail is moved beyond the 30-year setback, and is defined as being on the coastal side of the road, this requires that Ocean View Boulevard is also moved or removed where it encroaches. Most of Ocean View Boulevard near Crespi Pond is within the setback line, so this becomes a significant constraint for keeping the road open. Moving the entire road south where it encroaches into the 30-year setback and reserving approximately 10 feet for the trail on the seaward side outside of the 30 year retreat line would result in significant encroachment into the habitat mitigation areas surrounding the golf course, and encroach into Crespi Pond - an unacceptable impact.

To address these constraints, Alternative 2A assumes that Ocean View Boulevard is closed as a public road between Asilomar Avenue and Sunset Drive. The roadway would be converted to a much narrower two-way bike path to replace the existing bike lanes (see second cross-section on Figure 4). A separate DG coastal trail would be located on the seaward side. At least the southwestern portion of the bike path would also serve as a maintenance access to the sewage treatment plant and restrooms. A parking area and turnaround could be created west of Asilomar Drive. In theory, the portion of Ocean View southw est of the project area could remain open to public vehicles, but this would require constructing a turnaround that would encroach into adjacent habitat, so it is assumed that the public road would end at Sunset/Lighthouse. The surplus pavement areas and former parking areas could be restored to habitat, as indicated by the green areas, except for maintaining lateral access to designated shoreline access points or overlook areas. This alternative results in the loss of approximately 37% of the existing off-street parking – 41 out of 110 spaces, assuming that some of it is recaptured at the eastern end of the project area as shown. The loss is primarily because there would no longer be public vehicle access to most of the existing parking areas in the west and middle portion of the study area.

This alternative would result in a far more natural stretch of coastline, without the presence of parked vehicles and traffic. The reduced access for people who are unable or disinclined to walk or bike to reach the center of the natural shoreline zone could potentially be addressed with an electric shuttle service, if warranted by demand. There would be improved ADA parking opportunities and passenger drop-off areas at either end of the natural zone.

Alternative parking to partially compensate for the lost shoreline parking may be available along Asilomar Drive (see description in Section 3.6.3).

Figure 19 shows **Alternative 2B**, which assumes Ocean View Boulevard is retained as a one-way public road, relying on Lighthouse Avenue and Asilomar Drive for the return route. The primary issue associated with this alternative is the narrow section at Crespi Pond. Even with the narrower one way road, moving the coastal trail and road out of the 30 year retreat setback would impact the golf course cart path on the south side of Ocean View Boulevard, a small portion of the putting green between the pond and the restrooms, and Crespi Pond, which would either have to be filled in at the northern edge , or bridged with a structure.⁶ An advantage of this alternative is that parking could be retained in some of the lots in the central portion of the project area. This alternative results in the loss of approximately 14 %, or 19 spaces of the existing parking based on retaining these lots and assuming recapture of some of the parking at the eastern end of the project area as shown.

Shared Bike Space Alternative - This is an optional additive alternative that was discussed at the March 24 Committee meeting. It was noted that from Lovers Point west to the project area bicyclists must currently share roadway space with vehicles, but within the project area there are striped shoulders that function as bike lanes, but are heavily used by pedestrians. The concept is to add “sharrows” (pavement markings that indicate the lane is shared with bikes) through the entire corridor from Lovers Point to Asilomar State Beach, and potentially use the surplus area of striped shoulders/bike lanes to provide habitat or a trail. Other measures discussed include lowering the speed limit on Ocean View Boulevard (currently 25 mph) to 15 mph, and installing “traffic calming” features such as signing and entry portals at each end of this low-speed zone.

This alternative could be implemented independently of the coastal trail/parking alternatives or combined with them. It is outside of the scope of the current study, and would require discussion with the Traffic and Safety Commission, but it is an idea that may deserve consideration as plans for improving the Pt. Pinos shoreline continue.

⁶ Filling in part of Crespi Pond is not a viable option as filling wetland is prohibited by both the LCP and the Coastal Act (see sections MAR-2 and BIO-4 of the draft LCP).

FIGURE 16: TRAIL AND PARKING PER 2012 CONCEPT PLAN

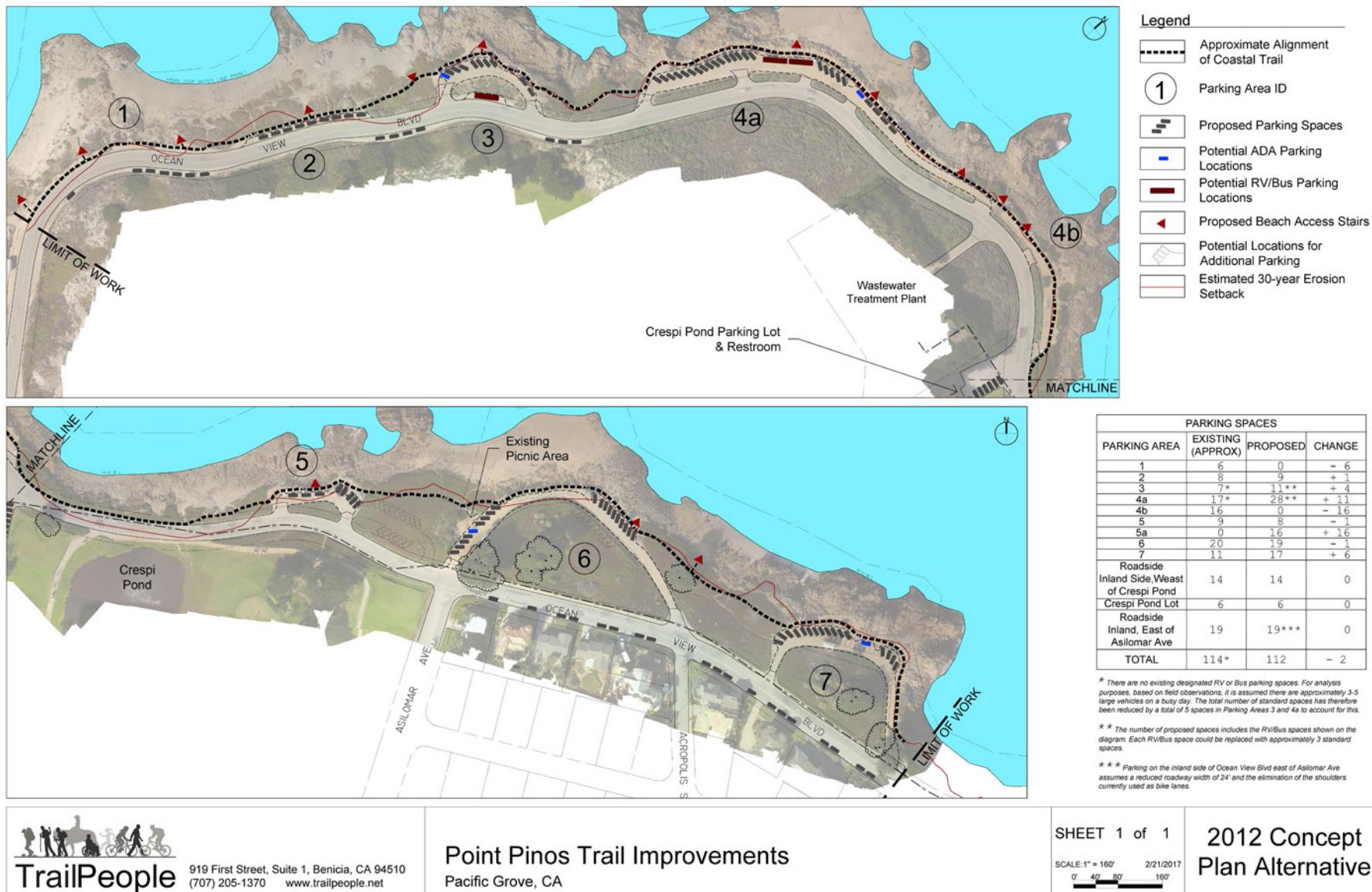


FIGURE 17: ADAPTIVE RETREAT ALTERNATIVE 1

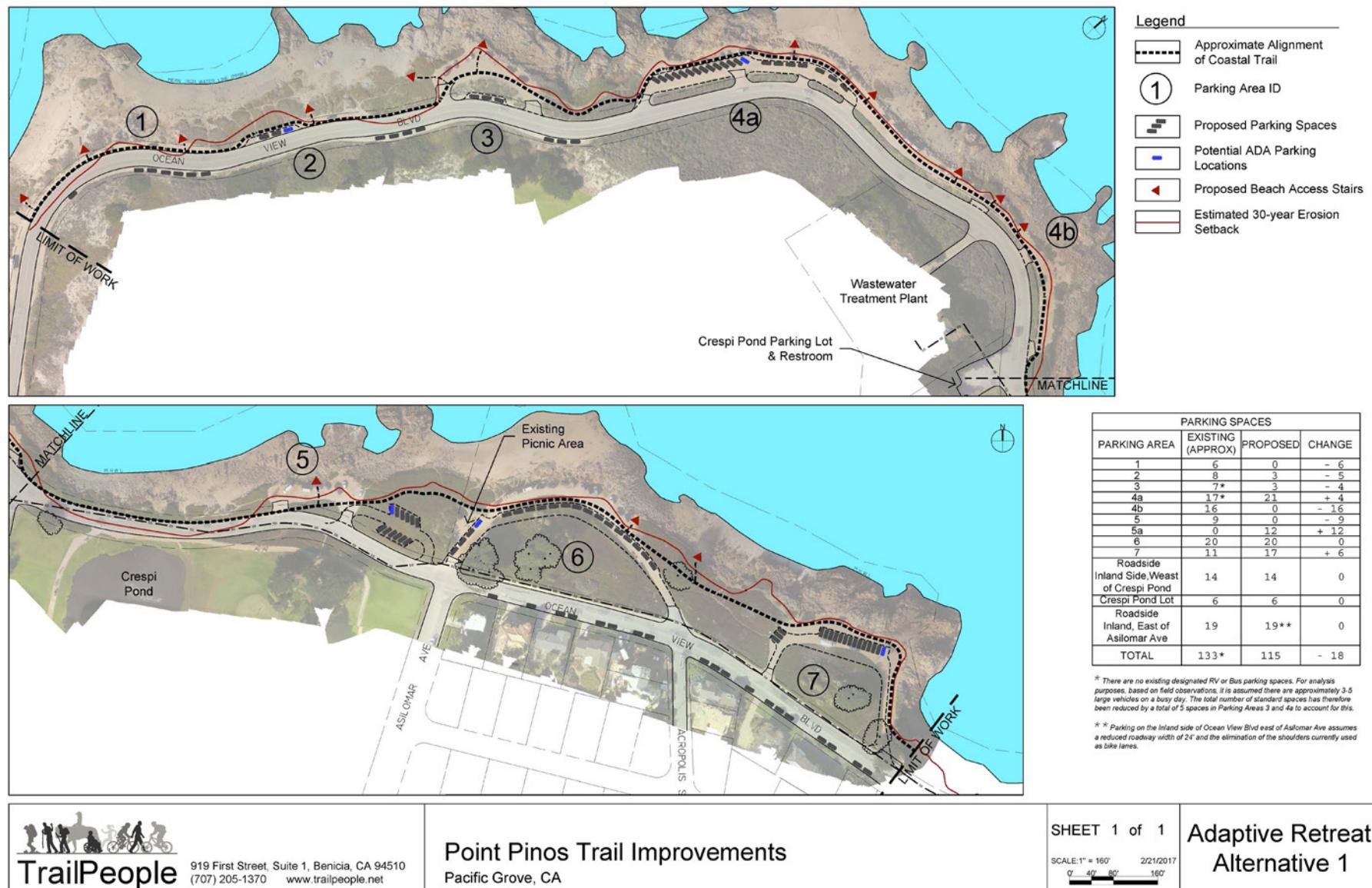


FIGURE 18: ADAPTIVE RETREAT ALTERNATIVE 2A

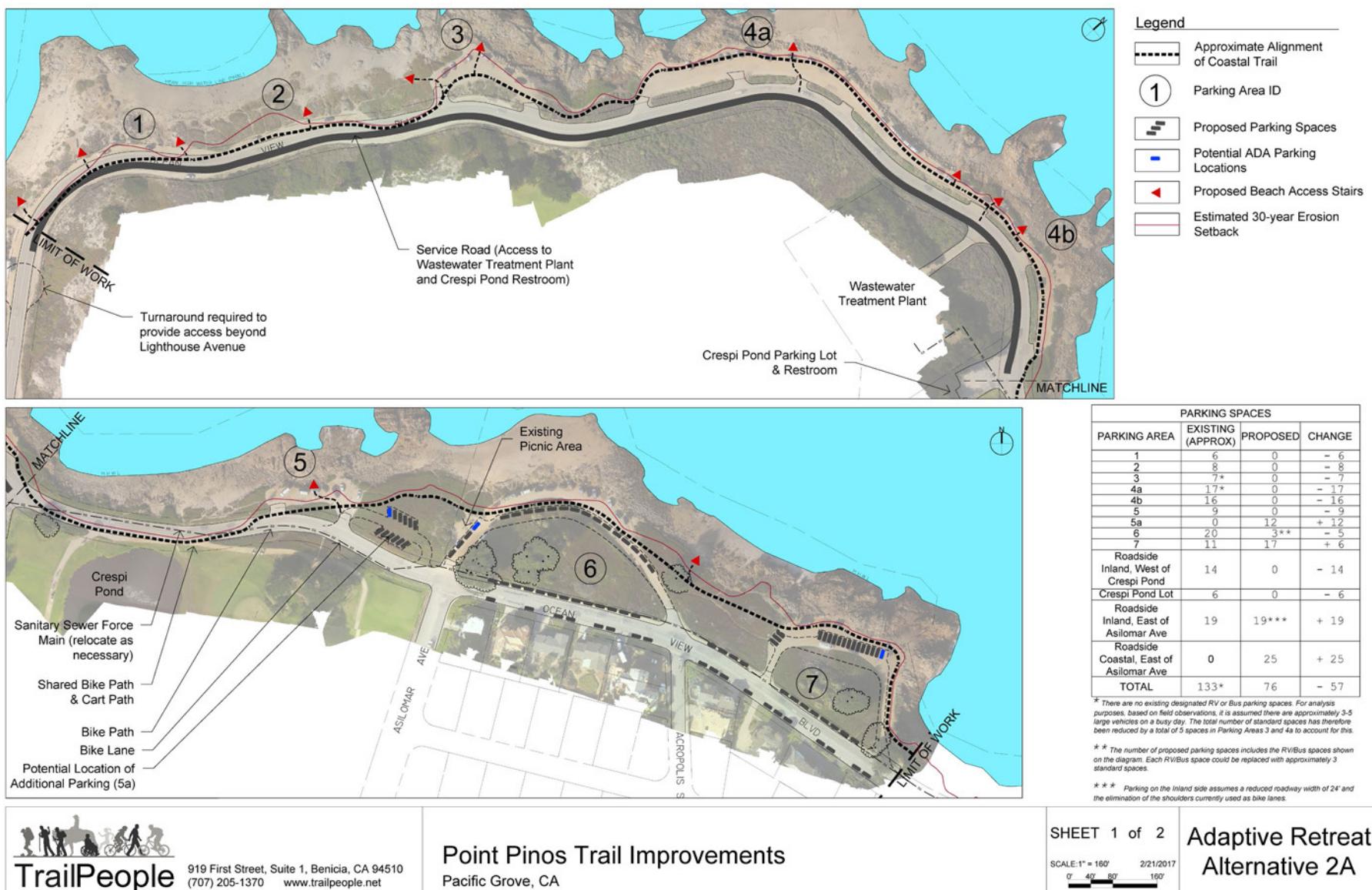
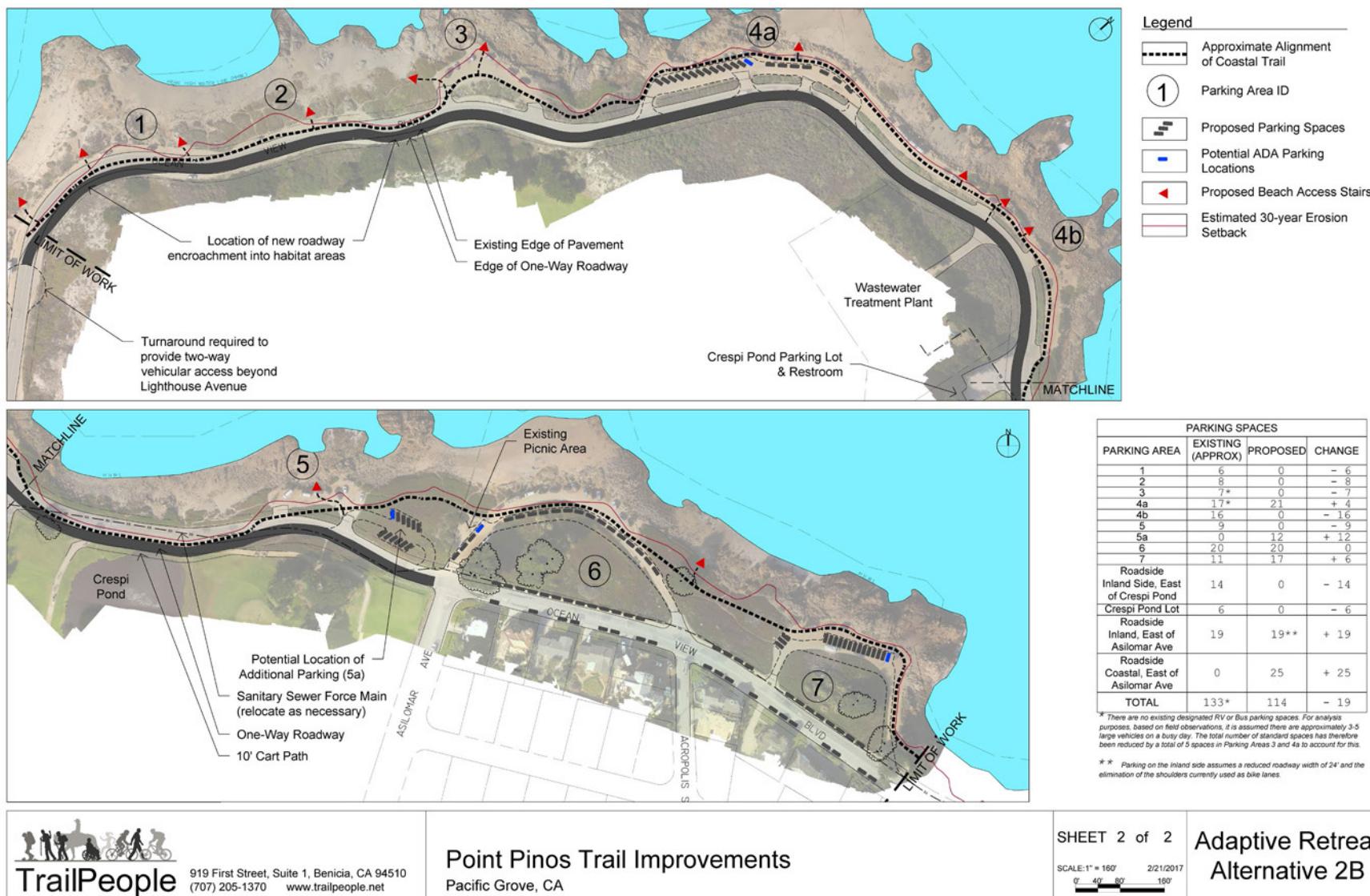


FIGURE 19: ADAPTIVE RETREAT ALTERNATIVE 2B



4.2 PREFERRED PROJECTS

Based on input at the March 24, 2017 City Advisory Group meeting, Adaptive Retreat Alternative 1 (see Figure 17) was selected as the preferred Short-Term Plan and Adaptive Retreat Alternative 2A (see Figure 18) was selected as the preferred Long-Term Plan, which would be undertaken at such time as sea-level rise necessitated it.

The “trigger” for action to implement the Phase II plan in response to sea level rise is contained in the draft LCP Implementation Section 23.90.140 Coastal Hazards Overlay; Section C. Hazards Data and Monitoring Plan, on p. 27:

6. When the mean high water tidal datum has risen 3 inches on average for an entire year above the forthcoming updated tidal epoch mean high water level of 4.76 feet (in NAVD) at the Monterey Tide Gauge (NOAA Station 9413450) adopted by the National Ocean Service, the City Council shall declare that the City’s threshold for implementation of sea level rise response has been reached. The tidal epoch is anticipated to be updated and adopted by the National Ocean Service in 2020, and the North American Vertical Datum of 1988 (NAVD88) shall be referenced.

The table on the following page provides an overview of the criteria considered and the pros and cons of the alternatives that led to the decision.

Methodology: A set of symbols as shown below was developed to score the trail and parking alternatives. This provides an “at a glance” sense of how the alternatives compare. It was NOT used to determine the preferred alternatives; rather it summarizes the more detailed considerations of the technical analysis, stakeholder input and Committee deliberations. The more “filled in” an alternative is, the higher it performs against the criteria, though the description of the basis for the score is important to consider.

TABLE 1: ALTERNATIVE EVALUATION SUMMARY

Symbol	Associated Scoring Level
	High performance/score
	Medium Performance/Score
	Low Performance/Score
	Not applicable/no score (fatal flaw)

CRITERIA	Existing Conditions/ No Project Alternative	2012 Concept Plan	Adaptive Retreat Alternative 1	Adaptive Retreat Alternative 2A	Adaptive Retreat Alternative 2B
Respond to current erosion and future sea level rise	No score - does not respond				
	Moves parking back, but trail and much of parking within 30 year line	Moves parking and most of trail out of 30 year line	Moves all facilities out of the 30 year line	Moves all facilities out of the 30 year line	Moves all facilities out of the 30 year line
Maximize restoration of continuous habitat					
	Restoration opportunities available as separate project(s)	Formalized trail and parking present opportunities	Significant restoration areas included	Most of existing parking and road restored to natural	Most of existing parking and road restored to natural
Provide a separate coastal trail and maintain bicycle access	No score - does not provide formal trail				
	Trail mostly adjacent to parking	Trail partly adjacent to parking and road	Trail mostly separate from parking and road	Trail mostly separate from parking and road	Trail mostly separate from parking and road
Maintain public parking and vehicular access (ADA, RV, bus, drop-off points)					
	No ADA parking or access	Improved ADA parking and access; parking areas preserved/replaced	Improved ADA parking and access; parking areas preserved/replaced	Significant reduction in parking supply and locations (mitigated by shuttles?)	Some reduction in parking supply and locations
Avoid disturbance of the existing golf course or Crespi Pond					No score - would encroach into course and Crespi Pond
	No impact	No impact	No impact	Minor change to cart path at Crespi Pond	
Provide major improvement in user experience of natural coast	No score - no change				
	Minor improvement through trail and access	Significant improvement - more separate trail in more restored habitat	Major improvement - completely separate trail in restored habitat without traffic	Significant improvement - more separate trail in more restored habitat	