SeaWorld®
San Diego

2020 MASTER PLAN

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2020 Master Plan

Addendum to:

Mission Bay Park Master Plan Update

City of San Diego Local Coastal Program Land Use Plan

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City of San Diego

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The SeaWorld Vision

To Be Recognized Globally
For Achieving New Levels
Of Distinction and Respect
By Leading the Industry
With Live Marine Animal Experience,
Innovative Entertainment, Education,
Research, and Conservation
That Ensures Our Growth and Success

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1 / Introduction

A. Purpose

The purpose of the 2020 Sea World Master Plan Update (2020 Master Plan) is to set forth the long-range conceptual development program, development parameters, and project review procedures for the future renovation of the entire leasehold area for SeaWorld Adventure Park (SeaWorld) for the next 20 to 25 years.

The 2020 Master Plan serves as the "Development Plan" described in the lease between SeaWorld and the City of San Diego (City). The 2020 Master Plan is also part of the City's Local Coastal Program for Mission Bay Park.

An important goal of the 2020 Master Plan is to transition from a "site-specific" development paradigm to an "area-specific" development paradigm that more closely matches SeaWorld's future renovation needs. In meeting this goal the objectives are (1) to maintain the same level of environmental and coastal resource protection provided under the 2002 Master Plan, (2) to ensure that the concerns identified in the community outreach process continue to be addressed, and (3) to ensure that environmental concerns identified in the 2021 Addendum to the 2002 Master Plan Environmental Impact Report (EIR) continue to be addressed.

These objectives are based on experience gained under the 2002 Master Plan, which has served to minimize visual and other environmental impacts. Site-specific projects completed under the 2002 Master Plan include the Journey to Atlantis splashdown ride, an educational facility, and a front gate renovation. All other projects have been approved under the 2002 Master Plan's general development criteria. Appendix A Section A, Relationship to 2002 Master Plan, provides additional information on the relationship between the 2020 Master Plan and the 2002 Master Plan.

B. Background

In the late 1940s, the City embarked on the creation of a regional aquatic-oriented park, Mission Bay Park. The idea for an aquarium/oceanarium or marine zoo within Mission Bay Park dates back to at least 1939, and appears in all subsequent plans for Mission Bay Park. The 1958 Mission Bay Master Plan, which provided leasehold recommendations for the new aquatic park, envisioned a marine theme park devoted to entertainment, recreation, and education. In 1961, the City leased the existing site for development of the marine park, and in 1964, SeaWorld was opened.

In November 1998, the voters of the City approved the SeaWorld Initiative (Proposition D), which amended the City's Coastal Height Overlay Zone to allow development up to a maximum height of 160 feet on the SeaWorld leasehold area in Mission Bay Park. The Coastal Height Overlay Zone established a 30-foot height limit for new development west of Interstate 5.

Following voter approval, SeaWorld began work on a master plan update to articulate how the additional height would be used in the coming years. Additionally, SeaWorld requested an amendment to the Mission Bay Park Master Plan (MBPMP) from the City Planning Commission to integrate the height limit change into the MBPMP. This process culminated in City Council and California Coastal Commission approval of the 2002 Master Plan.

From its inception, SeaWorld has been developed, maintained, and operated to the highest standards. The key to its success is family-oriented entertainment that caters to all ages. Although entertainment and recreation has always been the mainstay of the park, SeaWorld is much more. During its 55-year history, SeaWorld has continued to expand its animal, education, research, and conservation emphasis.

SeaWorld is a nationally known tourist attraction that provides economic benefits to the San Diego region. Changes in consumer preferences require the ability to shift priorities within a short time frame, and to maintain its long-term economic vitality, SeaWorld must continue to improve and provide facilities that meet the public's needs and desires.

C. Neighborhood Context

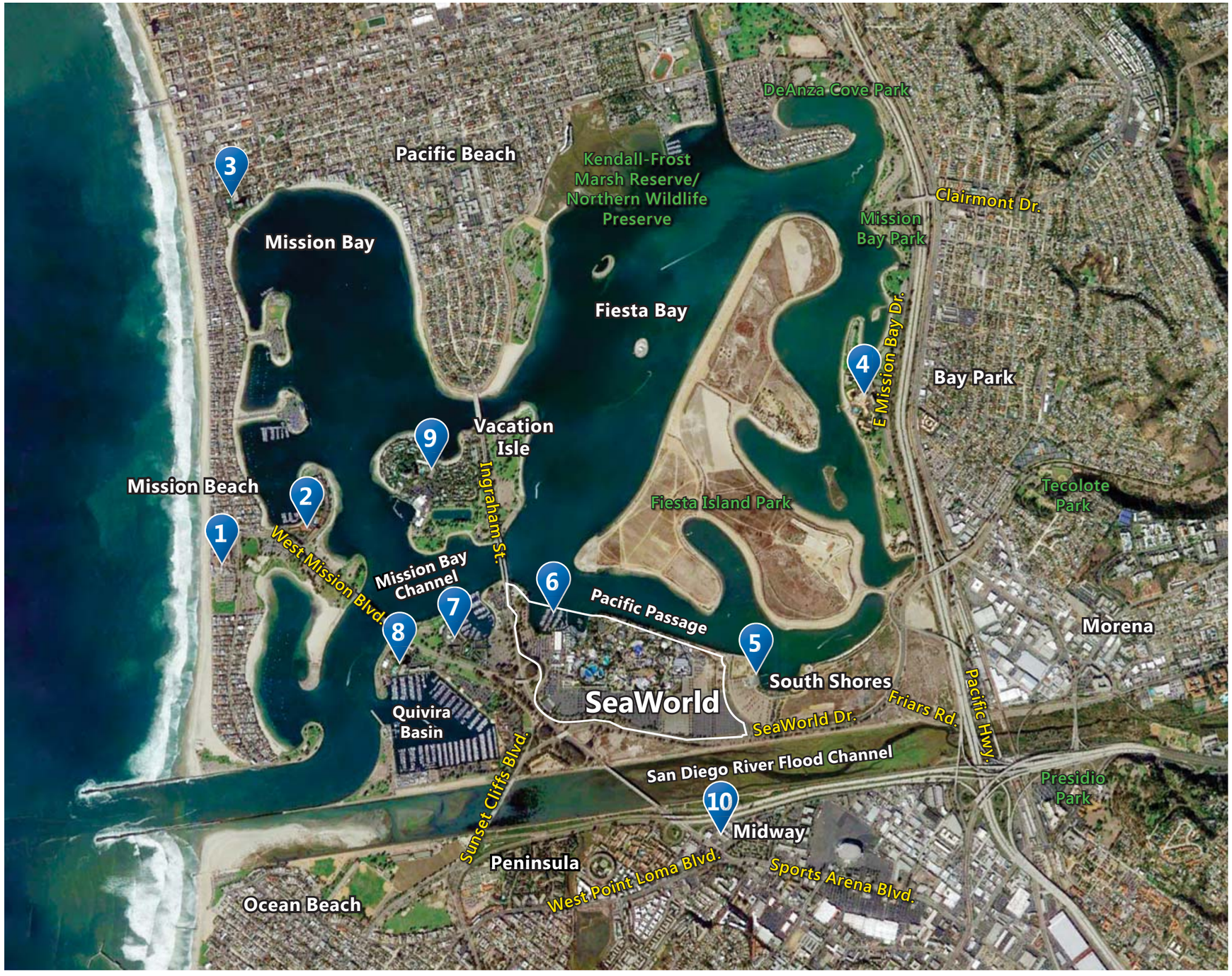
SeaWorld is located along the south perimeter of Mission Bay Park in a commercial-oriented recreation area, as set forth in the MBPMP (see Figure 1-1, Site Location Map). The south and west boundaries are defined by Sea World Drive, Perez Cove Way, and Ingraham Street. To the south beyond Sea World Drive is the West Mission Bay Drive/Sunset Boulevard/Sea World Drive interchange system and the San Diego River. To the east of West Mission Bay Drive is the Quivira Basin commercial recreation area. The eastern boundary of the SeaWorld site extends to South Shores Park Road, which provides access to a boat launch. The northern boundary of the SeaWorld leasehold generally conforms to the shoreline, except on the west side of the park where 17 acres of open water area for the SeaWorld Marina, Waterfront Stadium, and Bayside Skyride are included in the leasehold. To the north lies Fiesta Island, which forms the northern boundary of the South Pacific Passage, and the open waters of Mission Bay Park.

Mission Bay Park

Mission Bay Park is a 7-square-mile public aquatic park that provides a range of recreational activities serving local and regional needs, including boating, picnicking, walking, and bicycling. Additionally, Mission Bay Park hosts a number of commercial-oriented recreation leases such as SeaWorld, resort hotels, and recreational vehicle camping, as well as not-for-profit leases such as youth camping and sailing facilities. As stated in the MBPMP, the diversity and quality of recreation in Mission Bay Park depends on the balanced provision of public recreation, the sustainable management of environmental resources, and the operation of economically successful commercial leisure enterprises.

Residential Neighborhoods

The residential neighborhood closest to SeaWorld is located to the south between the West Point Loma Boulevard/Sports Arena Drive transition and Interstate 8, approximately 0.6 miles from the SeaWorld Tower. This area, characterized by multi-family, attached apartments and condominiums, is located in segments of three communities: Ocean Beach, Peninsula, and Midway. Other residential neighborhoods within 1 mile of SeaWorld are located in the West Point Loma Boulevard/Sports Arena Drive area. The Crown Point neighborhood of Pacific Beach is located approximately 1.2 miles to the north of SeaWorld, and the South Mission Beach neighborhood lies approximately 1.4 miles to the west. Hillside neighborhoods with views of Mission Bay and SeaWorld are located in parts of Ocean Beach, Peninsula, Mission Hills, Linda Vista, Clairemont, Pacific Beach, and La Jolla. These neighborhoods are located 1 to 4 miles from the SeaWorld site.



1. Belmont Park
2. Bahia Resort Hotel
3. Catamaran Resort Hotel and Spa
4. Hilton San Diego Resort and Spa
5. South Shores Boat Launch
6. SeaWorld marina
7. The Dana on Mission Bay
8. Hyatt Regency Mission Bay Spa and Marina
9. Paradise Point Resort and Spa
10. Holiday Inn Express

SeaWorld San Diego

Source: SeaWorld

FIGURE 1-1

Site Location Map

SeaWorld Master Plan 2020

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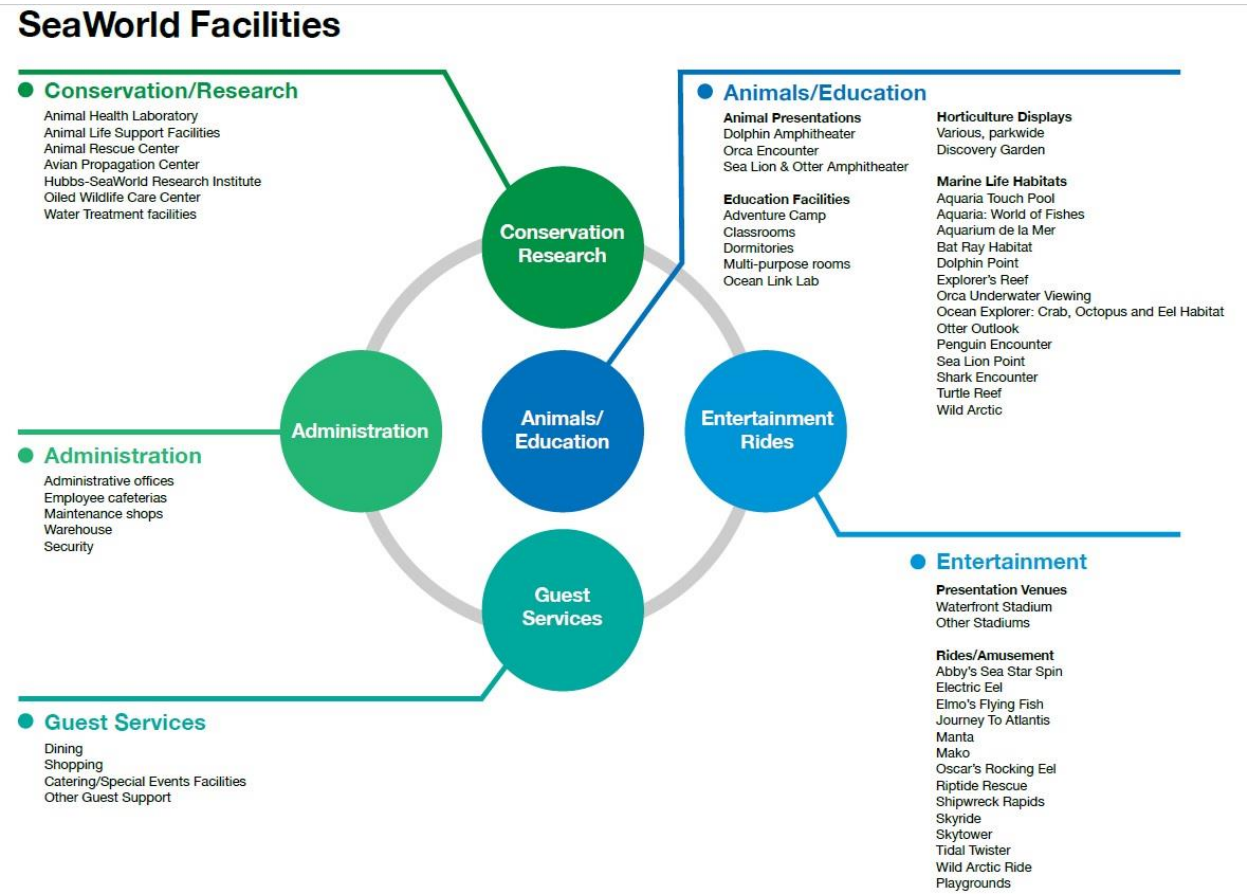
D. SeaWorld Facilities

Existing facilities within the leasehold reflect SeaWorld's core emphasis on animals/education supported by entertainment, conservation/research, administration, and guest services (see the graphic below titled "SeaWorld Facilities").

Facility locations are shown in Figure 1-2, Existing SeaWorld Facilities and Site Map. This figure may be periodically updated and submitted to the City or California Coastal Commission.



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Source: SeaWorld 2019

FIGURE 1-2

Existing SeaWorld Facilities and Site Map

SeaWorld Master Plan 2020

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2 / DEVELOPMENT PLAN

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2 / Development Plan

A. Introduction

The 2020 SeaWorld Master Plan Update (2020 Master Plan) is intended to guide development, redevelopment, and expansion throughout the SeaWorld leasehold area. Accordingly, the 2020 Master Plan contains land use and development criteria for the entire leasehold, and retains the five planning areas that were established in the 2002 SeaWorld Master Plan. Planning area boundaries are shown in Figure 2-1, Planning Area Boundaries.

Section B, Land Use and Development Criteria, contains an area-by-area description of existing land uses; allowed uses; general development criteria; and, where appropriate, project-specific development criteria for all future development within the SeaWorld leasehold area. A summary of land and water uses in the SeaWorld leasehold area is provided in Table 2-1, SeaWorld Land and Water Use.

Section C, Setbacks and Buffers, establishes setback requirements for shoreline and perimeter development. The setback requirements are intended to work in tandem with the land use and development criteria to minimize the visual impact of development from public views from the water and surrounding parklands within Mission Bay Park.

Section D, Renovations and Structural Replacements, clarifies the status of existing structures throughout the SeaWorld leasehold area.

Section E, Firework Displays, describes SeaWorld's commitment to regulate its ongoing firework displays.

Section F, Drone Displays, establishes parameters for SeaWorld's use of drones as displays and entertainment.

Section G, Light Exhibitions, establishes parameters for SeaWorld's use of LED lighting as displays and entertainment.

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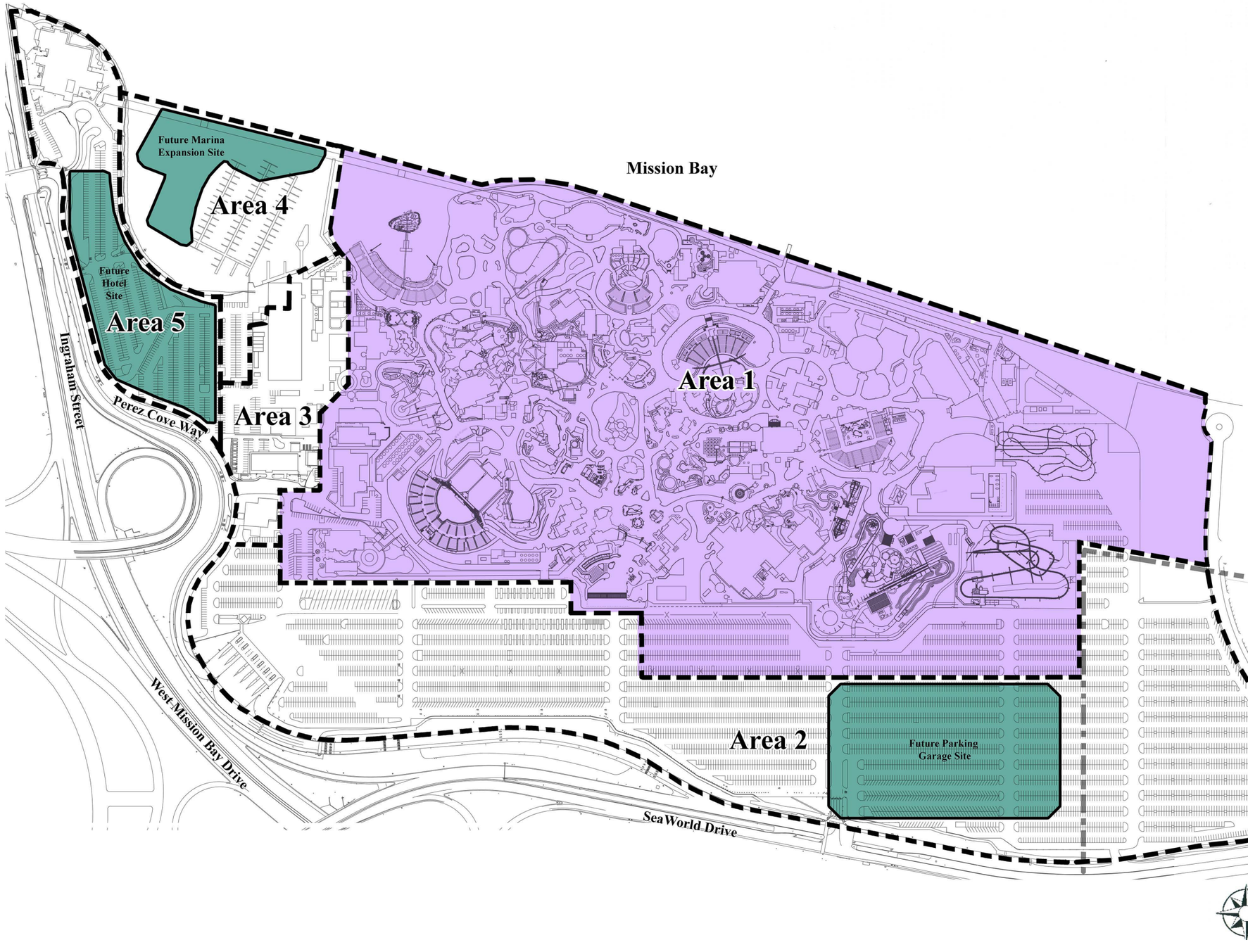

SeaWorld San Diego

Source: SeaWorld 2019

FIGURE 2-1

Planning Area Boundaries

SeaWorld Master Plan 2020

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B. Land Use and Development Criteria

This section sets forth the land use and development parameters applicable to each leasehold planning area. The intent is to ensure that all future development will be designed and constructed in a manner that, to the extent feasible, harmonizes with the established visual quality of Mission Bay Park. In addition to the five planning areas, two specific project categories are established:

1. **2002 Special Projects carried over from the 2002 Master Plan**

   These projects, referred to as "2002 Special Projects", are conceptual development proposals that were included in the 2002 Master Plan and are carried over into this 2020 Master Plan; however,they are not anticipated to be built for many years. The 2002 Special Projects include: the Special Events Center (Area 1), Future Parking Garage Site (Area 2), Future Marina Expansion Site (Area 4) and Future Hotel Site (Area 5); please refer to following development criteria for each individual planning area for further details. Project height may exceed the area height limitation where specified in the project design criteria. The California Coastal Commission (CCC) has not reviewed or granted approval of the 2002 Special Projects, and is not bound by the development concepts contained herein.

2. **General Leasehold Development**

   This project category includes all future projects not otherwise identified that may be proposed over the life of the Master Plan. Such projects may be located anywhere within the SeaWorld leasehold area in accordance with the area's development requirements, shoreline and perimeter setbacks, and limitations for attractions exceeding 100 feet in height. All projects in this category are subject to a determination of consistency by the City and a Coastal Development Permit by the CCC, as described in Chapter 4, Regulatory Framework.

Area 1: SeaWorld Theme Park

The SeaWorld Theme Park area consists of 97.2 acres of land area bounded by the South Pacific Passage channel of Mission Bay to the north, the Administration and Support area to the west, the South Shores area of Mission Bay Park to the east, and the Guest Parking area to the south. An additional 7 acres of open water area is used for water shows at Waterfront Stadium.

The SeaWorld Theme Park area is developed with a variety of marine-related attractions and support facilities. SeaWorld Tower, at 320 feet tall, is a prominent landmark and focal point for all of Mission Bay Park and beyond. Within the SeaWorld Theme Park, existing facilities reflect the marine animal, education, and conservation themes set forth in SeaWorld's vision statement.

SeaWorld Explorer's Reef

Area 1 provides opportunities for development, redevelopment, renovation, and expansion. Submittals for individual developments will be made as needed, pursuant to the 2020 Master Plan. A variety of attractions will be considered for development. Consistent with this Master Plan, no single attraction type will predominate. Future development and redevelopment consistent with the use and development criteria of this section will be allowed throughout Area 1.

Allowed Uses

Future allowed uses in Area 1 may include the following:

- aquariums
- special-effects theaters
- land-based adventure rides
- pelagic fish exhibits (large fish)
- water play attractions
- themed track or water rides
- special format projection attractions
- playgrounds
- performance venues
- boat rides
- historic reenactment presentations
- research facilities
- animal habitat
- rescue conservation/wildlife rehabilitation facilities
- special event centers and facilities
- educational facilities
- culinary facilities
- gift shops
- restrooms
- support facilities
- multi-media facilities
- surface parking and access ways
- other uses consistent with the intent and purpose of this 2020 Master Plan as determined by the City and the CCC during review of any project Coastal Development Permit application

Development Criteria

HEIGHT

The maximum height within Area 1 is 160 feet, provided not more than four attractions, except those preceding the 2002 Master Plan, exceed 100 feet in height. The location of new attractions exceeding 100 feet in height near the shoreline shall be consistent with the shoreline and bulk plane setback, as described in Section C, Setbacks and Buffers, provided they are also consistent with the Area 1 Development Criteria and the Coastal Resources Planning and Management Policies of Chapter 3 of the California Coastal Act. Refer also to Chapter 2, Section D regarding Renovations and Structural Replacements.

TRANSPARENCY

All structural bulk above 100 feet in height shall be at least 50% open to light and air, unless the structure consists of a single tower.

ATTRACTION THEMES/ELEMENTS

At least 75% of the total number of attractions within Area 1 shall contain a significant animal, education, or conservation element. SeaWorld's attractions include, animal habitats and exhibits, rides, behind the scenes tours, presentation venues, animal interactions, educational and rehabilitation graphics and educational programs. Specific criteria for compliance with this requirement shall be set forth in the SeaWorld lease with the City of San Diego and shall be designed to ensure the overall prevalence of significant animal, education, and conservation attractions.

NOISE

Noise generated within 200 feet of the leasehold boundary by any new SeaWorld activity, including mechanical sounds or amplified sound, shall comply with the City's Noise Ordinance, Chapter 5, Article 9.5 of the Municipal Code. Firework displays shall be consistent with City Council Policy 500-6 (Regulation of Firework Displays) and with City Fire Department permit regulations. Pursuant to the 2002 Master Plan EIR, prior to issuance of a coastal development permit, a project-specific noise study prepared by a qualified acoustician would be required for any new ride attraction or performance show.

LANDSCAPING, LIGHTING, SIGNAGE, AND ARCHITECTURE

Building forms, colors, materials, landscaping, exterior lighting, and signs shall be consistent with the Design Guidelines set forth in Chapter 3 of this Master Plan.

SHORELINE AND PERIMETER SETBACKS

Shoreline and perimeter setbacks shall be consistent with the requirements set forth in Section C, Setbacks and Buffers, of this chapter.

Special Events Center (2002 Special Project)

A Special Events Center is a 2002 Special Project carried over the from 2002 Master Plan that is planned in the northeast corner of Area 1. The Special Events Center would provide capacity for approximately 1,000 people and may have structural elements exceeding 30 feet in height. This site alternatively could be used for any allowed uses in Area 1 subject to the Area 1 design criteria. The following design criteria are specific to this site and shall not apply to a special events center constructed at any other location. In the event SeaWorld chooses not to construct this Special Events Center, the site may be used for any other approved Area 1 use subject to the Area 1 design criteria.

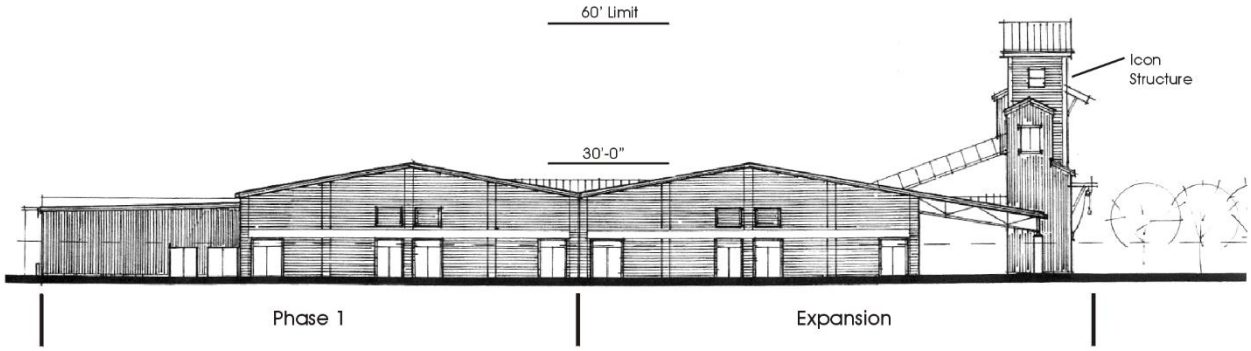
The California Coastal Commission has not reviewed or granted approval of the Special Events Center and is in no way bound by the development concepts contained herein.

DESIGN CRITERIA

1. The bulk of the building shall be 30 feet in height with allowance for roof articulation to a height of 40 feet to avoid a flat roof effect (see graphic below).
2. One icon structure shall be permitted to a maximum height of 60 feet above ground level with a maximum footprint of 400 square feet.
3. Prior to completion of the project, SeaWorld will construct a 10-foot-wide landscaped pathway along the waterfront beginning at the northeast corner of the leasehold and extending westward for a distance of 500 feet. When not required for a special event, this pathway would be open to the public.

4. The edges of buildings shall be softened with landscaping features such as screen trees, a roof top trellis, or hanging vines.

5. The least amount and intensity of external lighting shall be used on the exterior of the structure and waterfront pathway to meet safety and security needs. Emphasis shall be placed on ground level lighting using motion-activated lights that do not exceed 3000 Kelvin and are shielded and aimed downward.



Area 2: Guest Parking

The Guest Parking area comprises 56 acres along the south side of the leasehold area between the SeaWorld Theme Park and Sea World Drive. There are approximately 6,134 paved parking spaces currently available within the area; the number varies depending on how the parking lot is striped and managed. The main vehicular entryway to the SeaWorld site is located in the southwest corner of the Guest Parking area. The main exit is located near the middle of the area at a signalized intersection with Sea World Drive. Bus, taxi, and ridesharing services are also available within the area.

Guest Parking

Allowed Uses

Future allowed uses in Area 2 may include surface parking, temporary events and associated structures, outdoor educational activities, and operations yards. Reconfiguration and restriping of surface parking shall be allowed in response to operational needs.

Development Criteria

Height: 30 feet maximum except as identified for proposed conceptual development.

Parking Garage (2002 Special Project)

As provided in the previous 2002 Master Plan, a four-level parking garage is proposed within the existing parking lot. The parking garage will not be needed until SeaWorld attendance justifies the additional parking. Half of the first level will be below grade. The California Coastal Commission has not reviewed or granted approval of the parking garage, and is in no way bound by the development concept contained herein.

DESIGN CRITERIA

1. The maximum height of the structure shall not exceed 45 feet above the finished grade.
2. The edges of buildings shall be softened with landscaping features such as screen trees, a roof top trellis, or hanging vines.

Transit Station (2002 Special Project)

As provided in the previous 2002 Master Plan, SeaWorld is committed to working with San Diego Metropolitan Transit System (MTS) to accommodate a transit station within the Area 2 parking lot, if and when the opportunity arises. The California Coastal Commission has not reviewed or granted approval of a transit station, and is in no way bound by the development concept contained herein.

DESIGN CRITERIA

1. Design of the parking garage shall accommodate a transit station, if feasible.
2. Exterior treatments shall integrate with the SeaWorld theme.
3. Vertical circulation (including elevators and stairs) shall be provided to accommodate transit station pedestrian volumes.
4. SeaWorld shall work with MTS, or any successor agency, to ensure any proposed transit station is provided with a direct, pedestrian-friendly link to SeaWorld's front gate.
5. Transit station height within the parking structure area shall not exceed 45 feet.
6. Adequate right-of-way and financial participation for construction of a future transit station shall be provided as required by the lease between the City and SeaWorld.

Area 3: Administration and Support

The Administration and Support Area consists of 6.8 acres of land located immediately to the west of the SeaWorld Theme Park (Area 1) between the SeaWorld Marina and the Guest Parking area. This area contains many of the support facilities needed for the operation of SeaWorld. These include administrative offices, security, water treatment, storage, and other facilities. A reserved parking lot is also located in the south portion of the area.

Administration and Support

Allowed Uses

Future allowed uses in Area 3 may include offices, water treatment, storage, maintenance, parking, and similar types of theme park support facilities.

Development Criteria

Height: 30 feet maximum.

Area 4: SeaWorld Marina

The SeaWorld Marina contains a small shoreline land area of 1 acre and an open water area of 10 acres. The water area contains a 200-slip marina operated by SeaWorld. Restroom, shower, and lounge facilities are provided for marina guests. On the east side of the marina is the water intake platform, one of two intake areas that provide sea water for SeaWorld's marine animals. The filter plant for the intake is located just to the south in Area 3.

Allowed Uses

Future allowed uses in Area 4 may include marina operations, boat mooring, boat storage, dry storage facilities, boat loading, restrooms, lounge facilities, bayside café, and parking.

SeaWorld Marina

Development Criteria

Height: 30 feet maximum.

Marina Expansion (2002 Special Project)

As provided in the previous 2002 Master Plan, the 2020 Master Plan proposes a future expansion of the existing marina by extending the three existing docks and adding a fourth dock to the west. The marina expansion would add 115 water berths for a total of 315 berths. This 2002 Special Project has been carried forward in the 2020 Master Plan as a future conceptual development. The California Coastal Commission has not reviewed or granted approval of the marina expansion, and is in no way bound by the development concept contained herein. SeaWorld would also be required to apply for and obtain a site development permit issued by the City of San Diego. Additionally, pursuant to the 2002 Master Plan EIR, an eelgrass mitigation plan study would be prepared when SeaWorld proposes to move forward with the marina expansion.

DESIGN CRITERIA

1. A minimum 10-foot-wide landscaped public shoreline walkway (lateral shoreline access) along the waterfront shall be incorporated into the marina expansion design.
2. Adequate parking and access for the marina shall be provided as a condition of marina expansion plans.

3. Any future expansion shall be designed to avoid impacts to the marine habitat, namely eel grass, to the maximum extent feasible.

Area 5: Perez Cove Shoreline

The Perez Cove Shoreline area consists of 11.4 acres of land between the Perez Cove shoreline on the east and Perez Cove Way on the west. The northern portion of the area contains the Hubbs-SeaWorld Research Institute and parking lot. Additional asphalt parking areas and landscaping cover the remaining area. The parking area serves marina guests and is an auxiliary lot for SeaWorld employees.

Allowed Uses

Future allowed uses in Area 5 may include parking, a hotel, visitor-serving commercial/recreation uses, research and meeting facilities, and parkland.

Perez Cove Shoreline

Development Criteria

Height: 30 feet maximum.

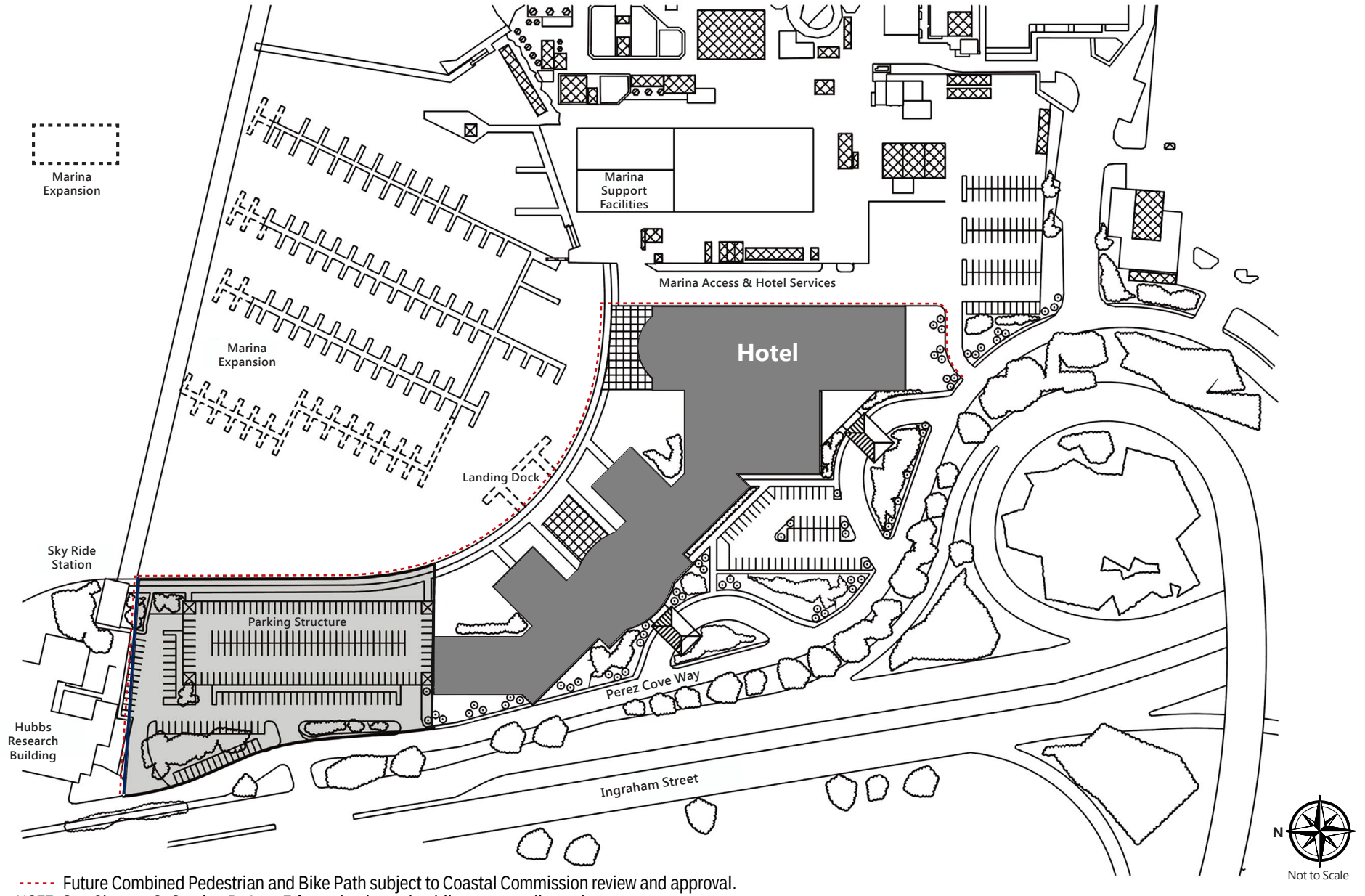
Hotel (2002 Special Project)

As provided in the previous 2002 Master Plan, the 2020 Master Plan includes a future 300-room hotel (see Figure 2-2, Conceptual Hotel and Marina Site Plan). The conceptual proposal includes a ballroom, meeting rooms, surface parking, and a parking structure. A small landing dock for hotel guests will be built in the Perez Cove Shoreline directly behind the hotel. Additional access from the shoreline to the marina docks will be provided on the north side of the site. Prior to project review, SeaWorld will provide an economic feasibility analysis assessing the need for another hotel in Mission Bay Park. The California Coastal Commission has not reviewed or granted approval of the hotel, and is in no way bound by the development concept contained herein.

DESIGN CRITERIA

1. The height of the hotel shall not exceed 30 feet above the finished grade.
2. A minimum 10-foot-wide public accessway (vertical access) from Perez Cove Way to the shoreline shall be provided somewhere between the existing Skyride station and the driveway/aisle at the southern end of the north employee parking lot (a distance of approximately 550 feet), with the final location to be determined when final plans are submitted for review. The accessway shall be located and designed to facilitate connection with the existing bikeway and pedestrian path along Perez Cove Way.
3. A minimum 10-foot-wide landscaped public shoreline walkway (lateral shoreline access) along the waterfront shall be incorporated into the hotel design.
4. Adequate parking and access for the marina shall be provided as a condition of the hotel expansion plans.
5. A signage program for the hotel and public accessways shall be drafted in order to inform the public of their right of access to and along the water.

6. A minimum 50-foot public use zone (as defined in the MBPMP Chapter 2, Site Design, Section 9 Public Use Zones) width at bulkhead/rip-rap conditions.
7. A minimum 25-foot building setback (including parking structure), in addition to the 100-foot public use zone.
8. A 17-foot minimum combined pedestrian and bicycle path within public use zone from the public right-of-way on Perez Cove Way at the southeast corner of the potential hotel—northward to and along the waterfront—connecting to the Perez Cove right-of-way at the existing Hubbs Research Building.



Future Combined Pedestrian and Bike Path subject to Coastal Commission review and approval.
NOTE: See Chapter 2, Section B, Area 5 for setbacks and public use zone dimensions.

SeaWorld San Diego

Source: SeaWorld

FIGURE 2-2

Conceptual Hotel and Marina Site Plan

SeaWorld Master Plan 2020

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Existing Land and Water Use

Table 2-1 summarizes the land and water use within the SeaWorld leasehold area. This table will be periodically updated and submitted to the City and California Coastal Commission.

Table 2-1. SeaWorld Land and Water Use

Area	Description	Facilities	Acreage		Parking (number) *
			Land	*Open Water*	
1	Theme Park	Exhibits, rides, education/presentation/entertainment venues, guest support, park support and multi-purpose facilities	97.2	7.0	1,228
2	Guest Parking	Main parking area for theme park.	56.0		6,134
3	Administration and Support	Theme park support facilities, administrative offices and visitor parking lot	6.8		140
4	SeaWorld Marina	Boat docks, dry storage, and marina support	1.0	10.0	65
5	Perez Cove Shoreline	Hubbs-SeaWorld Research Institute, employee parking lot	11.4		650
		Totals	**172.4**	**17.0**	**8,217**
		Leasehold Acreage	**189.4**		

* Approximate parking; reconfiguration and restriping of parking areas shall be allowed in response to operational needs.

C. Setbacks and Buffers

The setback requirements for shoreline redevelopment are intended to provide waterfront orientation to SeaWorld visitors inside the park and to reduce the visual impact of development from the water and surrounding public parklands. SeaWorld presently provides waterfront access for 3.5 to 4 million guests per year.

Shoreline and Bulk Plane Setback

Redevelopment at SeaWorld and all new theme park (Area 1) buildings and structures shall be set back from the shoreline to provide an open, park-like setting along the water. A minimum 50-foot-wide shoreline setback shall be required of all future development except for water- or shoreline-dependent uses such as marina facilities, water intake and discharge facilities, or park attractions oriented toward open water use (the Waterfront Stadium or Skyride being examples). The shoreline setback shall begin at the top edge of the existing rip-rap revetment or the bluff edge, whichever elevation is greater.

Waterfront enhancements, including paved pathways; open lawn areas; low-rise planters; queuing facilities; bay-front patios with removable tables, chairs, and canopies; and similar ground-level uses that promote enjoyment of the shoreline, may be located within the shoreline setback. The shoreline setbacks as established in the 2020 Master Plan shall take precedence over and replace the variable setback for commercial leaseholds as described

in Appendix G, Design Guidelines, of the MBPMP. (See Appendix A Section C, Shoreline Public Access, for additional discussion.)

All new buildings or structures exceeding 30 feet in height (except in Area 4) shall be setback farther behind a bulk plane line beginning 75 feet from the existing rip-rap revetment or the bluff edge at a height of 30 feet and inclined at a one-to-one angle (45˚) until the 160-foot height limit is reached. The shoreline setback, bulk plane setback, and buildable area shall be as depicted in Figure 2-3, Setback and Landscape Buffer Plan (Section AA detail), and Figure 2-3a, SeaWorld Shoreline Setback.

Policy 101 (Key Linkage Improvements) of the MBPMP/LCP states: "In general, continuous public access, either improved or unimproved, shall be provided around the entire waterfront of Mission Bay. Current exceptions are located in the following areas: the leases of SeaWorld, Pacific Rim, Mission Bay Yacht Club, San Diego/Mission Bay Boat and Ski Club, and Fiesta Island Sludge Treatment Facility; the Mission Bay Park Headquarters Facility on Hospitality Point, and the Least Tern nesting areas at Stony Point and Mariner's Point. Where such access does not now exist, as leases or uses come up for renegotiation or change, the issue of public shoreline access will be re-examined consistent with security, safety and specific public aquatic/recreational needs and requirements."

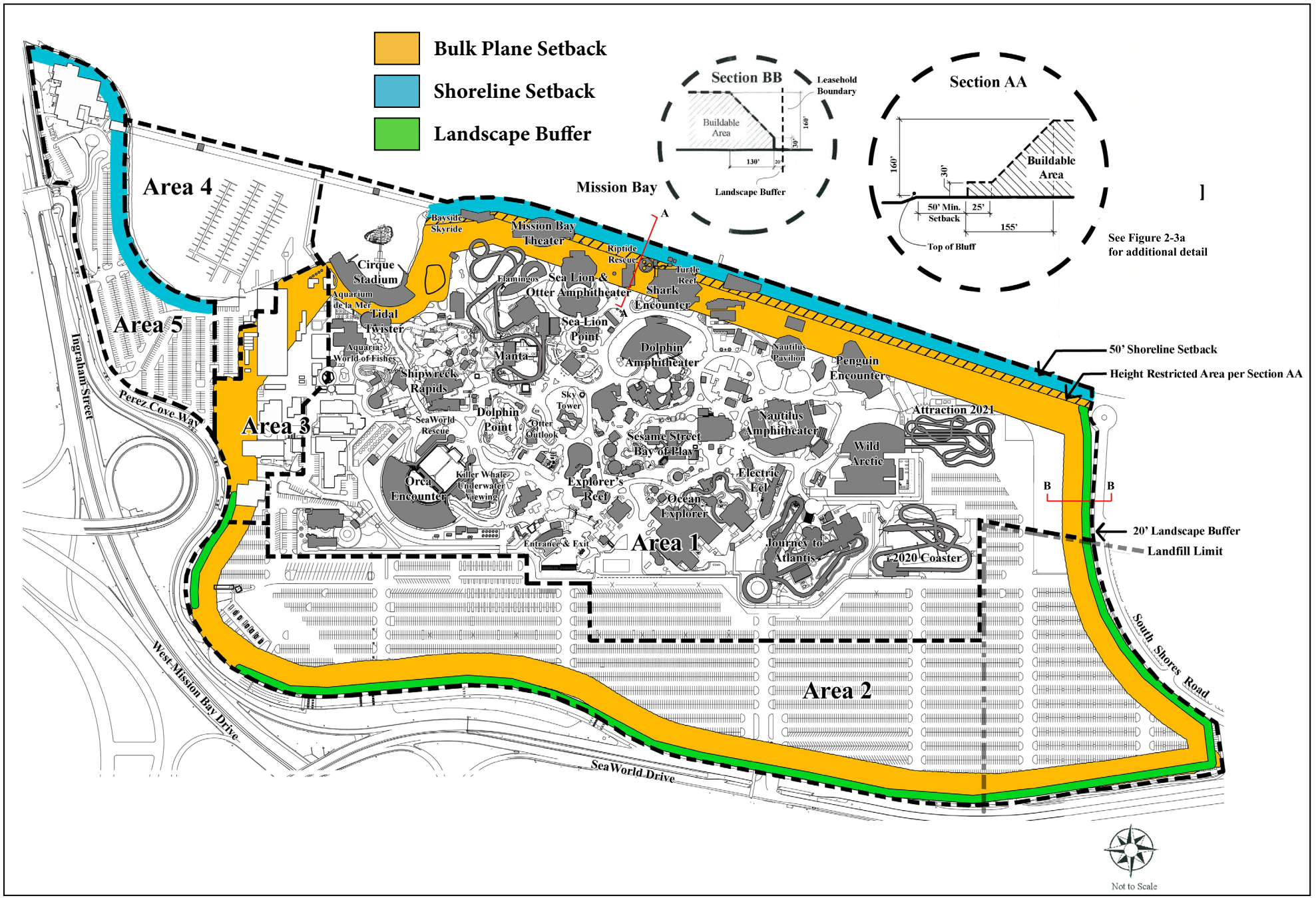
Consistent with MBPMP Policy 101, SeaWorld is committed to preserving the potential for future public access along the leasehold shoreline as a long-term goal to be achieved over time and as opportunities arise. Such opportunities include, but are not limited to, the redevelopment or replacement of existing buildings currently located within the 50-foot shoreline setback. Any replacement buildings or structures shall observe the minimum 50-foot shoreline setback except for buildings or structures that are coastal dependent, essential to animal life-support or necessary to maintain water quality. Minor or easily removed structures shall be allowed within the 50-foot shoreline setback until such time as the setback is made available for public access.

Perimeter Bulk Plane Setback

All new development shall be set back behind a bulk plane line beginning at the perimeter landscaped area (20 feet from the perimeter on the eastern and southern leasehold perimeter boundaries) at a height of 30 feet, and inclined at a one-to-one angle (45˚) until the 160-foot height limit is reached. The perimeter bulk plane setback and buildable area shall be as depicted in Figure 2-3 (Section BB detail).

Landscape Buffer Area

A minimum 20-foot-wide landscaped area shall be provided along the eastern and southern boundaries of the leasehold area (see Figure 2-3). Plantings shall be consistent with the 2020 Master Plan Design Guidelines set forth in Chapter 3.



SeaWorld San Diego

Source: SeaWorld, 2019

FIGURE 2-3

Setback and Landscape Buffer Plan

SeaWorld Master Plan 2020

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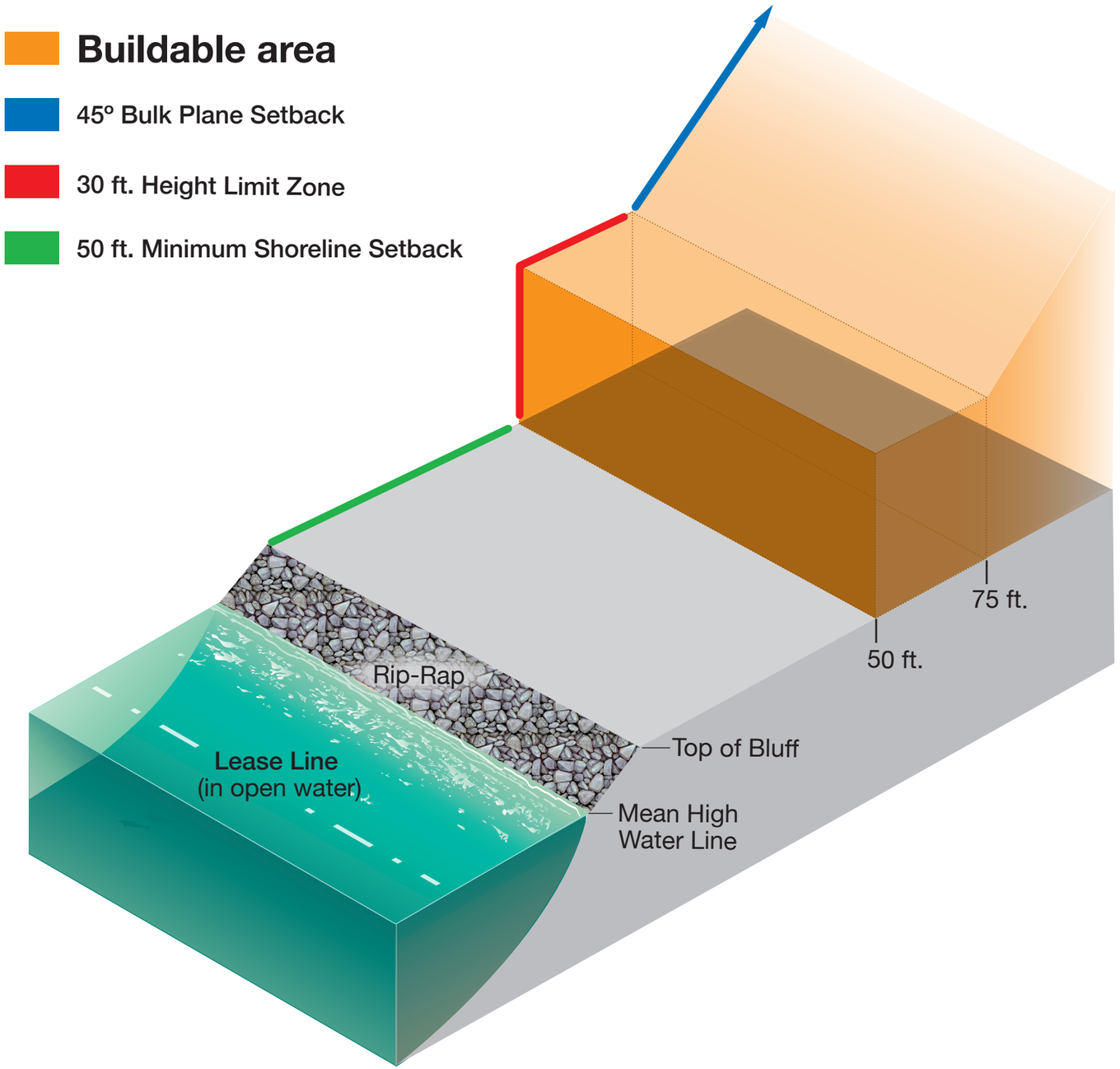

Source: SeaWorld

FIGURE 2-3a

SeaWorld Shoreline Setback

SeaWorld Master Plan 2020

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D. Renovations and Structural Replacements

Any renovation or replacement of an existing structure within the same footprint, height, and building envelope as the original structure shall be permitted except where the existing structure is located within the shoreline setback as defined in Section C, Setback and Buffers, in which case, the replacement structure shall comply with the shoreline setback requirements and applicable development criteria and design criteria as described in Section B, Land Use and Development Criteria.

E. Fireworks Displays

As part of a general package of nighttime entertainment, SeaWorld may conduct festivals, concerts, light shows, fireworks, musical acts, or other entertainment offerings after dark. Fireworks displays have been a part of SeaWorld's entertainment since 1968 and will continue to be an integral part of SeaWorld's end-of-the-evening experience.

SeaWorld's fireworks displays are monitored and regulated by the City of San Diego, California Coastal Commission and the San Diego Regional Water Quality Control Board. SeaWorld regularly obtains numerous permits for fireworks displays, including single-event permits from the City Fire Department, pre-display and post-display reports from the California Department of Forestry and Fire Protection (CalFire), and July 4th permits from the City Parks and Recreation Department. In addition SeaWorld complies with the general fireworks National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board (R9-2011-0022) per Order R9-2011-0032.

Fireworks are used extensively by theme parks to enhance evening entertainment programs and to recreate the experience some adults had as children when fireworks were the final event at fairs, carnivals, or Independence Day celebrations. As carried forward from the 2002 Master Plan, the maximum number of fireworks displays shall be as shown in Table 2-2, Maximum Fireworks Usage.

Table 2-2. Maximum Fireworks Usage

Display Type	Approximate Display Length	Shell Average	Maximum Nights Per Year*
Typical	6 minutes	250 shells	129
Special	12 minutes	1,000 shells	15
Major	20 minutes	1,750 shells	6
		Total	**150**

* The maximum number of nights per year for a greater-intensity display type may be transferred to a lesser-intensity display type, provided the total number of display nights does not exceed 150. Display intensity is defined by the approximate display length and average number of shells. Transferable display types are limited to (1) major to special, (2) special to typical, and (3) major to typical. Fireworks that reduce noise should be used.

Typical displays take place in the summer at 9:50 p.m., last approximately 6 minutes, and use approximately 250 shells varying in size from 2 to 6 inches in diameter. Special events displays, for festivals or conventions, use approximately 1,000 shells and last approximately 12 minutes. Major displays, such as for July 4th, New Year's Eve, the Super Bowl, the World Series, or the Holiday Bowl, last approximately 20 minutes and use 1,750 shells. Future displays of any type could occur in conjunction with other major holiday seasons (Christmas, Easter, or Halloween) or special San Diego celebrations or events (sports victory parties or political conventions).

SeaWorld complies, and will continue to comply, with all state and local fireworks permitting requirements. These include filing a pre-display report with CalFire and obtaining permits from the City, from the Fire Department, and from the Park and Recreation and Department. Following each fireworks display, a post-display report is prepared and submitted to CalFire. Fireworks displays are most often shot from a barge anchored in Mission Bay near the south end of the Fiesta Island Pacific Passage. Major displays are shot from Fiesta Island due to the increased number of shells used. After each display, SeaWorld performs a water sweep for duds and debris. Early each morning, a beach sweep on Fiesta Island is performed to retrieve any duds and debris that may have washed up on shore. SeaWorld undertakes regular dives to search for any debris missed by the water sweeps that may have settled on the bay floor. Additionally, SeaWorld will be fully compliant and in line with SeaWorld's standards, fireworks permit requirements, and RWQCB requirements.

To mitigate any possible environmental effects of fireworks displays from the public recreational and water quality standpoints, SeaWorld will adhere to the compliance monitoring strategy of its NPDES Permit issued by the Regional Water Quality Control Board.

If future monitoring of Fiesta Island and the waters in Pacific Passage and/or Mission Bay Channel identify significant levels of toxic constituents associated with SeaWorld's fireworks displays, SeaWorld is committed to undertake any remediation activities required by the identified regulatory agencies, or to cease such displays altogether. SeaWorld may choose to conduct the same types of monitoring at other sites in Mission Bay Park to provide a reference baseline as a way to distinguish the impacts of fireworks from normal background levels of the identified chemical constituents.

In addition, SeaWorld recognizes the endangered status of California least tern (*Sternula antillarum browni*) and the proven ability of the Mission Bay Park environment to aid in the recovery of this species. To assist in that endeavor, SeaWorld will protect the designated California least tern nesting sites on Mariner's Point and Stony Point from adverse disturbance during fireworks displays. SeaWorld moved the fireworks staging barge to a location approximately 0.5 miles east of the Stony Point Preserve during the California least tern breeding season, which runs from April 1 through September 15 each year.

SeaWorld complies with City Council Policy 500-06, Regulation of Fireworks Displays, which does not permit fireworks displays after 10 p.m. on evenings prior to a workday, or after 11 p.m. on evenings prior to a weekend day or holiday. The policy also limits fireworks displays that use salutes or reports to three events per 30-day period in each zip code area. SeaWorld's displays do not, and will not, exceed this limitation on salutes and reports.

F. Drone Displays

SeaWorld may conduct drone displays from time to time within and over water areas immediately adjacent to the leasehold. Drone displays will be oriented toward SeaWorld in a manner that provides limited visibility from surrounding areas and does not adversely impact nearby sensitive resource or habitat areas. Sound levels at the source will not exceed 65 decibels. The maximum height of a drone display will be approximately 400 feet, subject to Federal Aviation Administration approval. Drone display perimeters shall be at least 1,000 feet from the Stony Point California least tern nesting area. Nighttime drone displays with LED lighting shall obtain future coastal development permit(s).

In November 2019, SeaWorld obtained a Coastal Development Permit (CDP-19-0925) to conduct 5-minute aerial drone light shows from the period of February 4, 2020 through February 18, 2020.

G. Light Exhibitions

LED light exhibitions, including light sculptures and generative art, may be integrated into the traditional strings of light suspended from the SeaWorld tower. Computer generated animations must be in keeping with the thematic and seasonal character of Mission Bay Park and shall not include any commercial messages or logos. LED ground level displays that cannot be seen outside the SeaWorld leasehold shall be permitted in accordance with Section 3, B Lighting.

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3 / DESIGN GUIDELINES

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3 / Design Guidelines

The design guidelines for the 2020 Master Plan are intended as standards to be used throughout the entire SeaWorld leasehold area by SeaWorld designers of buildings, landscaping, signage, and lighting, as well as by maintenance personnel. The City of San Diego Development Services, Real Estate Assets, Park and Recreation and Planning Departments, parks advisory committees, and City Council will use the design guidelines as a standard for evaluation of proposed new projects or for modifications to existing development. These guidelines also assure the San Diego community that SeaWorld acknowledges its place as a landmark in the city and will continue to maintain the highest standards of design. The design guidelines support the goal of the MBPMP "to guide the continuing development of Mission Bay Park as it further matures into a unique, world-class water-oriented recreation area." These guidelines are intended to supplement the MBPMP Design Guidelines and/or City ordinances, such as the Landscape Ordinance and Noise Ordinance. In the event of any conflict between these 2020 Master Plan Design Guidelines and the MBPMP Design Guidelines, the 2020 Master Plan Design Guidelines shall control. Future projects at SeaWorld should be assessed to meet specific guidelines for sustainability and energy conservation.

The primary focus of the design guidelines is to ensure aesthetically pleasing public views of SeaWorld from outside its leasehold area. For this reason, the design guidelines address the perimeter and some limited areas within the leasehold area. The guidelines are not intended to regulate the internal design, operations, and maintenance of SeaWorld projects that are not visible from public view outside the leasehold area.

Chapter 4, Regulatory Framework, describes the review process for proposed development. The design guidelines provide standards by which proposed projects may be evaluated in that review process. These guidelines address landscape, lighting, signs, and architecture.

A. Landscape Design

The MBPMP landscape design guidelines identify two objectives: to use the landscape to define the park as a special recreation source and to reduce the consumption of water for irrigation by emphasizing the use of drought tolerant plants. The MBPMP Design Guidelines identify the area encompassing SeaWorld as a Mediterranean landscape consisting predominantly of native plants and drought tolerant species endemic to the world's Mediterranean climate.

These design guidelines support the MBPMP objectives. SeaWorld recognizes its special place within Mission Bay Park and not only provides a beautiful landscape, but one that is distinctive, educational, and environmentally responsible. During its 55-year history, SeaWorld has been a horticultural leader in San Diego. Over 4000 species of plants are currently cultivated and SeaWorld continually tests new plant species and horticultural methods that are shared with the community. On-going maintenance and enhancement of SeaWorld provides an opportunity for design flexibility and continual improvements.

The following are general landscape design guidelines:

1. Maintain the aesthetic landscape qualities that identify SeaWorld as a landmark in San Diego.
2. Maintain the wide variety of plant species that enhance SeaWorld as a botanical garden.

3. Preserve mature trees and relocate mature trees within SeaWorld where possible.
4. Continue to plant drought tolerant species, particularly in perimeter landscapes.
5. Avoid introduction of species or horticultural practices that may be harmful to the Mission Bay ecosystem.
6. Use dense plantings of shrubs and trees to screen utility areas, where feasible.
7. Use tall trees to provide partial screening and soften views of tall structures, where feasible.
8. Use trees, shrubs, vines, and groundcovers to enhance and soften the appearance of buildings and fences.

Landscape Design Zones

Six distinct landscape design zones are identified and described by these guidelines. Each of these landscape zones has unique characteristics that are not only an integral part of the SeaWorld experience, but contribute to the landmark status of SeaWorld in San Diego. Each of the zones has special functions that require specific design treatment. The landscape zones are as follows:

1. Sea World Drive and South Shores Park Road Landscape
2. Mission Bay Drive, Perez Cove Way and Ingraham Street Landscape
3. Bayside Landscape
4. Inner Park Edge
5. Parking Lots
6. Theme Park

Plant palettes for each of the landscape zones are provided in Table 3-1, Representative Plant Palette. Figure 3-1, Landscape Design Zones, illustrates the locations of the landscape zones.

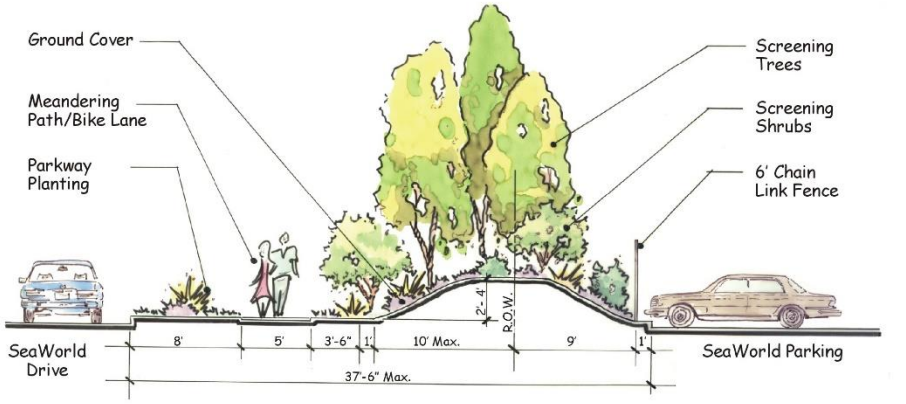
Landscape Zone 1: Sea World Drive and South Shores Park Road Landscape

The design concept for Sea World Drive and South Shores Park Road is to create a vibrant scenic drive landscape that screens the SeaWorld parking lot from public view. SeaWorld designed and implemented the north side of the Sea World Drive landscape in 1992. At approximately 12 feet in height above the berm, the landscape provides dense, effective screening. The landscape design consists of a 20-foot-wide parkway with a 3-foot-high berm. The bermed landform adds interest to the otherwise flat landscape and adds height for optimum screening of parked cars and headlights. The dense planting includes shrubs and groundcovers to provide texture and color at varying heights. Torrey pines were selected as the theme street tree for several reasons: they are a theme tree within the environs of SeaWorld, a drought-tolerant San Diego native, their open form provides partial, but not dense, screening from distant views, they provide a shade canopy over the pedestrian/bike trail at the edge of the parkway, and they are complementary to the river landscape. The Torrey pines in the landscape are approximately 20 to 30 feet in height and have the potential to reach 40 to 60 feet. In addition to the area at the perimeter of its leasehold, SeaWorld maintains the median planting on Sea World Drive between the southwest park entrance and Friars Road to the east.

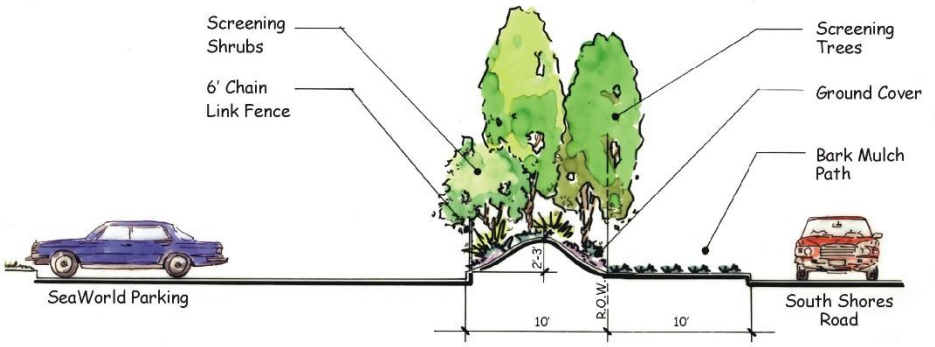
The landscape plan for South Shores Park Road continues the design theme of Sea World Drive. The west side of the South Shores Park Road landscape was implemented in 2012.

Meandering path/bike lane on Sea World Drive

Screening trees and shrubs on Sea World Drive



Sea World Drive cross-section



South Shores Road cross-section

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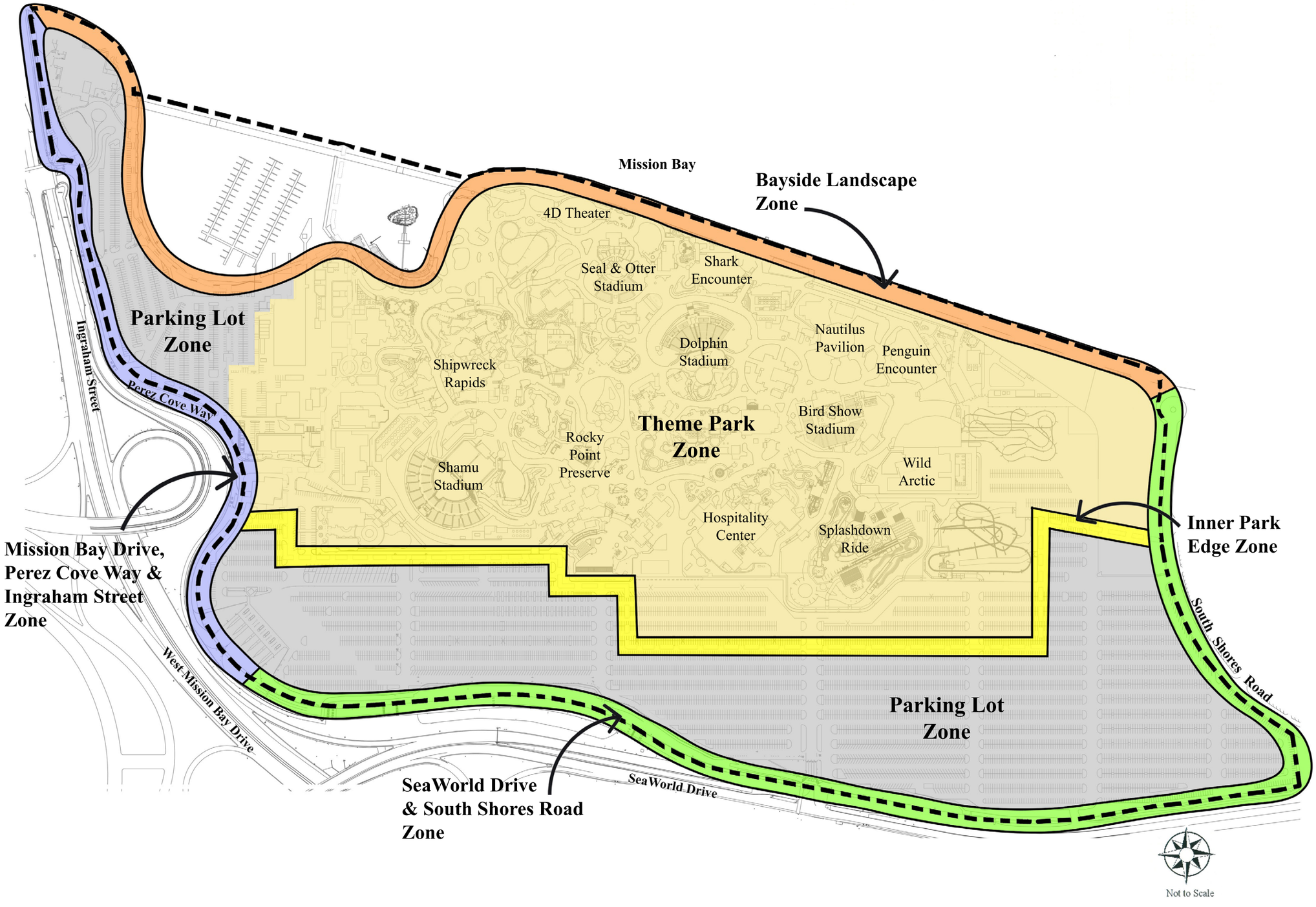

SeaWorld San Diego

Source: SeaWorld 2019

FIGURE 3-1

Landscape Design Zones

SeaWorld Master Plan 2020

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Landscape Zone 2: Mission Bay Drive, Perez Cove Way and Ingraham Street Landscape

The Mission Bay Drive, Perez Cove Way and Ingraham Street landscape consists of lawns, shrubs and mature trees that contribute to the scenic qualities of Mission Bay Park. Public views toward SeaWorld from the west are quite limited due to the topography of the Ingraham Street/Mission Bay Drive cloverleaf interchange. There are some public views toward SeaWorld from Ingraham Street; however, most of the views are screened by existing mature landscaping, berming, and fencing.

The existing mature landscape consists of bermed areas planted with lawns, mulched areas, groundcovers and shrubs, and Torrey pines as the theme tree with groves of Washingtonia palms in accent areas. The landscape will continue to be maintained by SeaWorld in its present design. Future development in this area will maintain mature trees to the extent possible and improve and enhance the park-like atmosphere. For information on setbacks and public use zone dimensions, see Chapter 2, Section B, Area 5.

Existing Perez Cove Way landscape

Landscape Zone 3: Bayside Landscape

The bayside area on the north perimeter of SeaWorld is visible from various areas within Mission Bay Park. With the exception of views from Fiesta Island and the water, most of the views are from a distance that minimizes the visual details of this area. As redevelopment occurs, visual and physical access to and along the shoreline shall be provided to enhance the waterfront experience for SeaWorld's guests. Two distinct landscapes occur along the bayside: the Perez Cove shoreline and the South Pacific Passage shoreline between the Waterfront Stadium and South Shores Park Road.

A. Perez Cove Shoreline

In the northern portion of Perez Cove near the Hubbs-SeaWorld Research Institute, the shoreline consists of naturalistic landscaping with mature trees, shrubs and groundcovers. Future development will maintain the existing mature landscaping to the extent possible and add new improvements. Pedestrian paths will be maintained along the shoreline to enhance the waterfront experience for the general public.

The SeaWorld Marina consists of boats, docks, restroom and lounge facilities for marina guests. On the east side of the marina is an intake facility that provides seawater for SeaWorld's marine animals. The marina landscape is a significant element in the makeup of Mission Bay Park as an aquatic recreation area. The dense cluster of structures and the movement and colors of boats add a picturesque vitality to the park. The functional aspects of the boating and water intake facilities necessitate their locations on the water's edge. Existing landscaping in this area consists primarily of mature trees in parking areas that serve as a backdrop to the marina. Future development is not expected to alter the bayside views; however, if landscape areas should become available in this area, they would be planted in accordance with the design concepts established for the northern portion of Perez Cove.

SeaWorld's Waterfront Stadium is located to the east of the SeaWorld Marina. The "stage" area is located on a small island in the cove and partially screens views of the expanse of stadium seating inside. The island and perimeter areas visible from the bay are lushly landscaped with trees, flowering shrubs and groundcovers to soften the appearance of the structures. Landscaping in this area will continue to be maintained in its existing state.

Shoreline Landscape

SeaWorld Marina landscape

Waterfront Stadium landscape

B. South Pacific Passage Shoreline

The South Pacific Passage Shoreline has three segments, each with a different functional characteristic:

Waterfront Stadium to Shark Encounter Exhibit

The landscape in this shoreline segment is designed to enhance the nearby buildings, screen utilitarian areas, and provide opportunities for SeaWorld guests to enjoy views and proximity to the water. Planting and walkways cover the area to the rip-rap at the water's edge. Landscape in this area is lush, yet utilizes drought tolerant species and water-conserving irrigation practices. Theme plantings, including a succulent garden, are included as a complement to the adjacent attractions and exhibits. Plants in this area are labeled and function as a botanical garden. The high standard of design and maintenance will be maintained in this area and extended to the shoreline area to the east as development in that area occurs.

View of Waterfront Stadium/Shark Encounter Shoreline Segment from Fiesta Island

View of Waterfront Stadium/Shark Encounter Shoreline Segment from SeaWorld Shoreline

Shark Encounter Exhibit to Theme Park Security Fence

pThis shoreline segment will remain in use as SeaWorld's primary emergency and service access. The shoreline roadway is accessible through a service road running along the eastern side of the theme park. The existing landscaping is primarily drought tolerant species that are compatible with Mission Bay wetlands. Moderate height trees and shrubs in this landscape provide partial screening of fencing and exhibit buildings.

View of Shark Encounter to theme park security fence shoreline segment from Fiesta Island

Future development will include trees and landscaping adjacent to structures within the theme park. Trees and shrubs of varying heights will be selected to add visual interest and provide screening. At the perimeter of the park is a security fence that extends to the shoreline. The fencing is black vinyl mesh, selected to blend in with the landscape.

Theme Park Security Fence to South Shores Park Road

The eastern shoreline segment, between the security fence and South Shores Park Road serves as a transition area between the existing SeaWorld theme park and the public facilities at South Shores Park. This area currently allows public access for informal passive recreation such as walking and birdwatching. Expansion of the Theme Park area along this stretch of shoreline may be considered as part of an application for a Theme Park area project Coastal Development Permit, provided such project shall maintain SeaWorld guest access to the shoreline area for passive recreation and comply with applicable setback requirements.

Landscaping along all portions the South Pacific Passage shoreline must be compatible with the Mission Bay wetlands. Irrigation is either minimal or not provided in order to eliminate runoff into the Bay and deter weed growth. SeaWorld does not use fertilizers or weed control chemicals in close proximity to the Bay. It should be noted that these environmentally responsible practices also result in slower growth of ornamental and screening plants.

View of theme park security fence to South Shores Park Road segment from Fiesta Island

View of theme park security fence to South Shores Park Road segment from SeaWorld shoreline

View of security fence from SeaWorld shoreline

Landscape Zone 4: Inner Park Edge

The inner park edge is the area between the SeaWorld guest parking lot and the theme park area. The landscape in this area creates an attractive façade, softens the sharp edges of buildings and structures, and screens structures, fencing and utility areas. The existing landscaping, implemented in 1993, consists of a dense screen of acacias and Brisbane Box trees. The mature trees along the walkway are approximately 45 feet in height.

Some future attractions in SeaWorld may be taller than the existing buildings. As new attractions are located, the tall-growing trees within this landscape will provide partial screening. Additional tall-growing trees may be located in this area if it is determined that they are necessary to add screening. A dense mass of tall trees should be avoided in order to preserve long-distance views to the water from surrounding higher elevation neighborhoods.

Existing inner park edge landscape

Landscape Zone 5: Parking Lots

Parking lots at SeaWorld are effectively screened from public view by perimeter landscaping along surrounding streets as described previously. Trees planted in the parking lots also improve public views toward SeaWorld and provide shade, reduce glare and soften views of large expanses of pavement for guests. In order to accommodate traffic flow in the parking lots, large landscape islands consisting of trees, shrubs and groundcovers are located to define the travel ways.

The parking lots for the Hubbs-SeaWorld Research facility and SeaWorld Marina contain mature Rustyleaf Fig trees located in curbed planter areas. Existing trees will be maintained where feasible. As redevelopment or reconfiguration of the parking lot occurs, new tree plantings will consist primarily of New Zealand Christmas trees, Coast Live Oak, and Brisbane Box.

The SeaWorld guest parking lot is planted with Alders, Italian Stone Pines, Southern Live Oaks, and New Zealand Christmas trees. Parking lot trees are located in curbed planters between parking spaces and in larger planters that form the driveways within the parking lots. The eastern parking lot has been similarly planted with Torrey Pines and Catalina Ironwood as the parking lot theme trees.

All new or redesigned parking lots shall meet the landscape requirements of the City of San Diego Municipal Codes Sections 142.0406 and 142.0407, which includes the following:

1. One tree shall be provided within 30 feet of each parking space
2. In parking areas less than 6,000 square feet, the required minimum planting area shall be 40 square feet per tree.
3. In parking areas of 6,000 square feet or greater, the required minimum planting area shall be 5% of the parking area, exclusive of perimeter planting areas.

Existing parking lot landscaping shall be well maintained and upgraded where necessary to comply with general landscape zone objectives.

Existing Perez Cove parking lot landscape

Existing guest parking lot landscape

Landscape Zone 6: Theme Park

These design guidelines provide direction for perimeter landscapes that are visible from outside SeaWorld. The guidelines do not apply to the overall interior landscapes of the SeaWorld theme park, which are not within public view. SeaWorld strives to maintain the highest quality of design and maintenance for the interior landscapes, which are fundamental to the theme park atmosphere. However, interior landscape that is intended to screen and mitigate views of tall structures is subject to City design review.

It is expected that the existing perimeter landscaping will provide most of the necessary screening. Proposed buildings and special attractions will be reviewed to determine if they will be visible from public areas outside of SeaWorld and if landscaping is needed to enhance or screen public views. If it is determined that interior landscaping is necessary to provide screening, such landscaping will be subject to City design review. Typical screening measures would be the addition of tall trees in strategic locations either in perimeter landscape areas or within the park adjacent to proposed tall structures. Dense groves of trees should be avoided to preserve long-range views to Mission Bay Park.

Theme park interior landscaping

Existing Plant Palette

SeaWorld takes great pride in creating a highly aesthetic and environmentally responsible landscaped theme park. As a horticultural leader in San Diego, SeaWorld grows over 4000 species of plants and continually tests new plant species and horticultural methods that are shared with the community. On-going maintenance and enhancement of SeaWorld provides an opportunity for design flexibility and continual improvements. The following plant palette lists some of the most common tree species that are used within the landscape zones identified by these guidelines. This list is provided as a sample, and is not intended to be comprehensive or restrictive.

Table 3-1. Representative Plant Palette

Scientific Name	Common Name
Sea World Drive and South Shores Park Road Trees	
Eucalyptus ficifolia	Red Flowering Gum
Eucalyptus lehmannii	Bushy Yate
Lyonothamnus flor, asplenifolius	Catalina Ironwood
Pinus torreyana	Torrey Pine
Mission Bay Drive, Perez Cove Way, and Ingraham Street	
Acacia baileyana 'Purpurea'	Purple-Leaf Acacia
Acacia baileyana	Bailey Acacia
Agonis flexuosa	Peppermint Tree
Brachychiton australis	Broadleaved Bottle Tree
Erythrina x sykesii	Coral Tree
Eucalyptus ficifolia	Red Flowering Gum
Ficus rubignosa	Rustyleaf Fig
Pinus torreyana	Torrey Pine
Quercus suber	Cork Oak
Washingtonia robusta	Mexican Fan Palm
Bayside	
Erythrina coralloides	Naked Coral Tree
Melaleuca quinquenervis	White Paperbark
Inner Park Edge	
Acacia subporosa 'Emerald Cascade'	River Wattle
Afrocarpus (Podocarpus) gracilior	African Fern Pine
Pyrus kawakamii	Evergreen Pear
Parking Lots	
Acacia cognata	River Wattle
Alnus rhombifolia	White Alder*

Table 3-1. Representative Plant Palette

Scientific Name	Common Name
Metrosideros excelsa	New Zealand Christmas Tree
Agonis flexuosa	Peppermint Tree
Pinus pinea	Italian Stone Pine
Pinus torreyana	Torrey Pine
Quercus Agrifolia	Coast Live Oak
Tristania Conferta	Brisbane Box
Theme Park	
Arbutus Unedo	Strawberry Tree
Archontophoenix cunninghamiana	King Palm
Callistemon viminalis	Weeping Bottle Brush
Cinnamomun camphora	Camphor Tree
Erythrina caffra	Coral Tree
Ficus benjamina	Weeping Fig
Ficus rubignosa	Rustyleaf Fig
Liquidambar styraciflua	American Sweet Gum
Lophostemon confertus	Brisbane Box
Melaleuca quinquenervis	White Paperbark
Metrosideros excelsa	New Zealand Christmas Tree
Pinus brutia	Calabrian Pine
Pinus canariensis	Canary Island Pine
Pinus eldarica	Russian Pine
Pinus pinea	Italian Stone Pine
Pinus roxburghii	Chir Pine
Pinus torreyana	Torrey Pine
Syagrus romanzoffianum	Queen Palm
Washingtonia robusta	Mexican Fan Palm

* SeaWorld plans to maintain existing mature Alder trees but has discontinued their use in new parking lot plantings.

Furnishings and Fences

The MBPMP Design Guidelines describe furnishings as being consistent throughout the park, durable, and inconspicuous. Similarly, utility and screening fences should be as inconspicuous as possible and screened by landscaping. The MBPMP Design Guidelines include the following standards for furnishings:

- Light sand blasted, natural color concrete outdoor furniture should be used for durability and inconspicuous appearance.
- Metal furnishings, such as bike racks, should be painted in neutral matte tones, or be plastic coated.

The MBPMP description of the Mediterranean landscape type to be used in the SeaWorld environs includes a reference to furnishings. The MBPMP states the landscape should emphasize the use of textured paving, planters, arcades and pergolas; features that can showcase the plants and mediate between the buildings and landscape.

The public park access areas in and surrounding the SeaWorld leasehold will adhere to the MBPMP Design Guidelines for furnishings and fences. However, at the entry gates and within the theme park area, furnishings will be specially designed to complement and enhance the unique architecture and landscape of SeaWorld. All furnishings will be durable and use the highest quality of design and materials.

Typical shoreline furnishings

Typical inner park edge fencing and furnishings

Landscape Management

Landscape management practices within SeaWorld are in conformance with the City, California Coastal Commission, and Regional Water Quality Control Board landscape requirements. SeaWorld employs Best Management Practices (BMP) for maintenance of the landscape.

With much of the SeaWorld land area covered with plants and trees, the landscape serves as a storm water BMP by providing erosion control, filtration and vegetative uptake of pollutants. The landscape also serves as a buffer zone between the northern boundary of the park and Mission Bay.

SeaWorld implements herbicide/pesticide and fertilizer management practices designed to minimize storm water contaminants from landscape applications. Pesticides are used only as a last resort and only the most specific, "caution" level (the least toxic) are used. Specific irrigation practices and mulches are used to minimize weed growth. When necessary, herbicides are applied only to the specific problem site. Fertilizers are used sparingly, and only applied to lawns on a regular basis. All landscape chemicals are only used in areas well away from Mission Bay.

SeaWorld uses drought tolerant and low water consumptive plant materials for all perimeter and background landscapes. Higher water use plants are limited to accent areas within the park. SeaWorld uses state-of-the-art irrigation systems to conserve water. Irrigation rates are set to levels less than the soil absorption capacity using evapotranspiration rate technology and equipment. Computer-controlled leak detection equipment shuts down water systems until repairs can be made. All irrigation systems are maintained for optimal performance.

SeaWorld landscaping nursery

Soil amendment storage

B. Lighting

SeaWorld lighting adheres to the City of San Diego Municipal Code Light Pollution Law general requirements and approved materials and methods of lighting and the MBPMP Design Guidelines. The MBPMP describes lighting as serving two functions: security and nighttime use. Lighting standards in the MBPMP are as follows:

- Paths and parking areas should receive a continuous level of illumination utilizing the least number of light fixtures and lowest intensity lighting necessary to achieve public safety requirements. Lighting should be provided by cut-off, non-glare pole fixtures. The height of light fixtures shall be 12 to 15 feet above the adjacent surface of the path.
- Bollard lights 2 ½ to 3 ½ feet in height should be used where the combined path fronts residential and/or resort hotel areas so as not to affect the nighttime view of the bay from residences and guest rooms.
- The level of illumination should be a minimum of ½ foot-candle at ground level. Average to minimum uniformity ratio shall be no greater than 4 to 1 within the paved area.
- Ambient light supplied by surrounding buildings should be considered when determining the lighting impact of the park.
- Lighting shall provide a desirable level of illumination to promote safety for pedestrians and vehicles using the least number and intensity of lights feasible.
- Lighting and external illumination of structures or portions of structures above 60 feet in height shall be avoided unless required by aviation safety regulations.

Future lighting in SeaWorld will continue to uphold a high standard of excellence in conformity with the Municipal Code and MBPMP. However, SeaWorld's nighttime functions require a unique approach to lighting that is not addressed by the MBPMP Design Guidelines. Additional guidelines are provided here to describe special lighting that will enhance function, safety and aesthetics within the parking and activity areas of SeaWorld. While adequate lighting is necessary in SeaWorld, it will be balanced with considerations for sensitive habitats in Mission Bay and neighboring park and community uses. The following guidelines shall be followed for SeaWorld lighting:

1. Lighting shall provide a desirable level of illumination to promote safety for pedestrians and vehicles.
2. Lighting should be directed to use areas and not spill over into areas adjacent to SeaWorld.
3. Parking lot lighting shall be directed downwards and designed in conformance with City standards.
4. Lighting shall be used to accentuate architectural features and landscaping and provide ambient lighting for pedestrian areas.
5. Accent lighting of buildings and structures over 30 feet in height shall be located to minimize spillover outside the leasehold.
6. Accent and decorative lighting shall avoid excessive illumination and use of multiple colors.
7. Theme park attraction and ride lighting may be used to enhance the design theme and accentuate the sculptural aspects of the structure. Garish, "carnival" style lighting with excessive illumination, colors and motion (chaser lighting) is not permitted.
8. Holiday seasonal lighting is permitted in conformance with City standards.
9. The use of searchlights, lasers and other moving lighting shall be limited to special events and used in conformance with City standards.

10. All lighting should be of type that conserves energy in conformance with City standards. Where feasible, functional and aesthetic lighting shall be combined to reduce energy costs and avoid over-illumination.
11. Sign lighting shall be illuminated from the exterior and on the sign face only.
12. Drone and LED light displays and exhibitions shall be allowed as described in Chapter 2, Section F and G.

Typical park interior lighting

Typical inner park edge lighting

Typical shoreline pathway lighting

Typical inner park edge lighting

Typical parking lot lighting

C. Signs

A goal of the MBPMP Design Guidelines is to better integrate the design of commercial, informational, interpretive and regulatory signs into a coordinated system unique to the park. Existing signs associated with SeaWorld are Mission Bay Park directional signs located on surrounding streets. The SeaWorld parking lot entry gate is the only area of the park where signs may be visible to the public outside the park. This area currently has decorative banners attached to light standards and wall/window signs within the ticket booths. Other signs within SeaWorld, including pedestrian gate entry signs and directional signs are not visible to the public outside the park. These signs are discrete and complementary to the surrounding landscape and architecture.

Future development and renovation within SeaWorld may prompt the addition of entry signs on the surrounding streets. For example, a future hotel may require an identification monument sign. Future remodeling of the SeaWorld theme park pedestrian entry gate may incorporate new signage. A visual assessment would be made to determine if the proposed entry gate features would be visible to the public from outside the park. If the area is determined to be visible, the City would review the proposed design and consider conformance with sign guidelines. Current entry gate features and signage are not visible from outside the park.

For any proposed signs that are visible to the public from outside the park, the following MBPMP commercial sign standards will be applied:

- As a general rule, free-standing commercial signs shall be low, close to the ground and shall not exceed eight feet in height and shall be placed in a landscaped setting.
- Exceptions may be granted to accommodate sign designs or site identification within other architectural features such as entry walls or gatehouses.
- Motorist sight-lines should be considered when locating signs near roadways.
- Signs attached to buildings should be designed to blend with the architecture rather than appearing as a billboard.
- Rooftop signs are prohibited.

Adventure Camp identification sign

SeaWorld entry gate sign

Hubbs-SeaWorld Research Institute wall sign

Typical directional signage

D. Architecture

The MBPMP identifies the character of buildings as contributing to the image of Mission Bay as a water-oriented recreational environment. The MBPMP goals and objectives are:

- Park architecture should be contemporary, responsive to the aquatic environment and avoid excessive or exaggerated thematic styles. The intent is to preclude from Mission Bay Park a "theme park" architecture.
- Through manipulation of building form, details, materials and color, the architecture should aim to capture and express the special marine quality of the Bay.
- Each park building should strive to achieve a uniquely appropriate interpretation of the Bay's landscape context according to its site, function, and intended use.

SeaWorld recognizes the importance of the MBPMP architectural goals and objectives in creating a cohesive image for Mission Bay Park. Existing SeaWorld buildings that are visible from outside the leasehold adhere to those goals and objectives. However, within its leasehold, SeaWorld is a theme park and utilizes authentic architectural styles and images, based on classical design, to enhance the aquatic environment and create a festive atmosphere.

The functional aspects of the theme park area of SeaWorld require design flexibility that allows for on-going renovations of exhibits and attractions to keep the park fresh and exciting for visitors. In order to provide design flexibility, buildings and attractions within the theme park that are not visible from outside the SeaWorld leasehold are not regulated by these design guidelines. Proposed projects that will be regulated by these design guidelines are only those which may be visible from outside the SeaWorld leasehold.

Building Design

New buildings that may be visible from outside the park, such as a future hotel and parking garage, will adhere to the MBPMP architectural design guidelines. The MBPMP provides architectural guidelines for building height and massing, roof design and materials, façade treatments and ornamentation. The following guidelines should also be applied:

1. Large expanses of strong or bright colors on exterior building walls shall be avoided.
2. Large expanses of highly reflective materials on exterior building walls shall be avoided.
3. Use of thematic elements shall be used with taste and discretion near the perimeter of the theme park where they may be visible from outside the park.
4. Although the majority of the bayside perimeter should be screened by landscaping, interesting and appropriate architectural elements such as bay-view restaurants, patios or decks with trellises, building façade treatments, banners and awnings may be used to create a sense of openness and connection to the Bay. Signs, logos or elements that may be perceived as advertising are not permitted in this area.
5. Mechanical equipment and storage areas shall be screened from public view by elements such as architectural treatments, fencing and landscaping.

6. New mechanical equipment and storage areas should be located away from the leasehold perimeter where feasible, to avoid public views toward unsightly utilitarian areas.

View of existing Explorer's Café from within theme park

View of existing Explorer's Café from inner park edge

View of SeaWorld Adventure Camp building from Perez Cove Way

View of SeaWorld Adventure Camp building from inner park edge

Theme Park Attractions

Proposed theme park attractions that may be visible from outside the park will adhere to the 2020 SeaWorld Master Plan development criteria for height, mass, and transparency (See Chapter 2, Section B, Land Use and Development Criteria). SeaWorld is committed to designing aesthetically pleasing attractions and utilizing the highest quality of materials and construction. The following guidelines will apply to theme park attractions that are visible from outside the park:

1. Theme park attractions and rides shall use light or neutral colors for large mass areas and reserve bright colors and reflective surfaces for accents below 60 feet in height.
2. Theme park attraction lighting may be used to enhance the design theme and accentuate the sculptural aspects of the structure below 60 feet in height. Garish, "carnival" style lighting with excessive illumination, colors and motion (chaser lighting) is not permitted.
3. High quality building materials and construction practices shall be used throughout SeaWorld.

View of Electric Eel Coaster from within theme park

View of theme park attractions from Sea World Drive

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4 / REGULATORY FRAMEWORK

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4 / Regulatory Framework

A. Governing Acts, Documents, Policies, and Agencies

California Coastal Act

SeaWorld, as well as all of Mission Bay Park, is located in the California Coastal Zone. At present, all projects within Mission Bay Park require a Coastal Development Permit or administrative waiver to be issued by the California Coastal Commission (CCC). The CCC reviews projects for consistency with the Coastal Act and the Mission Bay Park Master Plan Update (MBPMP), which is the approved Local Coastal Program (LCP) Land Use Plan.

Mission Bay Park Master Plan

The MBPMP serves as both the Community Plan and the LCP Land Use Plan for Mission Bay Park. The plan contains a comprehensive set of recommendations and design guidelines for development within the Park. In general, the City of San Diego (City) requires that all development be consistent with the applicable Community Plan and the CCC requires Coastal Development Permits to be consistent with the adopted LCP Land Use Plan.

City Charter and Council Policy

The SeaWorld site and all of Mission Bay Park is affected directly by a provision in the City Charter that restricts total land lease of Mission Bay Park to 25% of the total park area. The entire SeaWorld site is designated for commercial use in the MBPMP and falls within the 25% threshold. Additionally, Council Policy 700-08 contains a number of policy statements pertaining to Mission Bay Park. The Council Policy expresses a desire to develop, operate and maintain Mission Bay Park as an aquatically-oriented recreational resource for the use of the general public. The Council Policy also states that private capital will be encouraged to develop and maintain, under a lease program, those facilities which provide services not normally provided by the City that are needed to enhance the usability of Mission Bay Park.

SeaWorld Leasehold

SeaWorld is located on a 189.4-acre commercial leasehold within Mission Bay Park. The right to use the property is controlled by the terms and conditions of its existing 50-year lease. Pursuant to the terms of the lease, uses within the SeaWorld leasehold must be consistent with the City-approved 2020 SeaWorld Master Plan Update (2020 Master Plan). Before any substantial new development may occur at SeaWorld, City staff must make a determination that it is consistent with the lease and the 2020 Master Plan. The City's Real Estate Assets Department administers the lease while the Development Services Department initiates the project review process. The Park and Recreation Department and Planning Department may also contribute to project review as may be required depending on the scope and size of the project.

The 2020 Master Plan includes review procedures to accommodate the added design flexibility envisioned in the MBPMP and enabled by the SeaWorld Height Initiative. These procedures are described in following Section B, Implementation (see Determination of Consistency Process).

Permitting Agencies

Additional discretionary actions that may be required to implement individual development projects when they are proposed include: CCC Coastal Development Permit, Regional Water Quality Control Board General Construction Activity Stormwater Permit, Section 10 of the Rivers and Harbors Act, and U.S. Army Corps of Engineers 404 Permit.

B. Implementation

SeaWorld Development Process

The long-range planning process for SeaWorld emphasizes multiple development scenarios and flexible development options. Individual project development is a highly creative process that depends on extensive concept development and market testing. Final project decisions are made late in the planning cycle to meet the demands and desires of customers, to incorporate the latest technologies and to react to the competition in the marketplace. Once corporate decisions are made, projects must be developed and brought to market in a very short time frame.

Project Review Process

SeaWorld proposed development projects will be reviewed by the City and the California Coastal Commission as described in this section.

The SeaWorld site is unique in both the type and frequency of development projects within the leasehold. Each year, SeaWorld processes numerous projects to upgrade park facilities and keep attractions in top working order. Additionally, in response to consumer demands and competition in the theme park industry, SeaWorld regularly undertakes renovations of its larger attractions, rides, education/presentation/entertainment venues, or exhibits. Most projects will not be highly visible from outside the leasehold.

The City will determine whether a proposed project is consistent with the 2020 Master Plan and the Lease between SeaWorld and the City. The City also will determine whether proposed project environmental impacts were addressed in the 2002 Master Plan EIR and the 2021 Addendum.

The California Coastal Commission, which retains original jurisdiction over Mission Bay Park, will review the project for consistency with the Coastal Act, the MBPMP, and the 2020 Master Plan and issue the required Coastal Development Permit.

The City's determination will be included with the Local Agency Review Form contained in the Coastal Development Permit application. California Coastal Commission staff may review and analyze any SeaWorld project application prior to the City's completion of its review, however, the California Coastal Commission itself may not review and act on any SeaWorld application until the City's review is complete and submitted to the California Coastal Commission.

Determination of Consistency

All projects require a City staff "determination of consistency" with the 2020 Master Plan, and the 2021 Addendum to the 2002 Master Plan EIR. This consistency determination includes project and environmental review by the Development Services Department (DSD) to determine consistency with the 2020 Master Plan, and the 2021 Addendum to the 2002 Master Plan EIR. Where appropriate, the project may be referred to the Real Estate Assets Department, Park and Recreation Department, and Planning Department as may be required depending on the size and scope of the project. The project is also referred to the Mission Bay Park Committee as an information or action item. Following the City staff consistency review, the project is then submitted to the CCC for approval of a Coastal Development Permit. Completion of the City's consistency review will be indicated in the Local Agency Review Form provided in the Coastal Development Permit application.

As provided in Chapter 2, Section D, renovation or replacement of an existing structure within the same footprint, height and building envelope as the original structure shall be permitted, except where the existing structure is located within the shoreline setback as defined in Section C, Setback and Buffers, in which case, the replacement structure shall comply with the shoreline setback requirements.

C. Plan Amendment Process

Any project that does not conform to the development criteria will require a plan amendment. The plan amendment process requires environmental review and public hearings before the Planning Commission, City Council and California Coastal Commission. Projects requiring a plan amendment shall include those that require the following:

- A change to a use other than the theme park, parking, administration, support, marina, hotel or other uses described in the 2020 Master Plan.
- A modification of the shoreline.

Planning area boundaries may be adjusted from time to time without need for a plan amendment if accompanied by an individual project that is subject to consistency review by the City of San Diego and a Coastal Development Permit by the California Coastal Commission. In such cases, the planning area boundary adjustment will be incorporated into the project description.

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5 / Sustainability

A. Introduction

SeaWorld's Role in San Diego's Sustainable Future

SeaWorld has been a San Diego icon and major employment center for over 50 years. SeaWorld has a unique sustainability mission in the rescue and care of marine life and the environmental education of people from all over the world. The resources to care for a variety of marine life and serve visitors are unique as are the sustainable solutions. All of SeaWorld's sustainability efforts are deeply rooted in a passion for stewardship of marine life and inspiring these values in its guests. This chapter serves to explore those efforts and provide a guide of how SeaWorld advances San Diego's sustainability and climate change goals.

SeaWorld's Connection to Local and Regional Sustainability Goals

In 2015, the City of San Diego (City) adopted its Climate Action Plan (CAP) which aims to meet California's state-wide greenhouse gas (GHG) reduction goals of 40% below 1990 levels by 2030 and 50% below 1990 emissions by 2050. The CAP is centered on five strategies: energy and water efficient buildings; clean and renewable energy; bicycling, walking, transit, and land use; zero waste; and climate resiliency. SeaWorld's history in innovating in these areas and continued commitment is outlined below by natural resource.

SeaWorld is also located in a transit priority area (TPA) where the City is committed to increasing residents and employment due to its proximity to high quality transit. SeaWorld is currently accessible by buses which arrive at a 15 minute intervals and connect to the Old Town Transit Center providing regional access. See also Section E, Transportation for additional traffic demand management (TDM) sustainability measures, and Section F, Climate Change Adaptation and Resilience.

B. Energy

Maintaining and Moving Water

SeaWorld is a unique energy user as most of the park's energy demand is derived from heating, cooling, and moving water for animal habitats and guest services.

Lighting and Mechanical Energy Demands

To date, SeaWorld has supplemented its standard electric motors with variable start drives (VFDs). VFDs increase energy efficiency as they can better meet the speed requirements of the motor preventing wasted energy.

Over the past decade SeaWorld has been committed to retrofitting lighting across the park and offices to energy efficient lighting. SeaWorld emphasizes LED lighting for the iconic SeaWorld tower and all site accent lighting. SeaWorld offices, warehouses, and parking areas are all currently outfitted with LED fixtures. Additionally,

entertainment display lighting, including an LED screen at Orca Encounter, has been upgraded. SeaWorld regularly and actively works with SDG&E on incentive programs available to the public. Additionally, SeaWorld will continue to install cool and/or green roofs on future projects to supplement existing ones consistent with the City of San Diego's CAP Strategy 1.

C. Water

Freshwater Savings

SeaWorld employs a holistic approach in saving freshwater across services and education. Traditional restrooms in the park include low flow fixtures to automatically reduce water demand without altering the visitor experience. SeaWorld also educates its visitors on water-smart landscaping and home saving tips through signage in the park. Additionally, SeaWorld increased its plant based meal options, allowing guests to choose food with a smaller water demand footprint.

SeaWorld has also upgraded both its landscaping planting and watering practices to conserve water. The park has converted areas to drought-tolerant plants, which require up to 75% less water than a typical lawn. Additionally, SeaWorld has removed 50% of all lawns since 2015. Park lawn areas have also been converted to artificial turf where appropriate. For its watering requirements, SeaWorld uses state of the art weather based controllers that measure daily water loss and irrigate accordingly. The entire system is monitored, evaluated, repaired and upgraded as needed.

Salt water restroom

Salt Water

SeaWorld currently operates two saltwater intakes from Mission Bay to supply the majority of water demand for the park. SeaWorld has also transitioned to using saltwater for use in the initial cleaning of animal enclosures and animal enrichment activities such as sprays that orcas play in. SeaWorld also has a salt water restroom. To date,

utilizing salt water for these activities has reduced water consumption by 22%. SeaWorld will continue to explore opportunities for salt water use in the future.

SeaWorld also includes a salt water restroom, as described in Box 1.

In 2015, SeaWorld opened its first salt water restroom. The salt water restroom saves approximately a million gallons of fresh water annually. Water for the restrooms is taken from SeaWorld's filtration system which is derived from Mission Bay and filtered before use in the restroom. After the water is flushed, the water enters the City's sewer system and is sent to the Point Loma Wastewater Treatment Plant.

BOX 1: SALT WATER RESTROOM

In 2015, SeaWorld opened its first salt water restroom. The salt water restroom saves approximately a million gallons of fresh water annually. Water for the restrooms is taken from SeaWorld's filtration system which is derived from Mission Bay and filtered before use in the restroom. After the water is flushed, the water enters the City's sewer system and is sent to the Point Loma Wastewater Treatment Plant.

Water Quality

After salt water is used on site, it is treated by one of SeaWorld's two water treatment plants and returned to Mission Bay. These systems also treat surface run off from the park and some parking areas through a conveyance system. Water discharged to Mission Bay is monitored 24 hours a day and sampled weekly to meet the requirements of the Clean Water Act; refer to Appendix A Section B, Issues Analysis, Water Quality, in this Master Plan document for additional information.

The remainder of the parking lot runoff enters the City's municipal storm drain system, which is outfitted with low-flow interceptors. During more intense storm events, the nearest storm drain discharges directly into Mission Bay in the Perez Cove area, in compliance with the City's low impact development guidelines. Currently, approximately 96% of runoff within the theme park (Area 1) and approximately 40% of runoff within the parking area (Area 2) is collected and processed through SeaWorld's onsite water treatment system.

D. Waste

Solid Waste Reduction

Recycling

SeaWorld has been a leader in recycling in San Diego for two decades. The City has named SeaWorld a "Recycler of the Year" for 20 years for SeaWorld's consistent demonstration of innovative waste reduction, recycling programs, and purchasing programs. SeaWorld has also received the California Waste Reduction Award nine times.

Organics

SeaWorld feeds a large number of visitors and animal residents daily. Food scraps from food prep for visitors is sent to the recycling compactor. SeaWorld also has donated extra fish to animal rescue centers, such as the California Wolf Center in Julian and Lions Tigers and Bears in Alpine. SeaWorld will continue to explore opportunities such as these to reduce organic waste.

Purchasing

SeaWorld has had a long history of reducing plastic in the park as it is detrimental to animals and marine life. In 2011, the park stopped offering plastic bags, flatware, table wear, and straws. Individual pieces of tableware and cutlery have been shifted to compostable material. SeaWorld also offers water refill stations for visitors who bring their own reusable water bottle.

SeaWorld also explores opportunities to make its employee uniforms environmentally friendly. For example, some of the rescue team member shirts are currently made from recycled water bottles. SeaWorld will continue to explore different vendors and opportunities to purchase recyclable or recycled materials.

Recycling encouraged for SeaWorld guests

E. Transportation

Visitors and employees can reach the site by bike, transit, ride-share, or personal vehicle. As previously described, the park is located within a Transit Priority Area (TPA) which is defined as an area within one-half mile from a major transit stop that is either existing or planned, if the planned "major transit stop" is scheduled to be completed within the planning horizon included in the SANDAG Regional Transportation Improvement Program. A "major transit stop" is defined as an existing rail station, ferry terminal served by either bus or rail transit service, or the intersection of two or more major bus routes with morning and afternoon peak hour frequency of 15 minutes or less. As previously described, the park is served by buses which arrive at a 15 minute frequency and connect to the Old Town Transit Center thus providing regional access via the trolley system. Additionally, the Park is well integrated into the Mission Bay bike network, and provides bike racks for both employees and guests. SeaWorld also has multiple free electric vehicle charging stations for guests, and includes designated rideshare loading zones to support car-free employees and guests; TDM measures are described below in further detail.

The SeaWorld fleet is also becoming more sustainable and currently includes one natural gas powered van and one solar powered golf car.

Generally, the TDM and sustainability measures sponsored or supported by SeaWorld include the following:

Electric vehicles charging stations

1. **Hotel Shuttles** – SeaWorld currently partners with nearby hotel operators shuttling approximately 2,000 guests per year.
2. **Private Buses** – SeaWorld currently partners with private bus companies to bus approximately 27,000 guests per year.
3. **MTS Bus**—MTS services SeaWorld by providing direct access to SeaWorld during high demand hours. Connections include Pacific Beach and the Old Town Transit Center which is a hub to eight bus routes, the Green Line trolley, the Coaster, and Amtrak.
4. **Employee Bus Passes**—SeaWorld provides discounted MTS bus passes available for sale on site to employees.
5. **Education Field Trip Buses**—Currently, approximately 60,000 students, teachers and chaperones arrive by bus each year.
6. **Electric Vehicle Charging Stations**—SeaWorld currently provides two double-sided charging stations accessible to park guests (accommodates four vehicles). Future projects will include additional electric vehicle charging stations consistent with the City of San Diego's CAP Strategy 3, as required.
7. **Bicycle Facilities**—SeaWorld is currently served by a Class I bike route that connects to nearby hotels in Mission Bay Park. Three bicycle racks for guests (27 slots) are provided at the main park entrance. In addition, SeaWorld provides bicycle racks for its employees at both the west security and east security employee entrances as well as bicycle racks at the Marina for tenants. Future projects will include additional short- and long-term bicycle parking consistent with the City of San Diego's CAP Strategy 3, as required.
8. **Promotion of Alternative Transportation**—Through its website and marketing materials SeaWorld actively promotes the availability of alternative and sustainable transportation including walking, biking, hotel shuttles, private buses, MTS buses and connecting rail lines, and the use of multiple occupancy vehicles such as taxis, Uber and Lyft, as well as private vehicles.

SeaWorld will continue to provide for TDM opportunities, such as these, in the future.

Additionally, the following features regarding pedestrian, bicycle, transit and TDM improvements are incorporated into this Master Plan. The implementation of these features will be assured through the project review process for individual development projects. The project design features are listed below; items labelled PI, BI, TI, CTR are project design features required through the City's CAP consistency checklist, and those labelled OS are additional off-site measures.

Pedestrian Network Improvements

- **PI-1:** Provide a minimum 10-foot wide public accessway (vertical access) from Perez Cove Way to shoreline somewhere between the existing Skyride station and the driveway/aisle at the southern end of the north employee parking lot (approximately 550 feet), with the final location to be determined when the final plans for the hotel are submitted for review.

- **PI-2**: Enhance the existing pedestrian paths along the Perez Cove shoreline by providing a minimum 10-foot-wide landscaped public walkway (lateral shoreline access) incorporated into the marina expansion design.

- **PI-3:** Enhance the shoreline access by providing a minimum 10-foot-wide landscaped public shoreline walkway (lateral shoreline access) along the waterfront that shall be incorporated into the hotel plans.

- **PI-4:** Continue to provide ongoing maintenance of the existing pedestrian/bicycle pathways within the project site.

Bicycle and Micromobility Improvements

- **BI-1:** Maintain the bicycle racks provided on-site (currently 27 spaces) at the main entrance. Monitor demand for bicycle parking and provide additional spaces as demand increases. This is a CAP Consistency Checklist item.

- **BI-2:** Maintain the employee bicycle racks at both the west security (currently 18 spaces) and east security (currently 10 spaces) employee entrances. Monitor demand for employee bicycle parking and provide additional spaces as demand increases. This is a CAP Consistency Checklist item.

- **BI-3:** Enhance the shoreline access with future expansion of the marina and hotel development by providing a minimum 10-foot-wide landscaped public shoreline walkway (lateral shoreline access) along the waterfront.

- **BI-4:** Provide plug-in stations at the bicycle storage area for electric bikes or other micro mobility vehicles, as demand warrants it.

- **BI-5:** Reserve space for parking alternative and micromobility vehicles such as shared use bikes, scooters, and similar services. The space will be publicly accessible, provide electricity, and be provided for free to one or more micromobility service providers. If space set aside for micromobility devices is not utilized by micromobility devices/services, this space will be used to provide additional bicycle racks as demand increases.

- **BI-6**: Continue to provide ongoing maintenance of the existing pedestrian/bicycle pathways within the project site

Transit System Improvements

- **TI-1:** Improve the amenities at the existing SeaWorld bus stop (Stop ID: 13059) to meet all standard MTS design criteria for 201-500 passenger boardings, which will include the following amenities not currently provided:
    - Passenger Shelter
    - Route Map
- **TI-2:** Coordinate with MTS regarding Route 9 service to the SeaWorld bus stop to extend the existing span of service, currently 9:06 AM to 4:08 PM, to match SeaWorld's hours of operation.
- **TI-3:** Coordinate with SANDAG, City of San Diego, and MTS to accommodate a TransitStation within the Area 2 parking lot per the terms of the SeaWorld Lease, when the opportunity arises. Design of the future parking structure, if necessary, wouldaccommodate a transit station.

Commute Trip Reduction Measures

- **CTR-1:** CAPCOA TRT-3: Provide Ride-Sharing Program – The Project will promote ride-sharing programs through a multi-faceted approach to include designating up to five percent of employee parking spaces for ride-sharing vehicles depending on demand, designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles, and providing a web site or message board for coordinating rides. This is a CAP Consistency Checklist item.
- **CTR-2:** CAPCOA TRT-7: Implement Commute Trip Reduction Marketing – The Project shall promote the use of the bike share/micro mobility fleet and educate employees on the non-SOV transportation options in the area through participation in SANDAG's iCommute program. To realize the VMT reduction associated with CTR-2/TRT-7, the TDM Plan identified in this report must be marketed to new and existing employees through a website maintained by the employer, monthly email newsletter blasts, promotional materials made publicly visible in common areas, and through an information packet that will accompany new hire documentation, including all part-time employees. This is a CAP Consistency Checklist requirement item.
- **CTR-3:** As part of the TDM Plan, the Project will dedicate an employee within the park to the role of "Transportation Coordinator (TC)." The TC would be responsible for developing, marketing, implementing, and evaluating the commute VMT reduction measures offered through the TDM Plan.
- **CTR-4:** As part of the TDM Plan, the Project will implement an updated employee transit pass program, which will include a 25 % employee transit pass subsidy for all full- time, part-time, and temporary/seasonal employees working on the property. The subsidy value will be limited to the equivalent value of 25% of the cost of an MTS "Regional Adult Monthly/30-Day Pass" (currently $72 for a subsidy value of $18 per month). The program will also include a ticket discount of $5 to guests who show their bus pass.

Off-Site Active Transportation Measures

- **OS-1:** Complete sidewalk along the north side of Sea World Drive from E. Mission Bay Drive-Pacific Highway to the I-5 freeway southbound ramps. This improvement is consistent with the Fiesta Island / MBPMP Amendment.

- **OS-2:** Complete sidewalk along the north side of SeaWorld Drive from Friars Road to E. Mission Bay Drive-Pacific Highway. Construct ADA compliant curb ramps on the northeast and southeast corners at Sea World Drive/E. Mission Bay Drive-Pacific Highway. Install current City of San Diego standard crosswalks and pedestrian countdown signal heads on all legs of this intersection. This improvement is consistent with the Fiesta Island / MBPMP Amendment.

- **OS-3:** Complete sidewalk along the north side of SeaWorld Drive from South Shores Parkway to Friars Road. Construct ADA compliant curb ramps on the northwest and northeast corners of SeaWorld Drive / South Shores Parkway. Install current City of San Diego standard crosswalks and pedestrian countdown signal heads on all legs of this intersection.

- **OS-4:** Restripe existing Class II bicycle lanes SeaWorld Drive from E. Mission Bay Drive to Friars Road to include a minimum three (3) foot buffer between the travel lane and the bicycle lane. Provide bicycle detection and painted bicycle detection location indicators at the signalized intersections of Sea World Drive and E. Mission Bay Drive/Pacific Highway and Sea World Drive and Friars Road if bicycle detection is not currently present. This improvement is consistent with the Fiesta Island / MBPMP Amendment.

- **OS-5:** Restripe existing Class II bicycle lanes on SeaWorld Drive from Friars Road to South Shores Parkway (Class I Bicycle Path entrance) to include a minimum three (3) foot buffer between the travel lane and the bicycle lane. Provide bicycle detection and painted bicycle detection location indicators at the signalized intersection of Sea World Drive/South Shores Parkway if bicycle detection is not currently present. This improvement is consistent with the Fiesta Island / MBPMP Amendment and will require an Encroachment Permit from Caltrans

- **OS-6:** Provide loop detection for vehicles and bikes in both directions of travel on SeaWorld Drive at the I-5 interchange. This improvement is being provided as a countermeasure for study area intersections that meet the Systemic Safety hotspot criteria per the City's Transportation Study Manual and Local Mobility Analysis requirements.

- **OS-7:** Provide loop detection for vehicles and bikes in both directions of travel on Ingraham Street at Riviera Drive (Systemic Safety). This improvement is being provided as a countermeasure for study area intersections that meet the Systemic Safety hotspot criteria per the City's *Transportation Study Manual* and Local Mobility Analysis requirements.

F. Climate Change Adaptation and Resilience

Sea Level Rise

While coastal environments regularly experience erosion, flooding during storms, and inundation from tides, sea level rise caused by climate change may exacerbate these natural forces. SeaWorld is located along the southern edge of Mission Bay Park and includes areas of shoreline and open water. Sea level rise science involves both global and local physical processes. Models are created based on science's best understanding of these processes from the global to local scales; therefore, they are dynamic and periodically updated to reflect new research. While the amount and timing of sea level rise is uncertain, it is likely that areas of the park will experience tidal inundation during non-storm conditions and flooding during storm conditions, even with low levels of sea level rise. A *SeaWorld San Diego Sea Level Rise Vulnerability Assessment*, prepared by Moffat and Nichol, dated February 2020 discusses the vulnerability of SeaWorld facilities to coastal hazards associated with future sea level rise and includes recommendations for potential adaptation strategies that can be implemented when and if sea level rise has reached the triggers established. Adaptation strategies for near-term flooding include, but are not limited to, portable barriers (e.g. sandbags, water-inflated or water-filled barriers, temporary cofferdams), raising areas above projected water levels, installation of check valves on outfalls to prevent backflow, and implementation of pumping systems; refer to *SeaWorld San Diego Sea Level Rise Vulnerability Assessment* for further details. Coordination and collaboration with the City, neighboring leaseholds and other jurisdictions can help to align adaptation efforts, thereby maximizing benefits and minimizing costs.

Urban Forestry

As climate change increases the frequency and intensity of extreme heat days, urban forestry serves as an important tool in keeping urban areas cool for the enjoyment and safety of the public. SeaWorld has a high volume of tree cover and available shade around the park. Mature trees capable of providing ample cover are purchased for new projects eliminating the time any new park areas would lack shade. Additionally, the majority of paved areas within the park utilize light colored concrete which reflect solar energy and do not increase the temperature of ambient air.

G. Marine Life Conservation

SeaWorld has rescued and rehabilitated animals off the Southern California Coast since the park opened. Beginning in 1965, SeaWorld has rescued more than 20,000 animals, with sea lions, seals and marine birds comprising the vast majority of those animals rescued. The park's Rescue Team also routinely comes to the aid of dolphins, whales and sea turtles. For example, in 2018, the animal species rescued included: 931 birds representing more than 60 species (including loons, grebes, pelicans, gulls, and herons), 119 California sea lions, 22 northern elephant seals, 11 harbor seals, 10 Guadalupe fur seals, 5 sea turtles, 1 dolphin and 3 northern fur seals. The goal of the program is to give rescued and rehabilitated animals a second chance at life.

SeaWorld is part of the West Coast Marine Mammal Stranding Network, which is organized by the National Marine Fisheries Service (NMFS). Members of the public, lifeguards and other individuals report strandings to SeaWorld, and team members respond using guidelines governed by NMFS. Once rescued, animals are nursed back to health and, whenever possible, returned to the wild. Marine animals may strand for a variety of reasons: illness,

injury, exhaustion or separation from their mother. Two of the most common conditions are malnutrition and dehydration. In addition, animals also may become entangled in nets, ropes or fishing line or accidentally ingest plastic or other foreign objects.

SeaWorld also treats animals affected by oil spills from across the western US. The Oiled Wildlife Care Center (OWCC) was established in 2000 by SeaWorld San Diego, the California Department of Fish and Wildlife and the University of California, Davis. It includes examination, treatment and food preparation areas, flight pens and a 32,000-gallon rehabilitation pool that can hold 20 oiled sea otters or pinnipeds in the event of an oil spill in Southern California. The facility can treat as many as 200 oiled seabirds at a time. When the OWCC is not being used for oil spill rescue, it houses rehabilitating marine mammals, sea turtles and seabirds.

SeaWorld's Animal Rescue and Rehabilitation Program is an important part of SeaWorld's commitment to conservation, research and education. Studies of stranded animals provide an opportunity to gather valuable information that can't be obtained by studying wild, free-ranging individuals. Additionally, data gathered through the Animal Rescue and Rehabilitation Program can help scientists more accurately assess population management programs in the wild. This information may help threatened and endangered species. Rescuing endangered species such as sea turtles, sea otters, and manatees contributes directly to species conservation. The community benefits through added awareness of how human actions, both good and bad, affect animals. This awareness is the first step toward educating the community about ways to conserve and protect wildlife. SeaWorld will continue this important program in the years to come.

H. Education and Park to Planet Message

SeaWorld includes educational signage and programs to encourage park visitors to learn both about marine life and at-home environmentalism. For example, guests visiting the Electric Eel rollercoaster are greeted by an interpretative sign explaining the location, purpose, and importance of the marine protected area network in California. The park includes a composting demonstration where young explorers rotate a composter learn about the process of at home composting. Additionally, many of the park's plants are marked with educational plaques listing the species and guiding budding botanists.

SeaWorld also provides in-depth environmental educational experiences through day and resident camps, school trips, and sleep overs and tours. SeaWorld is the only place in California to learn first-hand about killer whales, penguins, walruses, endangered sea turtles and rescued sea lions all in one location. Through these experiences children and teenagers can interact with marine life, meet professional animal caretakers, and develop deep connections to the natural world. SeaWorld also currently provides a middle school programs through the San Diego Unified School District. The Ocean Link Lab provides students an interactive science, technology engineering and mathematics (STEM)-based program that includes lessons on animal observation, ocean debris, and sustainable fishing. Throughout the day, students are asked to identify the myriad jobs available in the park. That conversation culminates with an afternoon activity identifying each student's strengths, interests and values and connecting those with real careers at SeaWorld and beyond. The pilot phase served 200 students across three middle schools who would likely otherwise not have access to interactive environmental education.

APPENDIX A / Relationship to the 2002 Master Plans

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A. Relationship to 2002 Master Plan

In 2002, following the initiative by SeaWorld Adventure Park (SeaWorld) to amend the Coastal Height Overlay Zone for the City of San Diego (City), the SeaWorld Master Plan was updated to establish a long-range conceptual development program, development parameters, and project review procedures for the future renovation of the theme park. Since that time, most of the near-term site-specific proposals of the 2002 SeaWorld Master Plan Update (2002 Master Plan) have been built.

The 2020 SeaWorld Master Plan (2020 Master Plan) eliminates the former Tier 1 and Tier 2 categories; carries over the Special Project category now identified as 2002 Special Projects; and defines each planning area with a description of existing uses, allowed uses, general development criteria and project specific development criteria for all future development within the SeaWorld leasehold. All applicable development criteria have been retained, although the shoreline setback requirement is clarified.

Under the 2002 Master Plan, the former Tier 1, Tier 2, and Special Project categories were identified as follows:

- **Tier 1** projects were near-term conceptual projects with specific use and design criteria.
- **Tier 2** projects were defined as candidates for renovation, expansion, or redevelopment over a span of many years.
- **Special Projects** were defined as long-range projects with specific use and design criteria.

As previously described, the 2020 Master Plan retains the former Special Projects as "2002 Special Projects." All future projects, including attractions exceeding 100 feet in height are subject to the applicable area development criteria and may be sited anywhere in the leasehold consistent with such criteria and the Coastal Resources Planning and Management Policies of Chapter 3 of the California Coastal Act.

The California Coastal Commission has not reviewed or granted approval of any of the 2002 Special Projects and is in no way bound by any development concept contained herein.

B. Issues Analysis

The following analysis addresses key issues identified in the 2002 Master Plan in the context of the 2020 Master Plan. For a complete environmental analysis please refer to the 2002 Master Plan EIR and 2021 Addendum.

Thematic Continuity

From 2002 to 2020 SeaWorld has honored a commitment to its traditional emphasis areas of marine animals, education, research and conservation. SeaWorld's current vision statement which will guide the 2020 Master Plan is:

At SeaWorld we create experiences that matter. We inspire our guests to protect wild animals and wild places. To explore through discovery, to inspire through connections and, to act by joining us to make a better world through animal rescue, education, conservation, and research.

SeaWorld's commitment to this vision is evident throughout the park and will be carried forward into all new development proposed for the park.

SeaWorld, however, is part of the theme park industry. To be a leader in its industry, SeaWorld must compete to draw tourists into the City. Public support for attractions and thematic content are necessary for the long term economic viability of SeaWorld and the benefits provided to Mission Bay Park and the City of San Diego. The procedures established in this plan for the review of development within the SeaWorld leasehold provide adequate public input and safeguards to ensure that future attractions are compatible with all existing policies and plans pertaining to Mission Bay Park.

Views and Viewshed

An examination of the major "gateway" approaches into Mission Bay Park in the vicinity of SeaWorld (including Sunset Cliffs Boulevard, West Mission Bay Drive, and Sea World Drive) reveals that expansive views of Mission Bay are generally precluded by a combination of existing development on the SeaWorld leasehold, mature trees, berming (especially along Sea World Drive), and to a significant extent the low lying bluffs along the south shoreline of Fiesta Island. Due to the low-lying terrain, and the narrowness of the South Pacific Passage (between SeaWorld and Fiesta Island) it is very difficult to see the water, except from locations relatively close to the shoreline. Therefore, future development in the 2020 Master Plan would not impair any existing view across the SeaWorld leasehold from a gateway approach.

Analysis of all the public roadways in the vicinity of the SeaWorld site entertainment that there is only one existing view across the SeaWorld leasehold. This is the view from northbound Ingraham Street through the Perez Cove Shoreline Area (Area 5) to Mission Bay. The view is significant because it offers the first glimpse of Mission Bay as travelers emerge from the wooded area surrounding Ingraham Street near the intersection with Perez Cove.

A related issue is the impact that future development within the SeaWorld leasehold may have on the viewshed from significant viewpoint locations identified in the 2002 Master Plan EIR. These viewpoints are shown in Figure A-1, Viewpoint Locations Identified in EIR. The extent of the impact to the existing viewshed will be mitigated by a number of factors, some natural and some due to the leasehold development criteria contained in the 2020 Master Plan.

Because the SeaWorld site is located on the southern edge of Mission Bay Park, it generally becomes a background element to the view. This means that from almost any other location in Mission Bay Park, the traditional quality elements of the view, such as a blue water view of Mission Bay, or open expanse of park land, will always be in the foreground. Development within the SeaWorld Park will tend to be in the background of the viewshed or the far middle ground if viewed from an elevated hillside area. An existing canopy of tall trees effectively screens most of the park on the north and west sides making it difficult to distinguish most of the theme park's individual structures, except for the SeaWorld Skytower, Journey to Atlantis, Electric Eel and the Skyride.

The greatest potential impact to the viewshed would be from structures taller than the existing tree canopy. Depending on the location of the viewing point such structures would also have the potential to cross the horizon line changing the overall profile of the view. The significance of the change will vary substantially depending on the viewing angle, location and elevation.

Viewpoint Locations Key

1 Presidio Park
2 Interstate 5 – Northbound
3 Interstate 8 – Westbound
4 SeaWorld Drive – Westbound
5 Robb Field Memorial Park – Pedestrian walk on south embankment of San Diego River
6 Intersection of Ingraham Street and Perez Cove Way
7 Ingraham Street Bridge – Southbound
8 Crown Point Drive
9 Ski Beach
10 Fiesta Island
11 Clairemont Drive – Westbound
12 De Anza Cove

N

0 2400 4800

Scale in Feet

SeaWorld San Diego

Source: SeaWorld

FIGURE A-1

Viewpoint Locations Identified in EIR

SeaWorld Master Plan 2020

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Respecting the need for additional height flexibility above 30 feet, the 2020 Master Plan contains development criteria that are designed to work together to reduce visual impacts.

Height limits within the 2020 Master Plan are established by each planning area unless specified by project-level design criteria. However, the appropriate heights for each new development will be analyzed during the Coastal Development Permit process for any particular development taking into consideration visibility from outside the leasehold including major coastal access routes and vantage points, and the character and scale of development in the surrounding public parkland. Figure A-2, Existing Structure Height, shows the height of existing structures within the SeaWorld leasehold as of 2020.

Additional visual considerations include the following:

1. A one to one bulk plane envelope to be applied to the shoreline and eastern boundaries of the park to ensure a more gradual transition in height along the critical park edges that interface with other parts of Mission Bay Park.
2. Landscaping requirements in the design guidelines that emphasize extensive tree and shrub plantings to soften the visual impact of structures from adjacent land and water areas of Mission Bay Park.
3. A transparency requirement to further reduce apparent bulk of taller structures.

Fireworks

Fireworks are a popular accompaniment to many events held around the City, particularly sporting events and celebrations. SeaWorld has been providing firework displays for special events since 1968, and for summer evening displays since 1985. In many respects, Mission Bay Park with its 7-square-mile area and reflective water surfaces, is an ideal location for firework displays. Many residents surrounding Mission Bay Park and in the neighboring hillsides enjoy SeaWorld's firework displays as one of the unique amenities of living near Mission Bay. The noise impacts are naturally mitigated by distance, although varying weather conditions may carry the sound in unpredictable ways. The nearest residential areas (in Point Loma) are located more than one half mile from the launching platform, while most areas are located at least 1 mile away.

Although fireworks in general are typically positively received, excessive use near residential neighborhoods can become a nuisance. For this reason the San Diego City Council adopted a policy (500-06) limiting the use of concussion-type fireworks ("salutes" and "reports"), which have louder bursts than ordinary fireworks. Council Policy 500-06 also limits the time and frequency of firework displays. Respectful of its neighbors, SeaWorld's firework displays are in full compliance with Council Policy 500-06. Equally important is the absence of any nexus between the 2020 Master Plan and the size, duration, frequency and intensity of SeaWorld's firework displays. The future growth and renovation of SeaWorld does not correlate to bigger, longer, or louder firework displays. Current and future displays as described in the 2020 Master Plan will be a part of SeaWorld's ongoing operations.

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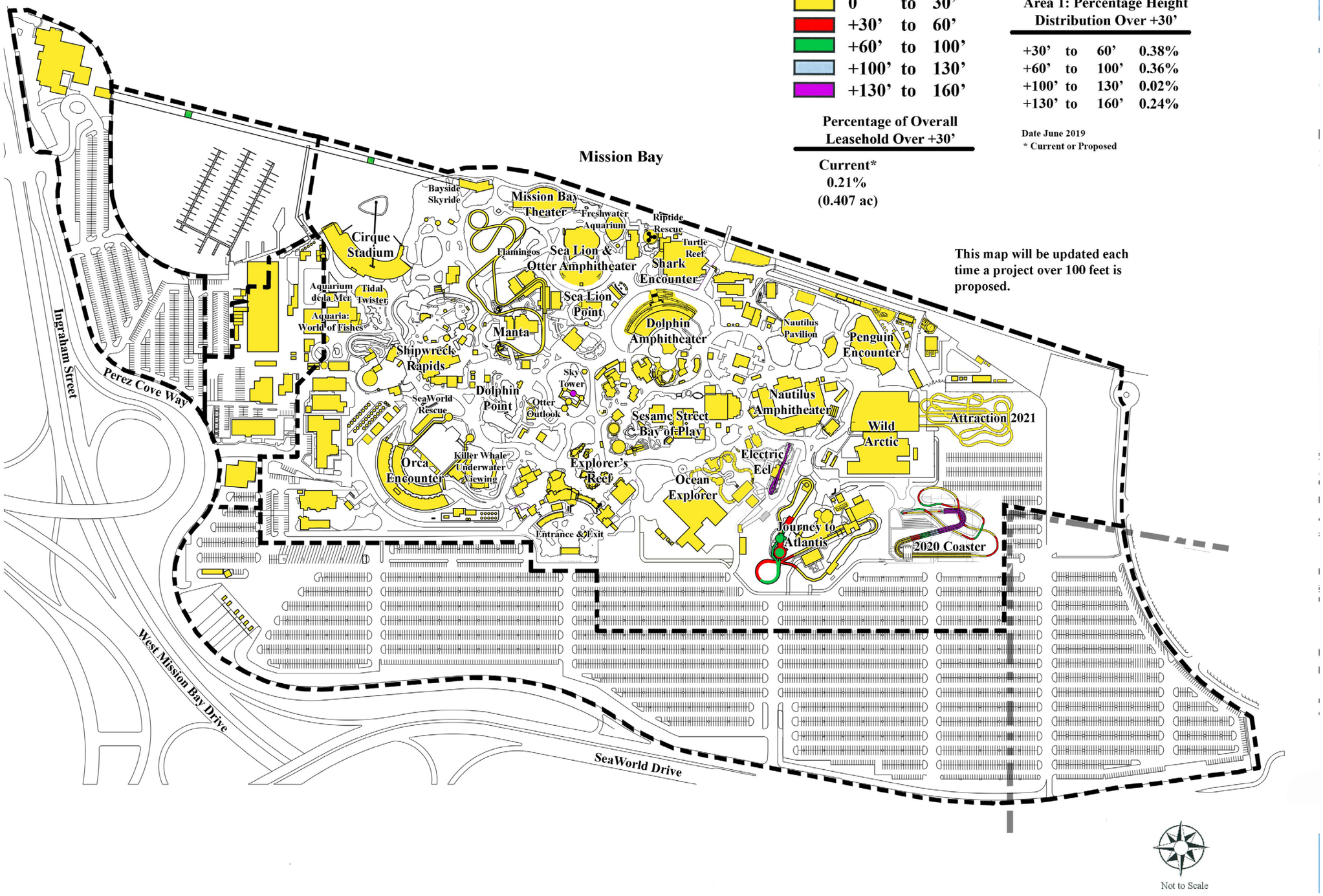

Source: SeaWorld 2019

FIGURE A-2

Existing Structure Height

SeaWorld Master Plan 2020

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Thrill Rides

Future attractions that contain "thrill-ride" components are not anticipated to be a significant source of noise as few rides in this category are capable of generating either mechanical or human sounds that can be heard in excess of the noise ordinance beyond the SeaWorld park boundary. In most cases, modern rides can be built and oriented to direct noise in a manner that avoids transmission toward the park perimeter to almost any desired noise tolerance level. The existing Journey to Atlantis/Splashdown Ride, a subject of concern with the 2002 Master Plan, has resulted in no significant noise impacts to Mission Bay Park or nearby residential areas. Average noise levels from the ride are below ambient noise levels created by traffic, aircraft, and use of personal watercraft in Mission Bay Park.

Additionally, as experience with the 2002 Master Plan has shown, the cumulative noise impacts of "thrill-rides" have not created a major noise generator within Mission Bay Park.

Traffic and Transportation

Studies of SeaWorld's traffic patterns between 2002 and 2020 have shown that while new attractions may temporarily boost park attendance, they have not resulted in sustained increases in traffic. While beach destination traffic and commuter traffic has increased since the 2002 Master Plan, traffic attributable to SeaWorld has remained relatively constant. Additionally, several traffic improvements required as mitigation for the 2002 Master Plan have been put into place.

In addition to any additional traffic improvements identified in the 2021 Addendum to the 2002 Master Plan EIR, SeaWorld will participate in any future efforts to create a transit link from inland San Diego to the beach and bay activity centers. As a major Mission Bay activity center, the SeaWorld Master Plan has committed to allocating space to build a transit station within its leasehold. Such a system, if developed, would offer convenient transit access to the SeaWorld theme park from other hotels and convention facilities in Mission Bay Park, Mission Valley and downtown San Diego. An efficient transit option extending all the way around Mission Bay Park could considerably reduce reliance on the automobile.

Traffic demand management (TDM) and sustainability measures sponsored or supported by SeaWorld include hotel shuttles, private buses, MTS bus services, employee bus passes, education field trip buses, electric vehicle charging stations, bicycle facilities; and promotion of active and alternative transportation including Uber and Lyft. These TDM measures are further discussed in Section 5, Sustainability., All measures will be available to ease peak summer season traffic congestion in Mission Bay Park. SeaWorld will continue to provide for TDM opportunities in the future.

Water Quality

Clean water is an integral part of SeaWorld's day-to-day operations. The quality of Mission Bay water directly affects the cost of maintaining SeaWorld's marine life support system.

Currently, SeaWorld operates a water treatment system to treat the marine animal water as well as a majority of the surface stormwater runoff. The water treatment system utilizes water from Mission Bay, treats it for marine life

use, circulates it through the aquaria facilities (including exhibits, rides, and education/presentation/entertainment venues) and treats it again for discharge back into Mission Bay.

SeaWorld's discharges are regulated by the conditions of the State of California San Diego Regional Water Quality Control Board (RWQCB) Order No.R9-2018-004 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107336 issued on June 20, 2018. The RWQCB Order/NPDES Permit contains specific discharge prohibitions, effluent limitations, and receiving water limitations designed to meet the objectives of the RWQCB's *Water Quality Control Plan for the San Diego Basin* and U.S. Environmental Protection Agency (EPA) standards. Effluent limitations and standards have been established for flow rate, pH, total suspended solids, settleable solids, turbidity, oil and grease, ammonia, chlorine, copper, silver, and key bacterial components including: coliform organisms, fecal coliform organisms, and enterococcus. Additional performance goals have been established for nearly 100 constituents for which "a reasonable potential to cause or contribute to an exceedance of water quality objectives has not been determined." The recent NPDES Permit requires more frequent monitoring of many listed effluent constituents.

SeaWorld's NPDES Permit also requires an elaborate Monitoring and Reporting Program, a Receiving Water Monitoring Program, a Climate Change Action Plan to identify projected regional impacts on water quality operations due to climate change, an updated Storm Water Pollution Prevention Plan (SWPPP), a Storm Water BMP Plan to be incorporated into the SWPPP, and a Confined Aquatic Animals BMP Plan. The Confined Aquatic Animals BMP Plan is required to follow the general guidance of the U.S. Environmental Protection Agency's Compliance Guide for the Concentrated Aquatic Animal Production Point Source Category. As a result of SeaWorld's commitment to high water quality standards, discharge water is typically cleaner than when it was drawn thereby actually reducing bay pollution. Discharge standards are based on shellfish harvesting standards, which far exceed human contact standards used to determine beach closures.

A significant water quality issue relevant to all Mission Bay Park leaseholders and the City is the control of pollutants from entering the Bay through surface runoff. For its part, SeaWorld directs 96% of its theme park runoff (Area 1) into the water treatment system. Except during periods of high rainfall, excess capacity in the system is able to handle the storm runoff. When system capacity is exceeded, diversion weirs are used to collect excess storm water flows. The weirs function as a high-flow bypass providing "first flush" storm water treatment even during large storm events. Approximately 40% of the parking area is also collected and processed through the water treatment system.

The remaining parking areas drain into the existing City storm system. The City is covered under a municipal NPDES Permit for discharges of stormwater runoff. The majority of the storm drain facilities in Mission Bay have been fitted with low-flow interceptors to direct non-storm waters to the sanitary sewer. Low flows generally contain the highest concentration of surface pollutants. During storm events, the low-flow interceptors are bypassed, allowing storm runoff to directly enter the Bay.

One of the most effective ways to stop surface pollutants from entering the storm system is to control them at their source. For this reason, SeaWorld employs a comprehensive best management practice (BMP) program that includes daily sweeping of the parking lots, walkways and internal streets. Other BMP components include the following:

1. a Storm Water Pollution Prevention Program which prohibits the disposal of various pollutants into the storm drain system;
2. a Spill Prevention and Control and Countermeasure Program which details procedures for preventing and responding to oil and chemical spills;

3. material storage and use controls for the management of materials with a potential to contaminate storm water;
4. vehicle maintenance controls to minimize contact of storm water with oils and fluids associated with vehicle maintenance;
5. waste management and recycling controls to control litter and daily trash; and
6. herbicide/pesticide and fertilizer management practices to minimize storm water contaminants from landscaping applications.

Additionally, SeaWorld's landscape serves as a storm water control by providing erosion control, filtration, and vegetative uptake of pollutants. As a lessee of public land within Mission Bay Park, the water quality controls/regulations certified in the Mission Bay Park Master Plan must be implemented fully by SeaWorld for its leasehold.

Hotel

The hotel concept has been carried forward from the 2002 Master Plan into the 2020 Master Plan. As stated in the 2002 Master Plan, the hotel would be built only if the market for additional guest space in Mission Bay Park would support it. Prior to a formal project submission, the 2020 Master Plan requires an economic feasibility analysis assessing the need for another hotel in Mission Bay Park. At that time, any potential environmental impacts, including without limitation, traffic and viewshed impacts, would be assessed in the context of a specific proposal.

C. Shoreline Public Access

Public Access through SeaWorld Leasehold

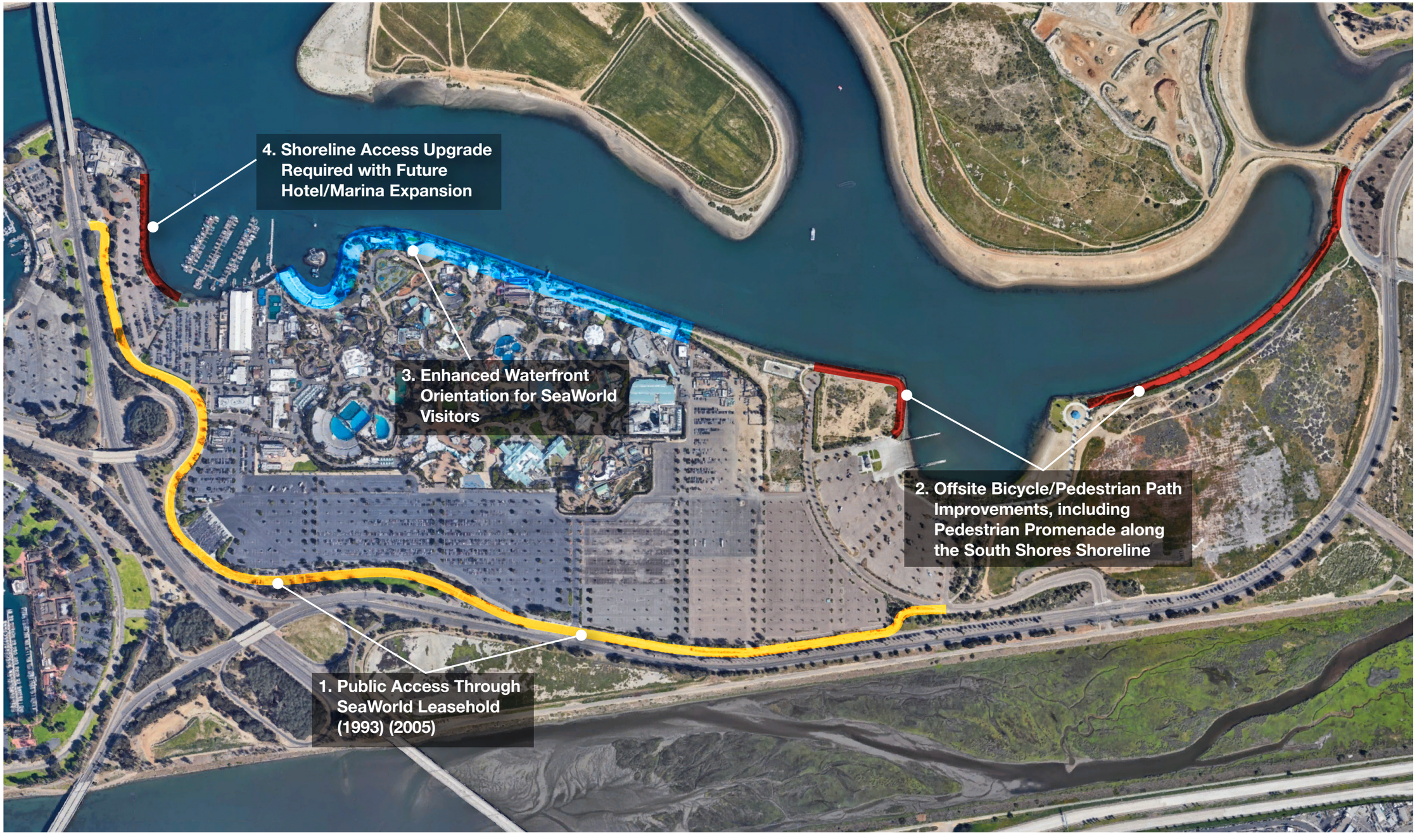
In 1993 SeaWorld began construction of a 10-foot-wide bicycle path along the south and west boundaries of the leasehold to provide a continuous link to the system of paths within Mission Bay Park. The approximately 5,000-foot curvilinear pathway was required by the City of San Diego as mitigation for the 1985 SeaWorld Master Plan because of lack of a waterfront pathway through the leasehold. Prior to construction of the pathway, the adjacent links of the area-wide bike circulation were discontinuous.

As additional mitigation for lack of a waterfront pathway through the leasehold, enhancement to the 1993 bicycle/pedestrian pathway was completed in 2005 pursuant to the 2002 Master Plan. Improvements included increasing the pathway width, where feasible, to 17 feet: 9 feet dedicated for bicycles and skaters (and service emergency vehicles) and 8 feet for pedestrians; inclusion of a 4- to 10-foot-wide landscaped median to separate the two sections; functional markings for each pathway type; and directional signage at key junctions with other pathways.


Landscaped, secluded, and separated bike pathway through leasehold area, connecting to Mission Bay Park shoreline pathway on the east and west sides

Shoreline Access Improvements

As additional mitigation for lack of a waterfront pathway in the leasehold and in response to the California Coastal Commission's suggested modifications incorporated in the 2002 Master Plan/LCP Land Use Plan Amendment, SeaWorld has constructed two major improvements to enhance public access to the shoreline. These improvements, which are designed to provide continuous shoreline access from SeaWorld's leasehold to Fiesta Island (a distance of approximately 4,700 feet) are depicted in Figure A-3, Shoreline Access Improvements.



SeaWorld San Diego

Source: SeaWorld

FIGURE A-3

Shoreline Access Improvements

SeaWorld Master Plan 2020

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Off-Site Bicycle/Pedestrian Path Improvements

A 10-foot-wide landscaped pathway running from the northeast corner of the leasehold along the waterfront to the boat ramp and from the existing turn-around on the east side of the South Shores embayment, along the waterfront to the Fiesta Island causeway.

10-foot-wide shoreline pathway from SeaWorld to the South Shores Park Boat Ramp

Pedestrian Promenade along the South Shores Shoreline

A 50-foot-wide public promenade, designed in substantial conformance with the promenade depicted in Figure 31, South Shores Concept Plan, of the certified Mission Bay Park Master Plan and described as Item 112 of that plan.

Aerial view of the 50-foot-wide Public Promenade from the South Shores turnaround to the Fiesta Island Connector Path

Ground view of the 50-foot-wide Public Promenade

Enhancing Waterfront Orientation

The 2002 Master Plan also called for efforts to take greater advantage of SeaWorld's shoreline location to enhance the visitor experience. The goal of enhancing waterfront orientation for SeaWorld visitors and reducing the visual impact of development from public views continues to be supported by the shoreline and bulk plane setback policies of the 2020 Master Plan.

However, to resolve difficulties in interpreting concepts such as "public use zone" and "variable" setback for commercial leaseholds as described in Appendix G, Design Guidelines of the MBPMP, the 2020 Master Plan shoreline setbacks are intended to be controlling within the SeaWorld theme park (Area 1).

SeaWorld guests enjoying shoreline view from Mission Bay Theater Plaza

Low-profile queuing facility provides bayside views for SeaWorld guests

SeaWorld guests strolling along shoreline pathway

Interpretation of MBPMP Design Guidelines for Public Use Zone and Variable Setbacks

For commercial leaseholds, the MBPMP Design Guidelines assume a 50-foot "public use zone" between the shoreline and the lease line and recommend an additional "variable" set-back of between zero and 50 feet from the "public use zone." Unlike the MBPMP illustrations, SeaWorld's lease line extends to the shoreline while controlled access to the theme park precludes the establishment of a "public use zone." Nevertheless, the 2020 Master Plan requires a 50-foot shoreline setback from the top of the bluff, similar to the "public use zone" recommended in the MBPMP Design Guidelines. The "variable" setback is an additional setback intended to be applied on a lot-by-lot basis "to create a varied building frontage along the public use zone." In the context of SeaWorld's eclectic pattern of development, the added "variable" setback provides no clear benefit and is difficult to apply on a project-by-project basis. Setbacks within the theme park are already varied with ample open space and landscaping between highly articulated and diverse structures. Given past development patterns, the emergence of a uniform building frontage along the SeaWorld shoreline is unlikely. Further, ad hoc interpretations of the variable setback guideline have acted as a barrier to enhancing the waterfront orientation for SeaWorld visitors. These factors justify an appropriate resolution of the issue within the 2020 Master Plan.

Aerial view of SeaWorld shoreline. Yellow dot indicates location of the following photo

SeaWorld guests taking break at Mission Bay Theater Plaza overlooking SeaWorld shoreline

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APPENDIX B / Sea Level Rise Vulnerability Assessment

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February 13, 2020

Dudek
605 3rd Street
Encinitas, CA 92024

Attn: Asha Bleier, Project Manager

Subj: SeaWorld San Diego Sea Level Rise Vulnerability Assessment
M&N File: 10684

Dear Mrs. Bleier:

In support of the 2020 SeaWorld Master Plan Update, this letter report discusses vulnerability of facilities within the Master Plan Area to coastal hazards associated with future sea level rise and includes recommendations for potential adaptation strategies that can be implemented when and if sea level rise has reached the triggers established herein. Our scope of work included a review of the most up-to-date science regarding sea level rise projections and evaluation of existing information regarding coastal flooding hazards at the site corresponding to scenarios of sea level rise, which are relevant for the time frame of existing and proposed development.

Disclaimer

It is understood that estimating and projecting future weather, tidal, ocean and onshore conditions and their impacts upon existing and contemplated developments is difficult and complex. Based on variable assumptions it is impacted by factors potentially beyond the Consultant's ability to predict or control. Accordingly, any estimates, forecasts reviews or assessments provided as part of the Consultant's Services are presented solely based on assumptions and are subject to the information or data utilized at the time of this Project. As such, the Consultant makes no warranty that the mitigation measures will be adequate to protect against actual climate events. In addition, to the extent the Consultant utilizes materials provided by the Client, third parties or material that is generally available.

Executive Summary

The latest update on sea level rise (SLR) projections and guidance for the State of California is provided in the 2017 and 2018 publications from the Ocean Protection Council (OPC). These documents indicate that SLR for the end of the century in Southern California will likely range (with a 66% probability) between 1 to 3 feet depending on the magnitude of future greenhouse gas emissions.

Another effort to support coastal communities with resiliency planning and adaptation was developed by the United States Geological Survey (USGS) with the development of the Coastal Storm Modeling System (CoSMoS), which provides predictions of coastal hazards for a range of sea level rise scenarios.

For this report, information from both CoSMos and the OPC documents were used to assess vulnerability of the SeaWorld Park (SeaWorld) to coastal flooding under sea level rise scenarios ranging from 1.6 feet to 6.6 feet. The main findings from this assessment are provided below:

1. *Cirque de la Mer* Island and the wastewater and storm drainage system in Planning Area 1 (Theme Park) are highly vulnerable assets as they are anticipated to become exposed to extreme flood events, even under present day sea levels.

2. 1.6 feet of SLR is the identified threshold of exposure in Planning Areas 1 (Theme Park), 3 (Administration and Support), and 5 (Perez Cove Shoreline). With an 83% probability that SLR will reach or exceed this threshold by year 2100, vulnerability of these planning areas is ranked moderate to high. It is recommended that adaptation strategies are considered before this scenario occurs.
3. Exposure of SLR impacts in Planning Area 2 (Guest Parking) is anticipated starting with 3.3 feet of SLR, a condition that has a 27% probability of being met by year 2100. Even though direct impacts to assets in Planning area 2 (Guest Parking) would be minimal, SeaWorld facilities would become inaccessible from outside the leasehold due to inundation of the adjacent roads that give access to the parking lot entrance. This would call for adaptation strategies outside the leasehold. Vulnerability of Planning Area 2 (Guest Parking) to SLR hazards is ranked as moderate.
4. Planning Area 4 (SeaWorld Marina) is anticipated to become exposed to SLR hazards with 4.9 feet of SLR. With an approximate 4% probability that SLR reaches or exceeds this level by 2100, vulnerability of Planning Area 4 (SeaWorld Marina) to SLR hazards is ranked as low.
5. Evaluation of potential adaptation strategies is recommended in particular for locations where SLR exposure has been identified with 1.6 feet and below.

Project Background

2020 SeaWorld Master Plan Update

The 2020 SeaWorld Master Plan Update (2020 Master Plan) is intended to guide future development, redevelopment, and expansion throughout the SeaWorld leasehold area. Land use and development criteria are specified for five planning areas—theme park, guest parking, administration and support, SeaWorld Marina, and Perez Cove Shoreline— which were originally established in the 2002 SeaWorld Master Plan. These planning areas are depicted in Figure 1.

The 2020 Master Plan carries over several projects proposed in the 2002 Master Plan. These projects are proposed as concepts and are not to be built for many years. Proposed locations of these projects are depicted in the yellow striped polygons in Figure 1, and a brief description of these projects is provided below:

- Special Events Center: A special events center that would provide capacity for approximately 1,000 people is proposed in the northeast corner of Planning Area 1 (Theme Park). A 10-foot-wide landscaped pathway along the waterfront beginning at the northeast corner of the leasehold and extending westward for 500 feet would be constructed prior to completion of this project.
- Parking Garage: A four-level parking garage is proposed within the existing guest parking lot in Planning Area 2 (Guest Parking). Half of the first level of the structure is proposed to be below grade. This project will be considered when future SeaWorld attendance justifies need for additional parking.
- Marina Expansion: The existing marina in Planning Area 4 (SeaWorld Marina) is proposed to be expanded by extending the three existing docks and adding a fourth dock to the west. The expansion would increase the number of berths from 200 to 315. A minimum 10-foot-wide landscaped public shoreline walkway along the waterfront would be incorporated into the marina design.
- Previously Approved Hotel: A 300-room hotel is proposed within Planning Area 5 (Perez Cove Shoreline). The hotel would only be built if the market for additional guest space in Mission Bay Park supports it. The conceptual proposal also includes surface parking, a parking structure, and a small landing dock for hotel guests directly behind the hotel. A minimum 10-foot-wide public accessway from Perez Cove Way to the shoreline, for which the final location would be determined at a later stage of design, would also be included.

Although these represent projects that will be further assessed throughout the life of the 2020 Master Plan (i.e., 20 to 25 years) and are not anticipated to be built for many years, the present vulnerability assessment assumes the end of the century (year 2100) to be a representative time frame for the anticipated lifetime of existing and future development.

Figure 1 SeaWorld Planning Areas and Previously Approved Projects per the 2020 Master Plan

NDPES Waste Discharge Requirements

Waste-water discharge requirements for SeaWorld were updated in 2018, per the National Pollutant Discharge Elimination System (NPDES) permit (NPDES NO. CA0107336, ORDER NO. R9-2018-0004) granted by the California Regional Water Quality Control Board (CRWQCB).

With regards to extreme storm events and Sea Level Rise, the 5-year permit requires the following:

- *All waste treatment, containment and disposal facilities shall be protected against erosion, overland runoff and other impacts resulting from a 100-year frequency 24-hour storm event as defined by the San Diego FCD.*
- *All waste treatment, containment and disposal facilities shall be protected against regional impacts due to climate change including but not limited to sea level rise coastal storm surges, changes to Mission Bay and ocean water chemistry and the gradual warming of Mission Bay and ocean water temperatures.*

Project Area Description

SeaWorld is located along the southern edge of Mission Bay Park. The 189-acre leasehold is bounded by Ingraham Street and Perez Cove Way to the west, SeaWorld Drive to the south, and South Shores Park Road to the east (Figure 1). Except for the northwest edge of the Park where 17 acres of open water give home the SeaWorld Marina and *Cirque de la Mer* Stadium, the northern boundary of the SeaWorld leasehold conforms to the shoreline facing the South Pacific Passage waters of Mission Bay.

The topography at SeaWorld and the surrounding areas is depicted in Figure 2. Most of the facilities within Planning Areas 1 (Theme Park) and 2 (Guest Parking) lie on relatively high ground (i.e., above 15 ft [NAVD88]), as depicted by orange to red shades. The lowest lying areas are located along the western edge of the leasehold, particularly within Planning Area 5 (Perez Cove Shoreline), where ground elevations are predominantly between 9 to 11 feet (NAVD88). Adjacent areas west of the SeaWorld boundaries have comparable low elevations.

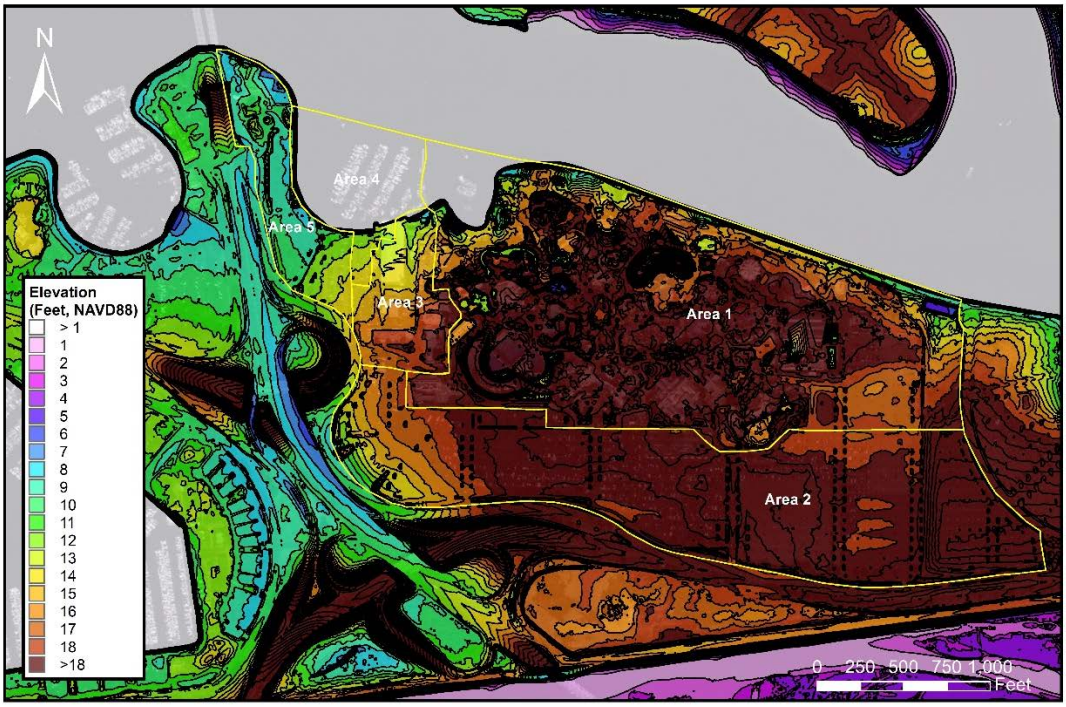


Figure 2 Site Topography (USGS, 2018)

Sea Level Rise Projections

Sea level rise science involves both global and local physical processes. Models are created based on science's best understanding of these processes from the global to local scales; therefore, they are dynamic and periodically updated to reflect new research. On a global level, the most recent predictions come from the International Panel on Climate Change's (IPCC) 5th assessment report (AR5) released in 2014. The AR5's projections for SLR were 50% higher than the previous AR4, released in 2007, due to the addition of ice sheet dynamics.

On the state level, the State of California's OPC released documents containing the most recent updates on SLR and projections for California (Griggs *et al* 2017) and a state guidance document providing a methodology to incorporate SLR risks into planning and adaptation of coastal infrastructure (OPC 2018). This document

provides projections that associate SLR heights and rates with a likelihood of occurrence based on predictions from an ensemble of climatic models that include meteorological and oceanographic processes relevant to SLR. Additionally, these projections are directly tied to a range of greenhouse gas emissions scenarios.

SLR projections in the OPC documents include two of the emissions scenarios discussed in the IPCC's AR5. The low-end emission scenario *RCP 2.6* (Representative Concentration Pathway) assumes global greenhouse gas emissions will be significantly reduced by about 70% between 2015 and 2050, while for the high-end emission scenario *RCP 8.5*, emissions nearly double between 2015 and 2050. Worldwide emissions currently follow the *RCP 8.5* trajectory and are expected to continue this way unless a significant effort is put in place for reducing emissions across the globe.

Figure 3 depicts the envelope of potential SLR heights (baseline year is 2000) through time per the OPC. There is relatively high confidence in the estimates up to around year 2050 due to minor differences in projections under different emissions scenarios. After mid-century, however, low- and high-emission scenarios cause projections to diverge, resulting in a wide range of projections for the end-of-century and longer time frames.

Bounded by the light green (low emission scenario) and orange (high emission scenario) curves in Figure 3 are the top range of *likely* SLR estimates. These curves project that SLR in San Diego could reach 2.5 feet and 3.6 feet by year 2100. The OPC recommends using these projections for *low risk aversion* projects. With a much lower exceedance probability (0.5%), the dark green (low emission scenario) and red (high emission scenario) curves delimit the projections recommended for *medium risk aversion* projects, which project 5.8 feet to 7.0 feet of SLR in San Diego by 2100. These medium- to high-risk aversion projections are considered appropriate for planning of existing and future development in SeaWorld. Although these represent a significant economic investment, they have a moderate- to high-adaptive capacity and are not considered critical to public health and safety infrastructure.

The OPC scientific working group has recognized that the above projections might underestimate the likelihood of extreme SLR given by rapid ice sheet loss. For this reason, the H^{++} scenario (purple curve), resulting in about 10 feet of SLR by 2100, is included in the OPC guidance documents. There is large uncertainty regarding the probability for this scenario; however, OPC recommends its consideration, especially for long-term time frames in *extreme risk aversion* cases.

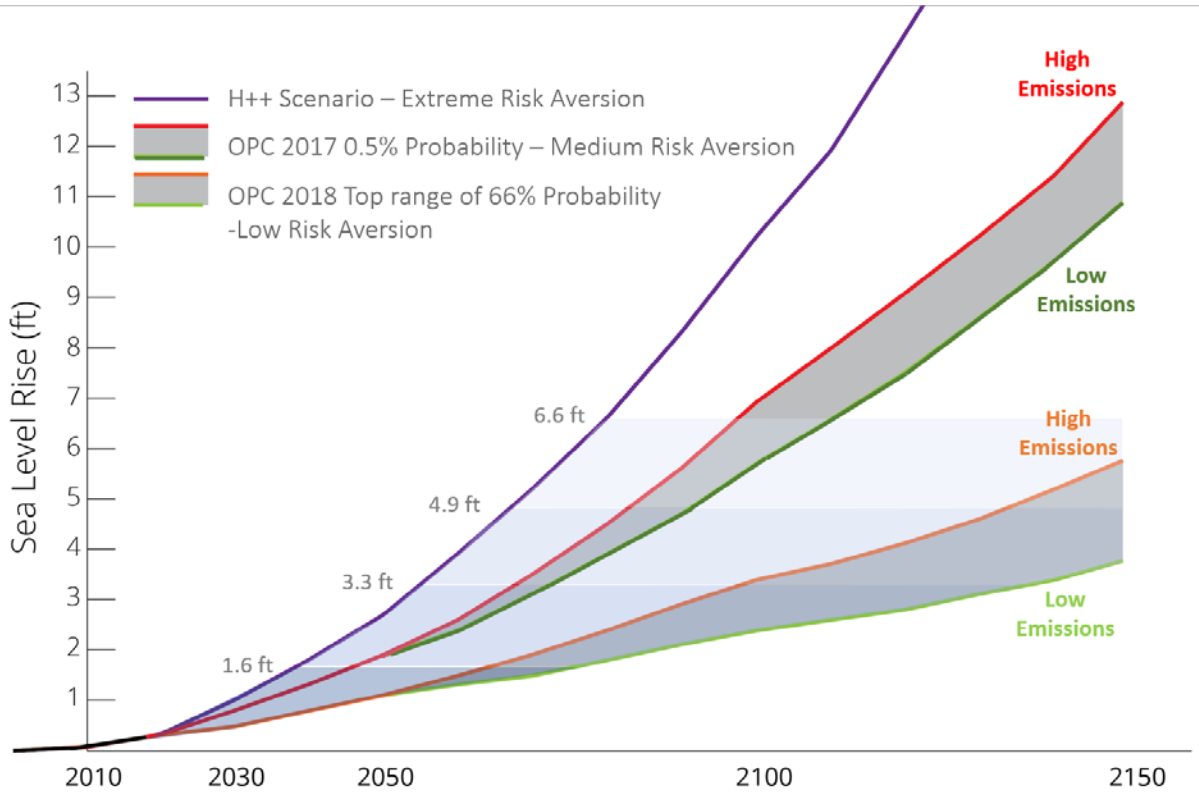


Figure 3 Likely ranges of sea level rise from OPC (2018)

CoSMoS Coastal Hazards Projections

The Coastal Storm Modeling System (CoSMoS), an ensemble of numerical models developed by the USGS, provides estimates of future coastal hazards as a result of SLR and storms along various reaches of the California coast anticipated for the 21st century. Results from this modeling effort have been made publicly available and are intended to support coastal communities with resiliency planning and adaptation.

CoSMoS coastal hazard projections include 10 SLR scenarios starting from present day sea levels (0 feet) to 6.6 feet (200 cm) in 0.8 feet (25 cm) increments and an extreme scenario of 16.4 feet (500 cm). The modeling system simulates relevant physical processes and provides predictions of coastal flooding under events with various recurrence periods as well as long-term shoreline change on open coast areas.

CoSMoS Version 3.0 - Phase 2 released in late 2016 incorporates the latest updates into the modeling system for the Southern California region. Within Mission Bay, CoSMoS includes projections of currents, waves, and coastal flooding. This report focuses on evaluating future coastal flooding (based solely on available CoSMoS results), which has the largest potential to affect SeaWorld facilities. A distinction is made between inundation and flooding, as described below:

- Average Conditions (Non-storm) Tidal Inundation: Involving inundation associated with a spring high tide (i.e., tide levels that occur approximately twice every month for a total of about 8 days), representing a frequent event.
- 100-yr Storm Flooding: Involving temporary flooding associated with an extreme coastal storm event with a recurrence period of 100 years. Physical processes considered in the extreme storm event modeled in CosMoS include fluvial discharge, deep water waves, winds, and atmospheric pressure.

Additionally, CoSMoS uses the conservative assumption that the peak of each storm coincides with a spring high tide, representing a near-worst case scenario as it results in substantially larger flooding and damage than a storm occurring at a lower tide stage.

The present Vulnerability Assessment focuses on identifying thresholds of SLR for which of the existing and future facilities within the SeaWorld leasehold could become exposed to SLR hazards. For this purpose, 4 SLR scenarios are considered for which CoSMoS coastal hazard projections are available. The selected scenarios very well capture the variability in SLR projections into the end of the century (i.e., assumed time frame of existing and future infrastructure in SeaWorld). Table 1 lists the selected SLR scenarios and provides their exceedance probabilities by year 2100 according to OPC (2018). These exceedance probabilities describe how likely it is that a SLR condition is met or exceeded by year 2100. For example, 1.6 feet of SLR is a relatively moderate condition which is very likely to occur by 2100, whereas 6.6 feet of SLR represents a much more severe condition but has a very low probability of occurring by 2100.

Table 1 Selected SLR Scenarios and Associated Exceedance Probabilities

SLR condition	Exceedance Probability by year 2100 (OPC, 2018)
1.6 ft (50 cm)	84%
3.3 ft (100 cm)	27%
4.9 ft (150 cm)	4%
6.6 ft (200 cm)	>1%

Vulnerability Assessment

The following sections discuss vulnerability to future sea level rise at the SeaWorld leasehold. For the 5 planning areas defined in the 2020 Master Plan, inundation and flood maps depicting the extents of projected tidal inundation during non-storm conditions and flooding during the 100-yr storm for each of the selected SLR scenarios are provided. Unless stated otherwise, individual assets are assumed to be exposed when projected inundation and flood limits have reached their footprint. Exposure of assets discussed herein is based solely on available CoSMoS data.

Table 2 provides water surface elevations at SeaWorld, as projected by CoSMoS, for each SLR scenario during average (non-storm) conditions and in combination with a 100-yr storm. It is noted that projected storm water levels for a given SLR scenario are nearly identical (if not identical) to the projected average water levels corresponding to the following 1.6 feet increment of SLR. As an example, CoSMoS projects that present-day (no SLR) water levels during a 100-yr storm could reach 8.5 feet (NAVD88), while average (non-storm) water levels with 1.6 feet of SLR are projected at 8.6 feet (NAVD88) and so on. This translates into the similar extents of inundation and flooding mapped in the figures below where areas mapped as flooded under a 100-yr storm for a given SLR are very similarly mapped as inundated under the following SLR scenario. As discussed above, similar extents of inundation and flooding do not necessarily represent a same level of vulnerability, as the frequency of exposure, its consequences, and opportunities for adaptation differ between average conditions and extreme storm events

. Table 2 CoSMoS Projections of Flood and Inundation Levels under Average (non-storm) and 100-yr Storm Conditions at SeaWorld

Projected Water Surface Elevation (ft, NAVD88)					
SLR	0ft	1.6 ft (50 cm)	3.3 ft (100 cm)	4.9 ft (150 cm)	6.6 ft (200 cm)
Average Condition	7.2	8.6	10.2	11.8	13.5
100-yr Storm	8.5	10.2	11.8	13.4	15.4

Planning Area 1 (Theme Park)
Planning Area 1 (Theme Park) hosts the SeaWorld Theme Park area. As previously discussed, most of the area lies on high ground (at or above 15 feet [NAVD88]). However, exposure to hazards associated with future SLR is anticipated at several lower-lying locations along the waterfront.

Panel *a)* in Figure 6 and Figure 7 shows an overview of flooding and inundation on Planning Area 1 (Theme Park), while Panels *b), c), d),* and *e)* zoom into the shoreline starting from *Cirque de la Mer* Stadium at the west end of Planning Area 1 (Theme Park) and going eastward until the northeast boundary of the leasehold.

SeaWorld discharges stormwater and wastewater from their treatment system to Mission Bay at two locations in the shoreline of Planning Area 1 (Theme Park) (see Figure 4 and Figure 5). Design drawings for the treatment system plant in Planning Area 1 (Theme Park)(ENARTEC, 1990) indicate that after being treated, effluent is drained and discharged to the bay via gravity. Based on design invert elevations and projected water levels from CoSMoS (Table 2), the discharge system could start to become compromised during a 100-yr storm under present day sea levels. A more detailed assessment of the discharge system is beyond the scope of this study but is recommended to determine its efficiency under present and future water levels.

CoSMoS does not incorporate *Cirque de la Mer* Island (fronting *Cirque de la Mer* Stadium) into its Digital Elevation Model (DEM). Consequently, Figure 4 and Figure 5 map the area within inundation and flooding extents under each specified SLR scenario, including present-day sea levels. Construction plans for the island (M&N, 1990) indicate that the top of the revetment surrounding the island has an elevation of +8.07 feet (NAVD88). Consequently, the island could be susceptible to temporary flooding during the 100-yr storm under present-day sea levels and would first become exposed to inundation with 50 cm (1.6 ft) of SLR.

Per CoSMoS projections, existing and proposed assets in Planning Area 1 (Theme Park) will progressively become exposed to flooding and inundation as follows:

1. 100-yr storm and no SLR, and average conditions (no storm) with 1.6 feet of SLR: *Cirque de la Mer* Island, waste and storm water discharge system, and green areas immediately east of *Cirque de la Mer* Stadium (Panel *b*).
2. 100-yr storm and 1.6 feet of SLR, and average conditions (no storm) with 3.3 feet of SLR: Bay Skyride station (Panel *b*), Mission Bay Theatre (Panel *c*), and a future 10-foot-wide shoreline pathway proposed as part of Special Events Center project (Panel *e*).
3. 100-yr storm and 3.3 feet of SLR, and average conditions (no storm) with 4.9 feet of SLR: Lower stands of *Cirque de la Mer* Stadium (Panel *b*), shark dock area and adjacent bird area (Panel *d*), and a currently vacated area on the east end of the leasehold (past the 50-foot shoreline setback established in the 2020 Master Plan) where the Special Events Center could potentially be located (Panel *e*).
4. 100-yr storm and 4.9 feet of SLR: *Cirque de la Mer* Stadium, tide pool restrooms, Skyride ticket booth (Panel *b*), freshwater aquarium and restroom, and areas backing the sea lion and otter stadium (Panel *c*).

Apart from the waste and storm water discharge system, the locations where SLR hazards are first anticipated within Planning Area 1 (Theme Park) are *Cirque de la Mer* Island and the green areas east of *Cirque de La Mer* Stadium – the former comprising infrastructure such as floats and gangways, a backstage building, and electrical and irrigation utilities. Per CoSMos, these assets could experience flooding under present-day sea levels if a 100-yr storm were to occur. Furthermore, most of the remaining assets in Planning Area 1 (Theme Park) listed above are anticipated to become exposed under extreme storm conditions, with 1.6 feet of SLR.

Therefore, two SLR conditions are generalized as the thresholds for exposure in Planning Area 1 (Theme Park), which are 0 feet (i.e., present-day sea levels with a 100-year storm flood) and 1.6 feet. The OPC estimates that the probabilities of SLR reaching or exceeding these levels by 2100 (i.e., their exceedance probabilities) are 100% and 83%, respectively (Table 2).

Pending an assessment of potential impacts on the gangways on Cirque Island (beyond the scope of this study), no major adverse consequences are anticipated as a result of momentary flooding. As an immediate and short-term alternative, temporary adaptation measures (such as temporary flood protection) could be implemented if required to prevent impacts associated with extreme storm flooding on the island under present-day sea levels. However, more permanent measures, most likely involving restoring shoreline protection and/or re-grading the waterfront, may need to be considered to avoid impacts identified for SLR of 1.6 feet and higher.

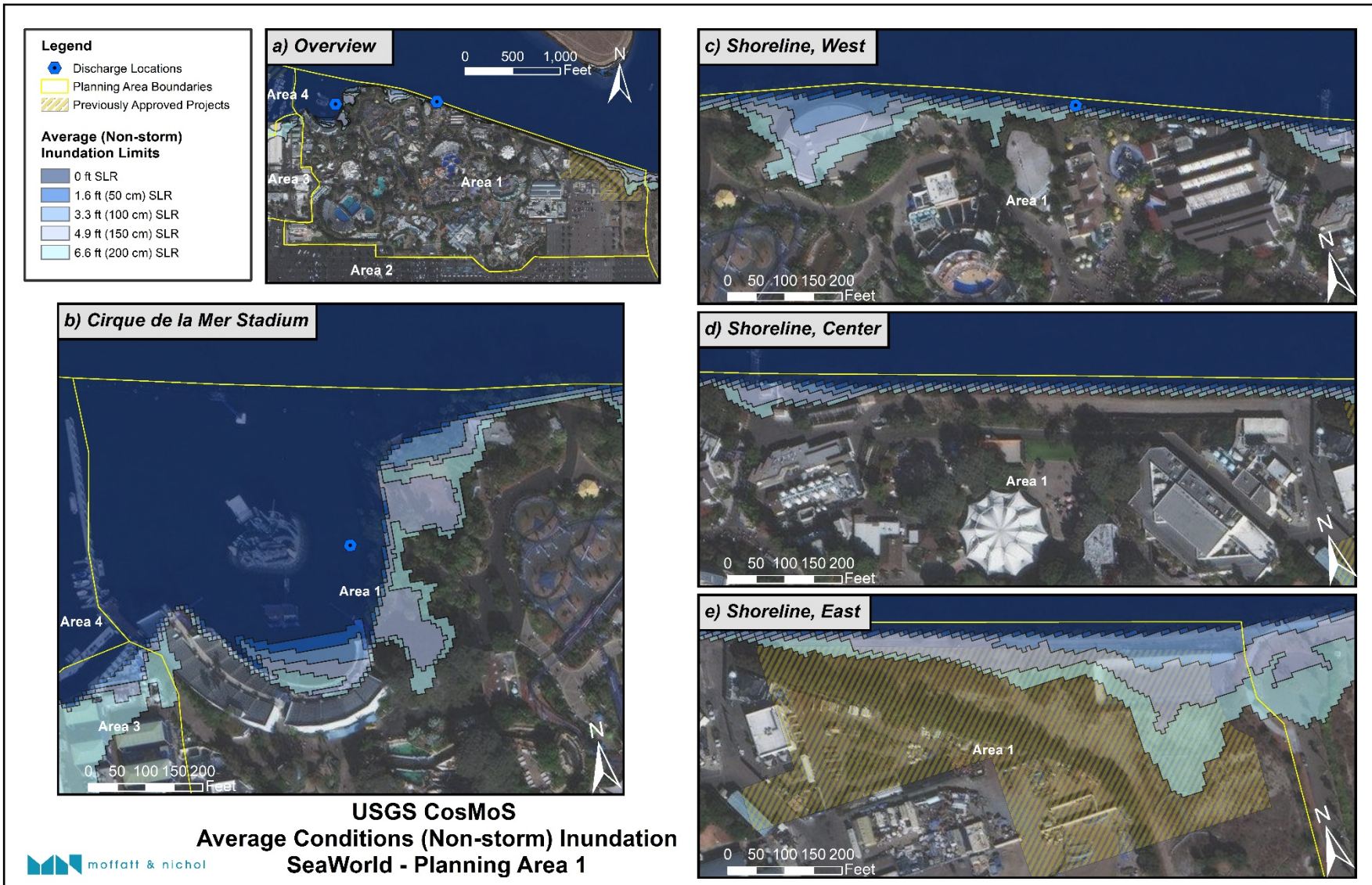


Figure 4 CoSMoS Average Conditions Inundation in Planning Area 1 (Theme Park)

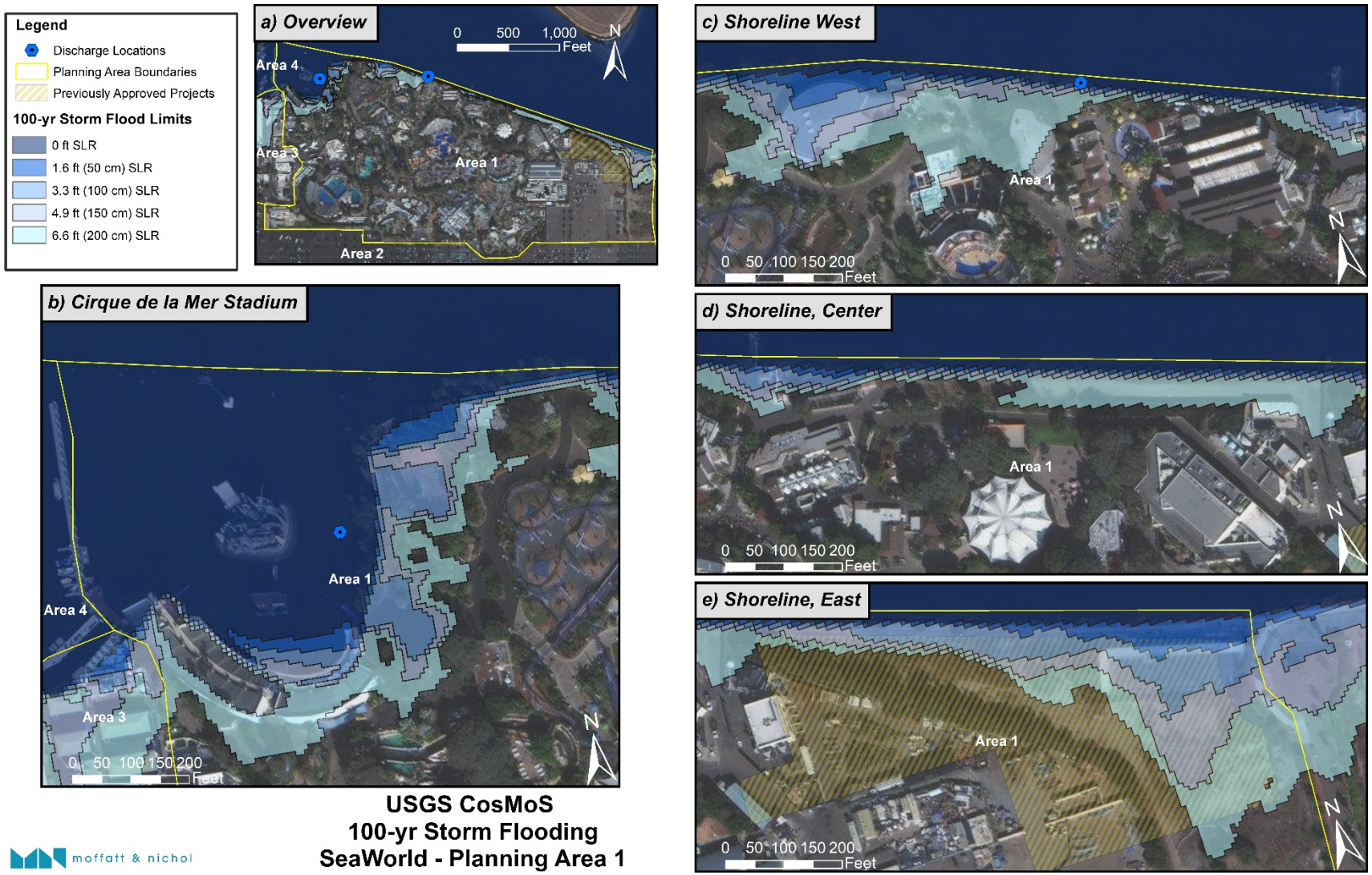


Figure 5 CoSMoS 100-year Coastal Storm Flooding in Planning Area 1 (Theme Park)

Planning Area 2 (Guest Parking)

As depicted in Figure 6 and Figure 7, CoSMoS projects that flooding and inundation in Planning Area 2 (Guest Parking) is limited to the SeaWorld parking lot entrance located at the Southwest boundary of the leasehold. The existing ground at this location, unlike at the rest of Planning Area 2 (Guest Parking), is at or below 15 feet (NAVD88). With water levels in Mission Bay progressively rising, the lower-lying West Mission Bay Drive and Ingraham Street will create a flood pathway to this location from SeaWorld Marina, Dana Landing Marina, and Quivira Basin, located to the north, northwest, and east, respectively (see Figure 1). Per CoSMoS, the parking lot entrance will become exposed to temporary flooding and inundation as follows:

1. 100-yr storm with 3.3 feet of SLR, and average conditions (no storm) with 4.9 feet of SLR: Flood and inundation limits reach toll booth lanes contiguous to Perez Cove Way.
2. 100-yr storm with 6.6 feet of SLR: Flood limits reach toll booths 1 to 6 as well as the adjacent pet facility.

With regards to the proposed future parking structure for Planning Area 2 (Guest Parking) (Panel *a* in Figure 6 and Figure 7), no SLR impacts are anticipated through the year 2100. Even if constructed below ground, surrounding areas are sufficiently high to keep future tide and flood water levels away from the rest of the parking lot.

As indicated above, direct exposure of assets in Planning Area 2 (Guest Parking) is anticipated during a 100-yr storm and a SLR of 3.3 feet (27% exceedance probability by 2100). Temporary impacts associated with this condition would be minor and could be easily prevented or mitigated. An indirect but greater impact would result with the anticipated inundation outside of the leasehold. As depicted on Panels *a* and *b* of Figure 6, access to the SeaWorld facilities would become impaired starting with 3.3 feet of SLR. The parking lot entrance would only be accessible through SeaWorld Dr. and Oceangate Way, i.e. primary access roads, while secondary access roads (i.e., West Mission Bay Drive, Ingraham Street, and Perez Cove Way) are anticipated to be inundated by tides. With 4.9 feet of SLR, primary and secondary roads giving access to SeaWorld are anticipated to be inundated by tides.

Based on the information above, a SLR of 3.3 feet has been identified as the threshold for exposure in Planning Area 2 (Guest Parking). In order to maintain uninterrupted access to SeaWorld facilities, adaptation measures outside of the leasehold would be required. As impacts to public infrastructure (i.e., roads) are anticipated, it is likely that before SLR has reached 3.3 feet, adaptation measures that look to address inundation of the public roads will have already been implemented by the City.

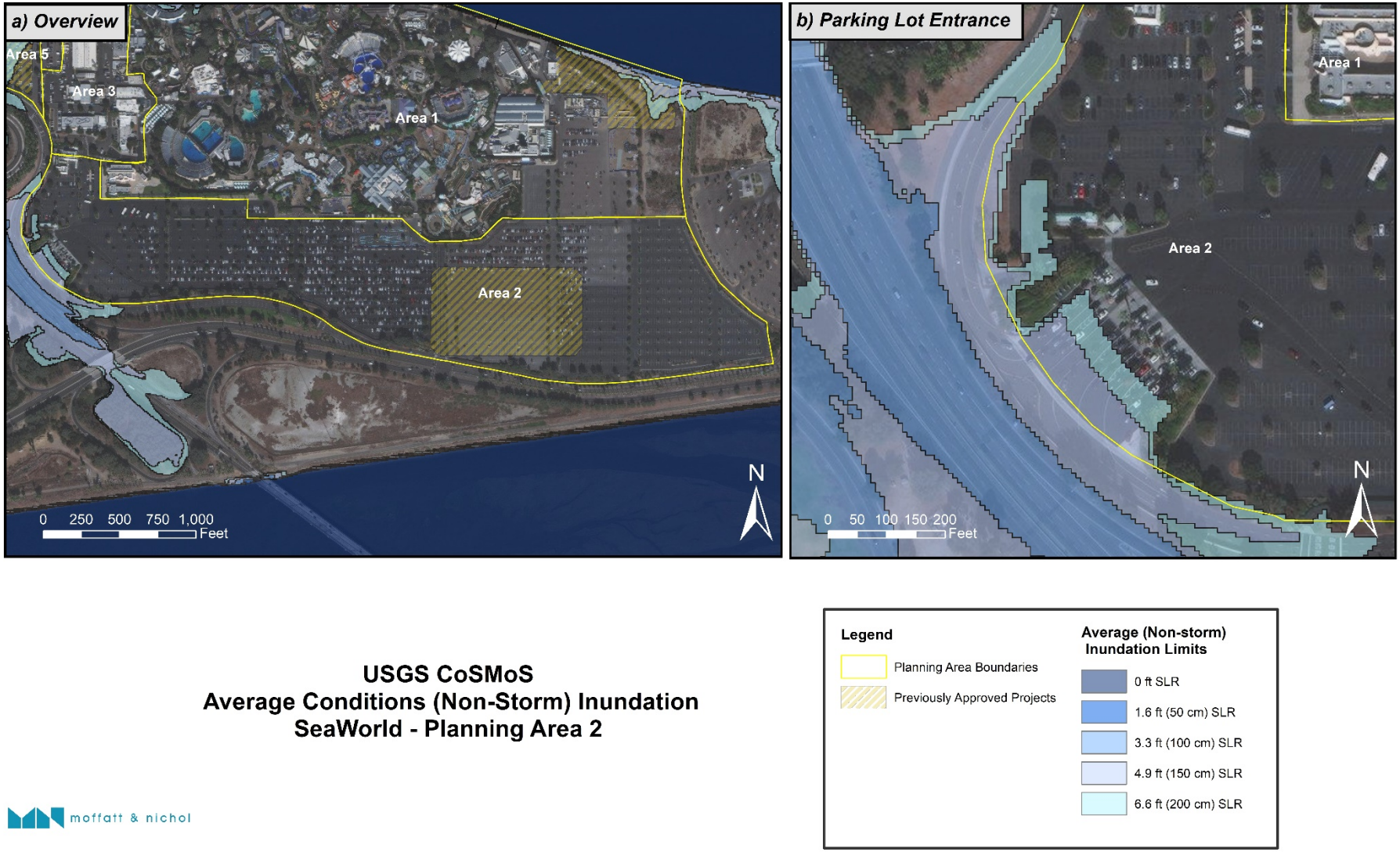


Figure 6 CoSMoS Average Conditions Inundation in Planning Area 2 (Guest Parking)

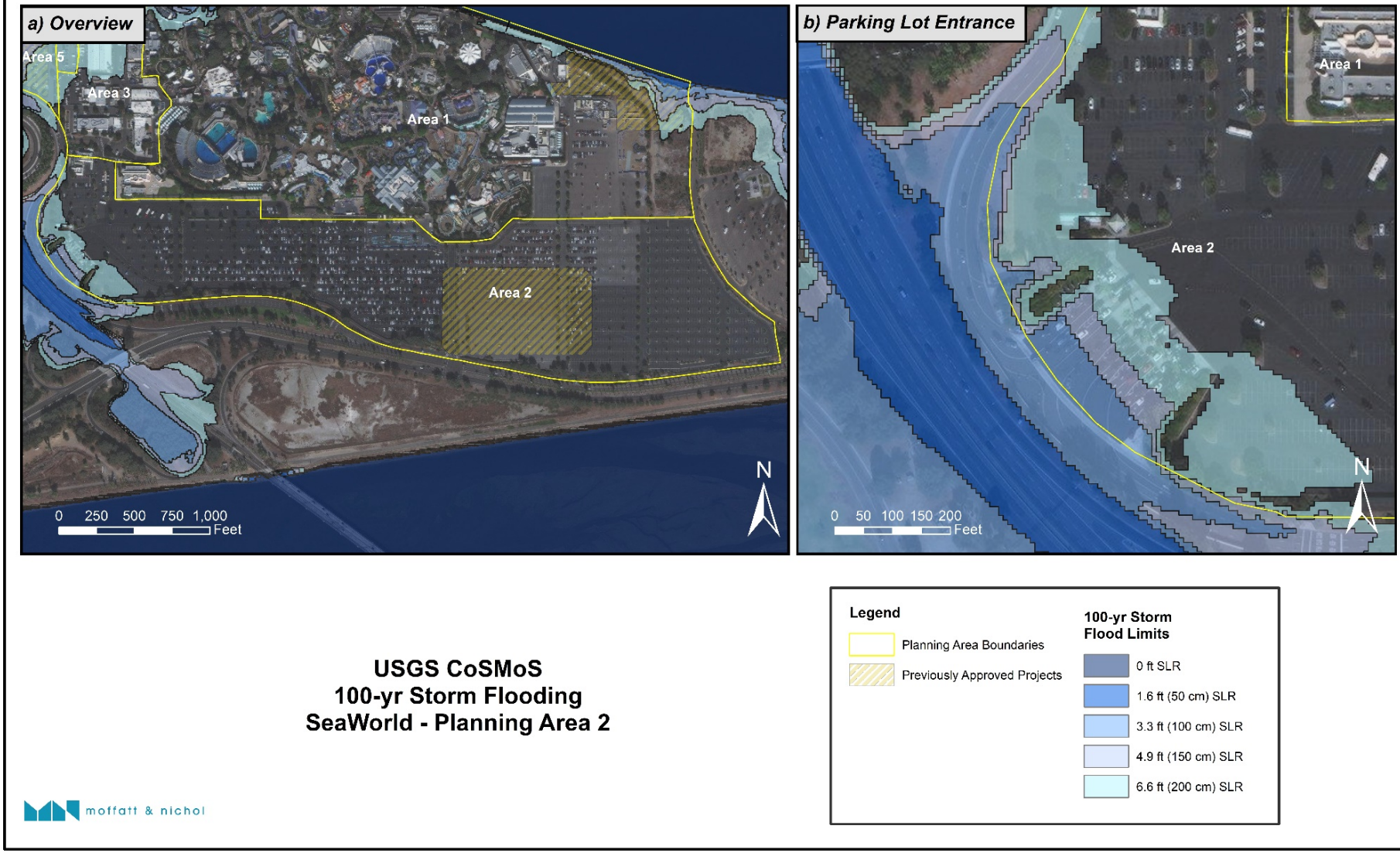


Figure 7 CoSMoS 100-year Coastal Storm Flooding in Planning Area 2 (Guest Parking)

Planning Area 3 (Administration and Support)
Planning Area 3 (Administration and Support), allocated for administrative and back of house facilities, is bounded by the shoreline and SeaWorld Marina to the north. Facilities in Planning Area 3 (Administration and Support) include one of the two water treatment plants in SeaWorld, pools for holding marine mammals, animal care and administrative office buildings, and several portable buildings for storage and workspace purposes. Exposure of assets to future flooding and inundation according to CoSMoS is projected as follows:

1. 100-yr storm with 1.6 feet of SLR, and average (no storm) conditions with 3.3 feet of SLR: Filter plant and Perez Cove building.
2. 100-yr storm and 4.9 feet of SLR, and average (no storm) conditions with 6.6 feet of SLR: Pools east of the Perez Cove building and animal care offices.
3. 100-yr storm and 6.6 feet of SLR: Electric SVS system and metal shop located west and south of Perez Cove building, as well as storage assets including portable storage containers, an electric shop, and a hazardous waste storage yard.

Given their portable character, many assets in Planning Area 3 (Administration and Support) can easily adapt to SLR impacts. Exposure of these assets, as indicated above, is anticipated with 4.9 feet of SLR and higher. Meanwhile, with a higher sensitivity and a somewhat lower adaptive capacity to SLR, the water treatment plant in the northern edge of Planning Area 3 (Administration and Support), is anticipated starting with a SLR of 1.6 feet in combination with a 100-yr storm. The National Pollutant Discharge Elimination System (NPDES) discharge permit for SeaWorld (CRWQCB, 2018) requires SeaWorld water treatment facilities to be protected against impacts associated with the 100-yr storm. Therefore, adaptation strategies for Planning Area 3 (Administration and Support) should be considered before this SLR condition is reached.

Based on the above, a SLR of 1.6 feet, with an 83% probability of being reached or exceeded by 2100, is identified as the threshold for exposure in Planning Area 3 (Administration and Support).

Planning Area 4 (SeaWorld Marina)
Planning Area 4 (SeaWorld Marina) includes 11 acres of open water giving home to the SeaWorld Marina, a water intake platform, and 1 acre of land consisting mainly of the marina parking lot and dry boat storage. Future inundation and flooding over the parking lot and dry boat storage in Planning Area 4 (SeaWorld Marina) is depicted in Figure 8 and Figure 9.

Given the relatively higher ground elevation at this location, CoSMoS projects that the parking lot in Planning Area 4 (SeaWorld Marina) will first become exposed to temporary flooding with 4.9 feet of SLR in combination with the 100-yr storm and to tidal inundation with 6.6 feet of SLR.

CoSMoS does not incorporate marina infrastructure into their SLR hazard modeling; therefore, the docks of SeaWorld marina are mapped within inundation and flood limits for all SLR scenarios. A discussion on the vulnerability of the marina to SLR is provided below.

The boat slips and docks in the SeaWorld marina are floating structures designed to rise and fall with the tides and, as such, have an inherent ability to accommodate a certain amount of SLR.

Among the aspects to consider when assessing exposure of a floating marina to SLR hazards and its ability to remain operational are the elevations of guide-piles, bulkheads, and gangway access piers, which determine a maximum water elevation to which docks can rise as well as the increasing loads that these, along with other mooring hardware, could be subject to as a result of a higher water column and increased environmental loading on moored vessels.

Design drawings for the Perez Cove Marina, presently referred to as the SeaWorld Marina (Richard Bliss Nelson, 1961), indicate that the gangway piers providing access to the docks have an elevation of about +12.9 feet (NAVD88). Assuming docks would become obsolete when floating at or above the gangway access piers level, impacts to docks are anticipated under 4.9 feet of SLR in combination with a 100-yr storm and 6.6 feet of SLR with non-storm conditions. Earlier impacts would be anticipated in case the cut-off elevations of the guide piles are below the gangway access piers.

Regarding the proposed marina expansion (footprint depicted within the yellow striped polygon in Figure 8 and Figure 9), it is recommended that cut-off elevations of guide piles be designed to be, at a minimum, equivalent to the gangway piers elevation in order to accommodate up to 4.9 feet of SLR.

A detailed assessment of increased environmental loadings is beyond the scope of this study but is recommended to ensure that existing and future mooring infrastructure do not become vulnerable prior to the SLR threshold identified above.

Pending a more detailed analysis on the marina infrastructure, a SLR of 4.9 feet is identified as the threshold of exposure for assets within Planning Area 4 (SeaWorld Marina). Per the OPC, these SLR conditions have low probabilities (~4% and <1%) of being met or exceeded by year 2100.

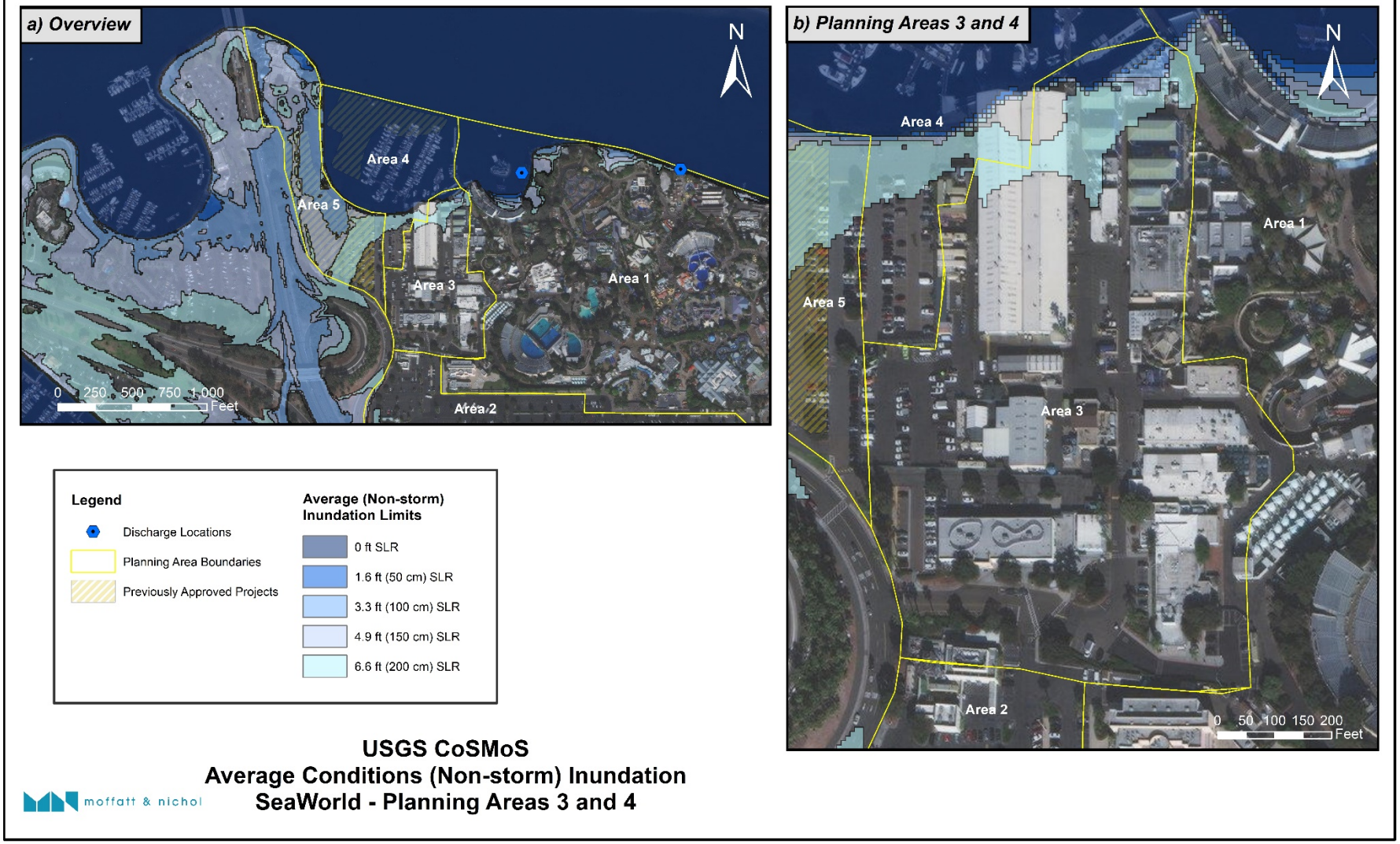


Figure 8 CoSMoS Average Conditions Inundation in Planning Area 3 (Administration and Support) and Planning Area 4 (SeaWorld Marina)

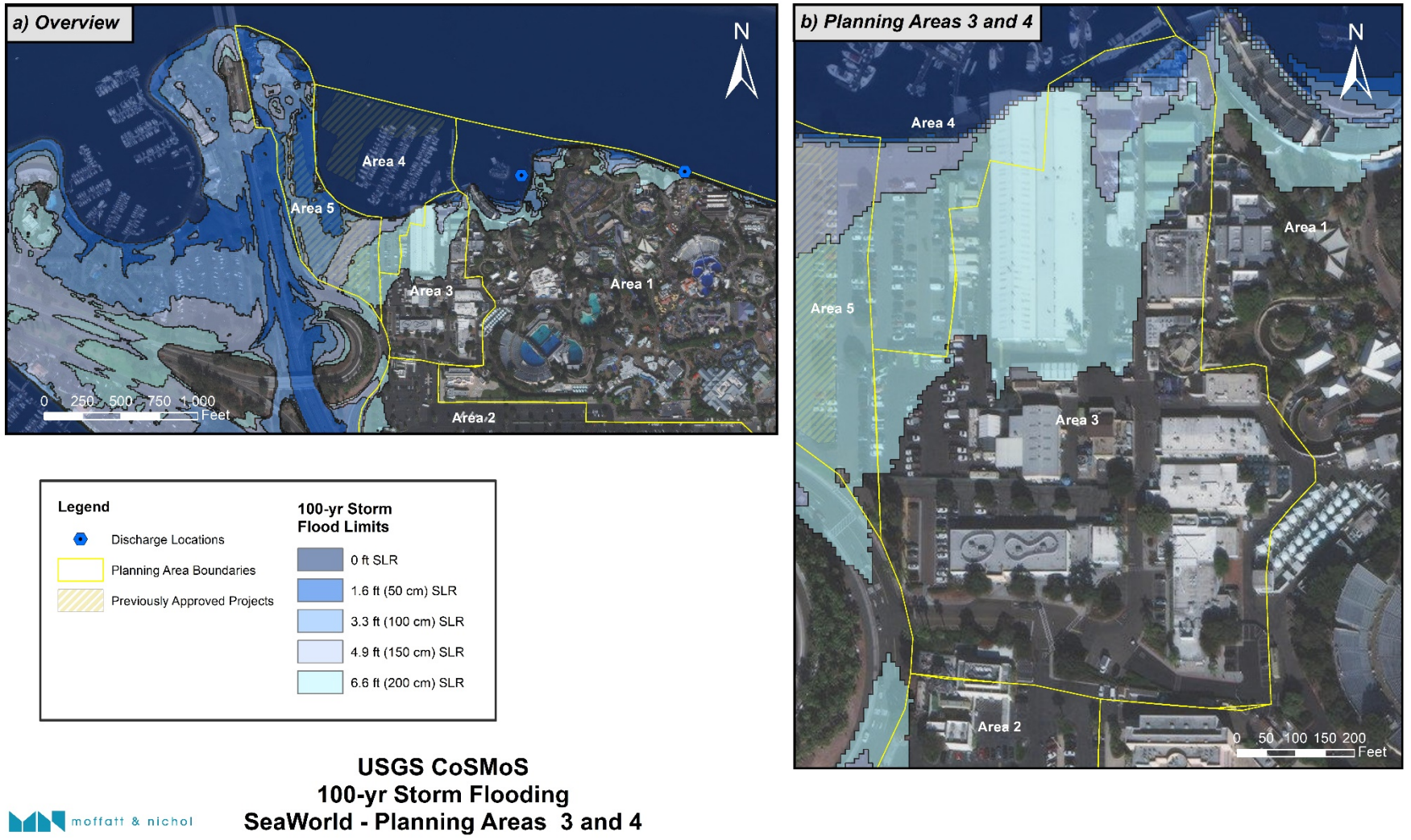


Figure 9 CoSMoS 100-year Coastal Storm Flooding in Planning Area 3 (Administration and Support) and Planning Area 4 (SeaWorld Marina)

Planning Area 5 (Perez Cove Shoreline)
Planning Area 5 (Perez Cove Shoreline) gives home to the Hubbs-SeaWorld Research institute, landscaped areas, and a parking space serving the research institute, marina guests, and SeaWorld employees. The previously approved hotel and supporting facilities (see yellow striped polygon in Figure 10 and Figure 11) proposed in the 2020 Master Plan would occupy most of the area within the existing parking lot.

Planning Area 5 (Perez Cove Shoreline) has the lowest ground elevations in the SeaWorld leasehold. Similarly, lower-lying terrain to the west (outside of the SeaWorld leasehold) give path for future inundation and flooding from this direction as well as from the open waters of Mission Bay to the north and east. CosMoS projects assets in Planning Area 5 (Perez Cove Shoreline) to become exposed to SLR as follows:

1. 100-yr storm with no SLR, and average (no storm) conditions with 1.6 feet of SLR: Main building of Hubbs-SeaWorld research center.
2. 100-yr storm with 1.6 feet of SLR, and average (no storm) conditions with 3.3 feet of SLR: Supporting facilities of Hubbs-SeaWorld research center, Bay Skyride station, and existing parking lot/proposed future hotel.

As depicted in Figure 11, the 100-yr storm flood limits corresponding to present-day sea levels reach the Hubbs-SeaWorld research center building. The footprint of the projected flooding, however, is relatively small and its impacts could be prevented with relatively minor efforts and costs with temporary flood protection as an example. Exposure in Planning Area 5 (Perez Cove Shoreline) increases considerably starting with 1.6 feet of SLR where most of the area is projected to become exposed during a 100-yr storm. Existing assets in Planning Area 5 (Perez Cove Shoreline) (including the proposed future hotel) would either be directly exposed to the flooding or become inaccessible. Therefore, a SLR of 1.6 feet is concluded to be the threshold of exposure in Planning Area 5 (Perez Cove Shoreline).

Similar for Planning Area 2 (Guest Parking), low-lying portions of Ingraham Street allow for flooding and inundation to reach Planning Area 5 (Perez Cove Shoreline) from the west. For this reason, preventing impacts anticipated with a SLR of 1.6 feet and above in Planning Area 5 (Perez Cove Shoreline) would require adaptation both in and outside of the leasehold.

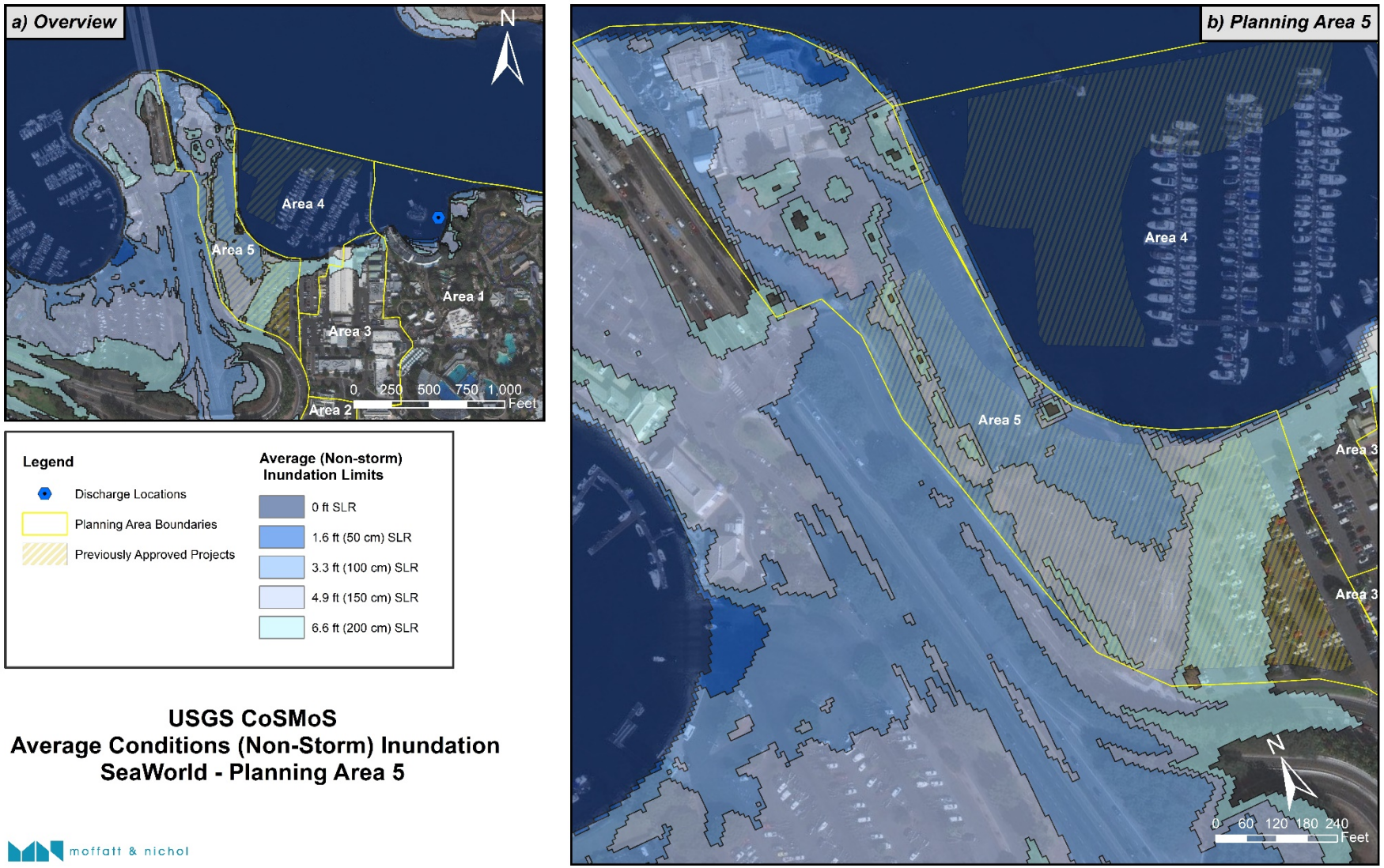


Figure 10 CoSMoS Average Conditions Inundation in Planning Area 5 (Perez Cove Shoreline)

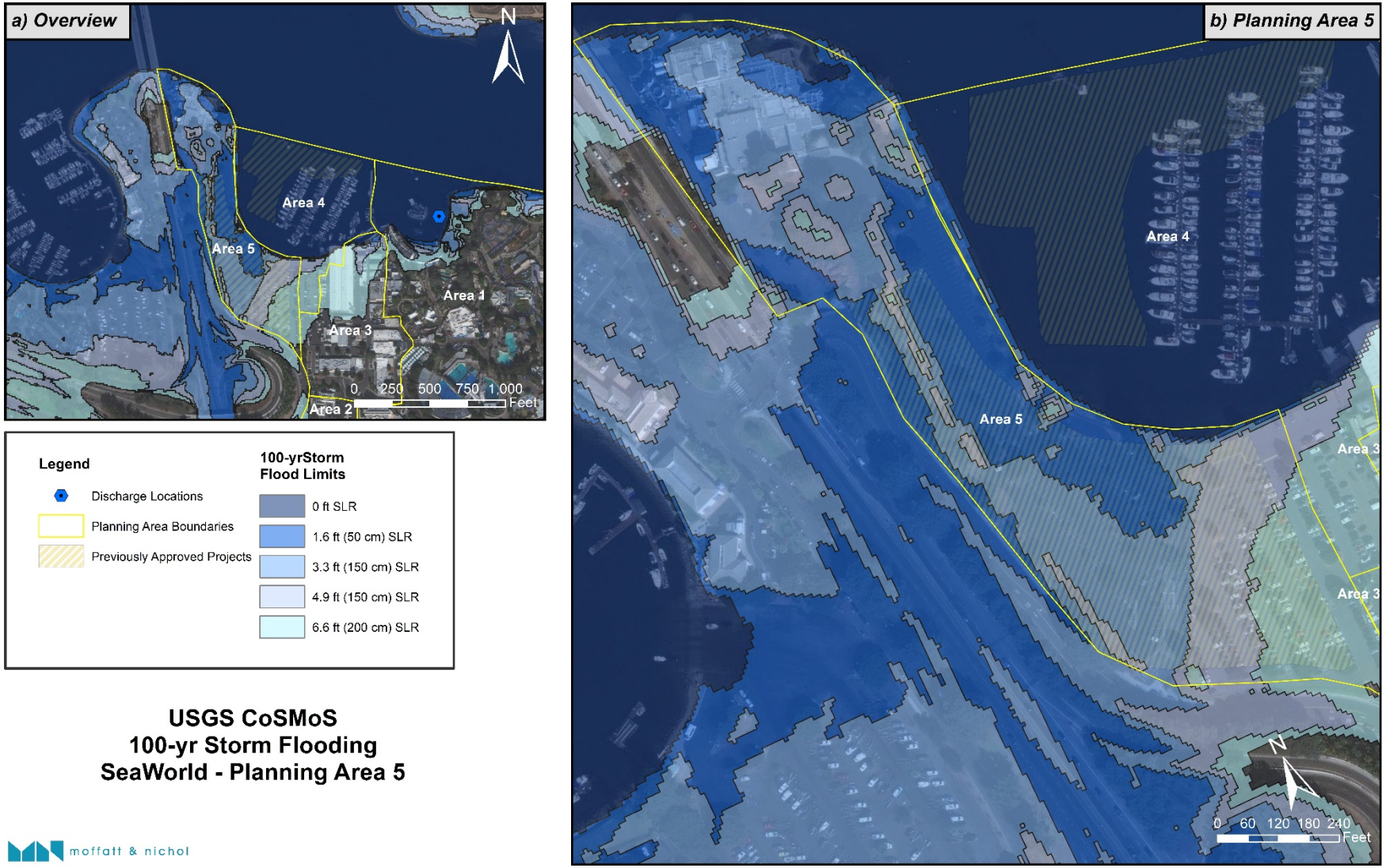


Figure 11 CoSMoS 100-year Coastal Storm Flooding in Planning Area 5 (Perez Cove Shoreline)

Adaptation to Sea Level Rise

As discussed above, assets within the SeaWorld leasehold are anticipated to become exposed under different amounts of SLR and, as such, at different time horizons. This allows for adaptation to be prioritized where exposure is anticipated under small amounts of SLR (i.e., Planning Areas 1, 3, and 5) and deferred in locations that are only anticipated to become exposed under higher amounts of SLR (i.e., Planning Areas 2 and 4).

Adaptation to sea level rise involves taking appropriate actions to prevent or minimize its anticipated adverse effects. According to the Coastal Commission Sea Level Rise Policy Guidance (CCC 2018), adaptation strategies generally fall into four main categories: no action, protect, accommodate, and retreat. A brief discussion on opportunities within each category is provided below.

No Action

This strategy leads to "reactive" emergency response when episodic sea level rise exposure occurs, such as extreme storm events. No-action strategies within SeaWorld are only recommended where adverse consequences of exposure are not irreversible and can be easily mitigated; such as parking spaces and landscaped areas, where post-storm impacts can be mitigated with relatively minor maintenance and cleanup.

Moreover, no action in SeaWorld, only represents a feasible strategy in the short term (i.e., under present-day sea levels). Locations identified as vulnerable to extreme flooding with no SLR will become exposed to the more frequent tidal inundation even under small amounts of sea level rise; therefore, these locations will require other types of adaptation.

Protect

This approach involves measures to protect assets in their current locations without changes to the assets themselves. *Hard* protection against coastal flooding and inundation typically involves construction of seawalls and revetments, while *soft* solutions commonly involve sand beach replenishment and/or construction of living shorelines where feasible. Protection opportunities within SeaWorld could include a combination of the following:

- Temporary flood protection: Portable flood barriers could represent a feasible solution to protect infrastructure against episodic storm event exposure. Nevertheless, like the no-action approach, temporary protection is only recommended as an immediate or short-term measure.
- Restoring and/or implementing hard protection: This strategy involves the use of hard protection, such as riprap revetments or seawalls to protect backing infrastructure against tidal and flood water levels anticipated with SLR. Currently, most of SeaWorld's shoreline is protected with riprap revetment. Re-profiling of the existing riprap alignment is already being considered by SeaWorld as a maintenance project. Moreover, parapet walls (i.e., short concrete walls implemented behind revetments) could also increase the level of protection of existing and/or future revetment.
- Raising ground along the waterfront: The ground of open spaces along the waterfront and/or where future shoreline walkways are proposed could be raised to serve as a levee-type feature. "Living levees" are levees planted with native habitat species and they are popular with resource and funding agencies and could provide an interpretive opportunity at the Park.

Accommodate

Accommodation involves strategies that modify existing assets or the design of new assets in a manner that decreases hazard risks, which increases their resilience to the impacts of sea level rise. For SeaWorld, this

approach is most relevant for marina infrastructure. As described earlier, the proposed marina expansion should be designed to accommodate the higher water levels (and their accompanying loads) anticipated throughout the century, whereas existing piers and dock infrastructure could be retrofitted for the same purpose. Additionally, Cirque Island, currently exposed to momentary flooding during a 100-yr flood, could be raised to avoid the more frequent inundation given by tides in the future.

The existing storm and wastewater discharge system will also require accommodation to maintain its current efficiency.

Retreat

Retreat strategies relocate or remove existing development out of hazard areas and limit the construction of new development in vulnerable areas. Implementing retreat strategies could remove the waterfront component of the park. SeaWorld might want to prioritize protection and accommodation strategies to preserve the essence of the park and the overall experience of visitors.

Table *3* to *Table 7* summarize identified exposure for each of the 5 planning areas in SeaWorld and provide examples of adaptation opportunities that could be considered for the immediate (present-day sea levels), short (1.6 ft of SLR), medium (3.3 ft of SLR) and long (4.9 ft of SLR and higher) term.

Table 3- Summary of Exposure and Adaptation Opportunities for Planning Area 1 (Theme Park)

Planning Area 1 (Theme Park) Shoreline Segment and Assets	**Sea Level Rise Condition**				**Summary of Exposure**	**Adaptation Opportunities Examples**
	0 ft SLR (Immediate-Term)	**1.6 ft SLR (Short-Term)**	**3.3 ft SLR (Medium-Term)**	**4.9 - 6.6 ft SLR (Long-term)**		
Asset: Cirque de La Mer Island	Threshold for Exposure	Exposed			-Exposure to temporary flooding during the 100-yr storm starting under present day sea levels (0 feet SLR). Immediate adaptation could involve no action or temporary protection strategies. -Exposure to tidal inundation starting with 1.6 feet of SLR. Consideration should be given to more permanent protection or accommodation strategies in the short to medium-term.	**Immediate-term (No action/Protect):** -Portable barriers (e.g. sandbags, water-inflated or water-filled barriers, temporary cofferdams) -Water-proofing the entrance of the existing building (e.g. metal flood-barriers, encasing/raising utilities) and other assets which integrity could be impaired with temporary flooding. **Short to Medium-term (Accommodate):** -Raising the island above projected water levels based on SeaWorld's risk acceptance level and raising/restoring the existing shoreline protection accordingly. -Floats and gangways will require accommodation, likely in the form of raising or replacing guide piles to accommodate increased water levels.
Asset: Waster and storm water discharge system	Threshold for Exposure	Exposed			- Efficiency of system could start to become compromised starting with present day sea levels in combination with 100-yr storm. Subject to a detailed assessment of its efficiency under present and future water levels, the discharge system will require accommodation strategies in the immediate to short-term.	**Immediate to short-term (Accommodate):** - Installation of check valves on outfalls to prevent backflow. - Implementation of pumping system to allow for adequate drainage when the gravity drain mechanism is no longer functional.
Harborside Shoreline Segment Asset: Green Areas east of Cirque de la Mer Stadium	Threshold for Exposure	Exposed			-Exposure to temporary flooding during the 100-yr storm starting under present day sea levels (0 feet SLR). As impacts of temporary flooding would be minimal, no action could be considered as the immediate adaptation strategy. -Exposure to tidal inundation starting with 1.6 feet of SLR. Adaptation measures which involve restoring the shoreline east of Cirque de la Mer Stadium should be considered in the short to medium term.	**Immediate term (No action)** **Short to medium-term (Protect)** Restore shoreline. Feasible alternatives could include: - Re-grading the shoreline and existing shoreline protection above projected water levels based on SeaWorld's risk acceptance level. - Extending the existing k-rail and raising it above projected water levels based on SeaWorld's risk acceptance level.
Guest Accessible Shoreline Segment Assets: Bay Sky ride station, Mission Bay Theatre, Sky Ride Ticket Both, Freshwater Water Aquarium and Restroom, Areas backing Sea lion and Otter Stadium		Threshold for Exposure	Exposed		-Localized flooding during 100-yr storm around Bay Sky Ride Station and Mission Bay Theatre starting with 1.6 feet of SLR could be addressed with temporary flood protection in the short-term. -Larger and more frequent exposure of assets along the Guest Accessible Shoreline Segment due to tidal inundation and storm flooding starting with 3.3 feet of SLR. Adaptation measures involving restoration of the shoreline should be considered for the medium to long-term.	**Short-term (Protect)** - Portable barriers (e.g. sandbags, water-inflated or water-filled barriers) **Medium to Long-term (Protect)** Restore Guest accessible shoreline segment. Feasible alternatives could include: - Raising the shoreline and existing shoreline protection to a higher elevation based on projected water levels and SeaWorld's risk acceptance level. - Restoring the existing shoreline protection and augmenting it with a parapet wall founded into the levee to provide a higher level of protection. - Raising and advancing the shoreline with gentle slopes to facilitate the establishment of a vegetated "living" levee, providing protection against increased water levels while increasing habitat value.
South Shores Shoreline segment Assets: Proposed 10-foot wide shoreline Pathway, and Special Events Center		Threshold for Exposure	Exposed		-Exposure to temporary flooding during the 100-yr storm starting with a SLR of 1.6 feet and exposure to tidal inundation starting with 3.3 feet of SLR. - Exposure from flooding and inundation which stems from low-lying terrain east of the leasehold (through South Shores Park Drive) starting with 1.6 feet of SLR. -Since there is currently no sensitive infrastructure backing the "South Shores Shoreline" segment, a no action strategy could be considered in the short-term. - If development of the proposed Special Events center is considered further as a future SeaWorld Project, its design should accommodate for future SLR. - Implementation of adaptation measures along the eastern boundary of the leasehold should also be considered in the medium to long-term.	**Short-term (No Action)** **Medium to Long term (Accommodate and Protect)** Design future 10-foot wide shoreline pathway to accommodate SLR and provide flood protection. Feasible alternatives include: -Constructing pathway above projected water levels based on SeaWorld's risk acceptance level. - In addition, a living levee system (advancing the shoreline with gentle slopes) could be implemented seaward of the walkway, which would provide habitat and aesthetic enhancements to the shoreline. The living levee could also accommodate stairways to the water line. Protect proposed infrastructure from flooding and inundation from the low-lying terrain east of leasehold. Feasible alternatives include: - Implementation of landscaped flood protection levee along the eastern boundary of the leasehold.

Planning Area 1 (Theme Park) Shoreline Segment and Assets	Sea Level Rise Condition				Summary of Exposure	Adaptation Opportunities Examples
	0 ft SLR (Immediate-Term)	1.6 ft SLR (Short-Term)	3.3 ft SLR (Medium-Term)	4.9 - 6.6 ft SLR (Long-term)		
Harborside Shoreline Segment Assets: Cirque de la Mer Stadium and Tide Pool Restrooms			Threshold for Exposure	Exposed	- Lower stands of Stadium exposed to temporary flooding during extreme storm events starting with a SLR of 3.3 feet. - Higher stands of Stadium, and Tide Pool restrooms exposed to temporary flooding under 6.6 feet of SLR. -Accommodation adaptation should be considered for the medium to long-term.	**Medium to Long term (Accommodate)** - Raising the facility above projected water levels based on SeaWorld's risk acceptance level.
Back of Park Shoreline Segment Assets: Shark Dock and Bird Area			Threshold for Exposure	Exposed	- Exposure to temporary flooding during the 100-yr storm starting with a SLR of 3.3 feet. - Exposure to tidal inundation starting with a SLR of 4.9 feet. - Adaptation strategies involving protection should be considered in the medium-term.	**- Medium-term (Protect)** - Raising the shoreline and existing shoreline protection to a higher elevation based on projected water levels and SeaWorld's risk acceptance level. - Contrary to other guest accessible segments of the shoreline where aesthetics and recreation are prioritized, a seawall could also be considered for this shoreline segment. -The existing wall fronting the Shark Encounter and Turtle Reef facilities could be extended eastward. - Raising low-lying terrain leading to the pier, and the pier itself to a higher elevation based on a projected water levels and SeaWorld's risk acceptance level.

Table 4- Summary of Exposure and Adaptation Opportunities for Planning Area 2 (Guest Parking)

Planning Area 2 (Guest Parking) Asset	Sea Level Rise Condition				Summary of Exposure	Adaptation Opportunities Examples
	0 ft SLR (Immediate-Term)	1.6 ft SLR (Short-Term)	3.3 ft SLR (Medium-Term)	4.9 - 6.6 ft SLR (Long-term)		
Assets: Toll booth lanes contiguous to Perez Cove Way, Toll booths and adjacent pet facility.			Threshold for Exposure	Exposed	- Toll both lanes exposed to temporary flooding during the 100-yr storm staring with a SLR of 3.3 feet. No action could be considered as for the adaption strategy for the medium term, since no adverse consequences are anticipated. - Toll booths and adjacent pet facility exposed to temporary flooding during the 100-yr storm and 6.6 feet of SLR. Protection and Accommodation strategies could be considered for the long-term on the toll both lanes. Impacts (if any) could be mitigated with clean-up and minor maintenance. - It is likely that before SLR has reached 6.6 feet, adaptation measures that address inundation of the adjacent public roads have already been implemented by the City.	**Medium Term (No Action)** **Long Term (Accommodate and Protect)** - Provide flood Protection. A feasible alternative could involve regarding the entrance/exit lanes sloping up towards the leasehold. -Collaborate with the City to identify adaptation strategies outside the leasehold.
Assets: Park Access			Threshold for Exposure	Exposed	- Access to the Park via West Mission Bay Drive, Ingraham Street and Perez Cove Way (i.e. secondary access roads) projected to become impaired with 3.3 feet of SLR. -Access to the Park via SeaWorld Dr. and Ocean gate Way (i.e. primary access roads) projected to become impaired with 4.9 feet of SLR. - In order to maintain uninterrupted access to SeaWorld facilities, adaptation measures outside the leasehold would be required. - These could include protection or accommodation of public roads giving access to the leasehold to address inundation by tides and flooding during extreme storm events.	**- Medium to Long Term (Collaborate with City)** -Collaborate with the City to identify adaptation strategies outside the leasehold.

Table 5- Summary of Exposure and Adaptation Opportunities for Planning Area 3 (Administration and Support)

Planning Area 3 (Administration and Support) Asset	Sea Level Rise Condition				Summary of Exposure	Adaptation Opportunities Examples
	0 ft SLR (Immediate-Term)	1.6 ft SLR (Short-Term)	3.3 ft SLR (Medium-Term)	4.9 - 6.6 ft SLR (Long-term)		
Assets: Filter Plant, Perez Cove Building, Animal Care offices and Pools,\ Electric SVS System, metal shop, electric shop, and storage assets (portable containers and hazardous waste storage yards)		Threshold for Exposure	Exposed		-Facilities in Planning Area 3 first become exposed to inundation and flooding from the low lying shoreline fronting the filter. - Filter plant and Perez Cove building exposed to temporary flooding during the 100-yr storm starting with 1.6 feet of SLR, and to tidal inundation starting with 3.3 feet of SLR. -Animal care facilities exposed to temporary flooding during the 100-yr storm starting with 3.3 feet of SLR, and to tidal inundation starting with 4.9 feet of SLR. -Adaptation measures involving protection of the shoreline along Planning Area 3 should be considered for the short-term. - Storage assets exposed to flooding from adjacent planning Area 4 starting with 4.9 feet of SLR. - Adaptation strategy involving restoration of the shoreline along adjacent Planning Area 4 should be considered for the long-term.	**Short-term (Protect):** Protect infrastructure backing the shoreline in Planning Area 3. Feasible alternatives include: - Replace fence fronting the filter plant with a seawall. Crest elevation of Seawall should accommodate projected water levels based on SeaWorld's Risk Tolerance. **Long-term (Protect):** Restore shoreline along the boundary with adjacent Planning Area 4. (*Table 6*)

Table 6- Summary of Exposure and Adaptation Opportunities for Planning Area 4 (SeaWorld Marina)

Planning Area 4 (SeaWorld Marina) Asset	Sea Level Rise Condition				Summary of Exposure	Adaptation Opportunities Examples
	0 ft SLR (Immediate-Term)	1.6 ft SLR (Short-Term)	3.3 ft SLR (Medium-Term)	4.9 - 6.6 ft SLR (Long-term)		
Asset: SeaWorld Marina Parking lot				Threshold for Exposure	- Existing parking lot and storage facilities in Planning Area 3 become exposed to flooding during the 100-yr storm starting with 4.9 feet of SLR. - Exposure to flooding from low-lying roads outside of the leasehold starting with 6.6 feet of SLR. - Adaptation strategies involving flood protection and shoreline restoration should be considered for the long-term. - To optimize efforts, SeaWorld might want to consider implementing adaptation measures in conjunction with those for planning Area 5 (required in the short term).	**Long-Term (Protect):** Restore shoreline along Planning Area 4. A feasible alternative could involve: - Raise and re-plant green space between the shoreline and parking lot above projected water levels based on SeaWorld's risk acceptance and restore existing shoreline protection.
Asset: Existing boat slips and docks in SeaWorld Marina				Threshold for Exposure	- Pending assessment of the cut-off elevation on guide piles, the existing marina can accommodate up to 4.9 feet of SLR. - It is recommended that inspection of the existing infrastructure is conducted to ensure that the marina can accommodate and remain operational under 4.9 feet of SLR at a minimum.	**Long-Term (Accommodate):** - Ensure cut-off elevations on guide piles are above projected water levels for a SLR of 4.9 feet at a minimum.
Asset: Proposed marina expansion	NA				- Ensure the design of the proposed marina expansion accommodates at least 4.9 feet of SLR (i.e. the identified threshold of exposure for the existing marina).	**Long-Term (Accommodate):** - Design cut-off elevation on guide piles to be above projected water levels for a SLR of 4.9 feet at a minimum.

Table 7- Summary of Exposure and Adaptation Opportunities for Planning Area 5 (Perez Cove Shoreline)

Planning Area 5 (Perez Cove Shoreline) Asset	Sea Level Rise Condition				Summary of Exposure	Adaptation Opportunities Examples
	0 ft SLR (Immediate-Term)	1.6 ft SLR (Short-Term)	3.3 ft SLR (Medium-Term)	4.9 - 6.6 ft SLR (Long-term)		
Asset: Hubbs-SeaWorld Research center	Threshold for Exposure	Exposed			- Localized flooding around the Hubbs main building projected to start under present day sea levels during a 100-yr storm event under present day sea levels. Adaptation strategies involving temporary protection should be considered in the immediate term. - Supporting facilities exposed to tidal inundation starting with 1.6 feet of SLR. More permanent protection measures should be considered for the short-term.	**- Immediate-term (Protect):** -Portable barriers along the low-lying portion of the shoreline fronting Hubbs main building. (e.g. sandbags, water-inflated or water-filled barriers). -Water-proofing any low-lying pathways of water into the building such as doors or windows with flood-barriers and encase/raise sensitive utilities and consider relocating sensitive items to the dry side of the building. **Short-term (Protect):** Restore North Facing shoreline. Feasible alternatives include: - Raising existing shoreline walkway above projected water levels based on SeaWorld's risk acceptance level. - Restoring the existing shoreline protection and augmenting it with a parapet wall founded into the levee to provide a higher level of protection. - Consider installing a low earthen berm, dike, or parapet wall around the northeast corner of the building to protect the structure from direct contact by standing water. Implement flood protection along western boundary of leasehold. Feasible alternates include: - Raise and re-plant green spaces running along the western boundary of Planning Area 5 (between the parking lots and Perez Cove Way/Ingraham Street) -Raise entrance / exits to parking lots above projected water levels.
Assets: Existing Parking lot / Proposed Future Hotel		Threshold for Exposure	Exposed		- Exposure to flooding (100-yr storm) from the Bay as well as from low-lying terrain west of the leasehold starting with 1.6 feet of SLR. - A protect strategy could be considered as a short-term strategy. -For the medium to long-term, consideration should be given to accommodation strategies. - Collaboration with the City will be required to identify adaptation strategies for the low-lying public roads and spaces west of the leasehold.	**Short-term (Protect):** Restore East Facing shoreline. Feasible alternatives include: - Raising existing shoreline public walkway above projected water levels based on SeaWorld's risk acceptance. - Restoring the existing shoreline protection and augmenting it with a parapet wall founded into the levee to provide a higher level of protection. Implement flood protection along western boundary of leasehold. Feasible alternates include: - Raise and re-plant green spaces running along the western boundary of Planning Area 5 (between the parking lots and Perez Cove Way/Ingraham Street) -Raise entrance / exits to parking lots above projected water levels. **Medium to Long-term (Accommodate):** -Raising the grade of the existing parking lot / minimum floor elevations of proposed future hotel. -Collaborate with the City will be required to identify adaptation strategies for the low-lying public roads and spaces west of the leasehold.

Conclusion and Recommendations

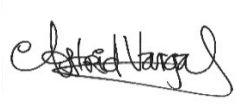
The following can be concluded regarding exposure of SeaWorld assets to SLR hazards as summarized below:

1. *Cirque de la Mer* Island and the wastewater and storm drainage system in Planning Area 1 (Theme Park) are highly vulnerable assets as they are anticipated to become exposed to extreme flood events, even under present day sea levels.
2. Sea level rise of 1.6 feet is the identified threshold of exposure in Planning Areas 1 (Theme Park), 3 (Administration and Support), and 5 (Perez Cove Shoreline). With an 83% probability that sea level rise has reached or exceeded this threshold by year 2100, vulnerability of these planning areas is ranked moderate to high. It is recommended that adaptation strategies be considered before this condition is met.
3. Exposure of SLR impacts in Planning Area 2 (Guest Parking) are anticipated starting with 3.3 feet of SLR, a condition that has a 27% probability of being met by year 2100. Even though direct impacts to assets in Planning Area 2 (Guest Parking) would be minimal, SeaWorld facilities would become inaccessible from outside the leasehold due to inundation of the adjacent roads giving access to the parking lot entrance. This would call for adaptation strategies outside the leasehold. Vulnerability of Planning Area 2 (Guest Parking) to SLR hazards is ranked as moderate.
4. Planning Area 4 (SeaWorld Marina) is anticipated to become exposed to SLR hazards with 4.9 feet of SLR. With an approximate 4% probability that SLR reaches or exceeds this level by 2100, vulnerability of Planning Area 4 (SeaWorld Marina) to SLR hazards is ranked as low.
5. Evaluation of potential adaptation strategies is recommended for locations where SLR exposure has been identified with 1.6 feet and below. It is recommended that coordination and collaboration with other jurisdictions is conducted if SLR impacts in SeaWorld are to be fully mitigated. Furthermore, SeaWorld conducts monitoring of infrastructure within the leasehold every other year. With this monitoring, triggers for SLR adaptation strategies could be identified allowing for adequate planning if and when it is required.

Thank you for the opportunity to be of continued service to Dudek. Should you have any questions, do not hesitate to contact us.

Sincerely,

MOFFATT & NICHOL



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