



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: April 10, 2012

TO: Mayor and Councilmembers

FROM: Creeks Division, Parks and Recreation Department
Engineering Division, Public Works Department
Facilities Division, Waterfront Department

SUBJECT: Contract For Technical Studies And The Initial Design Phase For The Mission Lagoon And Laguna Channel Restoration Project

RECOMMENDATION: That Council:

- A. Authorize the Parks and Recreation Director to execute a Professional Services Agreement with ESA PWA in the amount of \$569,737 for technical studies and the initial design phase for the Mission Lagoon and Laguna Channel Restoration Project; and
- B. Authorize the Parks and Recreation Director to approve expenditures of up to \$56,974 for extra services of ESA PWA that may result from necessary changes in the scope of work.

EXECUTIVE SUMMARY:

The City is leading an effort to develop a comprehensive habitat restoration and water quality improvement plan for the Mission Lagoon, Laguna Channel, and a channelized section of Mission Creek next to the Railroad Depot. This effort is collectively known as the Mission Lagoon and Laguna Channel Restoration Project ("Project"). City staff proposes to hire a team of consultants, led by the firm ESA PWA, to conduct technical studies and complete the first phase of design for these areas. The technical studies and initial design process are anticipated to take approximately 10-12 months and cost \$569,737.

DISCUSSION:

Background

The Project includes three distinct geographical areas: the Mission Lagoon, Laguna Channel, and Mission Creek at the Railroad Depot Channel. Attachment 3 provides an aerial overview of these Project sites. The following provides a descriptive summary of these areas:

Council Agenda Report

Contract For Technical Studies And The Initial Design Phase For The Mission Lagoon And Laguna Channel Restoration Project

April 10, 2012

Page 2

Mission Lagoon is a wetland located on East Beach at the outlets of Mission Creek and Laguna Channel. The lagoon typically opens to the Pacific Ocean during large winter storms. During calmer weather, a sand bar naturally re-forms on the beach to close the lagoon mouth to the ocean. The dynamic and seasonal nature of the lagoon creates an important habitat that supports numerous migratory birds and two endangered fish species (tidewater goby and Southern California steelhead trout). Much of the value and uniqueness of this habitat is due to the presence of both saltwater and freshwater in varying concentrations. In addition to these unique habitats, the waterfront area surrounding Mission Lagoon is one of the most popular destinations in the City for residents and visitors. In particular, the ocean views, Cabrillo Boulevard, and various other attractions draw people to this area year-round. However, despite its prime location along Santa Barbara's waterfront and the presence of unique wildlife species, Mission Lagoon suffers from poor water quality, low plant diversity, and a generally poor appearance during certain times of the year. The Project area is also heavily regulated by several local, state, and federal agencies. Multiple regulatory agency permits are required to do work in Mission Lagoon, Mission Creek, and Laguna Channel.

Until the late-1990s the City regularly drained the lagoon by bulldozing an artificial channel to the ocean. In 1999, the US Army Corps of Engineers requested that the City stop breaching Mission Lagoon or be faced with enforcement actions under the federal Clean Water Act. The City stopped artificially draining the lagoon and has instead focused on other management actions, such as regular litter removal and reducing polluted water inputs to the lagoon. However, a comprehensive plan to improve the lagoon habitat and water quality has not been developed.

Adjacent to Mission Lagoon is Laguna Channel, a remnant of an extensive estuary known as *El Estero*, meaning a tidal creek or salt marsh. The estuary once covered much of the east side of Santa Barbara (see Attachment 2). However, most of the estuary was artificially filled with soil and debris following the 1925 earthquake. Most of the Laguna Watershed north of Highway 101 is now drained via underground storm drain pipes. It transitions to an open channel with some native vegetation south of Highway 101 (see Attachment 6). On the beach, at the interface of Laguna Channel and Mission Lagoon, a set of sluice gates (also known as tide gates) keep the lagoon and occasional high tides from reaching Laguna Channel. On the landward side of the sluice gates, the Public Works Department operates a pump station to reduce flooding upstream. The facility functions by pumping storm flows from the Laguna Watershed up and around the sluice gates to Mission Lagoon and the ocean (see Attachment 5). Since the elevation of Laguna Channel is so low, the sluice gates can rarely be opened to allow storm flows to move freely downstream into Mission Lagoon. The structure of the flood control facility and adjacent channel are in need of repair and will eventually require a major renovation.

In addition to Mission Lagoon and Laguna Channel, the Project includes the channelized section of Mission Creek next to the Railroad Depot. Mission Creek is confined to a constructed channel with a concrete bottom and sandstone block walls at this location (see Attachment 7). It is unclear when this channelization of Mission Creek was performed. However, the sandstone walls are now considered part of the Southern Pacific Train Depot and are consequently included in the National Register of Historic Places. The concrete bottom in the channel increases the temperature of Mission Creek and promotes excessive algae growth in the estuary and lagoon downstream, further degrading water quality.

Project Purpose

The Project is intended to improve water quality and wildlife habitat in one of the City's most visible coastal wetlands, while also fulfilling additional goals valued by the community. The Project goals include the following:

- Improve Water Quality
- Improve Native Plant and Wildlife Habitat
- Maintain or Improve Flood Control
- Protect Surrounding Infrastructure
- Maintain and Support Existing Uses
- Improve Aesthetics
- Ensure Public Safety
- Ensure Consistency with Existing Projects, Plans, Permits, Laws, and Policies

An expanded explanation of the Project Objectives is provided in Attachment 1.

Consultant Selection and Scope of Work

Five teams of consulting firms submitted proposals to complete technical analyses and the first design phase of the Project. The City conducted interviews with three finalists and a top team, led by ESA PWA, was determined to be most qualified for the Project. ESA PWA was asked to submit a cost proposal and subsequent negotiations yielded a fair and reasonable price for the work needed to complete the technical studies and first phase of design.

The ESA PWA team is proposing to complete technical studies to determine the existing physical, cultural, and biological conditions of the Project areas. These technical studies include the following: determining lagoon hydrodynamics; describing the site geomorphology and any potential geologic hazards; conducting structural evaluations of the existing structures; identifying sensitive cultural resources; mapping current habitat and sensitive species resources; and identifying any potentially hazardous materials at the Project sites. This information will be used to identify the

opportunities and constraints of the Project sites. The proposed studies are also necessary for any future permits required to build the Project.

City staff and the ESA PWA team will also conduct public outreach meetings with stakeholders, interest groups, and the general public to identify specific site needs. A conceptual restoration plan that best fulfills the Project goals and public needs will be developed after the technical analyses and public outreach efforts are completed. No Project plans currently exist. After the technical studies, conceptual site plan, and artist's renderings are developed, additional public meetings will be held to gather input on the first phase of design. Preliminary and final designs of the Project would be done under a separate contract in the future.

Other Relevant City Projects & Programs

Lower Mission Creek Flood Control Project (LMCFCP): The Lower Mission Creek Flood Control Project is a joint effort between the U.S. Army Corps of Engineers, the Santa Barbara County Flood Control and Water Conservation District, and the City. The LMCFCP is located along Mission Creek from Canon Perdido Street to Cabrillo Boulevard, a distance of about 1.3 miles. The LMCFCP will widen the creek channel to increase flood flow capacity in order to reduce flooding and property damage. Widening the channel will replace old concrete walls, and non-native invasive plants will be replaced with native riparian species. Natural creek bed improvements will be made to enhance the endangered species habitat for the Southern California steelhead trout and the tidewater goby.

The City is required to restore the western portion of Mission Lagoon with native plants to partially mitigate the environmental impacts associated with the flood control work. The mitigation plans call for native dune and wetland restoration along the western portion of Mission Lagoon and the adjacent beach (see Attachment 4). A Tidewater Goby Management Plan was also developed as part of the permitting process. This plan recommends the Mission Lagoon and Laguna Channel outfalls be encouraged to form one body of water for the benefit of the Tidewater Goby. The eventual Project design developed under the subject contract will need to be consistent with the existing approved plans and permits for the Lower Mission Creek Flood Control Project.

Cabrillo Boulevard Bridge Replacement Project: Within the next several years the City's Public Works Department will complete construction for replacement of the existing structurally deficient Cabrillo Boulevard Bridge over Mission Creek. This consists of replacing the bridge and the deteriorated retaining walls along Mission Creek from State Street to approximately 160 feet downstream of the Cabrillo Boulevard Bridge. The permit conditions for the bridge replacement project also require dune and wetland restoration around the western portion of Mission Lagoon. This work will be contiguous with the dune and lagoon restoration required for the Lower Mission Creek Flood Control Project.

Waterfront Sediment Management Program: The City has a 10-year permit to perform harbor dredging, beach maintenance, and the installation of a sand berm along the shoreline to direct Mission Creek flows away from Stearns Wharf (see Attachment 4). The dimensions of the constructed sand berm are delineated by the approved permit conditions. The permit allows for a lower elevation section to be constructed along the shoreline in front of the Laguna Channel outfall. This lower section of the sand berm creates a spillway where the Mission Lagoon can overflow into the ocean when the lagoon becomes very full.

BUDGET/FINANCIAL INFORMATION:

Technical studies and the first phase of design for the Project are currently budgeted in the Creeks Division's Fiscal Year 2012 Capital Improvement Program budget. This phase of the Project is anticipated to cost \$569,737, with an additional \$56,974 set aside to cover any unanticipated work necessary during the initial design phase. At their February 2012 meeting, the Creeks Advisory Committee unanimously recommended that City Council authorize staff to move forward with the technical studies and initial design phase for this Project.

The estimated costs for final design, permitting, and construction of the Project are unknown since no construction plans currently exist. The initial design phase will develop conceptual plans that can be used to estimate these potential future costs. Initial design plans developed under the subject contract would also allow City staff to apply for any appropriate grants that could fund future portions of the Project.

SUSTAINABILITY IMPACT:

The Mission Lagoon ecosystem is an important coastal wetland. Habitat restoration and water quality improvement in this area will benefit endangered species, migratory birds, and native plants. Businesses, property owners, and beachgoers will also benefit by improved aesthetics and cleaner ocean waters at East Beach.

- ATTACHMENTS:**
1. Project Objectives
 2. Historic Map
 3. Project Area Overview
 4. Mission Creek Lagoon Aerial
 5. Laguna Channel Flood Control Infrastructure
 6. Laguna Channel
 7. Railroad Depot Mission Creek Channel

Council Agenda Report
Contract For Technical Studies And The Initial Design Phase For The Mission Lagoon And
Laguna Channel Restoration Project
April 10, 2012
Page 6

PREPARED BY: Cameron Benson, Creeks Water Quality/Restoration Manager/GT
Pat Kelly, City Engineer/JE/BD/JG
Karl Treiberg, Waterfront Facilities Manager

SUBMITTED BY: Nancy Rapp, Parks and Recreation Director
Christine Andersen, Public Works Director
Scott Reidman, Waterfront Director

APPROVED BY: City Administrator's Office

MISSION LAGOON & LAGUNA CHANNEL RESTORATION PROJECT

PROJECT OBJECTIVES

The following objectives must be achieved by the final Project design:

1. Maintain or Improve Flood Protection – The Laguna Channel Pump Station and Tide Gates serve as the primary flood protection facility for a significant portion of the city. Any proposed improvements must maintain or increase flood protection provided by the existing system. If technically feasible, an improvement in the design and function of the tide gate, pump systems, and channel walls is desired.
2. Improve Water Quality – Water quality monitoring conducted by Creeks Division staff in the Laguna Channel has identified contamination by human fecal matter. In addition, the Mission Creek Lagoon suffers from algal blooms and low dissolved oxygen during certain times of the year. The project design must incorporate state-of-the-art methods for improving water quality in the Laguna Channel and Mission Creek Lagoon before it reaches the Pacific Ocean. An ultraviolet light treatment unit is tentatively proposed for decontaminating dry season urban runoff in the Laguna Channel.
3. Protect Surrounding Infrastructure – The project area includes public infrastructure that must be protected from high creek flows, ocean waves, storm damage, vandalism, and other potentially damaging actions. Important public amenities include Stearns Wharf, Cabrillo Beachway (multi-modal path), Skater’s Point, a parking lot, multiple buildings, and utility lines. The flood control structures at Laguna Channel and the Harbor dredging equipment are also important public facilities that must be considered in the design process.
4. Improve Native Plant and Wildlife Habitat – The project site includes wetland, beach, riparian, and dune habitats that currently support several endangered species and other wildlife. The project design must improve these habitats to better support native plants and wildlife, including the tidewater goby and southern steelhead.
5. Maintain and Support Existing Uses – The Santa Barbara Waterfront is a popular destination that supports multiple activities and stakeholders. The project design should enhance these activities by providing a safe, enjoyable, and visually pleasing experience for residents and visitors. Project elements may include interpretive signage, viewing platforms near the dunes and lagoon, and a functional site plan to preserve views and existing access.
6. Improve Aesthetics – The Project must improve the existing aesthetics of the area, particularly the Laguna Channel and associated infrastructure. A master landscape plan should be developed to comprehensively improve the aesthetics and public interpretation of the Project area.

(over)

7. Ensure Public Safety – The Project design must provide for the safety of visitors to the site, as well as the safety of maintenance personnel and operators of the Laguna Channel Pump Station.

8. Ensure Consistency with Existing Projects, Plans, Permits, Laws, and Policies – The Project must be consistent with existing Federal, State, and local permits, laws, policies, management plans, and other projects. These include, among others, the Tidewater Goby Management Plan, the City’s General Plan and Local Coastal Plan, the Endangered Species Act, the Lower Mission Creek Flood Control Project, the Waterfront Sediment Management Plan, and the Cabrillo Bridge Replacement Project.

Notes

In the winter anchor outside the key, and far enough to the westward to be able to clear the land should a S.E. gale which frequently occurs during that season make through it any vessels with safety.

The soundings are expressed in feet to 10 feet or within the abraded surface, beyond them in fathoms.

The dotted surface line, or low water mark represent the bottom within the respective depths of 6, 12 and 18 feet.

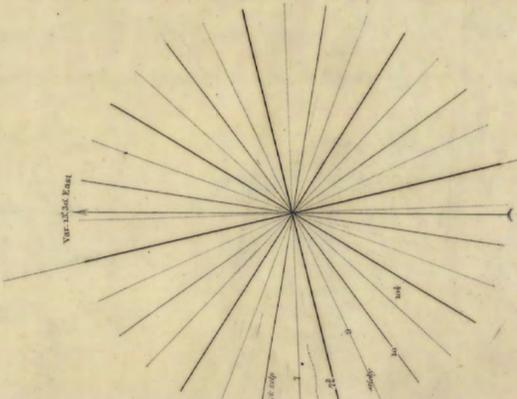
The characteristic soundings only are given on the sketch. They are selected from the numerous soundings taken in the survey, so as to represent the figure of the bottom.

Latitude of Astronomical Station
 Do. do. do. from Greenwich Observ. in arc, data to 1852 32° 55' 25" N
 do. do. do. in time 1852 2° 37' 38" W

The topography was executed by J. M. Harrison, Sub-Assistant Hydrographer, in 1852 by J. Allen, Lieut. U.S.N. & J. M. Harrison, U.S.N. in 1852.

The astronomical observations were made by Geo. Davidson, Ast. in 1852.

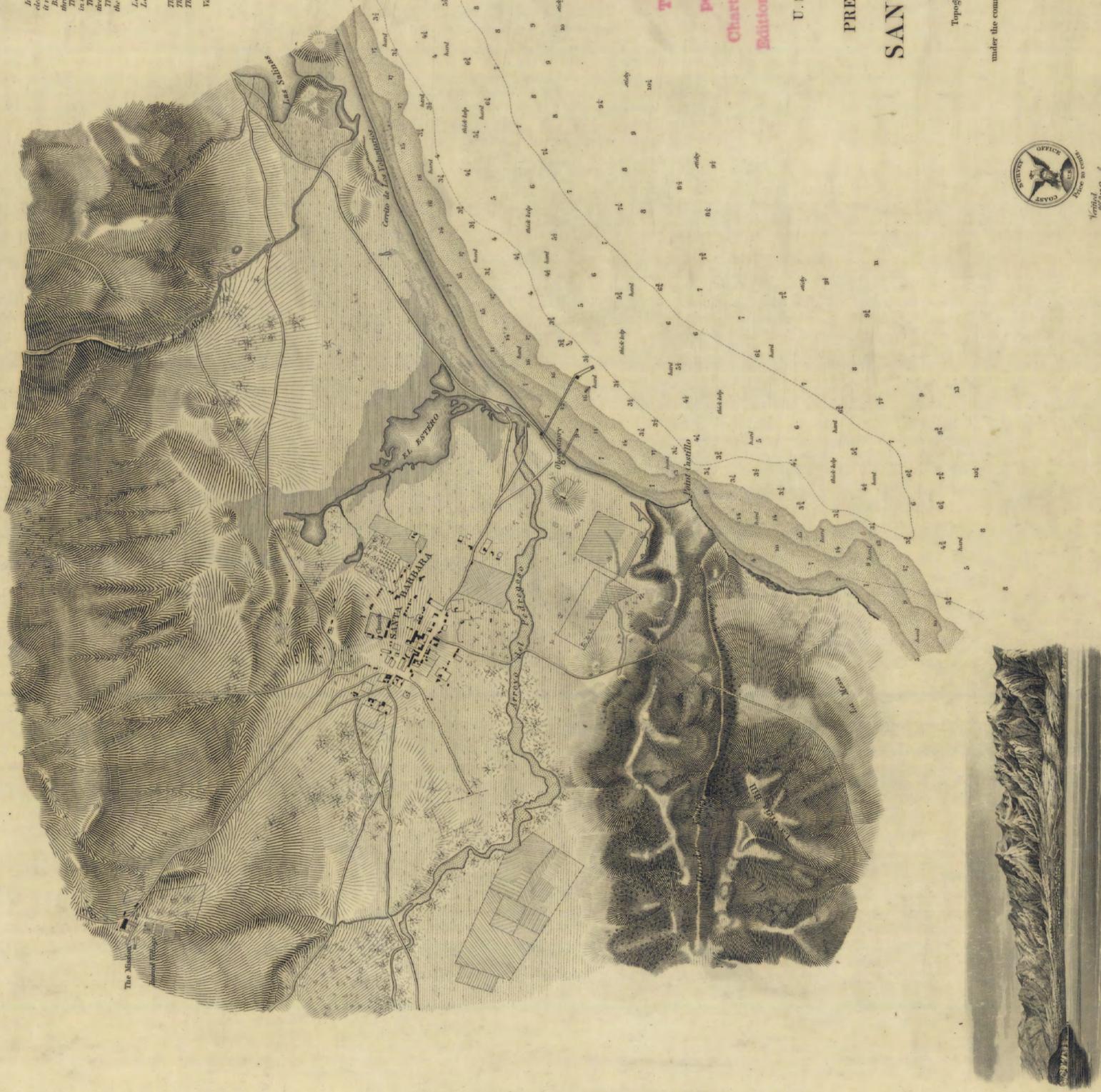
Variation of the Magnetic Needle 33° 30' East



This chart is from the
C. & G. SURVEY
 permanent library file
 Chart No. 611 Date No. 337
 Edition No. 1 Date 1853

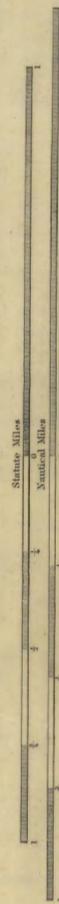
U. S. COAST SURVEY
 A. D. BACHE, Superintendent.
 PRELIMINARY SKETCH
 OF
SANTA BARBARA
 CALIFORNIA
 Topography by A. M. HARRISON, Sub-Assistant
 Hydrographer by the Party
 under the command of Lieut. JAMES ALDEN, U. S. N., Assistant

Scale 20000
1853



Verified by
 J. M. Harrison
 Copy checked by
 Geo. Davidson, in Charge

View of the Town and Mission of Santa Barbara



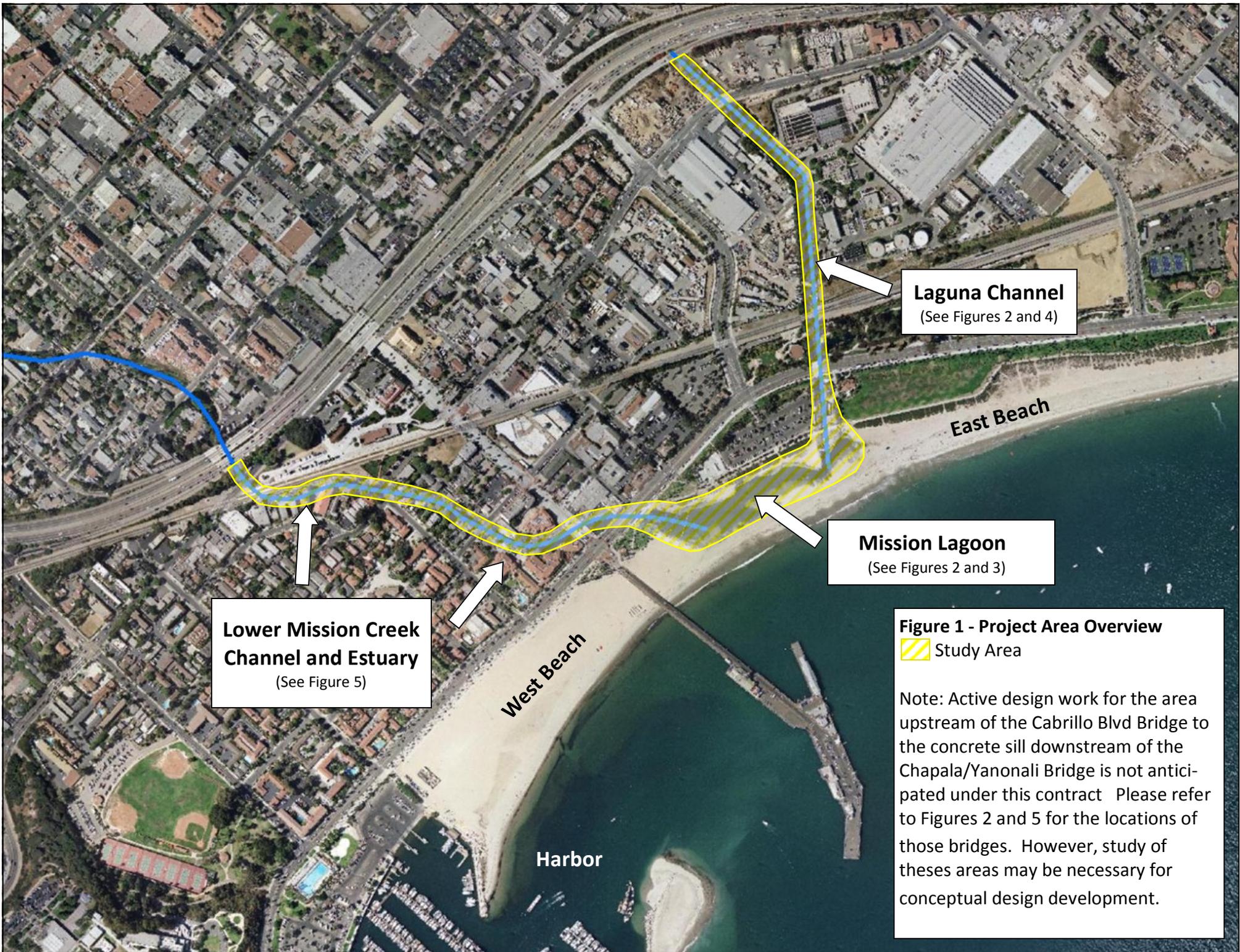
Reduction for engraving by J. Lambert Draughtsman

No. 337-Turnish

EDITION 1853

Topography engraved by J. F. O. Strobel View by J. Allen, Lettering by W. Chubb.





Lower Mission Creek Channel and Estuary
(See Figure 5)

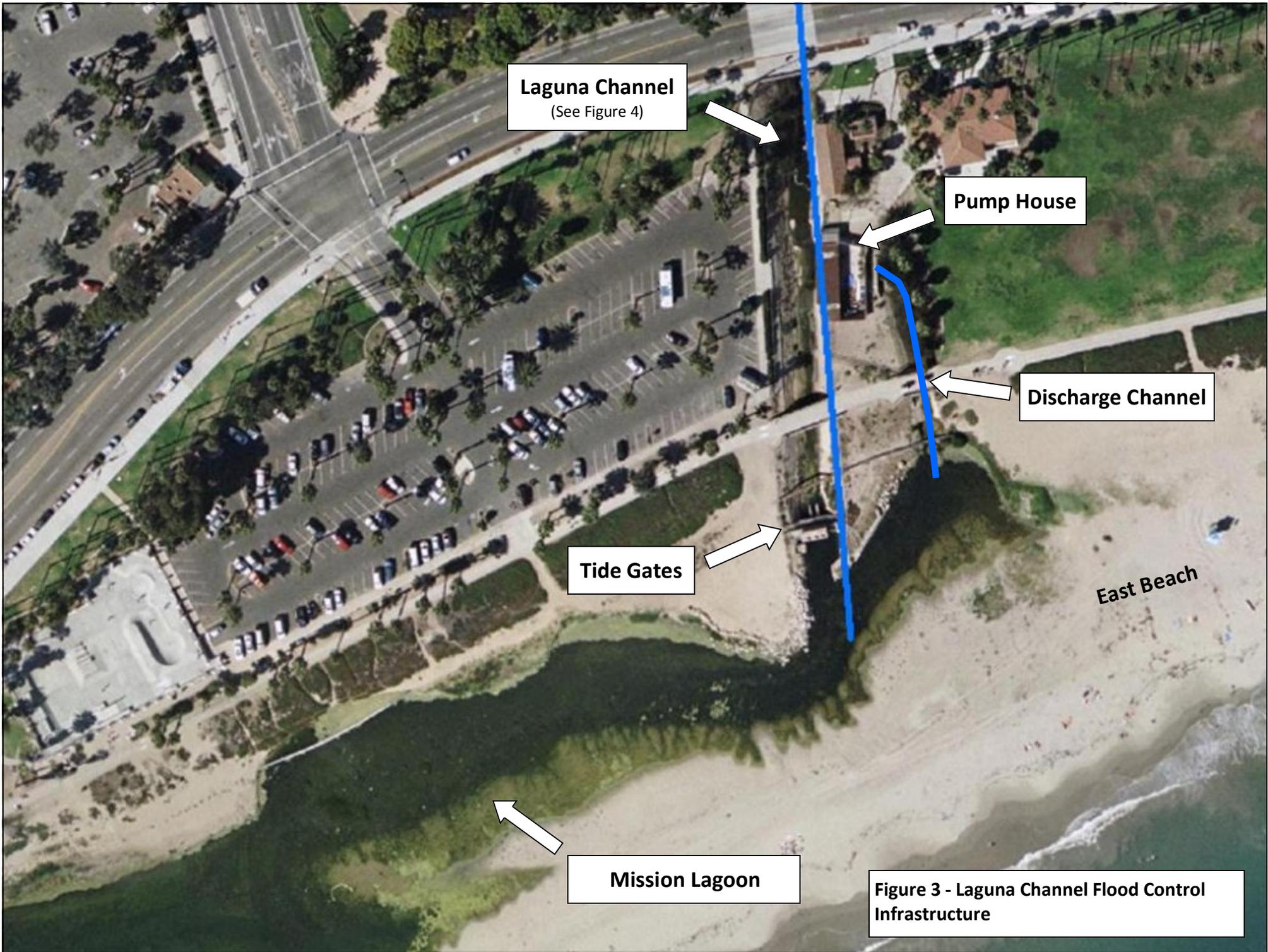
Laguna Channel
(See Figures 2 and 4)

Mission Lagoon
(See Figures 2 and 3)

Figure 1 - Project Area Overview
Study Area

Note: Active design work for the area upstream of the Cabrillo Blvd Bridge to the concrete sill downstream of the Chapala/Yanonali Bridge is not anticipated under this contract. Please refer to Figures 2 and 5 for the locations of those bridges. However, study of these areas may be necessary for conceptual design development.





Laguna Channel
(See Figure 4)

Pump House

Discharge Channel

Tide Gates

East Beach

Mission Lagoon

Figure 3 - Laguna Channel Flood Control Infrastructure



**Gutierrez St.
Storm Drains
(approx.)**

Laguna Channel

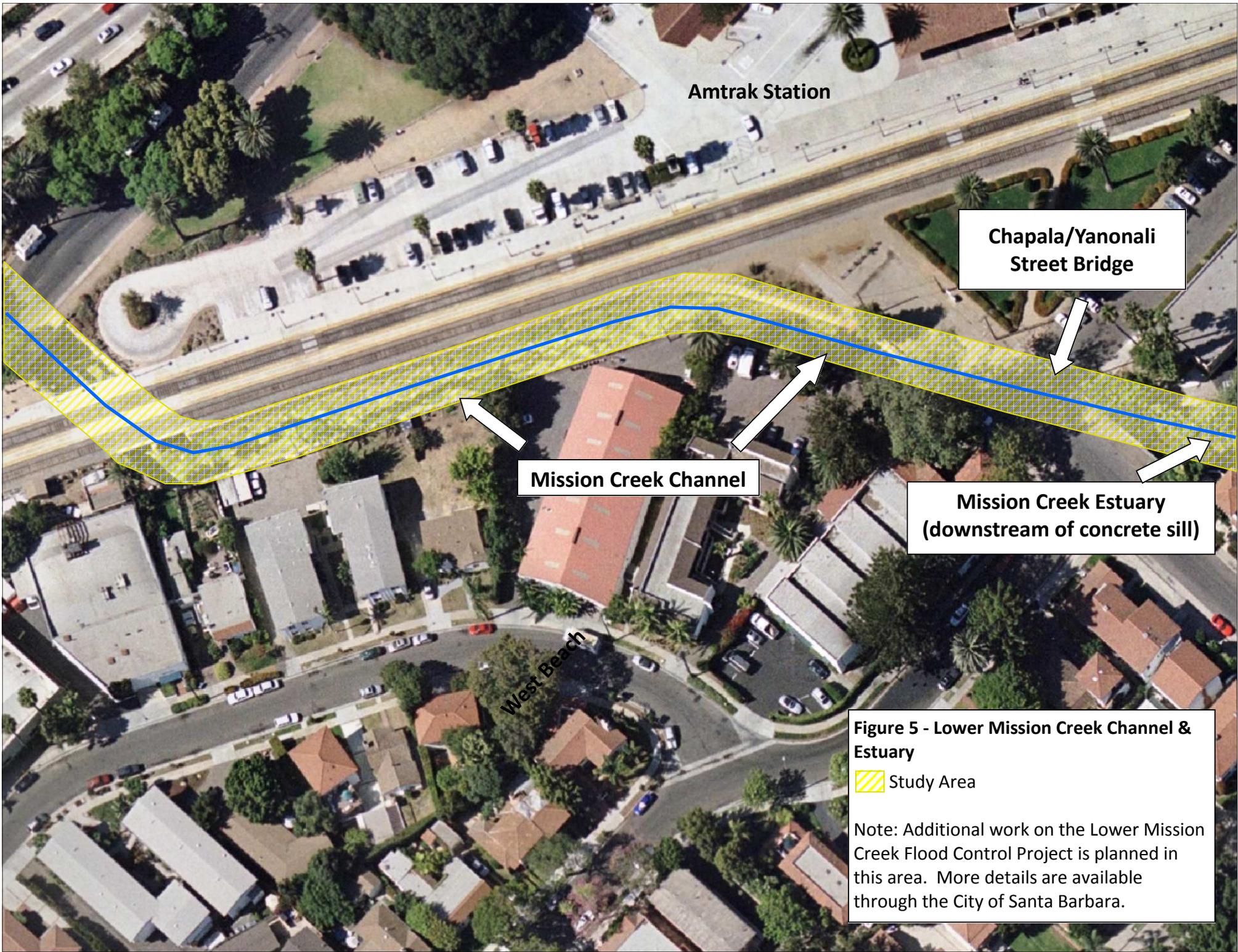
**Wastewater
Treatment Plant**

Pump House

Mission Lagoon

East Beach

Figure 4 - Laguna Channel



Amtrak Station

Chapala/Yanonali
Street Bridge

Mission Creek Channel

Mission Creek Estuary
(downstream of concrete sill)

West Beach

Figure 5 - Lower Mission Creek Channel & Estuary
Study Area
Note: Additional work on the Lower Mission Creek Flood Control Project is planned in this area. More details are available through the City of Santa Barbara.