



CITY OF CARMEL-BY-THE-SEA CLIMATE COMMITTEE

Contact: 831.620.2000 www.ci.carmel.ca.us

All meetings are held in the City Council Chambers
East Side of Monte Verde Street
Between Ocean and 7th Avenues

SPECIAL MEETING **Thursday, February 15, 2024**

2:30 PM

THIS MEETING WILL BE HELD IN PERSON AND VIA TELECONFERENCE. The public is welcome to attend the meeting in person or remotely via Zoom, however, the meeting will proceed as normal even if there are technical difficulties accessing zoom. The City will do its best to resolve any technical issues as quickly as possible. To view or listen to the meeting from home, you may watch the Youtube Live Stream at:

<https://www.youtube.com/@CityofCarmelbytheSea/streams>, or use the link below to view or listen to the meeting via Zoom teleconference:

<https://ci-carmel-ca-us.zoom.us/j/86506368294> Webinar ID: 865 0636 8294 Passcode: 544192 Dial in: (253) 205-0468

Shortly after roll call, the Board/Commission will leave the Council Chambers for an on-site tour of inspection of the properties listed on the agenda. Prior to the beginning of the tour, the Board/Commission may eliminate one or more property. The public is welcome to join the tour. The Board/Commission will return to the Council Chambers after completing the tour to begin the meeting no earlier than the time noted below.

HOW TO OFFER PUBLIC COMMENT: Public comment may be given in person at the meeting, or using the Zoom teleconference module, provided that there is access to Zoom during the meeting. Zoom comments will be taken after the in-person comments. The public can also email comments to yculver@ci.carmel.ca.us Comments must be received 2 hours before the meeting in order to be provided to the legislative body. Comments received after that time and up to the beginning of the meeting will be made part of the record.

PUBLIC APPEARANCES

Members of the public are entitled to speak on matters of municipal concern not on the agenda during Public Appearances. Each person's comments shall be limited to 3 minutes, or as otherwise established by the Chair. Matters not appearing on the agenda will not receive action at this meeting and may be referred to staff. Persons are not required to provide their names, and it is helpful for speakers to state their names so they may be identified in the minutes of the meeting.

ANNOUNCEMENTS

ORDERS OF BUSINESS

Orders of Business are agenda items that require Committee discussion, debate, direction to staff, and/or action.

1. Receive a presentation from Integral Corp./Haro Kasunich & Associates/EMC Planning Group providing the preliminary findings of the Shoreline and Beach Erosion Exposure Modeling, Task 3, and Coastal Hazard and Sea Level Rise Vulnerabilities, Task 4, which are part of the Coastal Engineering Study
2. Project Tracking of Adaptation Strategies for Climate Adaptation and Action Plans and Provide Feedback

FUTURE AGENDA ITEMS

ADJOURNMENT

This agenda was posted at City Hall, Monte Verde Street between Ocean Avenue and 7th Avenue, Harrison Memorial Library, located on the NE corner of Ocean Avenue and Lincoln Street, the Carmel-by-the-Sea Post Office, 5th Avenue between Dolores Street and San Carlos Street, and the City's webpage <http://www.ci.carmel.ca.us> in accordance with applicable legal requirements.

SUPPLEMENTAL MATERIAL RECEIVED AFTER THE POSTING OF THE AGENDA

Any supplemental writings or documents distributed to a majority of the Climate Committee regarding any item on this agenda, received after the posting of the agenda will be available at the Public Works Department located on the east side of Junipero Street between Fourth and Fifth Avenues during normal business hours.

SPECIAL NOTICES TO PUBLIC

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk's Office at 831-620-2000 at least 48 hours prior to the meeting to ensure that reasonable arrangements can be made to provide accessibility to the meeting (28CFR 35.102-35.104 ADA Title II).



CITY OF CARMEL-BY-THE-SEA

Climate Committee

Staff Report

February 15, 2024
ORDERS OF BUSINESS

TO:	Climate Committee Members
SUBMITTED BY:	Mary Bilse, Environmental Programs Manager
SUBJECT:	Receive a presentation from Integral Corp./Haro Kasunich & Associates/EMC Planning Group providing the preliminary findings of the Shoreline and Beach Erosion Exposure Modeling, Task 3, and Coastal Hazard and Sea Level Rise Vulnerabilities, Task 4, which are part of the Coastal Engineering Study

RECOMMENDATION:

Receive a presentation from Integral Corp./Haro Kasunich & Associates/EMC providing the preliminary findings of the Shoreline and Beach Erosion Exposure Modeling, Task 3, and Coastal Hazard and Sea Level Rise Vulnerabilities, Task 4, which are part of the Coastal Engineering Study, Phase 1.

BACKGROUND/SUMMARY:

At their August 2, 2022 meeting, the City Council adopted the City of Carmel-by-the-Sea's Climate Adaptation Plan and Climate Action Plan under Resolution 2022-064. Council commented that implementation of these Plans is imperative and requested the Climate Committee to continue to oversee the implementation of certain projects, including the Coastal Engineering Study.

At the November 2022 meeting, the City Council adopted Resolution 2022-094 awarding a Professional Services Agreement with EMC Planning Group, for a not-to-exceed fee of \$175,000, to conduct the Coastal Engineering Study and Adaptation Planning Project. Key subconsultants for this Study are Integral Corporation and Haro Kasunich & Associates.

To develop the project's scope of work, the Consultant team reviewed the 2001 Coastal Development Permit for Scenic Road Armoring Repairs, 2003 Shoreline Management Plan (Shonman and D'Ambrosio), 2016 Carmel Shoreline Assessment Update, 2016 Assessments of Shoreline Improvements at Carmel Beach (Easton Geology), and the City's 2022 Climate Adaptation and Climate Action Plans.

The Study will be completed in two phases. Phase 1 is City-funded in the current Capital Improvement Plan (CIP), while Phase 2 is now funded by a California Coastal Commission grant of \$500,000.

At the upcoming March 5, 2024 meeting, the City Council is set to adopt Resolution 2024-014 authorizing the City Administrator to execute Amendment No. 2 to the Professional Services Agreement with EMC Planning Group, for a not-to-exceed fee of \$450,000, for the Coastal Engineering and Adaptation Planning Project, Phase 2. Phase 2 will include Hazard Policy review and revisions, public outreach, and adaptation

pathway development. Key results of Phase 2 will be brought back to the Climate Committee and/or Forest and Beach Commission in the future.

Phase 1 – Coastal Engineering Study, Phase 1 Status

The consultant team presented their findings of Phase 1, **Task 1, Coastal Engineering Condition Evaluation**, and Phase 1, **Task 2, Shoreline and Beach Change Analysis**, to the Climate Committee on November 16, 2023. Previously, the consultant team presented their findings to the Forest and Beach Commission at the March 2023 and the August 2023 meetings.

The Consultants also prepared a memo, **Task 5 – Policy Review**, summarizing the City’s existing coastal hazard policies and identifying recommended updates to the Local Coastal Program to be prepared in Phase 2.

At the February 15, 2024 Climate Committee meeting, David Revell, PH.D., Principal, and Matt Jamieson, Project Scientist, from Integral Corp, will provide their key findings of Phase 1, **Task 3, Shoreline and Beach Erosion Modeling with Sea Level Rise** and **Task 4, Coastal Hazard and Sea Level Rise Vulnerabilities** to the Committee and the public. The consultant teams are scheduled to also present their findings to the Forest and Beach Commission on March 14, 2024. Below is a summary of the findings in Tasks 3 and 4:

Task 3 - Shoreline and Beach Erosion Exposure Modeling with Sea Level Rise

The following summarizes the key issues of the Shoreline and Beach Erosion Exposure Modeling with Sea Level Rise. Consultants will present the potential effect of future beach narrowing and cliff and dune erosion hazard extents with sea level rise (**Attachment 1**). The coastal erosion hazard projections include the effect of the existing City’s coastal armoring (such as revetments and sea walls) as well one that considers a future without armoring present. The differences will be useful in Phase 2 of the project when examining the implications of various adaptation strategies.

Summer Beach Width Changes (with Armoring)

It is projected that the width of Carmel Beach will narrow between 50 - 60 feet for each foot of sea level rise. Please note that the sea level rise projection years shown below are approximate estimations. Assuming that the location of the backshore does not change, the following average summer beach conditions are projected:

- By 2 feet of sea level rise (2060 – 2080), lateral access to areas south of Twelfth Avenue headland may be obstructed.
- By 3 feet of sea level rise (2070 – 2100), the southern end of Carmel Beach south of Eighth Avenue is projected to be a series of pocket beaches rather than one continuous stretch of dry sand beach. Only during highly recovered conditions will a dry sand beach remain south of Twelfth Avenue.
- By 4 feet of sea level rise (2080 – 2100+), the only continuous dry sand beach remaining will be from the North Dunes sand ramps to Pescadero Canyon. In the south, only two small pockets of dry sand beaches are projected to remain around Eighth Avenue and Eleventh Avenue.
- By 5 feet of sea level rise (2090 – 2100+), only one pocket of dry sand beach around the North Dunes and the Fourth Avenue stairs are likely to remain.

Coastal Cliff and Dune Erosion

For the armored erosion projection, erosion rates are dampened significantly in the near term. However,

with increasing sea level rise, the effectiveness of the armoring is reduced, leading to an acceleration in blufftop erosion above the coastal armoring beyond 1 foot of sea level rise.

In the armored scenario, the following is projected (**Attachment 2**):

- By 1 foot of sea level rise (2045 – 2060), the areas with the greatest threat of erosion are the private oceanfront properties near Pescadero Canyon, the dune-backed shore between Fourth and Eighth Avenue, the lower cliffs between Eighth Avenue and Eleventh Avenue, and the unarmored cliffs by Twelfth Avenue.
- By 2 feet of sea level rise (2060 – 2080), erosion rates accelerate as coastal armoring is more likely to be overtopped by larger waves. Areas behind seawalls have projected erosion hazard distances of 20 to 40 feet.
- By 4 feet of sea level rise (2080 – 2100+), the highest erosion distance is projected around Twelfth Avenue, where a combination of factors related to local geology, wave heights, and lack of armoring yield projections of retreat up to 150 feet. Areas of the north dunes around the Del Mar sand ramp also see higher projections of retreat of up to 90 feet, extending to the volleyball courts.

Task 4 – Coastal Hazard and Sea Level Rise Vulnerabilities

The Consultants will provide the preliminary findings of the vulnerability assessment and results by hazard type, sea level rise, coastal bluff and roadway impacts. The assessment will state whether an impact is anticipated in the near-term or long term.

The scope for Task 4 was to determine the bluff-top assets and infrastructure potentially exposed to coastal erosion under armored and unarmored conditions. The vulnerability assessment evaluated erosion hazard exposure to land use and structures, roads and parking, and other infrastructure. For succinctness, results of only the coastal armored scenario are presented below. The full suite of results will follow in a forthcoming technical report.

- Currently, all of the assets and infrastructure along the beach and bluff including 11 coastal access stairways, the Scenic Drive Pathway, and the stormwater drainage network are exposed to erosion. The public restroom adjacent to the Santa Lucia Avenue stairs is exposed to erosion and will face increased threat from coastal wave flooding in the future.
- By 1 foot of sea level rise (2045 – 2060), Scenic Drive is exposed to erosion in 6 locations, largely around Twelfth Avenue and between Tenth and Eighth Avenue. A sewer force main near Martin Way may be exposed, as well as a sewer main between Ninth and Tenth Avenues, and a sewer main under the dunes between Seventh and Eighth Avenues. Waves overtopping the bluff are expected to be more likely along the southern seawall by Santa Lucia Avenue.
- By 2 feet of sea level rise (2060 – 2080), nearly the entire length of Scenic Drive may be exposed to erosion, including most of the underground water and sewer infrastructure. This includes a water main between Eighth and Tenth Avenues. Waves overtopping the bluffs are expected to be more likely between Tenth and Eleventh Avenues.
- Between 2 and 4 feet of sea level rise (2060 – 2100+), 45 homes along Scenic Drive and at Pescadero Canyon are projected to potentially be exposed to erosion. One additional water main under Scenic Drive south of Thirteenth Avenue may be exposed to erosion. One additional sewer force main may be exposed to erosion by Eighth Avenue. The Del Mar parking lot will also be exposed to erosion. Waves overtopping the bluffs are expected to be more likely between Ninth and Tenth Avenues.

Generally, the sea level rise impacts noted in the above report are based on making no further investments in armoring or adaptation to address the anticipated coastal damages. Clearly, inaction or delayed action

may result in costly damages and emergency repairs due to the cumulative effect of sea level rise, wave action, flooding, storms, and coastal erosion. Phase 2 of the Coastal Engineering Study will include development of sea level rise adaptation strategies, in collaboration with other City departments and community stakeholders, in order to make the City more resilient in the face of rising sea levels. Such efforts may prolong the useful life of Carmel Beach and the shorefront for as long as possible.

FISCAL IMPACT:

No direct fiscal impact for this presentation. In November 2022, the City Council awarded a Professional Services Agreement to EMC/Integral/Haro Kasunich, for a not-to-exceed fee of \$175,000, for the first phase of the Coastal Engineering Study, a Capital Improvement Project. Phase 2 of the Coastal Engineering Study has been approved for funding by a non-competitive California Coastal Commission grant of \$500,000.

ATTACHMENTS:

Attachment #1 - Summer Beach Width Change Projection Maps

Attachment #2 - Coastal Cliff and Dune Erosion Projection Maps

Summer Beach Width Change Projection - North Carmel Beach

Attachment 1

0-1 ft of SLR



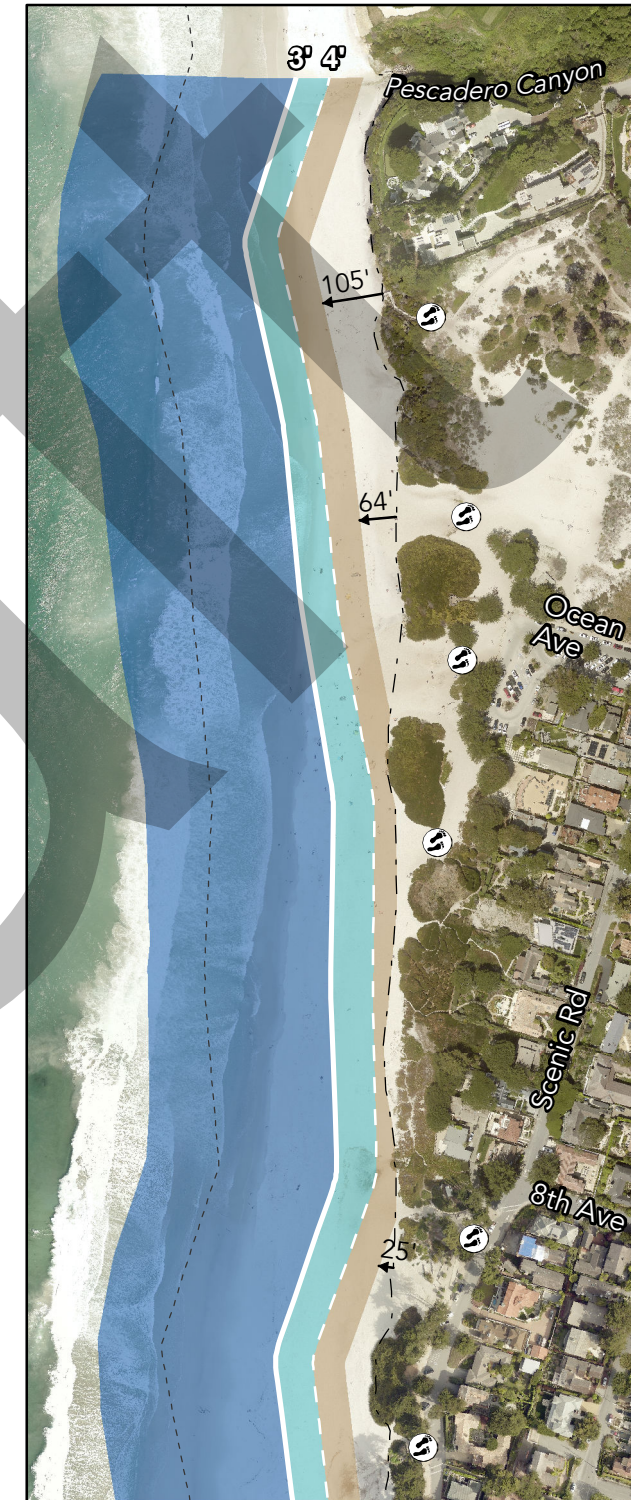
1-2 ft of SLR



2-3 ft of SLR



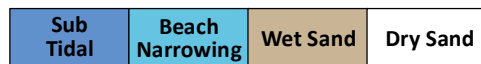
3-4 ft of SLR



4-5 ft of SLR



Beach Narrowing by Foot of Sea Level Rise



Max. Beach Observed (1984-2021)

Toe of the Cliff, Dune, or Armor

Shoreline Features

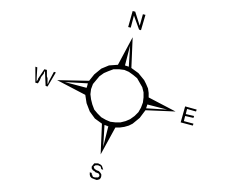
- Coastal Access Location
- Typical Summer Beach (1984-2021)
- Toe of the Cliff, Dune, or Armor (2022)
- Typical Summer Beach Projection - Elevation 1
- Narrowed Summer Beach Projection - Elevation 2

Notes: Beach changes represent a typical summer beach (75th percentile shoreline position determined using CoastSat data from 1984-2021).

Sea level rise elevations and time periods are based on 2018 OPC guidance and refer to a high emissions scenario with 2020 as a baseline.

Sources of sediment from potential dune and cliff eroded material have not been considered.

SLR Elev. (ft)	Projected Years	
	1-in-200 Chance	Likely
1	2045 - 2050	
2	2060 - 2080	
3	2070 - 2100	
4	2080 - 2100+	
5	2090 - 2100+	



0 155 310 Feet

Aerial: EagleView, 2022

Summer Beach Width Change Projection - South Carmel Beach

Attachment 1

0-1 ft of SLR



1-2 ft of SLR



2-3 ft of SLR



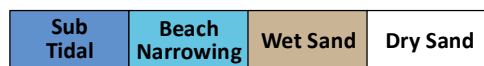
3-4 ft of SLR



4-5 ft of SLR



Beach Narrowing by Foot of Sea Level Rise



Max. Beach Observed (1984-2021)

Toe of the Cliff, Dune, or Armor

Shoreline Features

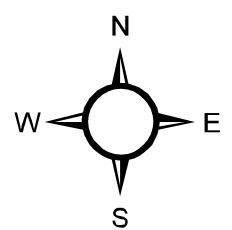
- Coastal Access Location
- Typical Summer Beach (1984-2021)
- Toe of the Cliff, Dune, or Armor (2022)
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SLR Elev. (ft)	Projected Years	
	1-in-200 Chance	Likely
1	2045 - 2060	
2	2060 - 2080	
3	2070 - 2100	
4	2080 - 2100+	
5	2090 - 2100+	



0 150 300 Feet

Aerial: EagleView, 2022

Coastal Cliff and Dune Erosion Projection Without Armoring - North Carmel Beach

1 ft of SLR (2045 - 2060)

2 ft of SLR (2060-2080)

4 ft of SLR (2080-2100+)



Projected Bluff Crest Position Across Sea Level Rise Elevations

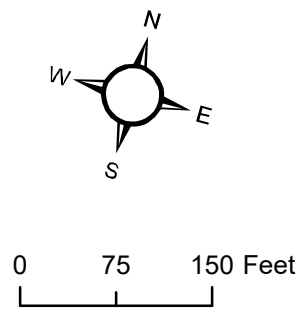


Shoreline Features

- Boardwalk
- Beach Access Stairway
- Coastal Access Location
- Riprap Footprint
- Seawalls
- Approx. Cliff to Terrace Contact Location
- Bluff-Top Edge

Notes: Erosion distances represent projected long-term time-averaged trends in erosion without coastal armoring. Future erosion distances and bluff crest position may vary from these projections.

Sea level rise elevations and time periods are based on 2018 OPC guidance and refer to a high emissions scenario with 2020 as a baseline.



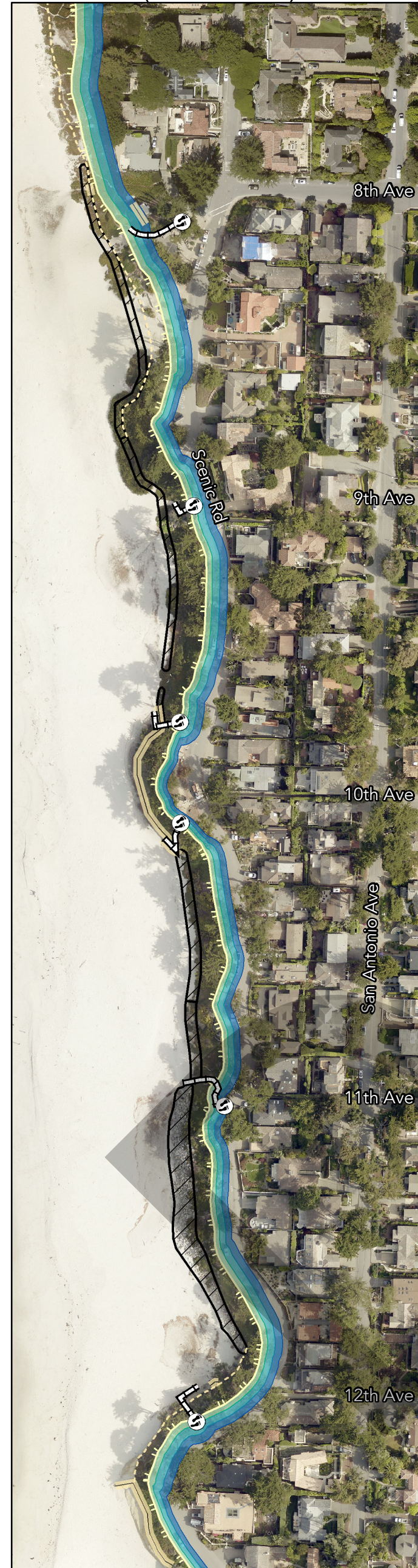
Aerial: EagleView, 2022

Coastal Cliff and Dune Erosion Projection Without Armoring - Central Carmel Beach

1 ft of SLR (2045 - 2060)

2 ft of SLR (2060-2080)

4 ft of SLR (2080-2100+)



Projected Bluff Crest Position Across Sea Level Rise Elevations

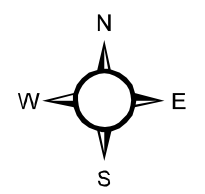
Most Likely Best Worst Case

Notes: Erosion distances represent projected long-term time-averaged trends in erosion without coastal armoring. Future erosion distances and bluff crest position may vary from these projections.

Sea level rise elevations and time periods are based on 2018 OPC guidance and refer to a high emissions scenario with 2020 as a baseline.

Shoreline Features

- Boardwalk
- Beach Access Stairway
- Coastal Access Location
- Riprap Footprint
- Seawalls
- Approx. Cliff to Terrace Contact Location
- Bluff-Top Edge



0 75 150 Feet

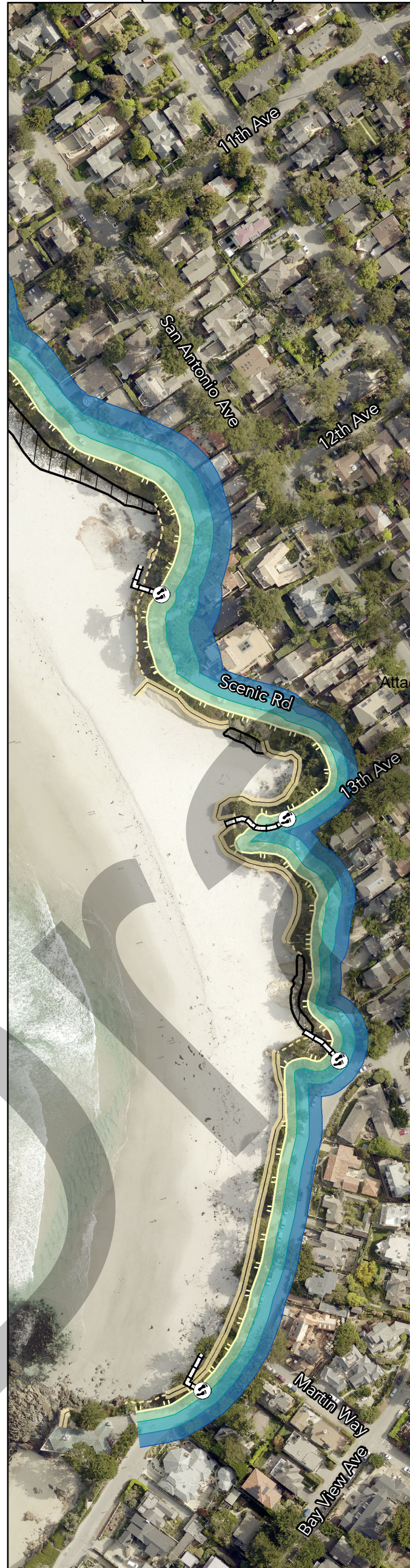
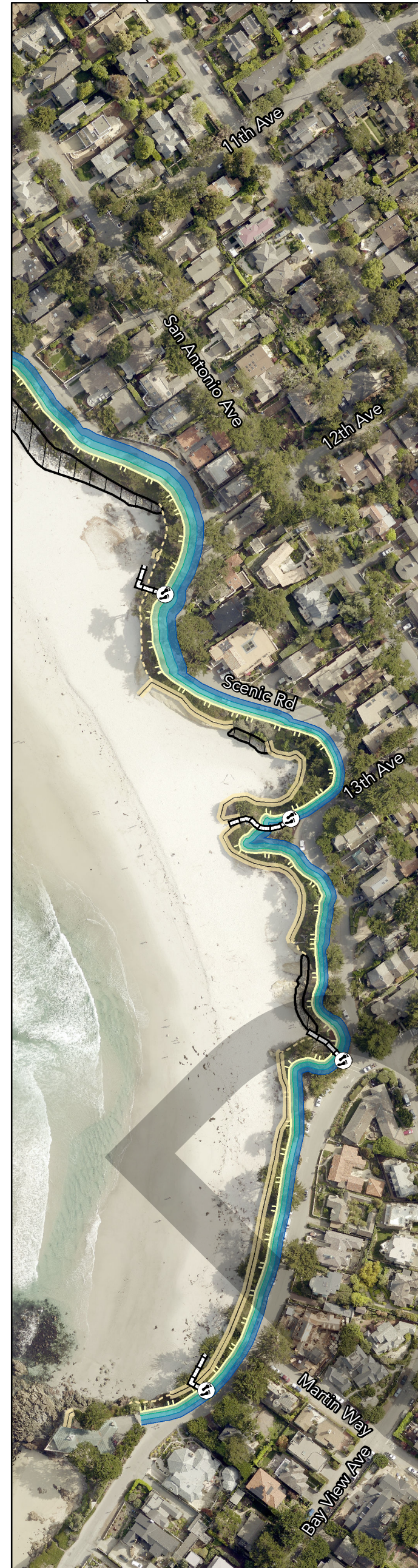
Aerial: EagleView, 2022

Coastal Cliff and Dune Erosion Projection Without Armoring - South Carmel Beach

1 ft of SLR (2045 - 2060)

2 ft of SLR (2060-2080)

4 ft of SLR (2080-2100+)



Projected Bluff Crest Position Across Sea Level Rise Elevations

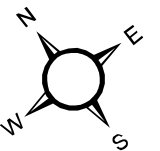
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Shoreline Features

- Boardwalk
- Beach Access Stairway
- Coastal Access Location
- Riprap Footprint
- Seawalls
- Approx. Cliff to Terrace Contact Location
- Bluff-Top Edge



0 75 150 Feet

Aerial: EagleView, 2022

Coastal Cliff and Dune Erosion Projection With Armoring - North Carmel Beach

1 ft of SLR (2045 - 2060)

2 ft of SLR (2060-2080)

4 ft of SLR (2080-2100+)



Projected Bluff Crest Position Across Sea Level Rise Elevations



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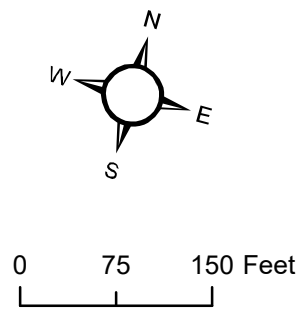
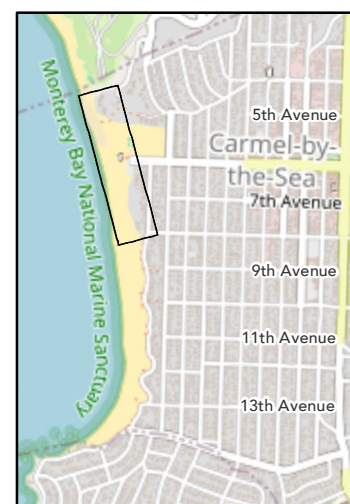
Sea level rise elevations and time periods are based on 2018 OPC guidance and refer to a high emissions scenario with 2020 as a baseline.

Shoreline Features

- Boardwalk
- Beach Access Stairway
- Coastal Access Location
- Riprap Footprint
- Approx. Cliff to Terrace Contact Location
- Bluff-Top Edge

Armoring Storm Wave Overtopping Potential

- Low
- Medium
- Medium-High
- Very High
- Not Evaluated



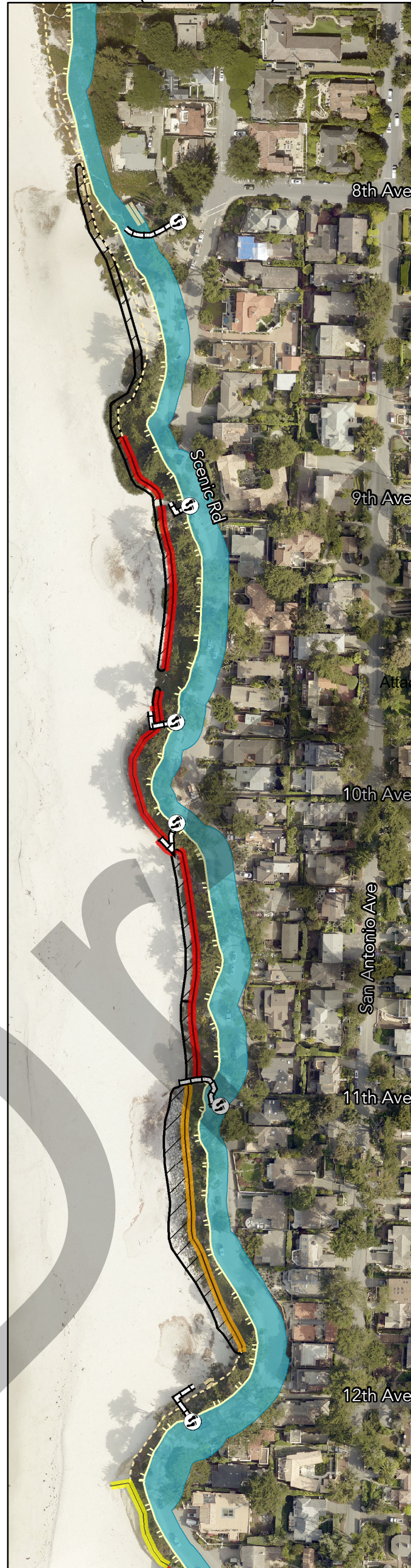
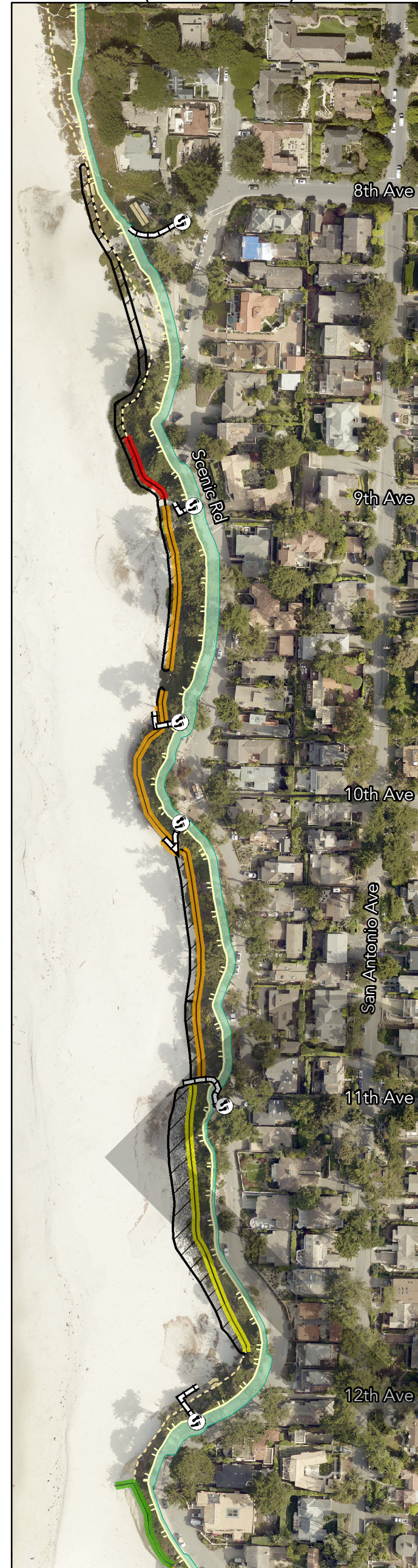
Aerial: EagleView, 2022

Coastal Cliff and Dune Erosion Projection With Armoring - Central Carmel Beach

1 ft of SLR (2045 - 2060)

2 ft of SLR (2060-2080)

4 ft of SLR (2080-2100+)



Projected Bluff Crest Position Across Sea Level Rise Elevations



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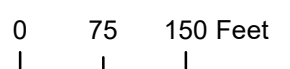
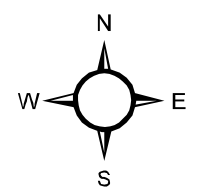
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Shoreline Features

- Boardwalk
- Beach Access Stairway
- Coastal Access Location
- Riprap Footprint
- Approx. Cliff to Terrace Contact Location
- Bluff-Top Edge

Armoring Storm Wave Overtopping Potential

- Low
- Medium
- Medium-High
- Very High
- Not Evaluated



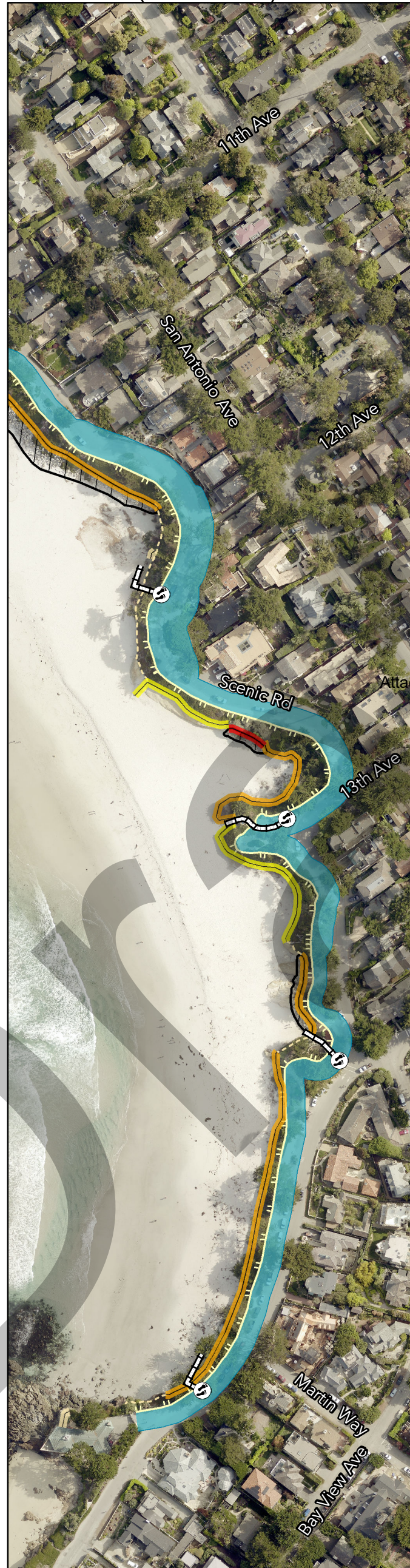
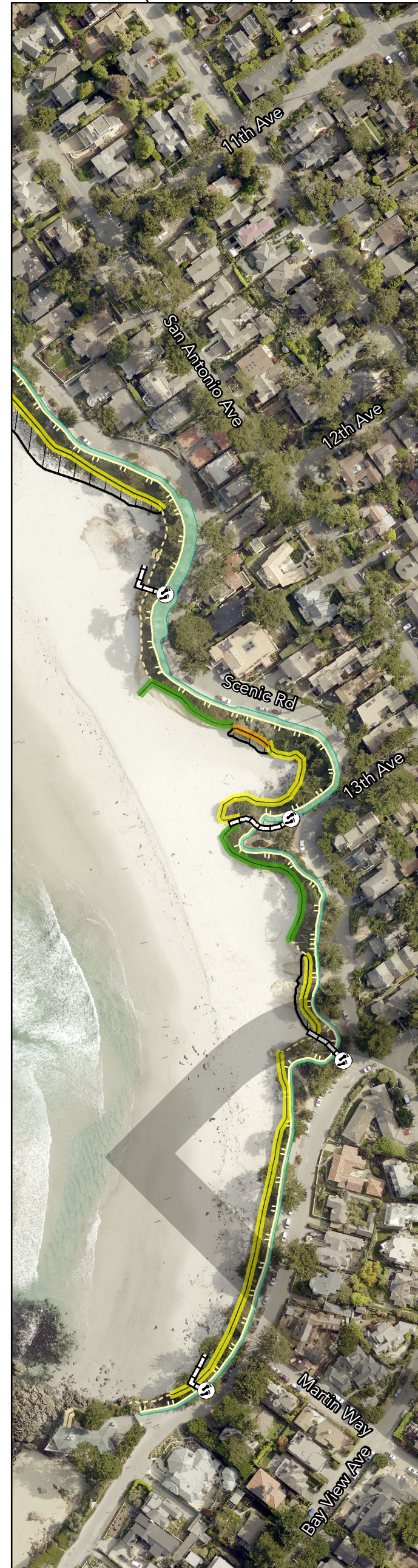
Aerial: EagleView, 2022

Coastal Cliff and Dune Erosion Projection With Armoring - South Carmel Beach

1 ft of SLR (2045 - 2060)

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4 ft of SLR (2080-2100+)



Projected Bluff Crest Position Across Sea Level Rise Elevations



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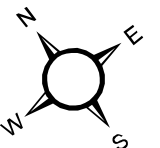
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Shoreline Features

- Boardwalk
- Beach Access Stairway
- Coastal Access Location
- Riprap Footprint
- Approx. Cliff to Terrace Contact Location
- Bluff-Top Edge

Armoring Storm Wave Overtopping Potential

- Low
- Medium
- Medium-High
- Very High
- Not Evaluated



0 70 140 Feet

Aerial: EagleView, 2022

Coastal Cliff and Dune Erosion Projection With Armoring

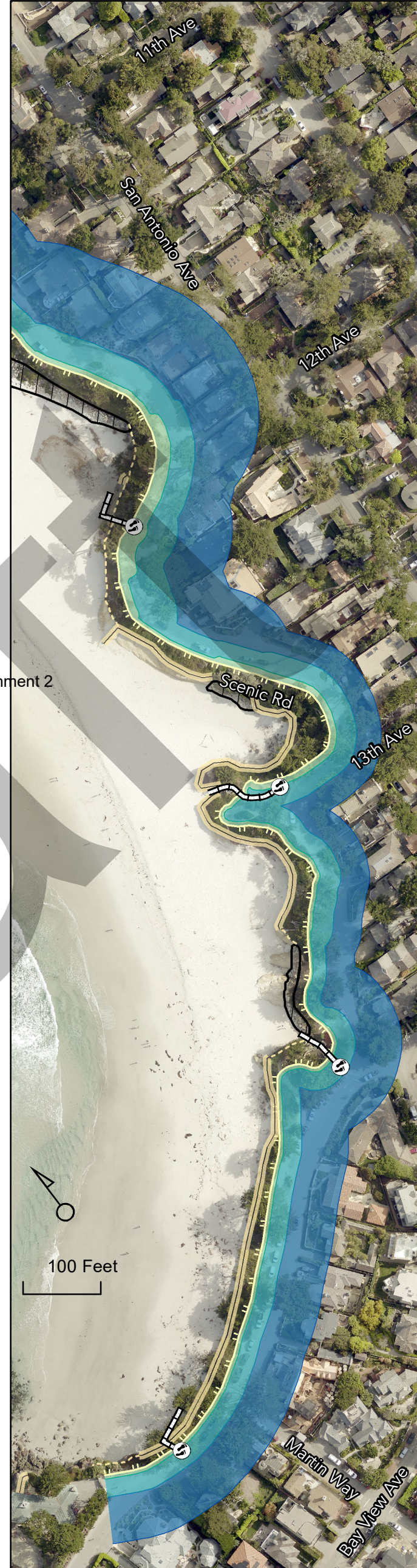
North Beach



Central Beach



South Beach



Projected Bluff Crest Position Across Sea Level Rise Elevations

- 1 ft (2045 - 2060)
- 2 ft (2060 - 2080)
- 4 ft (2080 - 2100+)

Shoreline Features

- Boardwalk
- Beach Access Stairway
- S Coastal Access Location
- Riprap Footprint
- Seawalls
- Approx. Cliff to Terrace Contact Location
- Bluff-Top Edge

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CITY OF CARMEL-BY-THE-SEA

Climate Committee

Staff Report

February 15, 2024
ORDERS OF BUSINESS

TO:	Climate Committee Members
SUBMITTED BY:	Mary Bilse, Environmental Programs Manager
SUBJECT:	Project Tracking of Adaptation Strategies for Climate Adaptation and Action Plans and Provide Feedback

RECOMMENDATION:

Project Tracking of adaptation strategies for Climate Adaptation and Action Plans and provide feedback.

BACKGROUND/SUMMARY:

In September 2019, the City of Carmel-by-the-Sea (City) began the process of developing Climate Adaptation and Action Plans that would establish a roadmap to reduce local greenhouse gas emissions and adapt to climate change. In August, 2022, the Carmel City Council adopted Resolution 2022-064 approving the City's Climate Adaptation Plan and Climate Action Plan.

The Climate Adaptation Plan and Climate Action Plan include numerous projects, initiatives, and programs that will be implemented over many years. Several projects have been completed including the purchase of an electric sweeper, electric vehicles, electric bicycles, preparation of an energy efficiency study (Willdan), electric heaters in City facilities, and coordination with PG&E to develop more Electric Vehicle charging stations at City facilities and parking lots. The Coastal Engineering Study is also well underway to determine potential pathways for sea level rise adaptation, and the City's design guidelines have been updated. Additional projects and initiatives are also included in the 5-year Capital Improvement Plan for funding consideration.

At the November 2023 Climate Committee Meeting, the Committee requested staff to reformat and simplify the draft project implementation table. Since the last Climate Committee meeting, staff has revised the tracking table format and coordinated with other City Departments to update the status of the action items. The tables are now included as **Attachment #1 - Climate Adaptation Tracking Table**, and **Attachment #2 – Climate Action Plan Implementation Table**.

At the February 15, 2024 Climate Committee Meeting, staff will discuss the revised format of these project tracking plans, and highlight key activities in progress. The Committee is encouraged to provide additional feedback to ensure these project tracking sheets provide the most benefit to the Committee. Following the

meeting, staff will upload these tracking sheets into the Public Works website, under the Climate Committee tab (<https://ci.carmel.ca.us/climate-committee>).

FISCAL IMPACT:

Cost ranges to implement the actions are included in the Climate Adaptation Plan Tracking Table and Climate Action Plan Implementation Table. Some actions will require minimal capital investment and will primarily rely on staff time to implement, while other actions will require large capital investments in excess of \$100,00 for each action to complete.

ATTACHMENTS:

Attachment #1 - Climate Adaptation Plan Tracking Table

Attachment #2 - Climate Action Plan Tracking Table

Attachment 1
January 2024 Climate Adaptation Plan Implementation Tracker

Action No.	Action	Leading Dept(s).	Update since August 2022	% Complete
1.1.1	Maintain and Update Evacuation Plan	PD; FD	City Council approved the updated 2024 Carmel Emergency Operations Plan (CEOP) in January 2024.	100%
1.1.2	Update Emergency Preparedness	PD; FD	Current Emergency operations Plan will be updated in 2025 with additions to impacts from Climate Change. CERT Team has developed jurisdictional map of City with block assignments. Block captains to be determined during a disaster. Not enough members for block captains for each block.	85%
1.1.3	Collaborate with Monterey Fire	PD; FD	Carmel Prepares developed with semi-annual community meetings planned to address community concerns re: Wildfires and Storms. Meetings already started January 2024-	100% -ongoing and continuous
1.1.4	Publicize Local Evacuation Routes	PD; FD	Website updated with City Evacuation Plan, County Evacuation Plan and County Multi-Jurisdictional Hazard Mitigation Plan. Semi-Annual meetings for Carmel Prepares addresses Evacuation Routes. Seniors Helping Seniors Program & CERT assists seniors with emergency information and assistance in emergencies. Working with Carmel Foundation on Emergency Preparedness training for elderly residents.	100%
1.1.5	Evaluate Evacuation Route Capacity	PD; FD	Evacuation Routes developed and published. Alternate Evacuation Routes also publicized. Map Posted on City Website. Work with Monterey County to develop collaboration of Evacuation Routes for publication.	90%
1.1.6	Evacuation Alternatives and Access	PD; FD	Senate Bill 99: This bill would require the city or county, upon the next revision of the housing element on or after January 1, 2020, to review and update the safety element to include information identifying residential developments in hazard areas that do not have at least 2 emergency evacuation routes. By increasing the duties of local officials, this bill would impose a state-mandated local program.- Need to check with planning department. County Hazard Mitigation Plan, and evacuation plan has local gathering places identified as does the City Emergency Operations Plan.	75%
1.1.7	Develop Local Partnerships to Increase Resistance to Wildfire Structural Damage	PD; FD	Fire Department's Community Wildfire Protection Plan (CWPP)	75%
1.2.1	Establish a Resilience Hub	PW; PD; FD;	City has identified the Carmel Youth Center as the accessibility Hub as well as in 2024 update of the Carmel Emergency Operations Plan, the Carmel Youth Library was identified as an additional HUB resource. Both are available in an emergency and prepared to provide all necessary resources as identified on list. Through these accessibility centers more information can be provided for long term sheltering of people in need by utilizing the County Multi-Jurisdictional Hazard Mitigation Plan and work through the County Department of Emergency Management.	100%
1.2.2	Limit the Impacts of Climate Change on the Most Vulnerable Populations	P; B	Housing Element was resubmitted to State for certification. Housing Element addressed housing opportunities related to the most vulnerable populations.	25%

Attachment 1				
1.2.3	Engage the Community	L; CH; PD	CSPP, UFMP, and Coastal Engineering and Adaptation Planning Public Outreach. Carmel prepares was developed to educate and link residents to vital emergency information and preparedness through semi-annual community meetings. The website contains links and information re: Emergency preparedness. These items are covered in Semi-Annual emergency preparedness community talks. First public meeting was January 2024- Will be Scheduled for June/November each year.	100%
1.2.4	Social Support Network	PD; CERT; B; P		25%
1.2.5	Back-up Power for Vulnerable Populations	PD; FD; PW	City has partnered with PG&E for battery back up systems and Generators for residents in need and the programs are facilitated by the Police Department, CERT, and Carmel Prepares (Public Library).	90%
1.3.1	Partner with Monterey County Health Department	PD; FD	Carmel has adopted and promoted the emergency alerting system, alertmontereycounty.org. This program has been heavily publicized in multiple community meetings, flyers, brochures, websites. The City also maintains an air raid siren to assist in a rapid mass notification for a significant Emergency. This system is scheduled to be tested yearly with plenty of advanced notice to residents.	100%
1.3.2	Initiate a Heat Pump Retrofit Program	P; B	Promoted 3CE's electric heat pump rebate programs. Wallace Group conducted energy efficiency study Heat pumps placed in PW, libraries, FD, City Hall.	40%
1.3.3	Invest in Improving Resilience in Critical Facilities	PW	Police building renovation proj has been initiated; City Hall improvements	5%
1.3.4	Conduct a Feasibility Study for Existing Building Electrification and Back-up Power	PW	Wallace Group conducted energy efficiency study; Heat pumps placed in PW, libraries, FD, City Hall	5%
1.3.5	Improve Resilience in Existing Building Stock	P; B	Building Dept is actively engaged in implementing updates to the California Energy Code	80%
1.3.6	Promote Funding Opportunities	P; B; PD; FD; PW		0%
1.4.1	Develop Partnerships to Provide Support to Displaced Workers	P; B; CH		0%
1.4.2	Establish Partnerships to Develop a Resilient Economy	P; B; CH		
1.4.3	Business Resilience Outreach Program	P; B; CH		0%
1.4.4	Hire a Grant Writer/Climate Coordinator	CH		0%
2.1.1	Increase Funding for Climate Adaptation	PW	Prepared Coastal Engineering Study including Task 1: Coastal Protection Assessment; Task 2: Shoreline and Beach Change Analysis; Task 3: Shoreline and Beach Erosion Modeling; Task 4: Coastal Hazard and Sea Level Rise Vulnerability Adaptation Action Plan. Received Grant from Calif Coastal Commission for Phase 2 - Hazard Policy Public Participation and LCP Amendment	20%
2.1.2	Increase Urban Forest Resilience	F; PW	Urban Forest Master Plan 90% complete	40%
2.1.3	Increase Resilience of the Mission Trail Nature Preserve and Pescadero Canyon	P; B; PW	On-going dead tree removals and weed abatement at MTNP and Pescadero Canyon.	30%
2.1.4	Increase Resilience of the North Dunes	P; B; PW	On-going ecology monitoring and weed abatement.	30%
2.1.5	Increase Resilience to Stronger Storms	PW	2023 Storm Drain Master Plan prepared to evaluate and upgrade drainage system to 20 year vs 10 year storm events	40%
2.1.6	Beach Sand Monitoring Program	PW	Prepared Coastal Engineering Task 2: Shoreline and Beach Change Analysis	75%
2.1.7	Carmel Cove Sand Supply	P; B; PW	Prepared Coastal Engineering Task 2: Shoreline and Beach Change Analysis	75%
3.1.1	Underground Utilities in Fire Hazard Zones	P; B; PW	Ad Hoc Committee formed. Identified two potential pilot projects using PG&E Rule 20 A funds. Building requires undergrounding utilities to residence if project is over \$200K.	30%
3.1.2	Increase Green Infrastructure	PW		
3.1.3	Public Building Electrification	PW	Electrical Panel Evaluations performed for City Hall, Fire Station, and Vista Lobos	20%
3.1.4	Reduce Stormwater Runoff	PW	Updated Storm Drain Master Plan (SDMP)	30%

Attachment 1				
3.1.5	Storm Drain Repair Funding and Improvements	PW	5 year CIP includes highest priority drainage project per SDMP Update. CIP 7 drainage projects in final design.	20%
3.1.6	Retrofit Existing Critical Buildings and Related Infrastructure	PW	Facility Condition Assessment Reports prepared for: City Hall, Fire Station, Police and Public Works Buildings, and Vista Lobos.	20%
3.1.7	Water Conservation	P; B; PW	Working with CAWD and MPWMD on a reclamation water policy.	30%
3.1.8	Bluff Structural Monitoring Program	PW	Coastal Engineering study related Phase I, Task I and Phase 2	30%
3.1.9	Sea Level Rise Coastal Vulnerability Study	PW	Coastal Engineering Study Tasks 3 and 4 to determine hazards and adaptation strategies	50%
3.1.10	Wastewater Treatment	P; B; PW		
3.2.1	Development Standards	P; B	Design Guidelines are in the process;	20%
3.2.2	Update City Planning Guidelines	P; B	Design Guidelines are in the process;	20%
3.2.3	Incorporate Climate Change Adaptation into Local Plans	P; B; PW	Coastal Engineering study Phase 2, received CCC grant funding \$500k for LCP Amendment; Reformed Climate Committee 10/23.	15%
3.2.4	Update Shoreline Management Plan	P; B; PW	Plan will be updated as part of the Coastal Engineering Phase 1 and 2 Hazards and Adaptation Strategies LCP Amendment	20%
3.2.5	Multi-Jurisdictional Hazard Mitigation Plan	P; B; PW; PE	2022 Monterey County Multi-Jurisdictional Hazard Mitigation Plan	90%

January 2024 Climate Action Plan Implementation Tracker

Action No.	Action	Leading Dept(s).	Update since August 2022	% Complete
1.1.1	Energy Efficiency Outreach	P; B; PW; CA	Energy Efficiency Study (Willdan); Electric Heat Pumps in City Facilities; 3CE - sweeper (Rob); PG&E EV Chargers (Javier); Additional EV Charging Stations project at both Vista Lobos and Sunset Center North Lot - in design phase. Annual meeting with development community in February to update with latest codes.	60%
1.1.2	Energy Efficiency and Electrification Incentives	P; B; PW	3CE rebate programs have been included in Friday Letter	10%
1.1.3	Energy Efficiency Audits	P; PW	Prior evaluation by Site Logic; 3CE rebate programs have been included in Friday Letter	40%
1.2.1	Feasibility Study for Existing Building Electrification and Backup Power	P; B; PW	Wallace Group conducted energy efficiency study. Heat pumps placed in PW, libraries, Fire Department, City Hall. Backup generators at Public Works, Police, City Hall, Fire Department.	20%
1.2.2	Residential Home Energy Renovations	P; B	Annual meeting with development community in February to update with latest energy codes.	50%
1.2.3	Residential Home Energy Renovation Incentives	P; B; PW	Included info from PG&E and 3CE in Friday Letter	40%
1.2.4	Commercial Energy Renovations	P; B	Annual meeting with development community in February to update with latest energy codes.	50%
1.2.5	Commercial Energy Renovation Incentives	P; B; PW	Met with Green Business Network about joining Monterey County Group	10%
1.3.1	Energy Efficiency in New Residential Construction	P; B	City has adopted a Green Building Ordinance to promote energy efficiency	50%
1.3.2	Energy Efficiency in New Commercial Construction	P; B	City has adopted a Green Building Ordinance to promote energy efficiency	50%
2.1.1	Reduce Reliance on Automobiles	P; PW	San Carlos bike lane project under construction. Residents and City employees using EV bikes.	20%
2.1.2	Develop Bicycle Master Plan to Create Safe Bike Routes around the City	P; PW	Bicycle Master Plan in 5-Year CIP	5%
2.1.3	Ride-Sharing and Bike to Work Programs within City Operations and Businesses	P; PW		0%
2.2.1	Prioritize EVs	P; PW; CA	PW fleet, EV sweeper; PD EV truck, EV bike, Planning 2 EV bikes and 2 EV vehicles; EV chargers at Sunset and Vista Lobos. EV promoted during Car Week and Earth Day	25%
2.3.1	Develop Transportation Model	P; PW	Requested Origin Destination Transportation Model information from AMBAG	5%
3.1.1	Incentivize Clean Energy Installations	P; B; PW	Included info from PGE and 3CE in Friday Letter. Green Building Code adopted.	20%
3.1.2	Increase Uptake of 3CE Renewable Generation Portfolio	P; PW		0%
4.1.1	Continued Implementation and Promotion of City and MWELo Standards	P; PW; F	Coordinate with MRWMD on MWELo Standards	30%
4.1.2	Exceed Water Efficiency Standards	P; B; F	Annual check water meters and backflow devices for leaks. Installing waterless urinals.	30%
5.1.1	Increase the City's Solid Waste Diversion to Reduce Landfill Methane Emissions	PW; CA	Promoting ReGen TAC and City to implement SB 1383; implemented waivers and self-haul certificate program - ongoing--coordination with GWR staff	80%
6.1.1	Urban Forest Maintenance and Improvement	F; PW	Urban Forest Master Plan 90% complete; community survey and draft completed late 2023	75%

6.2.1	Allow Cool Roof Options	P	Cool roof options are currently allowed in the design review process.	10%
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Attachment 2