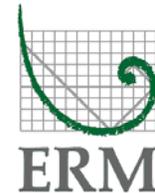


**Environmental
Resources
Management**

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(925) 946-0455
(925) 946-9968 (fax)

2 February 2009

Ms. Debbie Potter
Base Reuse and Redevelopment Manager
City of Alameda, California
Development Services Department
950 West Mall Square
Alameda, CA 94501-7552



Subject: Marsh Crust Map Update for Bayport Development
Portions of the Fleet and Industrial Supply Center Oakland,
Alameda Facility/Alameda Annex (FISCA) and Alameda Point,
Alameda, California

Dear Debbie:

ERM-West, Inc. (ERM) has prepared this letter report in association with submittal of an updated Marsh Crust Map for the Bayport Development (the former Installation Restoration [IR] Site 01 of the FISCA and East Housing Area of Alameda Point). The scope of work executed by ERM is consistent with that identified in our proposal dated 23 January 2008, and in accordance with the Consultant Agreement executed between the Alameda Reuse and Redevelopment Authority and ERM on 31 January 2008.

As addressed in our 23 January 2008 proposal, the basis for the scope of work presented herein is the following documentation:

- 6 April 2006 comments presented to the Department of the Navy, Base Realignment and Closure Program Management Office West (Navy) by the California Department of Toxic Substances Control (DTSC) on the Navy's *First Statutory Five-Year Review of Remedies Implemented for Marsh Crust at Fleet and Industrial Supply Center Oakland, Alameda Facility/Alameda Annex, and Marsh Crust and Former Subtidal Area at Alameda Point, Alameda, California* (Five-Year Review Report), dated March 2006;

- The Navy's 14 April 2006 response to DTSC's comments, which were presented in the *Final Five-Year Review Report* (28 April 2006); and
- E-mail exchanges with Dr. Russell and Dot Lofstrom of DTSC on 27 and 28 September 2007.

As you are aware, the Remedial Action Plan/Record of Decision for the Marsh Crust at the FISCA and Alameda Point (including the Alameda Point subtidal area) selected institutional controls as the remedy. These controls were in the form of environmental restrictions via deeds, a Covenant to Restrict Use of Property, and the City's Ordinance Number 2824 (Marsh Crust Ordinance). As indicated in DTSC's 6 April 2006 comment letter, the figure attached with the Marsh Crust Ordinance (MCO) identifies threshold depths (in feet below ground surface [bgs]) below which an excavation permit is required. The figure also identifies areas where a permit would be required for excavation deeper than 'mean higher high water' (MHHW). DTSC indicated that this term may be unclear to the public and City building officials, and further noted that most of the new Bayport homes are located in areas with a threshold depth of MHHW.

The MCO indicates that, "In no event will the threshold depth be above mean higher high water." Furthermore, the MCO contains language indicating that the Chief Building Official establishes the Marsh Crust threshold depth and updates the map, as needed, as new depth information is obtained.

As part of its 14 April 2006 response to DTSC's comments, the Navy indicated that, "the City of Alameda plans to do such modifications once the elevations of the final site construction grades have been established..." As Dr. Russell has noted, this seems to be a reasonable approach because, until redevelopment occurs and the general public might do any excavation, only the Navy and developers' contractors would be doing any excavation work. Based on the communication between Dr. Russell and DTSC referenced above, it appears that DTSC concurs with this assessment. Because only the Bayport portion of the FISCA and Alameda Point has been substantially developed and/or prepared for development, it follows that only the Bayport Development would be subject to current Marsh Crust Map revision.

SCOPE OF WORK

The scope of work for this project included:

- Obtaining background data, where available, for depth to the interface between fill materials (primarily Bay Mud fill and/or Merritt Sand) and in-situ Bay Mud (the presumed interface at which the Marsh Crust exists, based on the conceptual site model for Marsh Crust occurrence);
- Obtaining electronic information including survey maps and parcel data, which were provided by BKF Engineers;
- Evaluating the general difference between current ground surface elevation and original surface elevations (i.e., at the time the MCO was developed), acknowledging a generally flat ground surface before and after site redevelopment;
- Conversion of the map presented in the 25 May 2000 *Removal Action Workplan, Marsh Crust at the East Housing Area (RAW)* from depth below at-that-time surface elevations to depth below current surface elevations; and
- Development of a second map identifying Marsh Crust depth elevations referenced to the Alameda Datum.

To convert the existing map in the RAW (Figure B-1 from the RAW) from threshold depths relative to at-that-time surface elevations to threshold depths in feet below current surface elevations, the following equation was used:

$$E = A - B + D$$

Where: (A) is the depth to Marsh Crust Threshold from the RAW;
(B) is historical surface elevations relative to mean sea level (NAVD 88);
(D) is the current elevation of the land surface relative to mean sea level; and
(E) is the Marsh Crust Threshold Depth relative to current ground surface.

ERM contoured Marsh Crust Threshold Depths relative to current ground surface on a map showing current elevations relative to mean sea level. This map is referred to as Figure B-1 and is presented in Attachment A. We note that Threshold Depth, as used herein, is defined as a depth 5 feet shallower than the actual depth at which Marsh Crust might be encountered, based on the Marsh Crust Conceptual Model defined in the RAW. ERM used professional judgment to adjust threshold depths along the historical southern shoreline, which approximately corresponds with Atlantic Avenue.

To calculate the elevation of the Marsh Crust Threshold Depth relative to the Alameda Datum, the following equation was used:

$$G = -B+A-F$$

Where: (A) is the depth to Marsh Crust Threshold from the RAW;
(B) is historical surface elevations relative to mean sea level (NAVD 88);
(F) is the difference, in feet, between mean sea level and the Alameda Datum, as defined by the City of Alameda (See Attachment B); and
(G) is the elevation of the Marsh Crust Threshold Depth relative to the Alameda Datum.

ERM contoured Marsh Crust Threshold Depths relative to the Alameda Datum; this map is referred to as Figure B-2 and is also presented in Attachment A.

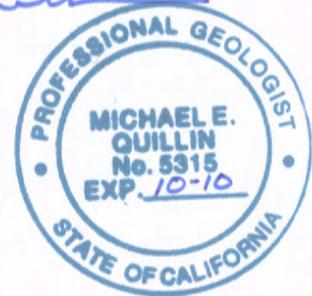
CLOSING

ERM believes the enclosed maps substantially meet the requirements set forth in DTSC's 6 April 2006 letter and, pending your review and approval, we are prepared to finalize them for submittal to the City of Alameda Public Works Department. If you have any questions or comments, please don't hesitate to contact one of the undersigned at 925.946.0455.

Sincerely,

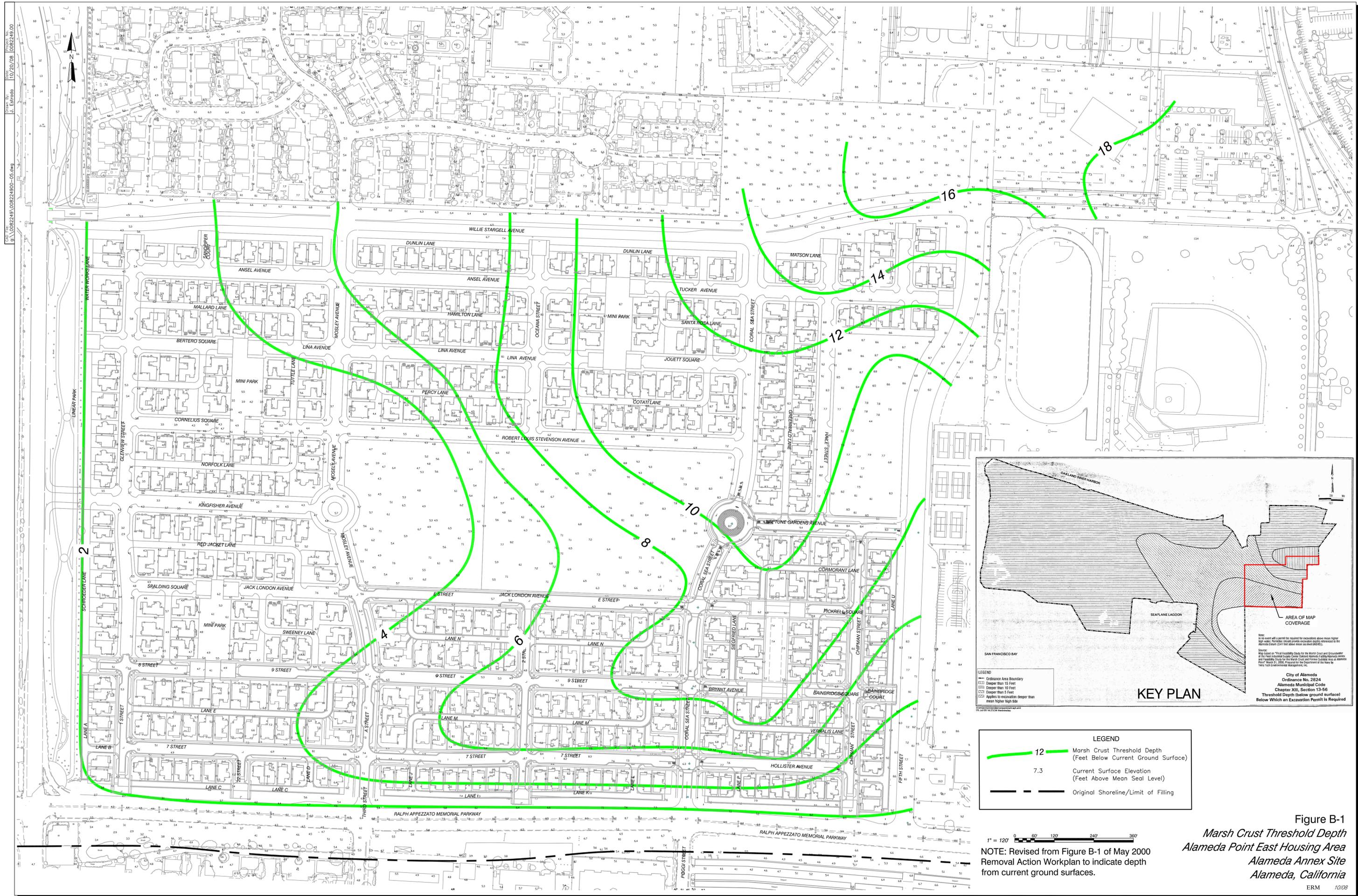
Lize Medina
for
Conor McDonough
Project Geologist

Michael E. Quillin
Michael E. Quillin, P.G.
Principal-in-Charge

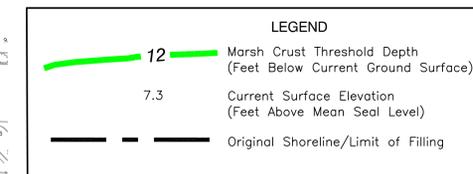
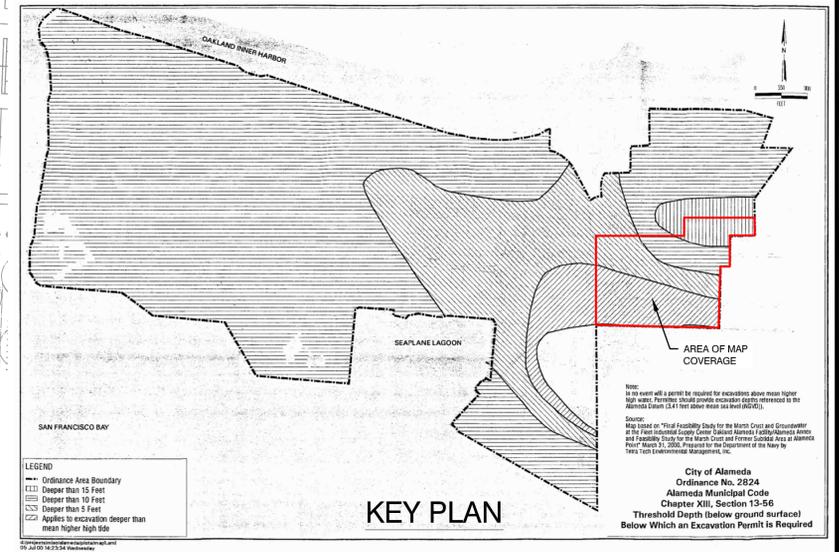


CM/MEQ/abg/0082249.****
enclosures

Attachment A
Marsh Crust
Threshold Depth Maps

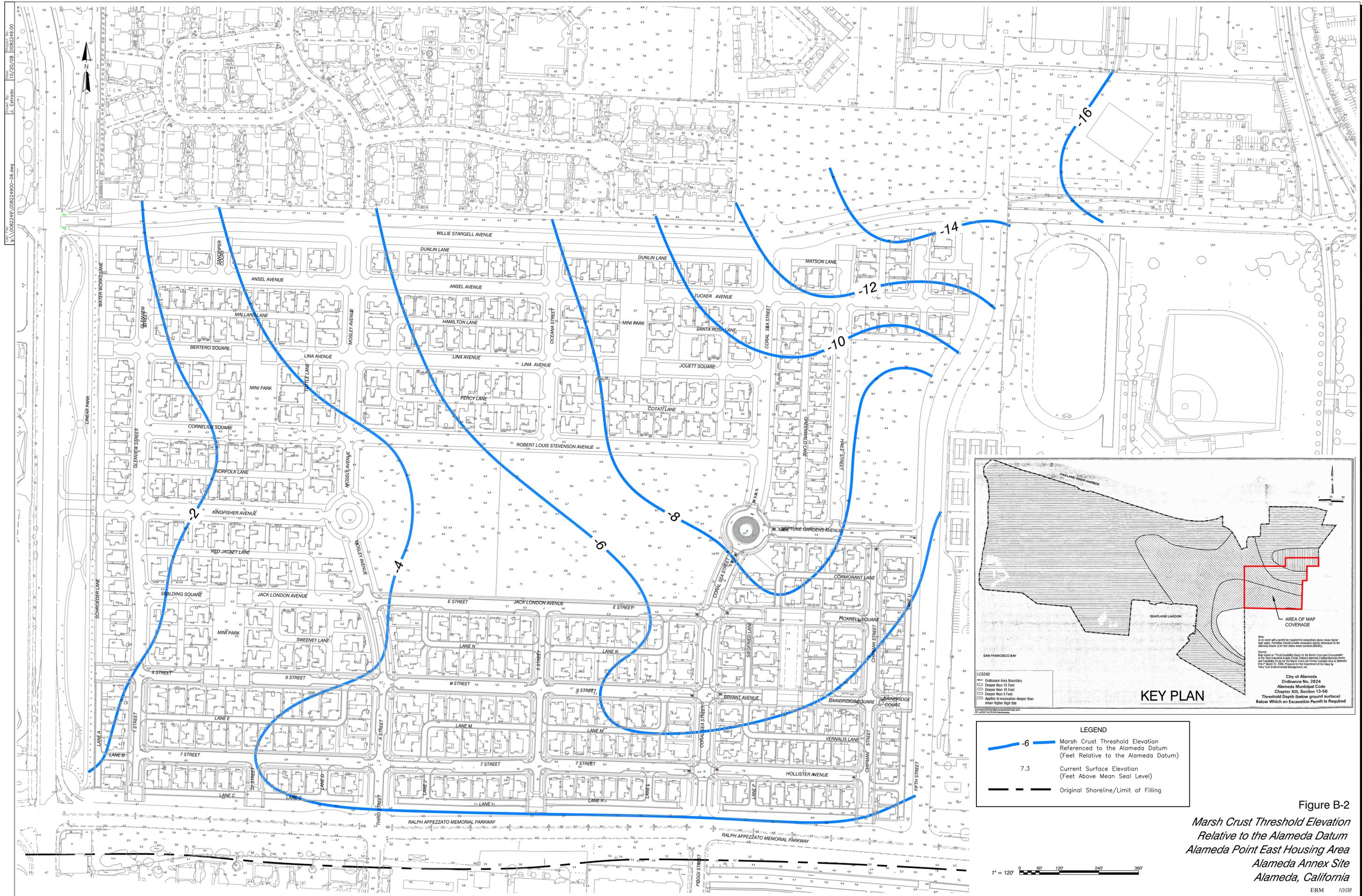


Date: 10/20/08
 Project No: 082249.00
 J. Estroff
 082249.00

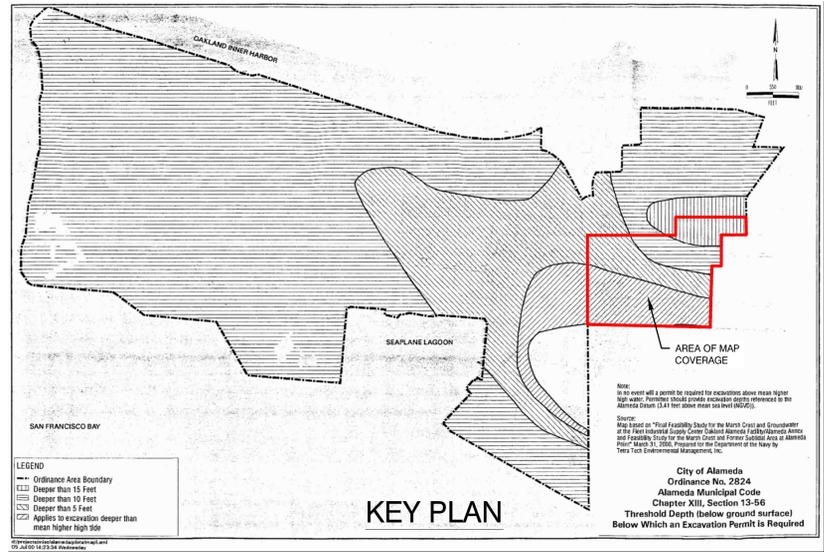


1" = 120'
 0 60 120 240 360
 NOTE: Revised from Figure B-1 of May 2000 Removal Action Workplan to indicate depth from current ground surfaces.

Figure B-1
Marsh Crust Threshold Depth
Alameda Point East Housing Area
Alameda Annex Site
Alameda, California



PLAN FILE: ST:\082249\08224900-06.dwg
 Project No: 10/20/08
 Date: 10/20/08
 User: J. Estrada



LEGEND

	-6	Marsh Crust Threshold Elevation Referenced to the Alameda Datum (Feet Relative to the Alameda Datum)
	7.3	Current Surface Elevation (Feet Above Mean Sea Level)
		Original Shoreline/Limit of Filling

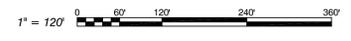


Figure B-2
 Marsh Crust Threshold Elevation
 Relative to the Alameda Datum
 Alameda Point East Housing Area
 Alameda Annex Site
 Alameda, California

Attachment B
City of Alameda
Elevation Conversions

TIDES
PRESIDIO S.F.

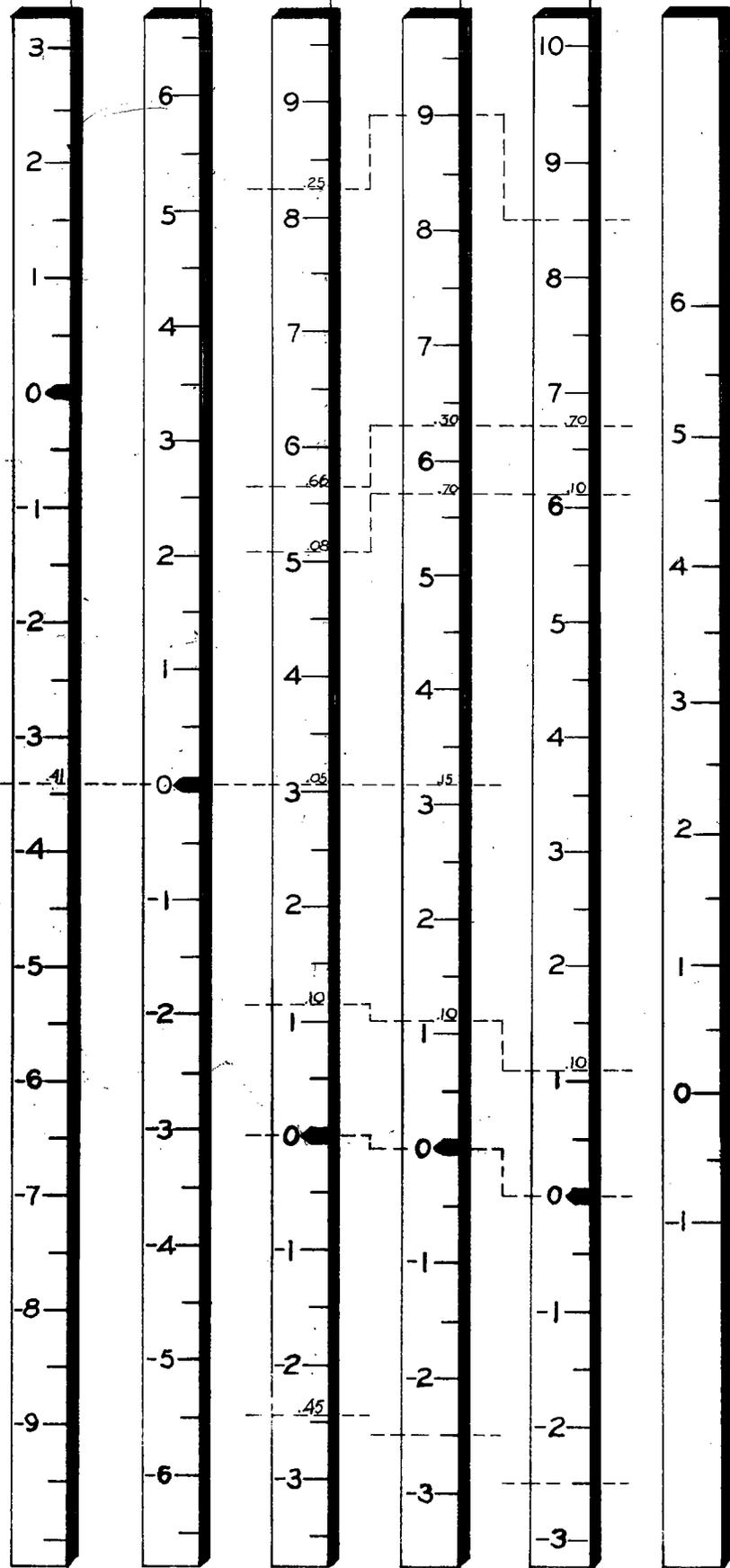
ELEV.
U.S.C.&G.S. DATUM

TIDES
NORTH PARK ST.

ELEV.
ALAMEDA DATUM

TIDES
SOUTH PARK ST.

B.F.I. GAUGE
READING 1945



HIGHEST TIDE (EST.)

HIGHER HIGH WTR

MEAN HIGH WTR.

(MEAN SEA LEVEL
U.S.C.&G.S. DATUM
1929

MEAN LOW WTR.

LOWER LOW WTR.

LOWEST TIDE (EST.)

CITY OF ALAMEDA
TIDE & DATUM CHART
FROM
U.S.C.&G.S. JAN. 1943
TIDAL BENCH MARKS.
DWG. 2633 CASE 6/4

Tide book datum
is Mean Lower Low Water
(MLLW)

(MLLW) to MSL = 2.96'

MSL to Alameda Datum = 3.41

- 6.37

Tide diff. Book (Golden Gate)

to Alameda = 0.80