Pilot Surfer's Beach Sand Replenishment Project

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California Marine Affairs and Navigation Conference

Fall Meeting – September 14, 2017

Aerial Photo of Pillar Point Harbor and Surfer's Beach

Project Background/Need for the project

- Construction of the East Breakwater at Pillar Point Harbor completed in 1961, resulted in increased erosion rates.
- In 2007, community members approached Harbor District requesting action be taken.
- In 2007 District formally requested that US Army Corps of Engineers (USACE) investigate erosion.

Project Background/Need for the project

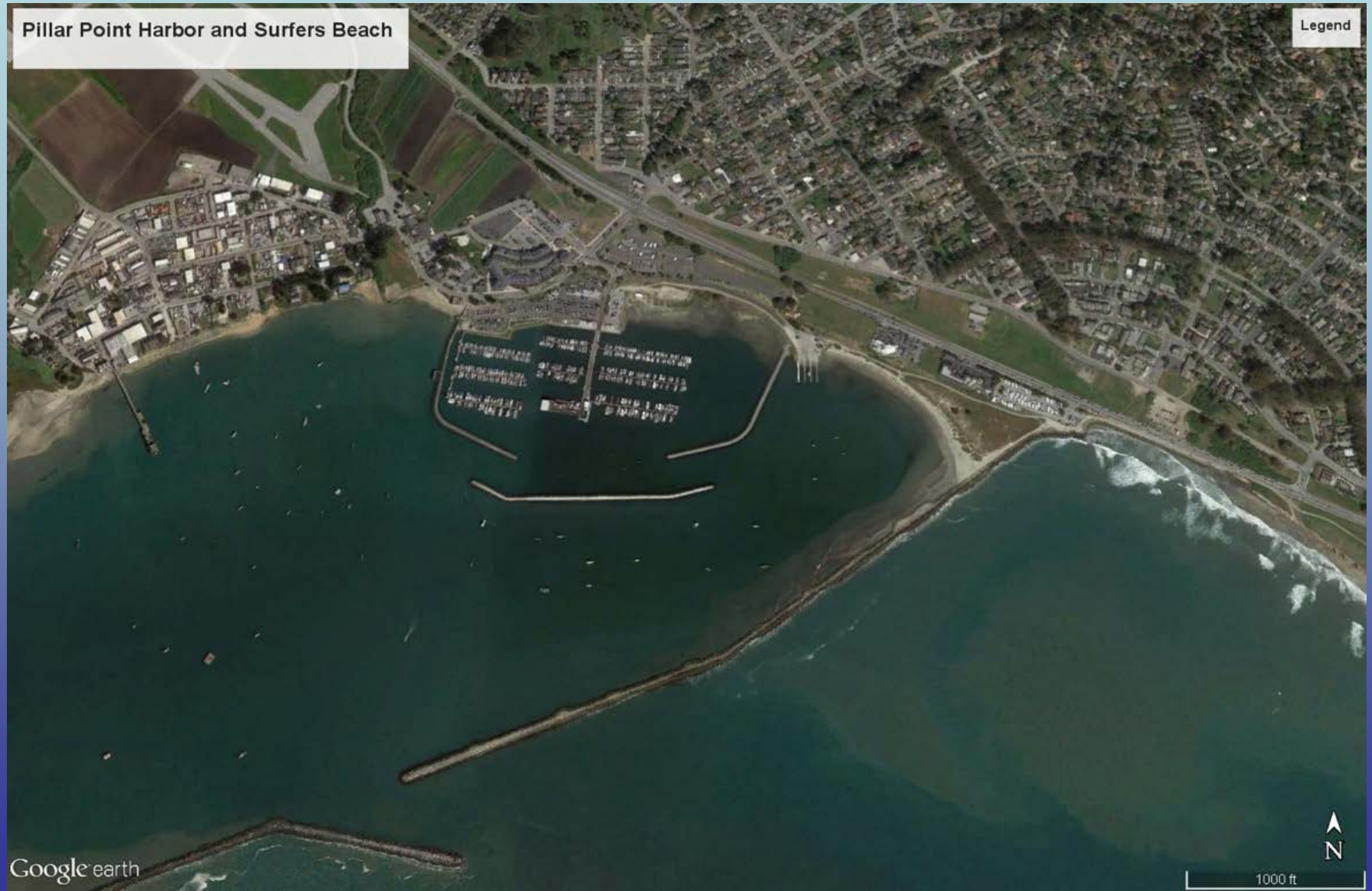
- US Army Corps of Engineers (USACE) Initial Appraisal, completed in July 2009.
- September of 2010 USACE and the District sign cost-share agreement for feasibility study called *Northern Half Moon Bay Shoreline improvement Project*.
- As part of this project Several documents and studies were completed by USACE.

Project Background/Need for the project

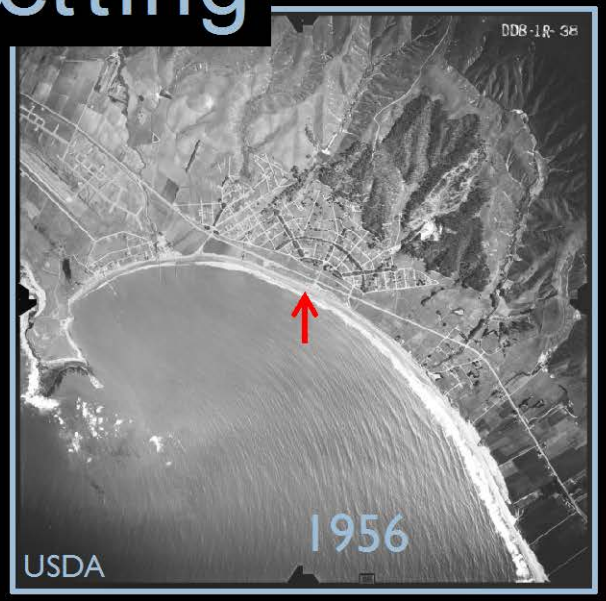
–The USACE analysis determined that the bluffs along Surfer's Beach eroded at an average rate of 1.64 feet per year between 1993 and 2012.

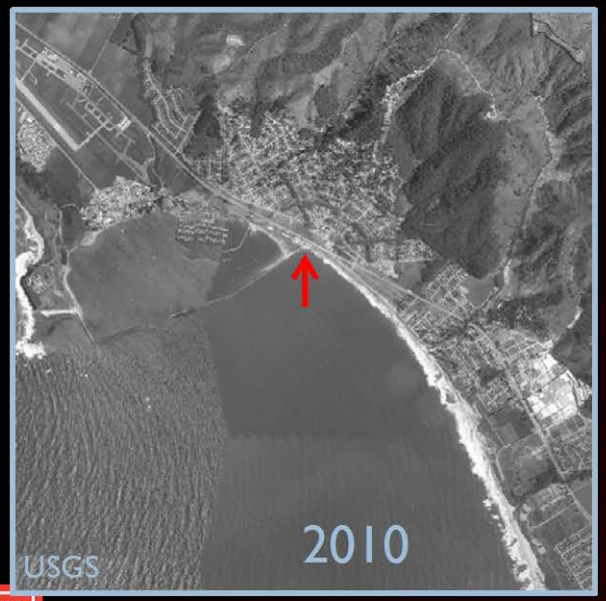
–The study also found that there is a significant accumulation of sand within Pillar Point Harbor.

Aerial Photo of Pillar Point Harbor and Surfer's Beach



Setting





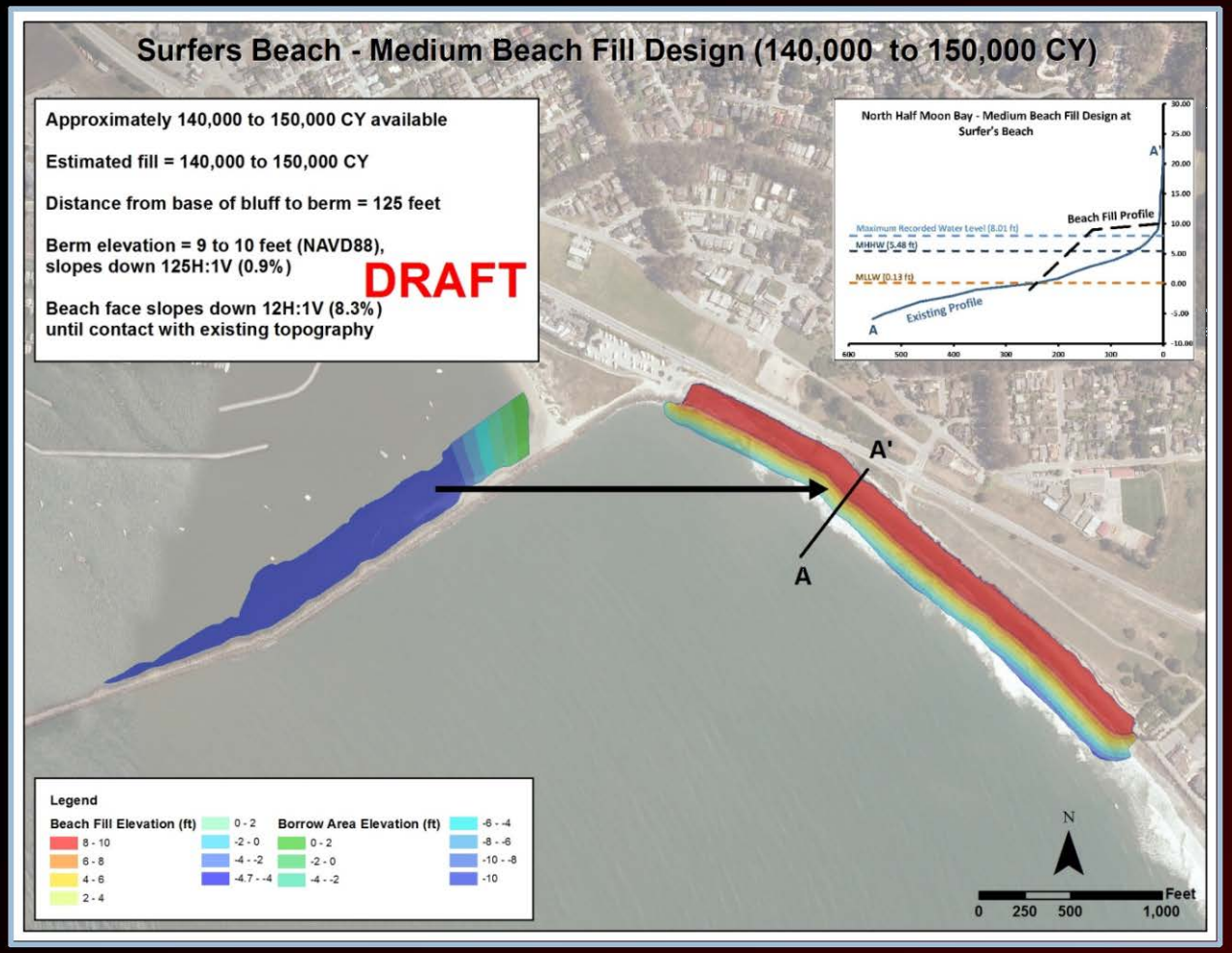
2013

US Army Corps of Engineers
San Francisco District

BUILDING STRONG®


Bluff Edge 19 May 2012
10 Year Erosion Zone
50 Year Erosion Zone
N
North Half Moon Bay
Projected Bluff Retreat
at 10 and 50 yrs
US Army Corps
of Engineers
San Francisco District
1455 Market Street
San Francisco, CA 94103
Data Sources: Bluff Position Digitized by James Zoulas
(USACE). Background imagery from Google Earth (2012)
Projection: NAD 1983 California State Plane III (US Feet)
0
125
250
500
Feet

Army Corps of Engineers Medium Beach Fill Design Engineering Model Results



Project Background/Need for the project

- USACE has since determined that there is not a federal interest in pursuing a beach nourishment project.

- In lieu of federal funding, the Board of Harbor Commissioners voted, in late 2015, for the District to pursue a pilot Surfer's Beach Replenishment Project.

Project Funding

- In February 2016, the District submitted a grant application to Division of Boating and Waterways for $800,000 to fund the Project implementation (construction and monitoring).

- In April 2016, the District submitted a funding request to *California Ocean Protection Council* (OPC) for a $75,000 Prop 84 grant to help pay for the Project Planning Phase.

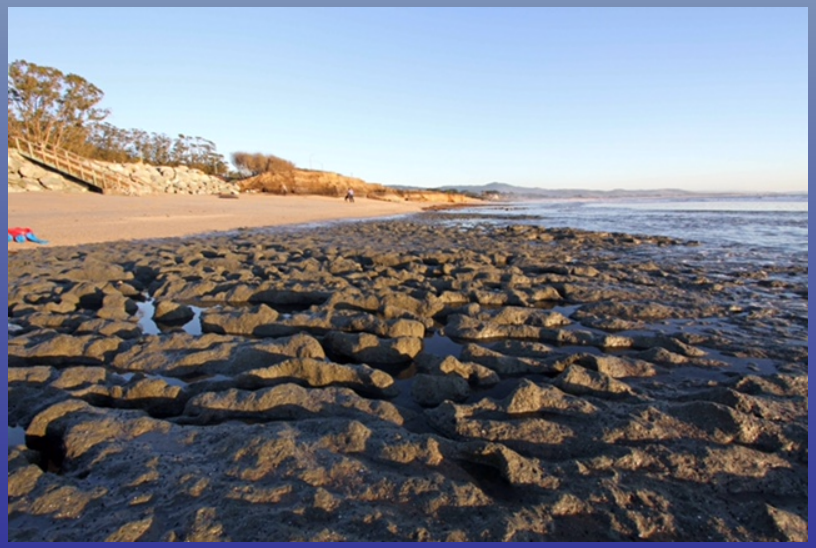
Project Description

- The proposed Project involves one-time placement of approximately 75,000 cubic yards of sand.

- It is a “Pilot” project meant to study benefits and impacts.

- Extensive biological and physical monitoring will be included.

- Comprehensive planning process is now underway.



Project Goal and Potential benefits:

-The overall goal is to address the accelerated coastal erosion rates as a result of the construction of the East Breakwater.

-The Project will address impaired public access/recreational impacts and damages from coastal storms.

-Benefits include: preventing or mitigating beach erosion and sea cliff retreat; improving protection of Highway 1 and other structures; increasing quality and quantity of public access and recreation; reducing the need for coastal armoring, and improving biological habitat.

Proposed Project Planning Process

- Planning Phase includes the following components:
  - Stakeholder collaboration and public outreach process
  - Project design and engineering
  - Environmental review
  - Permitting and agency consultation
  - Biological and physical monitoring design/planning

- Planning Phase now underway and will continue until project implementation, which is expected in late Summer or Fall 2018.

Project Planning Phase

Stakeholder Collaboration and Public Outreach – Highlights and Deliverables:

– Formation of Stakeholder/Technical Advisory Group

– Meetings with local municipalities and agencies.

– Extensive stakeholder outreach, including public workshops.

– Maintain public outreach list for meeting announcements and Project updates.

Project Planning Phase

Stakeholder Collaboration and Public Outreach –

Technical Advisory Group (TAG) Membership

–NOAA: Greater Farallones and Monterey Bay National Marine Sanctuaries.

–U.S. Environmental Protection Agency

–U.S. Army Corps of Engineers

–California Coastal Commission

–California Geological Survey

–Caltrans

–San Mateo County*

–U.S. Geological Survey*

–City of Half Moon Bay*

–California Division of Boating and Waterways*

*Invited, not yet confirmed

Photo from Surfer's Beach looking at East Breakwater

Project Planning Phase

Project Design and Engineering - Highlights and Deliverables:

– Develop list of *Project Design Alternatives*.
– Assess and prioritize alternatives.
– Develop detailed *Project Design Plans*.
– Select contractor to complete Project construction.

Project Planning Phase

Project Design and Engineering

–Examples of potential project design alternatives:

- Sand placement along up to 1,500 feet of shoreline (Surfer's and Vallejo Beaches) to form 125-foot wide elevated berm.
- Place sand on beach to form longer/narrower berm along 3,100 feet of shoreline (Surfer's, Vallejo, and Miramar Beaches). Placement above and below Mean High Water Line.
- Place sand entirely above Mean High Water Line outside of MBNMS jurisdiction

Project Planning Phase

Project Design and Engineering

–Alternatives for Obtaining Sand:

- Ultimately depends on MBNMS regulatory considerations
- Traditional suction dredge
- Mechanical—front end loaders or excavators
- Others???

–Alternatives for Transporting the Sand from PPH to Surfer's Beach:

- Pump in a slurry and place on beach
- Transport by dump truck and place on beach
- Industrial conveyor belt.
- Others???

Project Planning Phase

Permitting and Agency Consultation - Highlights and Deliverables:

– Collaborate with agencies to determine permitting requirements.
– Convene permitting workshop and site visit.
– Obtain all necessary permits and consultations.
– Conduct follow-up activities and reporting.

Project Planning Phase

Environmental Documentation – Highlights and Deliverables:

– Coordinate/complete CEQA process.

– Complete necessary studies, surveys, sediment analysis, etc.

Project Monitoring – Highlights and Deliverables:

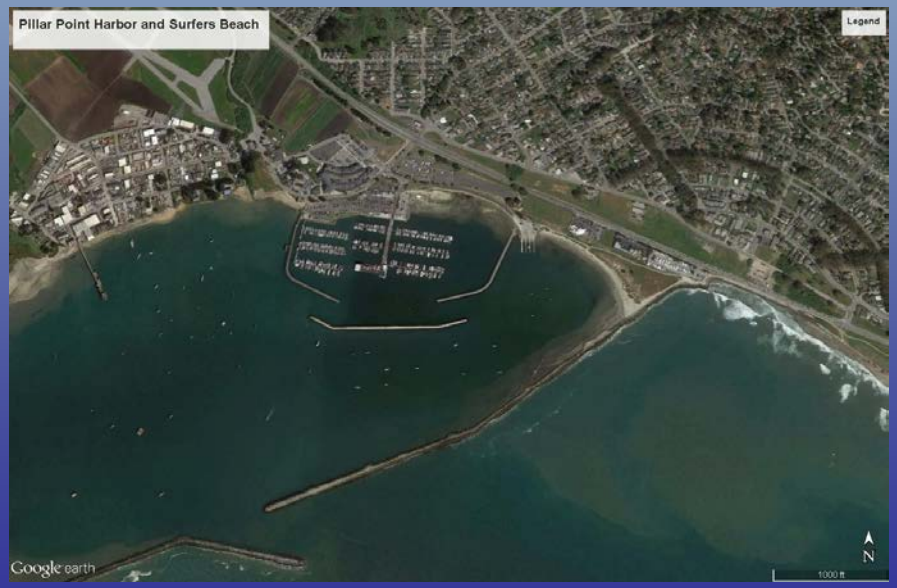
– Develop ecological and physical monitoring program.

– Ensure contracts are in place to complete monitoring plan before, during, and after construction.

– Use monitoring data to assess Project impacts and effectiveness.

Project Implementation Phase:

- Includes Project Construction and Biological and Physical Monitoring
- Construction anticipated to begin in late Summer or Fall of 2018 and take 1-3 months to complete.
- Project Monitoring to begin several months prior to construction and continue for up to 2-years thereafter.



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