

**Amendment to Final Remedial Action Plan
Oakland Army Base
Oakland, California
for
Subaru Lot, Former Parcels 6 and 7
Heroic War Dead
United States Army Reserve Center**

Prepared for

**Department of Toxic Substances Control
California Environmental Protection Agency**

Prepared by

Erler & Kalinowski, Inc.

(EKI A10063.01)

29 July 2004

LETTER AMENDMENT TO CONSENT AGREEMENT

BETWEEN

OAKLAND BASE REUSE AUTHORITY,

OAKLAND REDEVELOPMENT AGENCY AND

STATE OF CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

This LETTER AMENDMENT TO CONSENT AGREEMENT ("Amendment") is entered into as of the 8th day of September, 2004 by and between the Oakland Base Reuse Authority, a joint powers authority ("OBRA"), the Oakland Redevelopment Agency of the City of Oakland ("ORA") and the State of California Department of Toxic Substances Control ("DTSC") (together, the "Parties," or individually, a "Party") with respect to the following recitals:

WHEREAS, the Parties entered into that certain Consent Agreement dated as of May 19, 2003 (the "Agreement") to implement the Oakland Army Base Remedial Action Plan ("RAP") and associated Risk Management Plan approved by DTSC on September 26, 2002 concerning that portion of the former Oakland Army Base commonly known as the No-Cost Economic Development Conveyance parcel ("EDC Parcel"); and

WHEREAS, on August 2, 2004, DTSC amended the RAP (the "RAP Amendment") to address the adjacent portion of the former Oakland Army Base owned by the United States of America, acting through the Secretary of the Army ("Army") commonly known as the Subaru Lot (Parcels 15A and 15B, as described in Exhibits A and B); and

WHEREAS, the Army executed that certain Covenant to Restrict Use of Property -- Environmental Restriction ("Covenant") dated August 31, 2004 and recorded against the Subaru Lot on Nov 18, 2004; and

WHEREAS, immediately after the recording of the Covenant, the Army conveyed the Subaru Lot to OBRA through a quitclaim deed from the Army and thereupon OBRA assumed responsibility for compliance with the Covenant; and

WHEREAS, immediately after conveyance of the full Subaru Lot, OBRA will convey 2.51 acres (Parcel 15A, Exhibit A) to the City of Oakland, acting by and through its Board of Port Commissioners (the "Port"); and

WHEREAS, the Parties desire to amend the Agreement to recognize that the RAP has been amended, that the City is responsible for compliance with the Covenant, that those provisions of the Agreement consistent with the RAP Amendment and Covenant apply to the Subaru Lot, and that the City and the Port will jointly request in writing that DTSC approve assignment of the City's rights and obligations under this Agreement to the Port with respect to Parcel 15A.

NOW, THEREFORE, the Parties hereto agree as follows:

1. The definition of "Site" in Section 1.2 of the Agreement is hereby amended to include the Subaru Lot, as depicted on Exhibits A and B to this Amendment.

2. The environmental condition of the Subaru Lot and remedial action requirements for the Subaru Lot are described in that certain Amendment to the Oakland Army Base Remedial Action Plan approved by DTSC on July 29, 2004 (the "RAP Amendment").

3. The Parties agree that future use of the Subaru Lot shall be restricted by that certain Covenant dated as of August 31, 2004 and recorded against the Subaru Lot on Nov 18, 2004. Specifically, the City shall retain all inspection, certification and reporting responsibilities as required in the Covenant, Section 4.02(a) and responsibility to pay all costs associated with the administration of the Covenant pursuant to the California Code of Regulations, Section 67391.1(h).

4. The remedial action requirements for the Subaru Lot are described in the RAP Amendment.

5. All of the provisions of the Agreement that are consistent with the RAP Amendment and the Covenant apply to the Subaru Lot, except that no further financial assurances will be required under Section 4.18 of the Agreement, and that no pre-transfer notice under Section 4.25(a) shall be required to convey Parcel 15A of the Subaru Lot to the Port of Oakland.

City of Oakland

By: N/A
~~Jerry Brown~~
~~Mayor~~
~~City of Oakland~~

Date: _____

By: Aliza Gallo
Aliza Gallo
Executive Director
Oakland Base Reuse Authority

Date: September 9, 2004

By: See page 4
~~Deborah Edgerly~~
~~Interim Agency Administrator~~
~~Oakland Redevelopment Agency~~

Date: _____

Resolution No.:

Approved as to form and legality:

By: See page 4
Name:
Title:

Date: _____

Department of Toxic Substances Control:

By: Anthony J. Lands
Anthony J. Lands, P.E.
Chief, Northern California Operations
Office of Military Facilities

Date: September 8, 2004

City of Oakland

By: _____
Jerry Brown
Mayor
City of Oakland

Date: _____

By: Aliza Gallo
Aliza Gallo
Executive Director
Oakland Base Reuse Authority

Date: _____

By: _____
Deborah Edgerly
Interim Agency Administrator
Oakland Redevelopment Agency

Date: _____

Resolution No.:

Approved as to form and legality:

By: _____
Name:
Title:

Date: _____

Department of Toxic Substances Control:

By: Anthony J. Landis
Anthony J. Landis, P.E.
Chief, Northern California Operations
Office of Military Facilities

Date: September 8, 2004

Redevelopment Agency of the City of Oakland:

By: *Deborah Edgerly*
Deborah Edgerly
Agency Administrator

Date: 9/8/04

Resolution No.: 2003-25

Approved as to form and legality:

By: *Alix A. Rosenthal*
Alix A. Rosenthal
Deputy City Attorney

Date: 9/8/04

Exhibit A

Legal Description and Map for Parcel 15A.

EXHIBIT A
Legal Description
A Portion of East Maritime Army Reserve Property

All that certain real property situated in the City of Oakland, County of Alameda, State of California, described as follows:

Parcel 15A

A portion of the Parcels of land described in that certain Indenture between the Southern Pacific Company and the United States of America, recorded April 23, 1941, in Book 4017 of Official Records, Page 485 in the Office of the Recorder of said Alameda County (hereinafter referred to as 4017 O.R. 485), more particularly described as follows:

COMMENCING at City of Oakland monument No. 7SE13, said monument being a pin set in concrete in a monument well marking the intersection of the centerlines of Maritime Street and 10th Street, as said streets are shown on that unrecorded map entitled "Oakland Army Terminal Boundary Map" prepared by Wilsey & Ham Engineers in 1958 for the U.S. Army Corps of Engineers, File No. 45-I-286 (hereinafter referred to as the Army Map), said monument also being Port of Oakland Monument ID H006 as shown upon Record of Survey 990, filed for record in Book 18 of Records of Surveys, at Pages 50-60, Alameda County Official Records;

Thence North 48°22'05" East, 5692.24 feet to the northern most corner of Parcel 1, Tract 1 as described in said Final Judgment as to Tract 1 and as to Lack of Interests of Certain Persons as to Property Subject to the Above Action, United States of America vs. Santa Fe Land and Improvement Co., Southern Pacific Railroad Company, et al., Case No. 23099-S, District Court of the United States in and for the Northern District of California, Southern Division, recorded October 22, 1951 in Book 6566 of Official Records, Page 301 in the Office of the Recorder of said Alameda County (hereinafter referred to as 6566 O.R. 301), said corner being the northwest terminus of the course described as "North 71°40'17" West 585.40 feet" in the description of said Parcel 1, Tract 1 (6566 O.R. 301), said corner being marked by a 2 1/2" brass disk with punch mark stamped "City of Oakland Survey Station 8NW9" as shown on Record of Survey No. 1705, filed in Book 26 of Records of Surveys, at Page 1, Alameda County Official Records;

Thence South 57°59'13" East, 432.18 feet to a point on the generally northeastern line of Parcel A as described in an unrecorded "Transfer and Acceptance of Military Real Property" from the Military Traffic Management Command of the Oakland Army Base to the 63rd R.S.C., dated December 17, 1998, said Parcel A being commonly referred to as the "Subaru Lot" (said Parcel A will hereinafter be referred to as the Subaru Lot), being a point on the course described as "South 71°25'25" East, 87.02 feet" in the description of said Parcel A (the Subaru Lot), and being the **POINT OF BEGINNING** of Parcel 15A as herein described;

Thence along the northeastern, eastern and southeastern lines of said Parcel A (the Subaru Lot) the following nine courses:

1) South $71^{\circ}25'40''$ East, 25.43 feet to the beginning of a non-tangent curve concave southwesterly, having a radius of 354.97 feet and a central angle of $59^{\circ}49'02''$, from which the radius point bears South $30^{\circ}09'08''$ West, said beginning of curve being marked by a $1\frac{1}{2}$ " brass disk with bolt stamped "LS 6379";

2) along said curve to the right, an arc distance of 370.59 feet to the beginning of a compound curve concave westerly, having a radius of 199.99 feet and a central angle of $25^{\circ}52'29''$, said point of compound curvature being marked by a nail and washer with tag stamped "LS 6379";

3) along said curve to the right, an arc distance of 90.32 feet to a point of tangency being marked by a nail and washer with tag stamped "LS 6379";

4) South $25^{\circ}50'39''$ West, 100.04 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";

5) South $30^{\circ}42'24''$ West, 148.96 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";

6) South $37^{\circ}08'59''$ West, 99.92 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";

7) South $40^{\circ}33'22''$ West, 49.03 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";

8) South $49^{\circ}48'18''$ West, 93.04 feet to an angle point in said line;

9) South $56^{\circ}00'39''$ West, 30.42 feet to the a point on the generally northeastern line of Parcel 56444 as described in that certain Quitclaim Deed, recorded on February 13, 2002 as Document No. 2002072863 of Official Records, in the Office of the Recorder of Alameda County (hereinafter referred to as Doc. 2002072863), said point being the beginning of a non-tangent curve concave southwesterly, having a radius of 1647.00 feet and a central angle of $6^{\circ}06'10''$, from which beginning the radius point bears South $46^{\circ}46'37''$ West;

Thence along the generally northeastern line of said Parcel 56444 (Doc. 2002072863) along said curve to the left, an arc distance of 175.43 feet to the point of a cusp from which the radius point bears South $40^{\circ}40'27''$ West, being the beginning of a non-tangent curve concave westerly, having a radius of 1542.01 feet and a central angle of $6^{\circ}28'40''$, from which beginning the radius point bears North $31^{\circ}02'02''$ West;

Thence along said curve to the left, an arc distance of 174.33 feet to an angle point from which the radius point bears North $37^{\circ}30'42''$ West, being the beginning of a non-tangent curve concave northwesterly, having a radius of 302.83 feet and a central angle of $16^{\circ}33'59''$, from which the radius point bears North $34^{\circ}34'15''$ West;

Thence along said curve to the left, an arc distance of 87.56 feet to the beginning of a compound curve concave northwesterly, having a radius of 906.45 feet and a central angle of $4^{\circ}28'14''$;

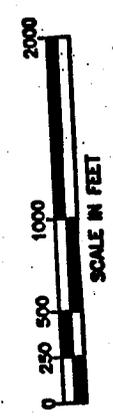
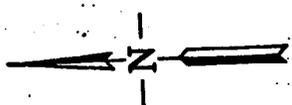
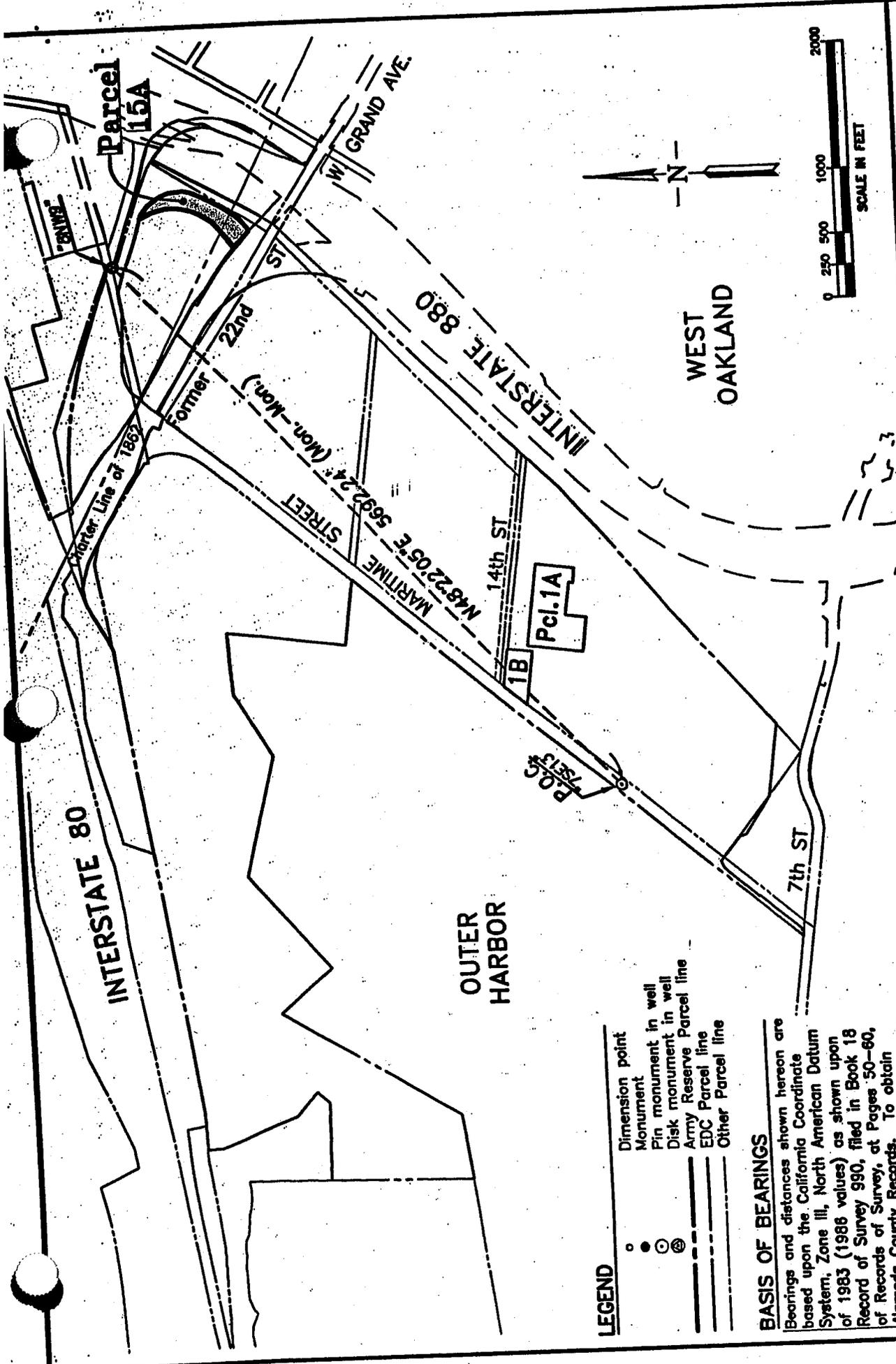
Thence along said curve to the left, an arc distance of 70.73 feet to the beginning of a compound curve concave westerly, having a radius of 426.09 feet and a central angle of $41^{\circ}30'48''$;

Thence along said curve to the left, an arc distance of 308.72 feet to the beginning of a compound curve concave southwesterly, having a radius of 444.22 feet and a central angle of $25^{\circ}38'05''$;

Thence along said curve to the left, an arc distance of 198.75 feet to the **POINT OF BEGINNING**, containing 109,537 square feet (2.514 acres), more or less, measured in ground distances, as depicted on the Plat to Accompany Legal Description, attached and hereby made a part of this Legal Description.

Bearings and distances called for herein are based upon the California Coordinate System, Zone III, North American Datum of 1983 (1986 values) as shown upon that certain map entitled Record of Survey 990, filed in Book 18 of Record of Surveys, Pages 50-60, Alameda County Records unless otherwise indicated. To obtain ground level distances, multiply distances called for herein by 1.0000705.

End of Description



LEGEND

- Dimension point
- Monument
- ⊙ Pin monument in well
- ⊗ Disk monument in well
- Army Reserve Parcel line
- - - EDC Parcel line
- Other Parcel line

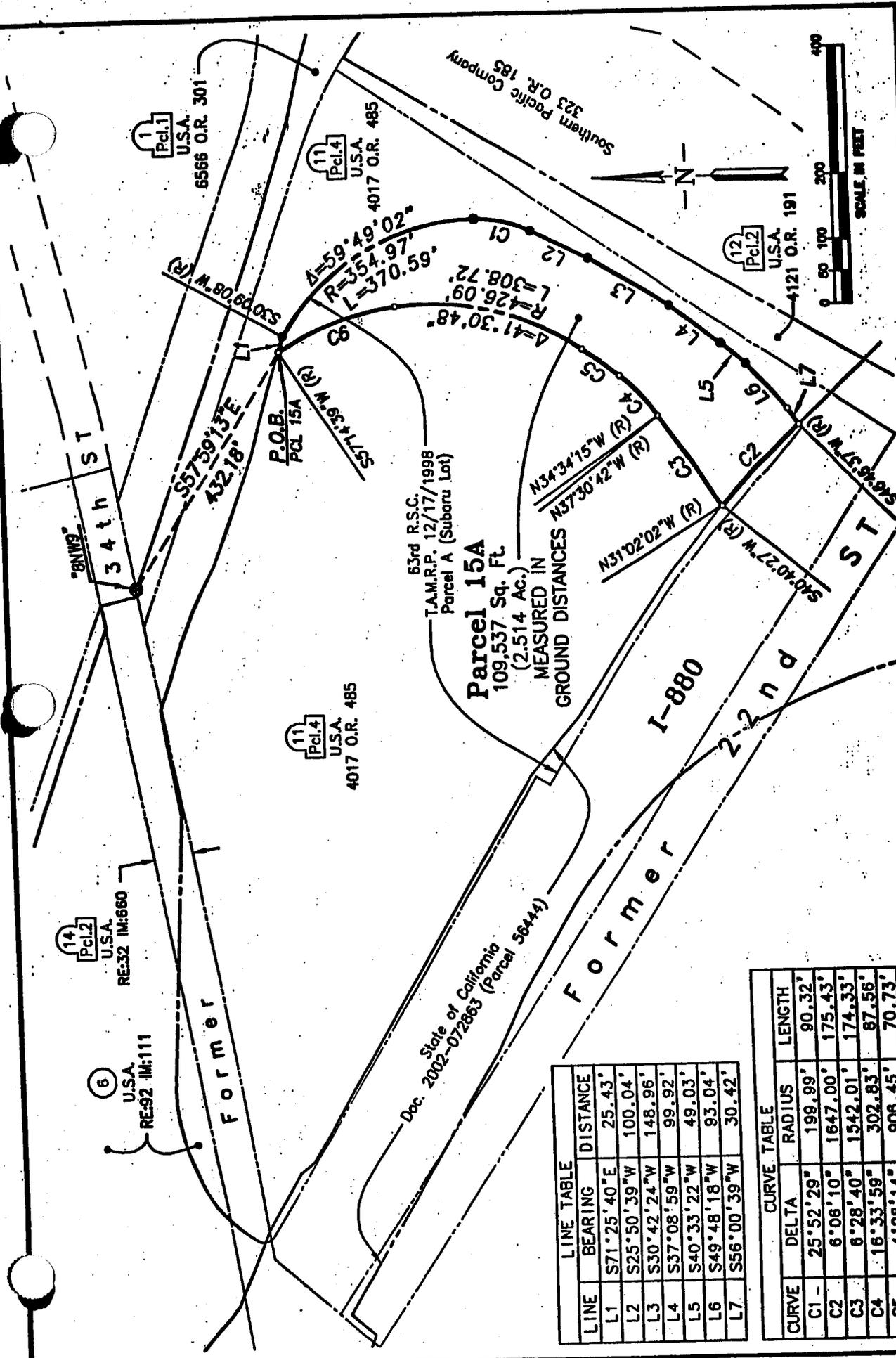
BASIS OF BEARINGS

Bearings and distances shown hereon are based upon the California Coordinate System, Zone III, North American Datum of 1983 (1986 values) as shown upon Record of Survey 990, at Pages 50-60, Alameda County Records. To obtain ground level distances, multiply distances shown hereon by 1.0000705.

PORT OF OAKLAND
 LAND SURVEYS AND MAPPING
 530 Water Street
 Oakland, California

EXHIBIT A
PLAT TO ACCOMPANY LEGAL DESCRIPTION
PARCEL 15A

DRAWN BY: DAM	Field Bk:
CHECKED BY: JRM	Wk. Ord: BTD-001132
SCALE: 1" = 1000'	Data File:
DATE: 7/19/2004	Revision:
SHEET 1 OF 2	Rev. date:
ATTACHMENTS:	
FILE LOG-2 AR-PLAT-15A.DWG	



Parcel 15A
 109,537 Sq. Ft.
 (2.514 Ac.)
 MEASURED IN
 GROUND DISTANCES

63rd R.S.C.
 T.A.M.R.P. 12/17/1998
 Parcel A (Subaru Lot)

LINE TABLE	
LINE	DISTANCE
L1	25.43'
L2	100.04'
L3	148.96'
L4	99.92'
L5	49.03'
L6	93.04'
L7	30.42'

CURVE TABLE		
CURVE	DELTA	LENGTH
C1	25°52'29"	90.32'
C2	6°06'10"	175.43'
C3	6°28'40"	174.33'
C4	16°33'59"	87.56'
C5	4°28'14"	70.73'
C8	25°38'05"	198.75'

EXHIBIT A
PLAT TO ACCOMPANY LEGAL DESCRIPTION
PARCEL 15A

PORT OF OAKLAND
 LAND SURVEYS AND MAPPING
 530 Water Street
 Oakland, California

DRAWN BY: DAM	Field B/c
CHECKED BY: JRM	W/Lk. Ord: BTO/RS01132
SCALE: 1" = 200'	Data File:
DATE: 7/19/2004	Revision:
SHEET 2 OF 2	Rev. date:
ATTACHMENTS:	
FILE: LOG-2 AR-PLAT-15A.DWG	

Exhibit B

Legal Description and Map for Parcel 15B

Schedule 1.1 (92)
Legal Description
West Maritime Army Reserve Property
Oakland Army Base

All that certain real property, in the City of Oakland, County of Alameda, State of California, described as follows:

Parcel 15B

A portion of the Parcels of land described in that certain Indenture between the Southern Pacific Company and the United States of America, recorded April 23, 1941, in Book 4017 of Official Records, Page 485 in the Office of the Recorder of said Alameda County (hereinafter referred to as 4017 O.R. 485); A portion of the lands described in that certain Final Judgment as to Interests of Defendant City of Oakland, A Municipal Corporation, United States of America vs. City of Oakland, et al., Case No. 21758-L, Case No. 21930-L, Case No. 22084-L, District Court of the United States in and for the Northern District of California, Southern Division, recorded February 24, 1960, Reel 032, Image 660 of Official Records in the Office of the Recorder of said Alameda County (hereinafter referred to as Reel: 32, Image:660); A portion of the lands described in that certain Final Judgment as to Parcel No. 6, United States of America vs. City of Oakland, State of California, et al., Case No. 21930-L, District Court of the United States in and for the Northern District of California, Southern Division, recorded May 23, 1960, Reel 092, Image 111 of Official Records, in the Office of the Recorder of said Alameda County (hereinafter referred to as Reel:092, Image:111), all of which are more particularly described as follows:

COMMENCING at City of Oakland monument No. 7SE13, said monument being a pin set in concrete in a monument well marking the intersection of the centerlines of Maritime Street and 10th Street, as said streets are shown on that unrecorded map entitled "Oakland Army Terminal Boundary Map" prepared by Wilsey & Ham Engineers in 1958 for the U.S. Army Corps of Engineers, File No. 45-I-286 (hereinafter referred to as the Army Map), said monument also being Port of Oakland Monument ID H006 as shown upon Record of Survey 990, filed for record in Book 18 of Records of Surveys, at Pages 50-60, Alameda County Official Records;

Thence North 48°22'05" East, 5692.24 feet to the northern most corner of Parcel 1, Tract 1 as described in said Final Judgment as to Tract 1 and as to Lack of Interests of Certain Persons as to Property Subject to the Above Action, United States of America vs. Santa Fe Land and Improvement Co., Southern Pacific Railroad Company, et al., Case No. 23099-S, District Court of the United States in and for the Northern District of California, Southern Division, recorded October 22, 1951 in Book 6566 of Official Records, Page 301 in the Office of the Recorder of said Alameda County (hereinafter referred to as 6566 O.R. 301), said corner being the northwest terminus of the course described as "North 71°40'17" West 585.40 feet" in the description of said Parcel 1, Tract 1 (6566 O.R. 301), said corner being marked by a 2 ½" brass disk with punch mark stamped "City of Oakland Survey Station 8NW9" as shown on Record of Survey No. 1705, filed in Book 26 of Records of Surveys, at Page 1, Alameda County Official Records;

Thence South $57^{\circ}59'13''$ East, 432.18 feet to a point on the generally northeastern line of Parcel A as described in an unrecorded "Transfer and Acceptance of Military Real Property" from the Military Traffic Management Command of the Oakland Army Base to the 63rd R.S.C., dated December 17, 1998, said Parcel A being commonly referred to as the "Subaru Lot" (said Parcel A will hereinafter be referred to as the Subaru Lot), being a point on the course described as "South $71^{\circ}25'25''$ East, 87.02 feet" in the description of said Parcel A (the Subaru Lot), said point being the beginning of a non-tangent curve concave southwesterly, having a radius of 444.22 feet and a central angle of $25^{\circ}38'05''$, from which the radius point bears South $57^{\circ}14'39''$ West, and being the POINT OF BEGINNING of Parcel 15B as herein described;

Thence departing from said northeastern line of said Parcel A (the Subaru Lot) along said curve to the right, an arc distance of 198.75 feet to the beginning of a compound curve concave westerly, having a radius of 426.09 feet and a central angle of $41^{\circ}30'48''$;

Thence along said curve to the right, an arc distance of 308.72 feet to the beginning of a compound curve concave northwesterly, having a radius of 906.45 feet and a central angle of $4^{\circ}28'14''$;

Thence along said curve to the right, an arc distance of 70.73 feet to the beginning of a compound curve concave northwesterly, having a radius of 302.83 feet and a central angle of $16^{\circ}33'59''$;

Thence along said curve to the right, an arc distance of 87.56 feet to an angle point from which the radius point bears North $34^{\circ}34'15''$ West, being the beginning of a non-tangent curve concave northwesterly having a radius of 1542.01 feet and a central angle of $6^{\circ}28'40''$, from which beginning the radius point bears North $37^{\circ}30'42''$ West;

Thence along said curve to the right, an arc distance of 174.33 feet to a point on the generally northeastern line of Parcel 56444 as described in that certain Quitclaim Deed, recorded on February 13, 2002 as Document No. 2002-072863 of Official Records, in the Office of the Recorder of Alameda County (hereinafter referred to as Doc. 2002-072863), said point being an angle point from which the radius point bears North $31^{\circ}02'02''$ West, and also being the beginning of a non-tangent curve concave southwesterly, having a radius of 1647.00 feet and a central angle of $2^{\circ}40'12''$, from which beginning the radius point bears South $40^{\circ}40'27''$ West;

Thence along the generally northeastern line of said Parcel 56444 (Doc. 2002-072863) the following eight courses:

1) along said curve to the left, an arc distance of 76.75 feet to an angle point from which the radius point bears South $38^{\circ}00'16''$ West, being the beginning of a non-tangent curve concave southwesterly, having a radius of 1647.00 feet and a central angle of $7^{\circ}24'24''$, from which beginning the radius point bears South $39^{\circ}39'54''$ West;

2) along said curve to the left, an arc distance of 212.91 feet to a point of tangency;

- 3) North 57°44'30" West, 113.40 feet to an angle point;
- 4) North 49°58'48" West, 124.70 feet to an angle point;
- 5) North 59°26'20" West, 696.99 feet to an angle point;
- 6) North 38°53'13" West, 28.48 feet to an angle point;
- 7) North 59°26'21" West, 95.01 feet to an angle point;
- 8) North 65°41'40" West, 26.04 feet to a point on the generally northwestern line of said Parcel A (the Subaru Lot), said point being the beginning of a non-tangent curve concave easterly, having a radius of 20.00 feet and a central angle of 29°55'43", from which beginning the radius point bears North 87°47'11" East;

Thence along the northwestern, northern and northeastern lines of said Parcel A (the Subaru Lot) the following sixteen courses:

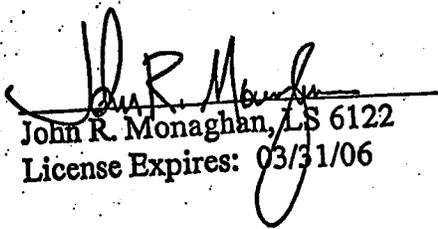
- 1) along said curve to the right, an arc distance of 10.45 feet to the beginning of a compound curve concave southeasterly, having a radius of 199.99 feet and a central angle of 39°56'30", said point of compound curvature being marked by a 1 ½" brass disk and spike stamped "LS 6379";
- 2) along said curve to the right, an arc distance of 139.42 feet to a point of tangency marked by a 1" iron pipe with plug and tack stamped "LS 6379";
- 3) North 67°39'24" East, 25.68 feet to the beginning of a curve concave southerly, having a radius of 299.98 feet and a central angle of 25°11'31";
- 4) along said curve to the right, an arc distance of 131.90 feet to a point of tangency marked by a 1" iron pipe with plug stamped "LS 6379";
- 5) South 87°09'05" East, 415.50 feet to an angle point in said line, said point being marked by a 1" iron pipe with plug stamped "LS 6379";
- 6) North 80°41'00" East, 170.83 feet to an angle point in said line, said point being marked by a 1" iron pipe with plug stamped "LS 6379";
- 7) South 70°15'39" East, 49.25 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 8) South 72°38'25" East, 67.85 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 9) South 69°32'54" East, 44.74 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";

- 10) South 66°07'36" East, 44.94 feet to an angle point in said line, said point being marked by a ¼" brass tag in concrete stamped "LS 6379";
- 11) South 63°28'21" East, 40.88 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 12) South 69°21'45" East, 49.64 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 13) South 70°14'16" East, 101.26 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 14) South 71°46'24" East, 32.44 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 15) South 74°35'56" East, 103.17 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 16) South 71°25'40" East, 61.59 feet to the POINT OF BEGINNING, containing 719,497 square feet (16.517 acres), more or less, measured in ground distances, as depicted on the Plat to Accompany Legal Description, attached and hereby made a part of this Legal Description.

Bearings and distances called for herein are based upon the California Coordinate System, Zone III, North American Datum of 1983 (1986 values) as shown upon that certain map entitled Record of Survey 990, filed in Book 18 of Record of Surveys, Pages 50-60, Alameda County Records unless otherwise indicated. To obtain ground level distances, multiply distances called for herein by 1.0000705.

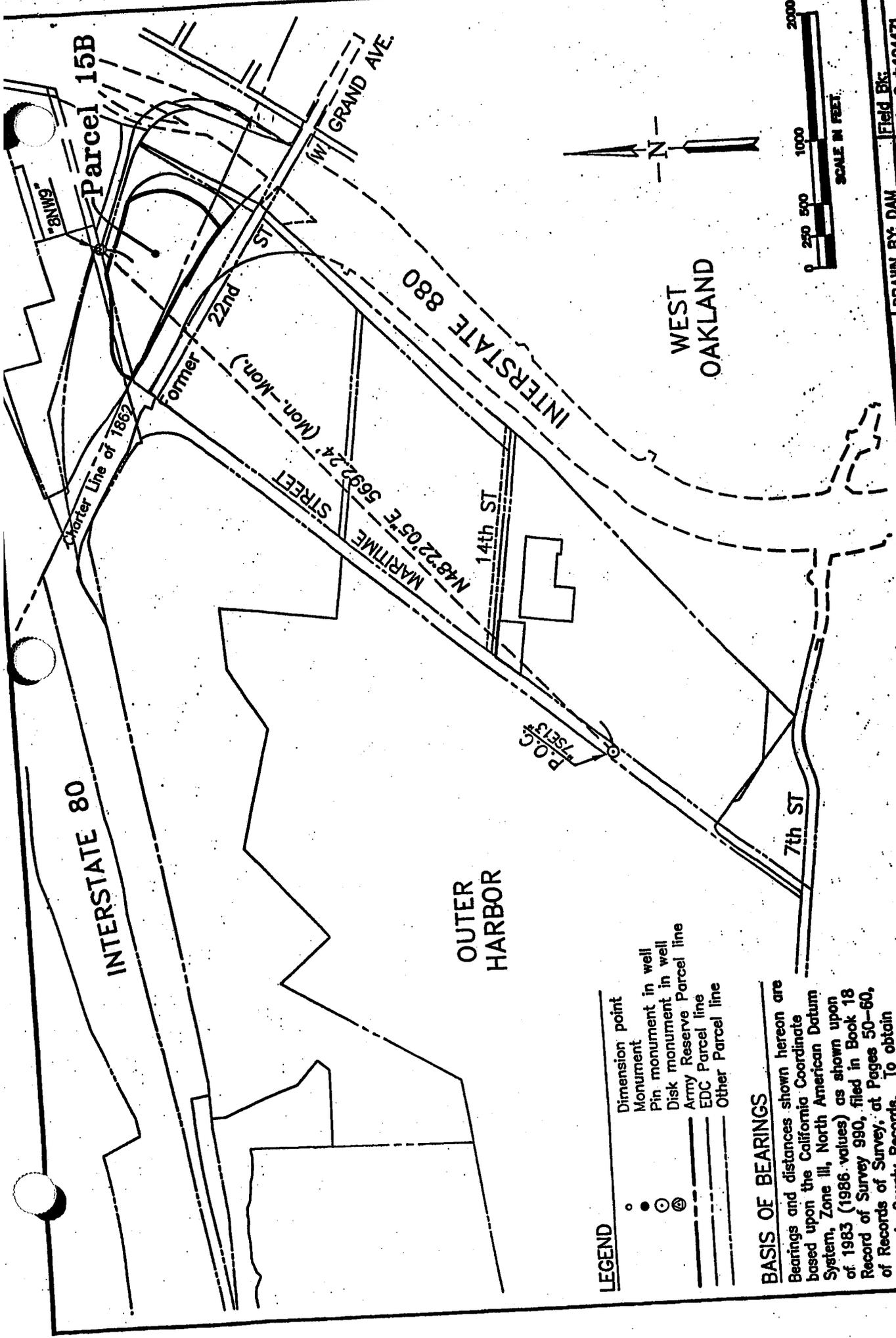
End of Description

I hereby state that this description and its accompanying plat were prepared by me, or under my direction, in October 2003.


 John R. Monaghan, LS 6122
 License Expires: 03/31/06

10/15/03
 Date





LEGEND

- Dimension point
- Monument
- ⊙ Pin monument in well
- ⊕ Disk monument in well
- ⊗ Army Reserve Parcel line
- EDC Parcel line
- - - Other Parcel line

BASIS OF BEARINGS

Bearings and distances shown hereon are based upon the California Coordinate System, Zone III, North American Datum of 1983 (1986 values) as shown upon Record of Survey 990, filed in Book 18 of Records of Survey, at Pages 50-60, Alameda County Records. To obtain ground level distances, multiply distances shown hereon by 1.0000705.

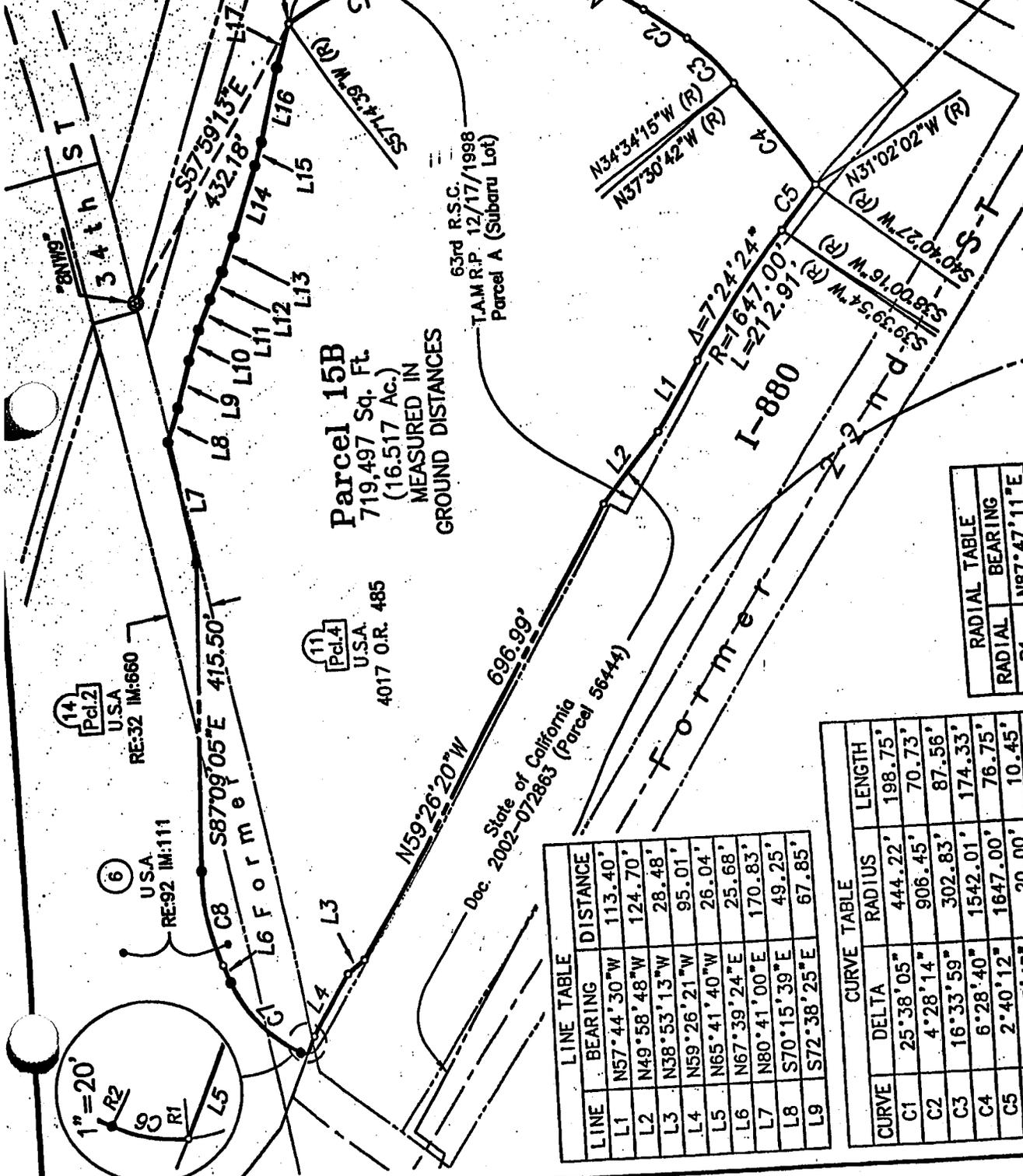
PORT OF OAKLAND
 LAND SURVEYS AND MAPPING

570 Water Street

SCHEDULE 1.1 (92)
PLAT TO ACCOMPANY LEGAL DESCRIPTION
WEST MARITIME ARMY RESERVE PROPERTY
OAKLAND ARMY BASE

DRAWN BY: DAM	Field Bk.
CHECKED BY: JRM	Wkt. Ord: 104471
SCALE: 1" = 1000'	Data File
DATE: 7/15/2003	Revision: 1
SHEET 1 OF 2	Rev. date: 10/9/03
ATTACHMENTS:	
FILE LOC: WEST-MARITIME-AR-RI.DWG (1)	

LINE	BEARING	44.74'
L10	S69°32'54"	44.94'
L11	S66°07'36"	40.88'
L12	S63°28'21"	49.64'
L13	S69°21'45"	101.26'
L14	S70°14'16"	32.44'
L15	S71°46'24"	103.17'
L16	S74°35'56"	61.59'
L17	S71°25'40"	



Parcel 15B
 719,497 Sq. Ft.
 (16.517 Ac.)
 MEASURED IN
 GROUND DISTANCES

LINE	BEARING	DISTANCE
L1	N57°44'30"W	113.40'
L2	N49°58'48"W	124.70'
L3	N38°53'13"W	28.48'
L4	N59°26'21"W	95.01'
L5	N65°41'40"W	26.04'
L6	N67°39'24"E	25.68'
L7	N80°41'00"E	170.83'
L8	S70°15'39"E	49.25'
L9	S72°38'25"E	67.85'

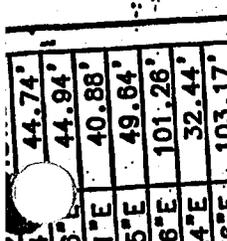
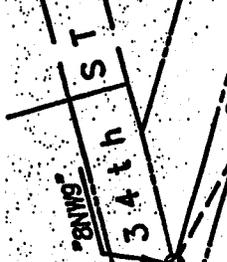
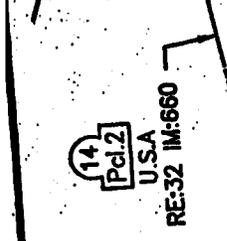
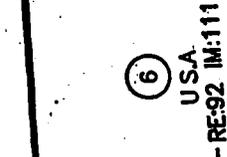
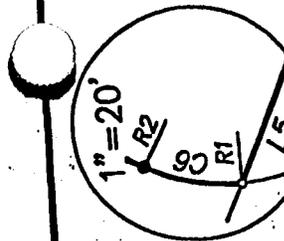
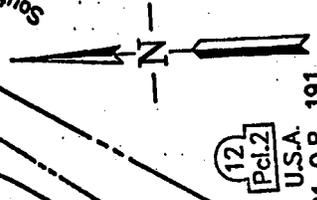
CURVE	DELTA	RADIUS	LENGTH
C1	25°38'05"	444.22'	198.75'
C2	4°28'14"	906.45'	70.73'
C3	16°33'59"	302.83'	87.56'
C4	6°28'40"	1542.01'	174.33'
C5	2°40'12"	1647.00'	76.75'
C6	29°55'43"	20.00'	10.45'
C7	39°56'30"	199.99'	139.42'
C8	25°11'31"	299.98'	131.90'

RADIAL	BEARING
R1	N87°47'11"E
R2	S62°17'06"E

DRAWN BY: DAM
 CHECKED BY: JRM
 SCALE: 1" = 200'
 DATE: 7/15/2003
 SHEET 2 OF 2
 ATTACHMENTS:
 FILE LOC: WEST-MARITIME-AR_R1.DWG (2)

SCHEDULE 1.1 (92)
 PLAT TO ACCOMPANY LEGAL DESCRIPTION
 WEST MARITIME ARMY RESERVE PROPERTY
 OAKLAND ARMY BASE

PORT OF OAKLAND
 LAND SURVEYS AND MAPPING
 530 Water Street
 Oakland, California



29 July 2004

Mr. Andrew Clough, R.G.
FOSET Environmental Manager
Oakland Base Reuse Authority
700 Murmansk Street, Suite 3
Oakland, CA 94607

Mr. Henry Wong
Remedial Project Manager
Department of Toxic Substances Control
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2721

Subject: Amendment to Final Remedial Action Plan
Former Oakland Army Base - EDC Area
Subaru Lot, Former Parcels 6 and 7
Heroic War Dead United States Army Reserve Center
(EKI A10063.01)

Dear Mr. Clough and Mr. Wong:

Erler & Kalinowski, Inc. ("EKI") is pleased to submit the enclosed *Amendment to Final Remedial Action Plan, Oakland Army Base, Oakland, California, For Subaru Lot, Former Parcels 6 and 7, Heroic War Dead United States Army Reserve Center*, dated 29 July 2004 ("RAP Amendment"). The RAP Amendment amends the California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC")-approved *Final Remedial Action Plan, Oakland Army Base, Oakland California*, dated 27 September 2002, to include the area of former Parcels 6 and 7, also known as the Subaru Lot.

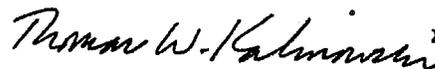
Please call if you have any questions.

Very truly yours,

ERLER & KALINOWSKI, INC.



Michael T. Steiger, P.E.
Project Manager



Thomas W. Kalinowski, Sc.D.
Vice President

enc.

Mr. Henry Wong (DTSC)
Mr. Andrew Clough (OBRA)
29 July 2004
Page 2



cc: Aliza Gallo (OBRA)
Tony Landis, P.E. (DTSC)
Daniel Murphy, P.E. (DTSC)
Xuan Mai-Tran (U.S. EPA, Region IX)
Adriana Constantinescu (RWQCB)
Sara Jackson (U.S. Army Reserve Command)
Wayne Alves (63D Regional Readiness Command)
Diane Heinze, P.E. (Port of Oakland)
Elizabeth Lake, Esq. (Beveridge & Diamond)

RAP AMENDMENT

Subaru Lot, Former Parcels 6 and 7
 Heroic War Dead United States Army Reserve Center, Oakland, California

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RAP AMENDMENT

Subaru Lot, Former Parcels 6 and 7
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RAP AMENDMENT

Subaru Lot, Former Parcels 6 and 7
Heroic War Dead United States Army Reserve Center, Oakland, California

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RAP AMENDMENT

Subaru Lot, Former Parcels 6 and 7
 Heroic War Dead United States Army Reserve Center, Oakland, California

LIST OF ABBREVIATIONS AND ACRONYMS

ACE	United States Army Corps of Engineers
ASI	Automotive Services Incorporated
ARARs	Applicable or Relevant and Appropriate Requirements
Army	United States Department of Defense, Department of the Army
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Responsibility, Compensation, and Liability Act
C.F.R.	Code of Federal Regulations
cm/s	centimeters per second
COC	chemical of concern
DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
EDC	Economic Development Conveyance
EIR	Environmental Impact Report
EKI	Erler & Kalinowski, Inc.
FOST	Finding of Suitability for Transfer
mg/kg	milligrams per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OARB	Oakland Army Base
OBRA	Oakland Base Reuse Authority
PCBs	polychlorinated biphenyls
Port	Port of Oakland
RAO	Remedial Action Objective

RAP AMENDMENT

Subaru Lot, Former Parcels 6 and 7
Heroic War Dead United States Army Reserve Center, Oakland, California

LIST OF ABBREVIATIONS AND ACRONYMS

RAP	Remedial Action Plan
RMP	Risk Management Plan
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SPTCo	Southern Pacific Transportation Company
TPH	total petroleum hydrocarbons
TPHd	TPH quantified as diesel
TPHg	TPH quantified as gasoline
TPHk	TPH quantified as kerosene
USAR	United States Army Reserve
U.S. EPA	United States Environmental Protection Agency
WRA	Wetlands Research Associates, Inc.

1. EXECUTIVE SUMMARY

1.1 PURPOSE

This *Amendment to Final Remedial Action Plan, Oakland Army Base, Oakland, California For Subaru Lot, Former Parcels 6 and 7 Heroic War Dead United States Army Reserve Center* ("Subaru Lot RAP Amendment" or "RAP Amendment") amends the California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC")-approved *Final Remedial Action Plan Oakland Army Base, Oakland, California*, dated 27 September 2002 ("RAP") prepared by Erler & Kalinowski, Inc. ("EKI") (2002a) ("DTSC-approved RAP") and to include former Parcels 6 and 7, known as the Subaru Lot, ("Site") in the area to which the DTSC-approved RAP applies. This RAP Amendment further identifies, evaluates, and proposes remedies for the Subaru Lot.

1.2 RATIONALE FOR AN AMENDMENT

The Site shares similar past uses and are contiguous to the Former Oakland Army Base – Economic Development Conveyance Area ("Former OARB – EDC Area") covered by the DTSC-approved RAP. The Site also has similar types of potential chemicals of concern ("COCs") as the Former OARB-EDC Area. An amendment to the DTSC-approved RAP is a convenient and efficient method for selecting remedies that are protective of human health and the environment and are consistent with the Oakland Base Redevelopment Agency ("OBRA") Reuse Plan (OBRA, 2001).

1.3 SITE LOCATION, CONDITION, AND INTENDED REUSE

Former Parcels 6 and 7 currently consist of 19.032 acres of paved parking and unimproved land owned by the United States Army Reserve ("USAR") located adjacent to the former Oakland Army Base ("OARB") in Oakland, California (Figures 1 and 2).

1.3.1 Site Use History

The Site was historically natural tidal marsh or open water until the United States Department of the Army ("Army") acquired the land in 1941 and filled the Site to achieve the final grade. Historical uses of the Site by the Army and tenants included salvaging of wood and metal, open storage of vehicles and other materials, a lumber mill, automobile spraying and washing using a water based asphalt emulsion and kerosene wash, drum storage, and vehicle servicing (EKI, 2003d). Several unidentifiable debris

piles and stained areas resulting from the Army's on-Site activities were observed in historic aerial photographs taken in 1949, 1957, and 1968 (EKI, 2003d). Approximate locations of historic stained areas and historic debris piles as observed in these photos are depicted on Figure 2.

In the early 1990s, the Port of Oakland ("Port") placed approximately 30,000 cubic yards of soil, identified as intended "fill material" for Berths 8 and 9, onto former Parcel 6 (Port, 1992, 1995; United States Army Corps of Engineers ["ACE"], 1995). In 1995, the Base Realignment and Closure Commission determined that the former OARB was to be closed. Pursuant to the base closure process, former Parcels 6 and 7 were assigned to the USAR in 1998. Since 1998, the USAR has used the site for military equipment parking and privately owned vehicle parking.

1.3.2 Nature and Extent of Chemical Impacts

Several phases of investigations were conducted on the Site on behalf of the Army's tenants in the early 1990's. Additionally, OBRA conducted a screening-level Phase II environmental site assessment in 2003. Based on the results of site assessments and environmental investigations by OBRA and the Army's previous tenants, residual contamination of soil and groundwater on the Site is relatively minor.

The remaining detected maximum COC concentrations in soil are 1,700 milligrams per kilogram ("mg/kg") for kerosene and diesel, 9.2 mg/kg for arsenic, 160 mg/kg for lead, and polychlorinated biphenyls Aroclor-1260 at 0.76 mg/kg. The maximum COC concentrations in groundwater are 1,000 microgram per liter ("µg/L") for kerosene, 1,000 µg/L for diesel, 15 µg/L for arsenic, and 2,300 µg/L for manganese. These COC concentrations are less than the risk-based Remediation Goals for the Site established in Section 7 of this RAP Amendment, where established. Such risk-based Remediation Goals are based on an industrial / commercial land use scenario with the same exposure parameters as provided in the DTSC-approved RAP. Some COC concentrations are greater than screening levels for unrestricted land use.

1.3.3 Intended Reuse

Redevelopment of the Site is anticipated to be for commercial and industrial uses, consistent with OBRA's Reuse Plan (OBRA, 2001).

1.4 IDENTIFICATION, SCREENING, AND SELECTION OF REMEDIAL ALTERNATIVES

The remedial alternatives are identified, screened, and selected in Section 8 of this RAP Amendment. The identified remedial alternatives include:

No Action Alternative:

- No action for soil and groundwater.

Action Alternatives:

- Conduct a Remedial Investigation and prepare a separate Remedial Action Plan including an evaluation of its own remedial action objectives (“RAOs”), remediation goals, and remedial alternatives.
- Amend the existing DTSC-approved RAP and evaluate the remedial alternatives retained for detailed analysis.

Pursuant to the rationale provided in Section 1.2, above, the only alternative retained for detailed analysis was amendment to the existing DTSC-approved RAP. Under this alternative, each individual remedial alternative from the DTSC-approved RAP was subject to the analysis described in Section 8. On the basis of the detailed analysis, use of institutional controls was the selected alternative.

1.5 SELECTED REMEDY

As presented in Section 8, the proposed remedy for the contamination at the Site is amending the existing DTSC-approved RAP to include the Site in the DTSC-approved RAP, and then selecting an appropriate remedy from among those identified in the DTSC-approved RAP. The appropriate remedy proposed for the Site is institutional controls, which will be in the form of a Covenant to Restrict Use of Property – Environmental Restriction (“Covenant”). The Covenant will include the following environmental restrictions and Implementation and Enforcement Plan requirements:

1.5.1 Environmental Restrictions

- Sensitive land uses, including, but not limited to, residential housing, schools for persons under 18 years of age, day-care facilities for children, hospitals, and

hospices are prohibited. Reuse of Site soil outside of the Site boundary for any purpose is permitted only with the written approval of DTSC.

- The construction of groundwater wells and extraction of groundwater from new and/or existing wells for any purpose are permitted only with the written approval of DTSC. Construction dewatering activities are permitted subject to all applicable local and State requirements, including those of the California Regional Water Quality Control Board, for disposing of the liquid from dewatering activities.

1.5.2 Implementation and Enforcement Plan

All current and successive property owners shall comply with the Implementation and Enforcement Plan which includes the following requirements:

- A written report shall be submitted to DTSC annually. The report submittal date shall be within thirty (30) days following the anniversary date of the initial property transfer. The report shall include: (1) inspection results, (2) a certification attesting to the compliance of the terms and conditions of the Covenant, and (3) a discussion on any dewatering activities and final disposition of the liquid, violations of the Covenant, and any action taken to ensure compliance with the Covenant.
- DTSC shall be provided with reasonable right of entry and access to the property for periodic inspections to ensure compliance with the Covenant.

The remaining detected maximum COC concentrations in soil and groundwater are below the Remediation Goals established for industrial / commercial land use; however, some of the remaining detected concentrations are not protective for unrestricted land use by sensitive populations. By requiring environmental restrictions and an Implementation and Enforcement Plan, the institutional controls selected in this RAP Amendment will be protective of human health and the environment under an industrial / commercial land use scenario.

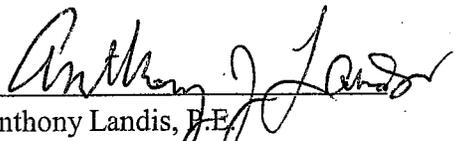
On the basis of the results of OBRA's Phase II Investigation, previous implementation of active remediation by prior tenants of the Army, and consultation with DTSC, implementation of the Risk Management Plan (EKI, 2002b) ("RMP"), which is Appendix E of the DTSC-approved RAP, is not part of the selected remedy.

Once DTSC approves this RAP Amendment, the Army will implement the remedy selected in this RAP Amendment through execution and recordation of the Covenant identified in Section 8. The Covenant will be executed and recorded as part of the transfer of the Site. It is intended that the selected remedy, institutional controls in the form of the Covenant, be the final remedy for the Site. Upon implementation of the final remedy, DTSC will determine whether all necessary remediation at the Site has been completed. Once that determination is made, DTSC will issue a certification letter to the Army concurring that the Army has completed all remediation on the Site. At that time, DTSC anticipates being able to concur with the Finding of Suitability for Transfer ("FOST"). The Army uses the FOST to document that all required remediation or other remedies have been implemented prior to transfer.

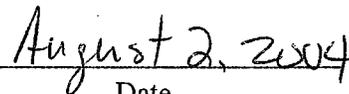
The Covenant will be recorded in the Alameda County Assessor's Office, run with the land, bind all owners of the land, their heirs, successors, and assignees, and the agents, employees, lessees, or renters of the owners, heirs, successors, and assignees. The Covenant will continue in perpetuity unless modified or terminated in accordance with applicable law.

1.6 DECLARATION / STATUTORY DETERMINATION

This RAP Amendment is prepared pursuant to the California Health and Safety Code, section 25350 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 C.F.R. 300.400 et seq.). The selected remedy for the Site is intended to be protective of human health and the environment. The selected remedy complies with federal and state requirements that are legally applicable or relevant and appropriate to the remedial actions and is cost effective. DTSC hereby approves this RAP Amendment in accordance with California Health and Safety Code, section 25356.1(b).



Anthony Landis, P.E.
Chief, Northern California Operations
Office of Military Facilities
Department of Toxic Substances Control
California Environmental Protection Agency



Date

2. INTRODUCTION

2.1 PURPOSE

This RAP Amendment amends the DTSC-approved RAP to include the Site in the area covered by the DTSC-approved RAP. This RAP Amendment further identifies, evaluates, and proposes remedies for the Site.

2.2 RATIONALE FOR AN AMENDMENT

The Site shares similar past uses and is contiguous to the Former OARB – EDC Area covered by the DTSC-approved RAP. The Site also has similar types of COCs as the Former OARB - EDC Area. An amendment to the DTSC-approved RAP is a convenient and efficient method for selecting remedies that are protective of human health and the environment and are consistent with the OBRA Reuse Plan (OBRA, 2001).

2.3 SITE LOCATION AND DESCRIPTION

The Site currently consists of 19.032 acres of paved parking and unimproved land owned by the USAR contiguous to the former OARB in Oakland, California (Figures 1 and 2).

2.4 INTENDED REUSE

Redevelopment of the Site is anticipated to be for commercial and industrial uses, consistent with OBRA's Reuse Plan (OBRA, 2001).

3. SITE BACKGROUND

This section provides a summary of background information on the Site. A detailed description of the regional setting of the former OARB, which included the Site, is described in the DTSC-approved Remedial Action Plan. The Site is not part of, but is contiguous to, the Former OARB - EDC Area.

3.1 SITE SETTING AND FEATURES

The Site consists of 19.032 acres of paved parking and unimproved land on the southeastern portion of the Heroic War Dead United States Army Reserve Center in Oakland, California. The Site is bordered on the south by West Grand Avenue, on the northwest by Wake Avenue, and on the north by the East Bay Municipal Utilities District sewage treatment plant (Figure 2).

The only structures currently on the Site are utility poles, light poles, fire hydrants, storm drain catch basins, chain link fencing, and one pad-mounted transformer located along the northern boundary of the Site. Sampling of the oil in this transformer by the Army indicated that polychlorinated biphenyls ("PCBs") were not detected in the transformer above laboratory detection limits of 1 to 2 mg/kg (*Preliminary PCB Inventory Data Collection, Transformer 87-51159*, dated 15 April 1994, provided by Oakland Army Base Transition Office). The eastern portion of the Site, i.e., former Parcel 7, is largely paved. The western portion of the Site, i.e., former Parcel 6, is unpaved.

Two large soil stockpiles covered with grass and other vegetation are present on former Parcel 6. The soil stockpiles were observed to contain some debris, such as broken concrete, rocks, metal, and plastic pipe. On 20 April 2004, the USAR issued a license to OBRA to conduct earth moving training and other grading activities on the Site. The soil stockpiles on former Parcel 6 will be partially graded and left on-Site as part of these activities.

3.2 SITE GEOLOGY

Much of the area encompassing the Former OARB - EDC Area and the Site was natural tidal marsh or shallow open water before 1916 (Kleinfelder, 1998). Filling occurred in subsequent years to construct land to create the former OARB. The soil encountered beneath the Site generally consists of silty to clayey gravel and sandy clay from the ground surface to a depth of approximately 6 feet below ground surface ("bgs") (Industrial Compliance, 1993; EKI, 2003d). The gravel and clay in the upper 6 feet is

most likely fill imported by the Army during construction of the former OARB, in 1941 and 1942, that was used to cover the former mud flats on the margin of the San Francisco Bay. The soils below 6 feet bgs generally consist of a gray to brown sand unit, locally known as bay sand, interbedded with a highly organic, dark gray to black clay, locally known as bay mud (Industrial Compliance, 1993).

3.3 SITE HYDROGEOLOGY

The Site is located approximately 0.4 miles south of the San Francisco Bay. Groundwater is generally encountered at depths ranging from 4 to 7 feet bgs (Industrial Compliance, 1993; EKI, 2003d). The local hydraulic gradient in the center of former Parcel 7, as measured in August 1993 by consultants for Southern Pacific Transportation Company ("SPTCo"), was approximately 0.003 feet per foot in the southerly direction (Industrial Compliance, 1993). However, because groundwater flow direction is affected locally by natural heterogeneous conditions, by manmade preferential flow paths such as storm drains or high permeability fill materials extending beneath the water table, by infiltration from seasonal irrigation, rain, broken sewers and storm drain lines, and by tidal influence, groundwater flow direction at the Site is generally toward San Francisco Bay, i.e., to the northwest.

Beginning at a depth of approximately 15 feet bgs, a sequence of clay on the order of 10 feet thick, referred to as Young Bay Mud, underlies the shallow water-bearing zone at the former OARB, where the Site is located (IT, 2000b). The Young Bay Mud is not very permeable. The ACE and the Port (Port, 2000) stated in the Environmental Impact Report ("EIR") for proposed dredging of Oakland Harbor that the Young Bay Mud is an aquitard with a low permeability of 1×10^{-7} centimeters per second ("cm/s"). The Young Bay Mud restricts downward movement of groundwater to the next deeper water-bearing zone that is located at a depth of approximately 25 feet bgs. This deeper water-bearing zone is referred to as the Merritt Sand, which is the uppermost member of the San Antonio Formation (Kleinfelder, 1998). The former OARB lies in the East Bay Plain groundwater basin.

3.3.1 Groundwater Quality

As discussed in more detail in the DTSC-approved RAP prepared for the Former OARB - EDC Area, groundwater at the former OARB, where the Site is located, in both the shallow water-bearing zone and Merritt Sand, is of poor quality due to the proximity to San Francisco Bay. The Regional Water Quality Control Board, San Francisco Bay Region ("RWQCB") recognizes the poor quality of groundwater near the former OARB and has proposed a formal determination that groundwater along the Oakland shoreline,

including the former OARB, cannot be used for drinking water supply (RWQCB, 1999, 2000).

3.3.2 Potential for Contaminant Migration to San Francisco Bay Via Groundwater

Groundwater sampling data collected by EKI during the Phase II Investigation of the Site indicates that shallow groundwater at the Site is not significantly impacted by prior releases from historic uses of the property (EKI, 2003d). Additionally, any COCs in groundwater, if present, are most likely not migrating to San Francisco Bay because the groundwater velocity at the former OARB is low compared with the rate of sorption and degradation mechanisms (Kleinfelder, 1998). Seawalls constructed along portions of the Port harbor facilities affect movement of groundwater and serve as barriers to lateral groundwater flow, and tidal influence studies indicate that the actual exchange of water from the shallow water-bearing zone and San Francisco Bay is minimal (Kleinfelder, 1998).

Although the movement of contaminants in groundwater through the shallow water-bearing zone appears restricted and subject to natural attenuation at the former OARB, as discussed in Section 3.5.2 of the DTSC-approved RAP, it is possible that groundwater migrates to San Francisco Bay through the sand or gravel bedding that surrounds storm drains or through storm drain piping. Storm drain piping at the former OARB is often situated in the saturated zone, and groundwater may enter the cracked or otherwise breached storm drain piping. Based on the available information reviewed by EKI, the storm drain system on former Parcels 6 and 7 has been inspected, and no damaged lines or internal sediment contamination were found (Earth Tech, 2000). Groundwater from the Site that may enter the storm drains is not significantly contaminated based on the results of OBRA's Phase II Investigation and the apparent effectiveness of prior remediation efforts by others (See Section 4.1).

3.4 SITE NATURAL RESOURCES

According to natural resource evaluations conducted on behalf of the USAR, low lying areas exhibiting areas of cracked mud existed around the stockpiled soil mounds on former Parcel 6 (USAR, 2002, 2003a, 2003b). These evaluations reported that these areas, observed during the dry season, potentially held water during the rainy season and concluded that they could potentially be wetlands, but further evaluation was required. Subsequent evaluations conducted by Wetlands Research Associates, Inc. ("WRA") on behalf of OBRA indicated that there are no wetland areas subject to federal jurisdiction (WRA, 2003). The ACE also concluded that the area was not subject to federal jurisdiction. (ACE, 2004). The low value isolated wetland features will be removed,

when OBRA, under license from the USAR, and consistent with an offset program approved by the RWQCB, commences its equipment training program and grading activities.

Species of lizards, birds, and both native and non-native plant species have been observed on the Site during environmental assessments (USAR, 2003a, 2003b). However, no sensitive or endangered plant or animal species have been identified on-Site during any of the previous investigations. The natural resource evaluations recommended that additional surveys be conducted for the alkali milkvetch, (*Astragalus tener* var. *tener*) a rare plant species in California, and for the burrowing owl, a potential inhabitant of the Site. Subsequent investigations by the USAR have concluded that the alkali milkvetch and the burrowing owl are not present on-Site (USAR, 2003a, 2003b).

A consultant to the USAR concluded that the only special-status species that may exist on-Site is the round-leaf filaree (*Erodium macrophyllum*), which is included on the California Native Plant Society List 2 (Plants rare, threatened or endangered in California, but more common elsewhere) (USAR, 2003a, 2003b). During a field visit by OBRA's consultant, WRA, in November 2003, no round-leaf filaree were found on-Site (WRA, 2003). WRA concluded that it was highly unlikely that the plant species would exist on-Site because the Site does not provide suitable habitat to establish a sustainable population of this species. Further, the WRA report notes that round-leaf filaree has no official federal or state status as a threatened or endangered species (WRA, 2003).

3.5 SITE USE HISTORY

Much of the former OARB, including the Site, was natural tidal marsh or open water before 1916. During the first half of the 1900s, dredged sand and imported soil were placed to create the land surface. The Army acquired the land in 1941, and provided additional fill in most portions of the former OARB, including the Site, to achieve the final grade.

Between the 1940s and the mid-1970s, the Site was used by the Army for salvaging of wood and metal and open storage of vehicles and other material (EKI, 2003a). The western portion of the Site, i.e., former Parcel 6, also contained a small lumber mill. Two rail spurs were constructed on the Site around 1947.

In 1979, the Army leased the Site to SPTCo, which in turn subleased former Parcel 7 to Automotive Services Incorporated ("ASI") from 1981 through 1989 (SP Environmental Systems, Inc., 1991). SPTCo also subleased former Parcel 6 to a trucking company as described in a site assessment report of the former OARB prepared by the United States

Army Toxic and Hazardous Materials Agency (1988). Activities conducted by tenants on the Site during this time period included automobile spraying and washing using various chemicals (i.e., water based asphalt emulsion and kerosene wash), drum storage by ASI, and vehicle servicing on former Parcel 6 by a truck company.

In the early 1990s, the Port reportedly stockpiled approximately 30,000 cubic yards of soil, identified as intended "fill material" for Berths 8 and 9, onto former Parcel 6 (Port, 1992, 1995; ACE, 1995). The stockpiles reportedly consisted of upland soil removed from the Berth 30 shoreline. Sampling of the "fill material" by the Port prior to delivery to the Site indicated that soil from one area had elevated lead concentrations. However, documentation referred by the Port of Oakland during the public comment period for this RAP Amendment suggests that sampling of the "fill material" stockpiled at Parcel 6 contained lead with concentrations that ranged from 5 to 28 mg/kg (Clayton, 1996). To assess whether the stockpiles are impacted with lead, EKI characterized the stockpiles in 2003 as part of the Phase II investigations on behalf of OBRA (EKI, 2003d) (See Section 4.3 below).

In 1998, the USAR acquired the site through the Base Realignment and Closure process. Since that time, the USAR has used the site for military equipment parking and privately owned vehicle parking.

A more detailed description of the Site use history from the 1940s through 2003 is provided in the *Parcels 6 and 7 Phase II Investigation Work Plan, Oakland Army Base, Oakland, California* ("Work Plan"; EKI, 2003a). Information on the recent environmental sampling activities on behalf of OBRA is provided in the Work Plan, associated Work Plan Addendums ("Work Plan Addendums" EKI, 2003b, 2003c), and the *Phase II Investigation Report, Former Parcels 6 and 7, Former Oakland Army Base, Oakland, California* ("Phase II Investigation Report"; EKI, 2003d). These Phase II investigations by OBRA were completed in coordination with, and reviewed by, DTSC.

4. OVERVIEW OF SITE INVESTIGATIONS AND REMEDIAL ACTIVITIES

The Site use history and descriptions of the nature and extent of chemical impacts to soil and groundwater at the Site is based upon the results of record reviews, sampling efforts, and remedial activities conducted at the Site on behalf of SPTCo, and more recently by OBRA. OBRA compiled the available environmental data from investigations conducted on behalf of SPTCo into an electronic database that is included with the Phase II Investigation report (EKI, 2003d). See Section 5 for a description of the types of data included in the electronic database.

4.1 INVESTIGATION AND REMEDIATION ACTIVITIES CONDUCTED ON BEHALF OF SPTCO

On behalf of SPTCo, three phases of soil and groundwater investigations were conducted between 1991 and 1993 at the portion of the Site impacted by ASI's vehicle solvent washing operations, i.e., the "kerosene release area" (SP Environmental Systems, Inc., 1991; Industrial Compliance, 1992, 1993). The primary objective of these investigations was to determine the vertical and lateral extent of hydrocarbons in soil and groundwater at the kerosene release area. Soil and groundwater samples were analyzed for total petroleum hydrocarbons ("TPH") as kerosene ("TPHk"), TPH as gasoline ("TPHg"), TPH as diesel ("TPHd"), benzene, toluene, ethylbenzene, and total xylenes ("BTEX").

A total of 47 soil boreholes on behalf of SPTCo were advanced through the subsurface to groundwater during the investigations, and soil and groundwater samples were collected from each of the boreholes. The investigations also included collecting surface soil samples, and constructing and sampling groundwater monitoring wells. The locations of these historic boreholes and groundwater monitoring wells are depicted on Figure 2. The results of the investigations by SPTCo's consultant indicated that approximately 2,000 cubic yards of soil and groundwater in the immediate vicinity of the impacted soil was impacted with TPHk (Industrial Compliance, 1993).

In accordance with a work plan approved by Alameda County Environmental Health Department (Industrial Compliance, 1994c), SPTCo demolished the on-Site structures, including the "Auto Detailing Building", the "Carwash Trough", the "Undercoat Building", and the "Above Ground Storage Tank Area" associated with ASI's vehicle solvent washing operations, excavated kerosene-impacted soil, and disposed of the soil off-Site (Terranext, 1996). Although investigations by SPTCO prior to remediation estimated that only 2,000 cubic yards of kerosene impacted soil were present,

approximately 13,000 cubic yards of visually impacted soil and soil containing TPHk above the cleanup objective of 100 mg/kg were actually excavated because the volume of contaminated soil identified during the excavation was greater than the investigations indicated. Impacted soils were removed to the satisfaction of the RWQCB (RWQCB, 1996). The approximate limits of the excavation are depicted on Figure 2.

In the process of remediating the Site, SPTCo also abandoned groundwater monitoring wells in the area of excavation, collected and analyzed confirmation soil samples from the sidewalls and bottom of the excavations, backfilled the excavations with imported soil and overburden soil with less than 100 mg/kg of TPHk, constructed and developed monitoring wells for post remediation groundwater monitoring, and paved and restored the Site (Terranext, 1996). Four quarters of post remediation groundwater monitoring indicated that TPHk concentrations in groundwater were less than the detection limit of 50 µg/L within the former excavation boundaries and around the perimeter of the excavation. SPTCo's consultant concluded that the removal of impacted soil below the groundwater table, in conjunction with dewatering activities, reduced the concentrations of TPHk in groundwater (Terranext, 1996). Following closure of the Site by the RWQCB (1996), the groundwater monitoring wells were demolished by SPTCo.

4.2 PHASE II INVESTIGATION CONDUCTED ON BEHALF OF OBRA

On behalf of OBRA, EKI conducted a screening-level, Phase II environmental site assessment, also referred to as a Phase II Investigation, on the Site in May through August 2003, in accordance with a Work Plan and associated Work Plan Addendums (EKI, 2003a, 2003b, 2003c) reviewed and accepted by DTSC. The primary objective of the Phase II Investigation was to provide soil and groundwater data at areas of the Site with historical uses that could potentially impact soil or groundwater with COCs. A detailed description of the sampling objectives, sampling methods, and analytical results are described in the Phase II Investigation Report dated 12 September 2003 (EKI, 2003d) reviewed and accepted by DTSC.

4.3 SUMMARY OF CHEMICAL RELEASE SITES AND LOCATIONS

Based on the available historic information, SPTCo investigation and remediation reports, and the results of OBRA's Phase II Investigation of the Site, residual contamination of soil and groundwater on the Site appears to be relatively minor. The most significant, previously documented soil contamination at the Site resulted from the kerosene spills described in SPTCo reports. However, this kerosene spill area was remediated to the satisfaction of local and State agencies in the mid-1990s, and remaining detected concentrations of TPHk and other COCs in soil and groundwater are less than

the risk-based Remediation Goals for the Site established in the DTSC-approved RAP and summarized in Section 7 of this RAP Amendment.

As described in the Phase II Investigation Report, other areas were subject to screening-level investigations where COCs may have impacted soil or groundwater and included the soil stockpiles, former railroad spurs, areas with historical stains and debris piles observed on aerial photographs, a former vehicle maintenance area, storm drains and sanitary sewers, and surface soil potentially contaminated from aerial deposition from nearby highways and railroads. Focused sampling in these areas is described in the Phase II Investigation Report. Based on the Phase II Investigation Report of former Parcels 6 and 7 prepared by EKI on behalf of OBRA, and on review of available historic information, no locations that would be considered "RAP Sites" or "RMP Locations" by DTSC have been identified at the Site (EKI, 2003d).

RAP Sites are areas that have been investigated and characterized for release of hazardous substances and for which remediation is ready to proceed following the issuance of the DTSC-approved RAP. There are seven RAP Site at the Former OARB – EDC Area. The RMP Locations are areas with known or potential contamination, which may not yet have been fully investigated or characterized, any may be remediated during the course of planned redevelopment at the Site. RMP Locations include underground storage tank locations, vehicular maintenance sites, railyard, and other hazardous materials and/or petroleum handling areas (EKI, 2002a, 2002b).

As reported in the Phase II Investigation Report (EKI, 2003d), the remaining detected maximum COC concentrations in soil are 1,700 mg/kg for both kerosene and diesel, 9.2 mg/kg for arsenic, 160 mg/kg for lead, and polychlorinated biphenyls Aroclor-1260 at 0.76 mg/kg. The maximum COC concentrations in groundwater are 1,000 µg/L for kerosene, 1,000 µg/L for diesel, 15 µg/L for arsenic, and 2,300 µg/L for manganese. These COC concentrations are less than the risk-based Remediation Goals for the Site established in Section 7 of this RAP Amendment. Such risk-based Remediation Goals are based on an industrial / commercial land use scenario with the same exposure parameters as provided in the DTSC-approved RAP.

In the samples collected by EKI, lead was detected in one out of the 21 surface soil samples at 1,800 mg/kg at borehole SL-10. However, none of the additional surface or subsurface soil samples collected in the vicinity, or co-located with the sample containing elevated lead, contained lead at a concentration greater than 76 mg/kg, indicating that the lead detection of 1,800 mg/kg in surface soil at borehole SL-10 was an anomaly (i.e., a highly localized occurrence of elevated lead concentration).

In the event that the nature and extent of encountered COC releases, if any, are found to differ significantly from the conditions described in this RAP Amendment and OBRA's Phase II Investigation Report, the appropriateness of selected remedial actions adopted for the Site will be re-evaluated in consultation with DTSC. If the response measures contained in this RAP Amendment are judged to be inappropriate for any newly identified COC release locations, the Site owner will consult with DTSC to determine appropriate response actions. Newly identified COC releases would be identified through visual or olfactory observations. Additionally, although no additional soil or groundwater sampling is required, chemical data may be collected by the Site owner as may be necessary for off-site disposal purposes, or as directed by DTSC. If such new data indicate that COCs at concentrations greater than Remediation Goals are present in soil or groundwater at the Site, then the Site owner will consult with DTSC to determine appropriate response actions.

5. COC IDENTIFICATION

All chemicals detected in soil and groundwater at the Site, both historically and during OBRA's Phase II Investigation, were retained as COCs; except for analytical results of soil that was excavated as part of completed remedial activities, and other non-representative chemicals screened out following United States Environmental Protection Agency ("U.S. EPA") screening protocols, as described below and in Section 5 of the DTSC-approved RAP.

5.1 ASSESSMENT OF DATA QUALITY AND REPRESENTATIVENESS

EKI constructed an electronic database of available historic environmental sampling data for the Site. This electronic database is included in the Phase II report on compact disc (EKI, 2003d). This computerized database contains approximately 7,000 records of analytical results. The database for the Site includes analytical results from the following sources:

- Sampling data compiled by SP Environmental Systems on behalf of SPTCo in May 1991, associated with a Phase II Soil and Preliminary Groundwater Investigation conducted on the portion of former Parcel 7 subleased to ASI by SPTCo (SP Environmental Systems, 1991).
- Sampling data compiled by Industrial Compliance on behalf of SPTCo in April 1992, associated with a Phase II Investigation conducted on the portion of former Parcel 7 subleased to ASI by SPTCo (Industrial Compliance, 1992).
- Sampling data compiled by Industrial Compliance on behalf of SPTCo in February 1993, associated with a Supplemental Soil and Groundwater Investigation conducted on the portion of former Parcel 7 subleased to ASI by SPTCo (Industrial Compliance, 1993).
- Quarterly Groundwater Monitoring reports, prepared by Industrial Compliance and Terranext for 1st through 4th Quarter 1994, 1st Quarter 1995, 2nd Quarter 1995, and 4th Quarter 1995, on behalf of SPTCo (Industrial Compliance, 1994a, 1994b, 1995a, 1995b, 1995c, 1995d; Terranext, 1996).
- Sampling data compiled by Terranext on behalf of SPTCo in November and December 1994, associated with soil remediation and a ground water investigation (Terranext, 1996).

- Sampling data compiled by EKI on behalf of OBRA in May through August 2003, associated with the former Parcels 6 and 7 Phase II Investigation (EKI, 2003d).

The quality and representativeness of analytical results contained in the database for the Site were assessed to the extent possible prior to using the database to identify COCs; data collected by others could not be verified against laboratory analytical sheets as they were not always available. Based on the outcome of this assessment, certain analytical data were not considered in determining COCs because the analytical results were not pertinent or otherwise not representative of current environmental conditions of the Site. To preserve the integrity of the database, unless otherwise specified below, analytical results determined to be non-pertinent were not purged from the database; such non-pertinent data were flagged so that they can be easily identified in the future, if necessary. Examples of such flagged data are discussed below.

5.1.1 Inorganic Chemicals

Groundwater parameters (i.e., chloride, pH, salinity, sodium, sodium chloride, total suspended solids, and specific conductance) were flagged in the Site database. While such data may prove useful for evaluation of remedial alternatives or design of engineering controls, these data were not considered in the identification of COCs. For these data, a flag in the "comments" data field was set to "groundwater parameter."

As discussed in the DTSC-approved RAP, many inorganic chemicals are major components of the Earth's crust that are essential nutrients or trace elements present at normal crustal abundance levels, including aluminum, calcium, iron, magnesium, potassium, sodium, strontium, and titanium. Data on these inorganic chemicals were flagged as described above in the Site database.

5.1.2 Excavated Soil

Analytical results of soil that was excavated as part of completed remedial activities, which could be verified through review of the available documents, were flagged in the Site database. Analytical results of residual chemical concentrations in soil after excavation (i.e., confirmation samples) are considered representative and were not flagged in the database. A flag in the "comments" data field was set to "excavated" for analytical results of excavated soil. Analytical results were not flagged in the Site database if there was uncertainty regarding whether the sampled soil had been excavated.

5.1.3 Non-Representative Media

During remediation activities at the kerosene release area, overburden soil was stockpiled on-Site for potential reuse as backfill (Terranext, 1996). Two of the eight overburden soil stockpiles were found to be impacted with TPHk and were disposed off-Site. The analytical data from these two soil stockpiles disposed off-Site were not included in the Site database. The analytical data for the other six soil stockpiles, which were used to backfill the excavation, are included in the Site database. No sampling coordinates were included in the database for the backfill data, but the location of the stockpiled soil used for backfill is generally in the former kerosene-release excavation area.

5.2 COC IDENTIFICATION METHODOLOGY

Upon flagging non-pertinent data as described above, the Site database was evaluated to identify COCs. All chemicals detected above laboratory reporting limits in non-flagged soil and groundwater samples collected from the Site were retained as COCs. In addition, all chemicals identified as COCs in the DTSC-approved RAP were retained as COCs for the Site, such that Remediation Goals developed in the DTSC-approved RAP for COCs on the Former OARB - EDC Area apply to the Site in the event that such COCs are encountered in the future. Those chemicals that have not previously been detected above laboratory reporting limits on the Site, but which were retained as COCs because they have been detected in other areas of the EDC Area, are noted in the tables. TPHk is also included as a COC for the Site. COCs in soil and groundwater for the Site are listed in Tables 1 and 2, respectively.

6. APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

The purpose of this RAP Amendment is to adopt the technology evaluations, remedial alternatives, and selected remedies developed in the DTSC-approved RAP for the Site. The remedial alternatives and selected remedies developed in the RAP Amendment are protective of human health and the environment, cost-effective, and consistent with planned reuse of the Site. The process of developing remedial alternatives and remedies is described in Sections 8, 9, and 10 of the DTSC-approved RAP.

Part of the process in developing remedial alternatives and protocols includes an evaluation of Applicable or Relevant and Appropriate Requirements ("ARARs"), as was done in the DTSC-approved RAP. The ARARs that apply to the Former OARB - EDC Area, as evaluated in Section 6 of the DTSC-approved RAP, also apply to the Site. Table 6-1 of the DTSC-approved RAP summarizes the ARARs relevant to the former OARB and to the Site (EKI, 2002a). In addition, the requirement for the land use covenant, California Code of Regulations, Title 22, section 67391.1, will be satisfied by the execution and recording of the Covenant, which shall be substantively the same as Appendix A to this RAP Amendment, in conjunction with transfer of the Site.

7. REMEDIAL ACTION OBJECTIVES AND RISK-BASED REMEDICATION GOALS

The Remedial Action Objectives ("RAOs") and risk-based Remediation Goals established for the Former OARB - EDC Area in the DTSC-approved RAP are adopted for the Site. These RAOs and Remediation Goals were developed with consideration of potentially complete exposure pathways, as well as chemical-specific ARARs. The RAOs for soil and groundwater are described in detail in Section 7 of the DTSC-approved RAP. The calculations of the risk-based Remediation Goals to achieve the specific RAOs, including equations used and input parameters, are described in Sections 7.3 to 7.5 of the DTSC-approved RAP. Remediation Goals for each COC for application at the Site are taken from the DTSC-approved RAP and are listed in Table 3 of this RAP Amendment.

Remediation Goals for most COCs identified at the Site are risk-based Remediation Goals that are the lowest calculated values of the non-carcinogenic or carcinogenic risk goal for each COC that are protective of all potentially exposed populations as identified previously in the DTSC-approved RAP. As noted in the tables, a chemical-specific ARAR or To-Be-Considered criterion was adopted as the remediation goal when it proved more stringent than the calculated human health risk-based Remediation Goals. The individual Remediation Goals in Table 3 represent the maximum allowable concentrations for the respective COCs, determined according to protocols described in the DTSC-approved RAP.

As noted in Table 3, the Army's Fuel Storage Tank Sites Cleanup Levels for the Former OARB - EDC Area (IT, 2000a) are adopted as the site-specific Remediation Goals for petroleum hydrocarbons in soil and groundwater at the Site, as described in the DTSC-approved RAP. With respect to TPHk, rather than calculate risk-based Remediation Goals for TPHk in soil and groundwater, the Remediation Goals for TPHg in soil and groundwater established in the DTSC-approved RAP are conservatively adopted in this RAP Amendment as the site-specific Remediation Goals for TPHk, as presented in Table 3. In terms of mobility, volatility, and number of carbons per molecule, TPHk is generally considered an intermediate organic compound between TPHg and TPHd. The soil and groundwater Remediation Goals for TPHg are more stringent than those established in the DTSC-approved RAP for TPHd; thus, adoption of the TPHg Remediation Goal for application to TPHk for the Site is considered conservative and sufficient for protection of human health and the environment.

8. IDENTIFICATION, SCREENING, AND SELECTION OF REMEDIAL ALTERNATIVES

Following Comprehensive Environmental Responsibility, Compensation, and Liability Act ("CERCLA") methodologies in U.S. EPA (1998) *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, a range of remedial technologies and alternatives were identified and screened, pursuant to NCP regulation, 40 C.F.R. part 300.430(e)(7), against the following three criteria: effectiveness; implementability; and cost. Once the remedial alternatives were screened, a detailed analysis consisting of an assessment of individual alternatives against each of the nine NCP evaluation criteria was performed, as described in detail in Section 10 the DTSC-approved RAP.

8.1 IDENTIFICATION AND SCREENING OF ALTERNATIVES

8.1.1 No Action Alternative

- **No action for soil and groundwater:** The no action alternative for soil and groundwater is not retained for further analysis because it will not protect human health and the environment and maintain protection over time.

8.1.2 Action Alternatives

- **Conduct a Remedial Investigation and prepare a separate Remedial Action Plan including an evaluation of its own RAOs, remediation goals, and remedial alternatives:** This alternative is not retained for further analysis because the contiguous property was evaluated in a DTSC-approved RAP and the contiguous property shares similar past uses as well as types and concentrations of potential COCs with the Site. The DTSC-approved RAP evaluated RAOs, remediation goals, and remedial alternatives in a site-specific, robust manner that is applicable to the Site. Amending the DTSC-approved RAP is convenient and efficient for selecting remedies for the Site that are protective of human health and the environment due to the similarities of past land uses and planned future land uses between the Subaru Lot and the Former OARB – EDC Area.
- **Amend the existing DTSC-approved RAP and evaluate the remedial alternatives retained for detailed analysis in the RAP Amendment:** This alternative is retained for further detailed analysis.

8.2 DETAILED ANALYSIS OF ALTERNATIVES

The following individual remedial alternatives were retained from the original, DTSC-approved RAP for a detailed analysis. For this RAP Amendment, an analysis was performed consisting of an assessment against each of the nine NCP evaluation criteria, as described in detail in Section 10 the DTSC-approved RAP. The following is a summary of the results of the detailed analysis:

Excavate, conduct ex-situ immobilization, dispose of soil off-site, and monitor groundwater: This alternative is retained but not selected because identified COCs concentrations in soil and groundwater at the Site are less than Remediation Goals.

Excavate and dispose of soil off-site and perform in-situ treatment of shallow water-bearing zone and monitor groundwater: This alternative is retained but not selected because identified COCs concentrations in soil and groundwater at the Site are less than Remediation Goals.

Excavate and dispose of soil off-site, and monitor groundwater as needed: This alternative is retained but not selected because identified COCs concentrations in soil and groundwater at the Site are less than Remediation Goals.

Install vapor barrier with sub-slab depressurization system beneath new buildings and monitor groundwater: This alternative is retained but not selected because identified COCs concentrations in groundwater at the Site are less than Remediation Goals.

Install vapor barrier beneath new buildings and monitor groundwater: This alternative is retained but not selected because identified COCs concentrations in groundwater at the Site are less than Remediation Goals.

Perform in-situ bioremediation in shallow water-bearing zone and monitor groundwater: This alternative is retained but not selected because identified COCs concentrations in groundwater at the Site are less than Remediation Goals.

Perform chemical oxidation / reduction in shallow water-bearing zone and monitor groundwater: This alternative is retained but not selected because identified COCs concentrations in groundwater at the Site are less than Remediation Goals.

Monitored natural attenuation: This alternative is retained but not selected because identified COCs concentrations in groundwater at the Site are less than Remediation Goals.

Institutional controls: This is the selected alternative for the Site because although no COCs have been identified at concentrations in soil and groundwater at the Site above Remediation Goals, the Remediation Goals are not suitable for unrestricted land use. The Remediation Goals were developed considering a set of potentially complete exposure pathways recognizing that all remedial actions would include institutional controls alone to limit land use and groundwater extraction and use, or in combination with engineering controls, to ensure that exposure of Site occupants and workers under planned commercial and industrial land uses does not take place above the risk-based objectives, as established in the DTSC-approved RAP.

8.3 SELECTED REMEDY

The proposed remedy for the contamination at the Site is amending the existing DTSC-approved RAP to include the Site in the DTSC-approved RAP, and then selecting an appropriate remedy from among those identified in the DTSC-approved RAP. The appropriate remedy proposed for the Site is institutional controls, which will be in the form of a Covenant. The Covenant will include the following environmental restrictions and Implementation and Enforcement Plan requirements:

8.3.1 Environmental Restrictions

- Sensitive land uses, including, but not limited to, residential housing, schools for persons under 18 years of age, day-care facilities for children, hospitals, and hospices are prohibited. Reuse of Site soil outside of the Site boundary for any purpose is permitted only with the written approval of DTSC.
- The construction of groundwater wells and extraction of groundwater from new and/or existing wells for any purpose are permitted only with the written approval of DTSC. Construction dewatering activities are permitted subject to all applicable local and State requirements, including those of the California Regional Water Quality Control Board, for disposing of the liquid from dewatering activities.

8.3.2 Implementation and Enforcement Plan

All current and successive property owners shall comply with the Implementation and Enforcement Plan which includes the following requirements:

- A written report shall be submitted to DTSC annually. The report submittal date shall be within thirty (30) days following the anniversary date of the initial property transfer. The report shall include: (1) inspection results, (2) a certification attesting to the compliance of the terms and conditions of the Covenant, and (3) a discussion on any dewatering activities and final disposition of the liquid, violations of the Covenant, and any action taken to ensure compliance with the Covenant.
- DTSC shall be provided with reasonable right of entry and access to the property for periodic inspections to ensure compliance with the Covenant.

8.3.3 Justification for the Selected Remedy

The remaining detected maximum COC concentrations in soil and groundwater are below the Remediation Goals established for industrial / commercial land use; however, the concentrations are not protective for unrestricted land use by sensitive populations. By requiring environmental restrictions and an Implementation and Enforcement Plan, the institutional controls selected in this RAP Amendment will be protective of human health and the environment under an industrial / commercial land use scenario. The following table compares the remaining detected maximum COC concentrations with different health based benchmarks:

<u>COC in Soil</u>	<u>Maximum Detected Concentration</u> <u>mg/kg</u>	<u>Remediation Goal, mg/kg (a)</u>	<u>Residential Screening Level</u> <u>mg/kg (b)</u>
Kerosene	1,700	2,400	100
Diesel	1,700	2,400	100
Arsenic	9.2	20	0.39
Lead	160	750	150
PCB Aroclor 1260	0.76	1.8	0.22

<u>COC in Groundwater</u>	<u>Maximum Detected Concentration, $\mu\text{g/L}$</u>	<u>Remediation Goal, $\mu\text{g/L}$ (a)</u>	<u>Potable Level, $\mu\text{g/L}$ (c)</u>
Kerosene	1,000	7,280	100
Diesel	1,000	9,600	100
Arsenic	15	Unevaluated	0.045
Manganese	2,300	Unevaluated	880

- (a) The remediation goals are from Table 3 of this RAP Amendment.
- (b) The metal and PCB residential screening levels for soil are from U.S. EPA, Region IX, residential preliminary remediation goals ("PRGs"). The kerosene and diesel residential screening levels for soil are from the RWQCB Environmental Screening Levels ("ESLs") assuming potable groundwater (U.S. EPA, Region IX, 2002; RWQCB, 2003).
- (c) The RWQCB's ESLs are used for kerosene and diesel assuming the groundwater is potable. The U.S. EPA, Region IX tap water PRGs are used for arsenic and manganese.

On the basis of the results of OBRA's Phase II Investigation, previous implementation of active remediation by prior tenants of the Army, and consultation with DTSC, implementation of the RMP, which is Appendix E of the DTSC-approved RAP, is not part of the selected remedy. However, in the event that the nature and extent of encountered COC releases at the Site are found to differ significantly from the conditions described in this RAP Amendment and in OBRA's Phase II Investigation Report (EKI, 2003d), the appropriateness of selected remedial alternatives will be re-evaluated by the Site owner in consultation with DTSC. If the response measures contained in the DTSC-approved RAP are believed to be inappropriate for newly identified releases, the Site owner will consult with DTSC to determine appropriate actions.

9. REMEDIAL ACTION IMPLEMENTATION SCHEDULE

Once DTSC approves this RAP Amendment the Army will implement the remedy selected in this RAP Amendment through execution and recordation of the Covenant identified in Section 8. The Covenant will be executed and recorded as part of the transfer of the Site. It is intended that the selected remedy, institutional controls in the form of the Covenant, be the final remedy for the Site. Upon implementation of the final remedy, DTSC will determine whether all necessary remediation at the Site has been completed. Once that determination is made, DTSC will issue a certification letter to the Army concurring that the Army has completed all remediation on the Site. At that time, DTSC anticipates being able to concur with the FOST. The Army uses the FOST to document that all required remediation or other remedies have been implemented prior to transfer.

The Covenant will be recorded in the Alameda County Assessor's Office, run with the land, bind all owners of the land, their heirs, successors, and assignees, and the agents, employees, lessees, or renters of the owners, heirs, successors, and assignees. The Covenant will continue in perpetuity unless modified or terminated in accordance with applicable law.

10. NONBINDING ALLOCATION OF RESPONSIBILITY

On the basis of available information presented herein, there are no identified areas requiring additional active remediation on the Site. However, the imposition of institutional controls consisting of the land and groundwater use restrictions described in Section 8 is the selected remedial action for these parcels. As required by the California Health and Safety Code section 25356.1(e), which calls for a nonbinding preliminary allocation of responsibility, this section finds that the USAR and the Army are responsible for putting these institutional controls in place.

TABLE 1
CHEMICALS OF CONCERN IN SOIL (a)
 Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (mg/kg)	Maximum Concentration Detected (mg/kg)
Metals					
Antimony	25	0	0%	ND (b)	ND
Arsenic	25	25	100%	0.63	9.2
Barium	25	25	100%	14	120
Beryllium	25	4	16%	0.3	0.5
Cadmium	25	3	12%	0.27	1.2
Chromium (III)	--	--	--	--	--
Chromium (VI)	--	--	--	--	--
Chromium, Total	25	25	100%	0.55	48
Cobalt	25	9	36%	5.5	11
Copper	25	21	84%	5.4	25
Lead	79	79	100%	1.7	160
Manganese	25	25	100%	120	940
Mercury	25	22	88%	0.13	1.5
Molybdenum	25	0	0%	--	--
Nickel	25	11	44%	14	41
Selenium	25	0	0%	ND	ND
Silver	25	0	0%	ND	ND
Thallium	25	0	0%	ND	ND
Vanadium	25	25	100%	1.9	25
Zinc	25	25	100%	18	120

TABLE 1
CHEMICALS OF CONCERN IN SOIL (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (mg/kg)	Maximum Concentration Detected (mg/kg)
Volatile Organic Compounds					
1,1,2,2-tetrachloroethane	25	0	0%	ND	ND
1,1,2-trichloroethane	25	0	0%	ND	ND
1,1-dichloroethane	25	0	0%	ND	ND
1,1-dichloroethene	25	0	0%	ND	ND
1,2,3-tripchloropropane	24	0	0%	ND	ND
1,2,4-trimethylbenzene	24	0	0%	ND	ND
1,2-Dichloroethane	36	0	0%	ND	ND
1,2-Dichloropropane	25	0	0%	ND	ND
1,3,5-trimethylbenzene	24	0	0%	ND	ND
Acetone	25	0	0%	ND	ND
Benzene	200	0	0%	ND	ND
Bromodichloromethane	25	0	0%	ND	ND
Carbon disulfide	25	0	0%	ND	ND
Carbon tetrachloride	25	0	0%	ND	ND
Chloroform	25	0	0%	ND	ND
Dibromochloromethane	25	0	0%	ND	ND
cis-1,2-dichloroethene	25	0	0%	ND	ND
trans-1,2-dichloroethene	25	0	0%	ND	ND
Ethylbenzene	201	2	1%	0.068	0.2
Isopropylbenzene (Cumene)	24	0	0%	ND	ND

TABLE 1
CHEMICALS OF CONCERN IN SOIL (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (mg/kg)	Maximum Concentration Detected (mg/kg)
Volatile Organic Compounds					
Methyl ethyl ketone	1	0	0%	ND	ND
Methyl isobutyl ketone	1	0	0%	ND	ND
Methyl tertiary butyl ether	24	0	0%	ND	ND
Methylene chloride	25	0	0%	ND	ND
n-butylbenzene	24	0	0%	ND	ND
n-propylbenzene (isocumene)	24	0	0%	ND	ND
p-cymene (p-isopropyltoluene)	24	0	0%	ND	ND
sec-butylbenzene	24	0	0%	ND	ND
tert-butylbenzene	24	0	0%	ND	ND
Tetrachloroethene	25	0	0%	ND	ND
Toluene	200	3	2%	0.005	0.73
Trichloroethene	25	0	0%	ND	ND
Trichlorofluoromethane	25	0	0%	ND	ND
Vinyl chloride	25	0	0%	ND	ND
Xylenes, Total	177	4	2%	0.006	0.42

TABLE 1
CHEMICALS OF CONCERN IN SOIL (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (mg/kg)	Maximum Concentration Detected (mg/kg)
Semi-volatile Organic Compounds					
Acenaphthene	39	0	0%	ND	ND
Acenaphthylene	39	0	0%	ND	ND
Anthracene	39	0	0%	ND	ND
Benzidine	--	--	--	--	--
Benzo(a)anthracene	39	0	0%	ND	ND
Benzo(a)pyrene	39	1	3%	0.06	0.06
Benzo(b)fluoranthene	39	9	23%	0.052	0.43
Benzo(b,k)fluoranthene	--	--	--	--	--
Benzo(g,h,i)perylene	39	0	0%	ND	ND
Benzo(k)fluoranthene	39	0	0%	ND	ND
Bis(2-ethylhexyl)phthalate	1	0	0%	ND	ND
Chrysene	39	2	5%	0.05	0.059
Dibenz(a,h)anthracene	39	0	0%	ND	ND
Fluoranthene	39	2	5%	0.064	0.08
Fluorene	39	0	0%	ND	ND
Hexachlorobutadiene	1	0	0%	ND	ND
Indeno(1,2,3-c,d)pyrene	39	0	0%	ND	ND
Naphthalene	39	0	0%	ND	ND
Phenanthrene	39	1	3%	0.072	0.072
Pyrene	39	2	5%	0.1	0.12

TABLE 1
CHEMICALS OF CONCERN IN SOIL (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (mg/kg)	Maximum Concentration Detected (mg/kg)
Total Petroleum Hydrocarbons					
TPH Diesel	116	17	15%	1.4	1,700
TPH Gasoline	6	0	0%	ND	ND
TPH Kerosene	208	52	25%	1.3	1,700
TPH Motor Oil	102	63	62%	6.5	260
TPH Recoverable	63	12	19%	4.8	430
PCBs, Pesticides, and Herbicides					
Aldrin	4	0	0%	ND	ND
Alpha BHC	4	0	0%	ND	ND
Alpha endosulfan (Endosulfan I)	4	0	0%	ND	ND
Alpha chlordane	4	0	0%	ND	ND
Gamma chlordane	4	0	0%	ND	ND
Dieldrin	4	0	0%	ND	ND
Endosulfan sulfate	4	0	0%	ND	ND
Endrin	4	0	0%	ND	ND
Endrin aldehyde	4	0	0%	ND	ND
Endrin ketone	4	0	0%	ND	ND
Gamma BHC (Lindane)	4	0	0%	ND	ND
Heptachlor	4	0	0%	ND	ND
Heptachlor epoxide	4	0	0%	ND	ND
4,4'-DDD	4	0	0%	ND	ND
4,4'-DDE	4	0	0%	ND	ND
4,4'-DDT	4	1	25%	0.067	0.067

TABLE 1
CHEMICALS OF CONCERN IN SOIL (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (mg/kg)	Maximum Concentration Detected (mg/kg)
PCBs, Pesticides, and Herbicides					
Pentachlorophenol	5	1	20%	0.019	0.019
Toxaphene	4	0	0%	ND	ND
PCB-1248 (Aroclor-1248)	24	0	0%	ND	ND
PCB-1260 (Aroclor-1260)	24	8	33%	0.02	0.76

Abbreviations:

RAP / RMP = Remedial Action Plan / Risk Management Plan (EKI, 2002a, 2002b)

ND = Not Detected

-- = No data available at former Parcels 6 and 7 for this compound.

µg/L = microgram per liter

TPH = Total Petroleum Hydrocarbons

Notes:

- (a) All chemicals of concern identified at the Former Oakland Army Base - EDC Area in the RAP / RMP (EKI, 2002a, 2002b) were retained as COCs for former Parcels 6 and 7. Only analytical results that are representative of the current environmental conditions were retained and reported on this table (e.g., excavated soil results are not included - see Section 5 of the text).
- (b) Analytical laboratory reporting limits for samples reported as "ND" were typically less than screening levels for soil, such as the RWQCB's Environmental Screening Levels ("ESLs") for residential uses. In all cases, detection limits were less than the risk-based Remediation Goals for the Site.

TABLE 2
CHEMICALS OF CONCERN IN GROUNDWATER (a)
 Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)
Metals					
Antimony	16	0	0%	ND (b)	ND
Arsenic	17	7	41%	5	15
Barium	16	16	100%	22	180
Beryllium	16	0	0%	ND	ND
Cadmium	55	7	13%	0.2	16
Chromium	50	7	14%	10	30
Chromium, Dissolved	10	0	0%	ND	ND
Chromium (III)	--	--	--	--	--
Chromium (VI)	--	--	--	--	--
Chromium, Total	2	0	0%	ND	ND
Cobalt	16	0	0%	ND	ND
Copper	16	2	13%	10	19
Lead	38	7	18%	2	40
Lead, Dissolved	10	1	10%	11	11
Manganese	6	6	100%	250	23,000
Mercury	17	2	12%	0.22	0.52
Molybdenum	16	1	6%	37	37
Nickel	17	0	0%	ND	ND
Selenium	16	1	6%	8.4	8.4
Silver	16	0	0%	ND	ND
Thallium	16	0	0%	ND	ND
Vanadium	16	1	6%	13	13
Zinc	17	1	6%	42	42

TABLE 2
CHEMICALS OF CONCERN IN GROUNDWATER (a)
 Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)
Volatile Organic Compounds					
1,1,2,2-Tetrachloroethane	15	0	0%	ND	ND
1,1,2-Trichloroethane	15	0	0%	ND	ND
1,1-Dichloroethane	15	0	0%	ND	ND
1,1-Dichloroethene	15	0	0%	ND	ND
1,2,3-tripchloropropane	13	0	0%	ND	ND
1,2,4-trimethylbenzene	13	0	0%	ND	ND
1,2-Dichloroethane	45	0	0%	ND	ND
1,2-Dichloropropane	15	0	0%	ND	ND
1,3,5-trimethylbenzene	13	0	0%	ND	ND
Acetone	15	0	0%	ND	ND
Benzene	97	0	0%	ND	ND
Bromodichloromethane	15	0	0%	ND	ND
Carbon disulfide	15	0	0%	ND	ND
Carbon tetrachloride	15	0	0%	ND	ND
Chloroform	15	0	0%	ND	ND
Dibromochloromethane	15	0	0%	ND	ND
cis-1,2-dichloroethene	15	0	0%	ND	ND
trans-1,2-dichloroethene	15	0	0%	ND	ND
Ethylbenzene	97	6	6%	0.5	21
Isopropylbenzene (Cumene)	13	0	0%	ND	ND
Methyl ethyl ketone	2	0	0%	ND	ND
Methyl isobutyl ketone	2	0	0%	ND	ND

TABLE 2
CHEMICALS OF CONCERN IN GROUNDWATER (a)
 Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)
Volatile Organic Compounds					
Methyl tertiary butyl ether	15	0	0%	ND	ND
Methylene chloride	15	0	0%	ND	ND
n-butylbenzene	13	0	0%	ND	ND
n-propylbenzene	13	1	8%	1.7	1.7
p-cymene (p-isopropyltoluene)	13	0	0%	ND	ND
sec-butylbenzene	13	0	0%	ND	ND
tert-butylbenzene	13	0	0%	ND	ND
Tetrachloroethene	15	0	0%	ND	ND
Toluene	97	2	2%	0.7	1
Trichloroethene	15	0	0%	ND	ND
Trichlorofluoromethane	15	0	0%	ND	ND
Vinyl chloride	15	0	0%	ND	ND
Xylenes, Total	86	9	10%	0.5	24
Semi-volatile Organic Compounds					
Acenaphthene	--	--	--	--	--
Anthracene	--	--	--	--	--
Fluorene	--	--	--	--	--
Naphthalene	--	--	--	--	--
Phenanthrene	--	--	--	--	--
Pyrene	--	--	--	--	--

TABLE 2
CHEMICALS OF CONCERN IN GROUNDWATER (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemicals of Concern	Number of Total Samples	Number of Samples with Detection	Detection Frequency (percentage)	Minimum Concentration Detected (µg/L)	Maximum Concentration Detected (µg/L)
Total Petroleum Hydrocarbons (c)					
TPH Diesel	96	6	6%	60	14,000
TPH Gasoline	8	0	0%	ND	ND
TPH Kerosene	97	16	16%	570	780,000
TPH Motor Oil	30	0	0%	ND	ND
TPH Recoverable	27	9	33%	1,100	570,000

Abbreviations:

RAP / RMP = Remedial Action Plan / Risk Management Plan (EKI, 2002a, 2002b)

ND = Not Detected

-- = No data available at former Parcels 6 and 7 for this compound.

µg/L = microgram per liter

TPH = Total Petroleum Hydrocarbons

Notes:

- (a) All chemicals of concern identified at the Former Oakland Army Base - EDC Area in the RAP / RMP (EKI, 2002a, 2002b) were retained as COCs for former Parcels 6 and 7. With the exception of TPH in groundwater (see Note (c) below), only analytical results that are considered representative of the current environmental conditions were retained and reported on this table (See Section 5 of the text).
- (b) Analytical laboratory reporting limits for samples reported as "ND" were typically less than screening levels for groundwater, such as maximum contaminant levels ("MCLs") and screening levels in the San Francisco Bay Basin Plan. In all cases, detection limits were less than the risk-based Remediation Goals for the Site.
- (c) The maximum concentrations detected for TPH Diesel, TPH Kerosene, and TPH Recoverable, were detected in historic groundwater samples collected on 15 August 1994, 28 August 1992, and 9 May 1991, respectively. The locations from which these samples were collected have since been remediated during remedial activities conducted on behalf of Southern Pacific Transportation Company ("SPTCo") in 1995 and 1996.

TABLE 3
REMEDIATION GOALS FOR CHEMICALS OF CONCERN
IN SOIL AND GROUNDWATER (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemical of Concern	Soil Remediation Goal at HI=1 or Risk = 10 ⁻⁶ (mg/kg)	Population or Pathway Governing Soil Remediation Goal (see Table 7-10)	Groundwater Remediation Goal at HI=1 or Risk = 10 ⁻⁶ (µg/L)
Metals			
Antimony	280	Construction Worker	(b)
Arsenic	20	Construction Worker	(b)
Barium	43,000	Construction Worker	(b)
Beryllium	1,300	Construction Worker	(b)
Cadmium	150	Construction Worker	(b)
Chromium (III)	MAX(100,000); (g)	--	(b)
Chromium (VI)	86	Construction Worker	(b)
Chromium, Total	600 (h)	Construction Worker	(b)
Cobalt	42,000	Construction Worker	(b)
Copper	26,000	Construction Worker	(b)
Lead	750 (i)	See Note (i)	(b)
Manganese	25,000	Construction Worker	(b)
Mercury	60	Construction Worker	(b)
Molybdenum	3,500	Construction Worker	(b)
Nickel	14,000	Construction Worker	(b)
Selenium	3,500	Construction Worker	(b)
Silver	3,500	Construction Worker	(b)
Thallium	49	Construction Worker	(b)
Vanadium	4,900	Construction Worker	(b)
Zinc	MAX(100,000); (g)	--	(b)
Volatile Organic Compounds			
1,1,2,2-tetrachloroethane	3.8	Leaching to Groundwater (c)	1,900
1,1,2-trichloroethane	2.7	Indoor Worker	2,800
1,1-dichloroethane	2.1	Leaching to Groundwater (c)	6,700
1,1-dichloroethene	1.7	Leaching to Groundwater (c)	33,000
1,2,3-trichloropropane	0.2	Indoor Worker	100
1,2,4-trimethylbenzene	170	Construction Worker	18,000
1,2-dichloroethane	0.8	Indoor Worker	1,900
1,2-dichloropropane	0.1	Indoor Worker	110
1,3,5-trimethylbenzene	87	Construction Worker	25,000
Acetone	0.5	Leaching to Groundwater (c)	86,000,000
Benzene	0.3	Indoor Worker	420
Bromodichloromethane	0.7	Indoor Worker	850
Carbon disulfide	950	Indoor Worker	230,000
Carbon tetrachloride	0.1	Indoor Worker	72
Chloroform	0.9	Leaching to Groundwater (c)	2,500

**TABLE 3
REMEDIATION GOALS FOR CHEMICALS OF CONCERN
IN SOIL AND GROUNDWATER (a)
Subaru Lot, Former Parcels 6 and 7**

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemical of Concern	Soil Remediation Goal at HI=1 or Risk = 10 ⁻⁶ (mg/kg)	Population or Pathway Governing Soil Remediation Goal (see Table 7-10)	Groundwater Remediation Goal at HI=1 or Risk = 10 ⁻⁶ (µg/L)
Volatile Organic Compounds			
Dibromochloromethane	2.0	Leaching to Groundwater (c)	2,100
cis-1,2-dichloroethene	18	Leaching to Groundwater (c)	180,000
trans-1,2-dichloroethene	38	Leaching to Groundwater (c)	190,000
Ethylbenzene	24	Leaching to Groundwater (c)	4,200,000
Isopropylbenzene (Cumene)	SAT(3,800); (j)	--	1,800,000
Methyl ethyl ketone	13	Leaching to Groundwater (c)	160,000,000
Methyl isobutyl ketone	4	Leaching to Groundwater (c)	5,300,000
Methyl tertiary butyl ether	1	Leaching to Groundwater (c)	120,000
Methylene chloride	4.8	Leaching to Groundwater (c)	19,000
n-butylbenzene	550	Construction Worker	95,000
n-propylbenzene	350	Construction Worker	100,000
p-cymene (p-isopropyltoluene)	SAT(3,700); (j)	--	1,000,000
sec-butylbenzene	200	Leaching to Groundwater (c)	77,000
tert-butylbenzene	290	Construction Worker	75,000
Tetrachloroethene	2.8	Leaching to Groundwater (c)	960
Toluene	8.4	Leaching to Groundwater (c)	1,600,000
Trichloroethene	2.5	Indoor Worker	2,800
Trichlorofluoromethane	3,600	Indoor Worker	2,800,000
Vinyl chloride	0.05	Indoor Worker	32
Xylenes, Total	1	Indoor Worker	28,000,000
Semi-volatile Organic Compounds			
Acenaphthene	16	Leaching to Groundwater (c)	25,000,000
Acenaphthylene	120	Leaching to Groundwater (c)	(b)
Anthracene	2.9	Leaching to Groundwater (c)	330,000,000
Benzidine	0.02	Construction Worker	(b)
Benzo(a)anthracene	7.6	Construction Worker	(b)
Benzo(a)pyrene	0.8	Construction Worker	(b)
Benzo(b)fluoranthene	7.6	Construction Worker	(b)
Benzo(b,k)fluoranthene	7.6	Construction Worker	(b)
Benzo(g,h,i)perylene	5.3	Leaching to Groundwater (c)	(b)
Benzo(k)fluoranthene	7.6	Construction Worker	(b)
Bis(2-ethylhexyl)phthalate	SAT(100); (j)	--	(b)
Chrysene	4.7	Leaching to Groundwater (c)	(b)
Dibenz(a,h)anthracene	2.2	Construction Worker	(b)
Fluoranthene	60	Leaching to Groundwater (c)	(b)
Fluorene	5.1	Leaching to Groundwater (c)	38,000,000

**TABLE 3
REMEDIATION GOALS FOR CHEMICALS OF CONCERN
IN SOIL AND GROUNDWATER (a)
Subaru Lot, Former Parcels 6 and 7**

Heroic War Dead United States Army Reserve Center, Oakland, California

Chemical of Concern	Soil Remediation Goal at HI=1 or Risk = 10 ⁻⁶ (mg/kg)	Population or Pathway Governing Soil Remediation Goal (see Table 7-10)	Groundwater Remediation Goal at HI=1 or Risk = 10 ⁻⁶ (µg/L)
Semi-volatile Organic Compounds			
Hexachlorobutadiene	46	Leaching to Groundwater (c)	(b)
Indeno(1,2,3-c,d)pyrene	7.6	Construction Worker	(b)
Naphthalene	4.9	Leaching to Groundwater (c)	100,000
Phenanthrene	11	Leaching to Groundwater (c)	520,000,000
Pyrene	55	Leaching to Groundwater (c)	200,000,000
Total Petroleum Hydrocarbons			
TPHd	8,000 (d)	See Note (d)	9,600 (d)
TPHg	2,400 (d)	See Note (d)	7,280 (d)
TPHk	2,400 (d),(e)	See Note (d),(e)	7,280 (d),(e)
TPHmo	58,000 (d)	See Note (d)	(b)
TPHr	(f)	See Note (f)	(f)
PCBs, Pesticides, and Herbicides			
Aldrin	1.2	Construction Worker	(b)
Alpha BHC	7.1	Construction Worker	(b)
Alpha endosulfan (Endosulfan I)	1,300	Construction Worker	(b)
Alpha chlordane	16	Construction Worker	(b)
Gamma chlordane	16	Construction Worker	(b)
Dieldrin	0.002	Leaching to Groundwater (c)	(b)
Endosulfan sulfate	1,500	Construction Worker	(b)
Endrin	0.001	Leaching to Groundwater (c)	(b)
Endrin aldehyde	91	Construction Worker	(b)
Endrin ketone	91	Construction Worker	(b)
Gamma BHC (Lindane)	17	Construction Worker	(b)
Heptachlor	0.013	Leaching to Groundwater (c)	(b)
Heptachlor epoxide	0.014	Leaching to Groundwater (c)	(b)
4,4'-DDD	89	Construction Worker	(b)
4,4'-DDE	54	Construction Worker	(b)
4,4'-DDT	4.3	Leaching to Groundwater (c)	(b)
Pentachlorophenol	42	Leaching to Groundwater (c)	(b)
Toxaphene	1.4	Construction Worker	(b)
PCB-1248 (Aroclor 1248)	1.8	Construction Worker	(b)
PCB-1260 (Aroclor 1260)	1.8	Construction Worker	(b)
Dioxin-like Compounds			
2,3,7,8-tetrachlorodibenzo-p-dioxin	0.0001	Construction Worker	(b)

TABLE 3
REMEDIATION GOALS FOR CHEMICALS OF CONCERN
IN SOIL AND GROUNDWATER (a)
Subaru Lot, Former Parcels 6 and 7

Heroic War Dead United States Army Reserve Center, Oakland, California

Abbreviations:

Former OAB - EDC = Former Oakland Army Base and Economic Development Conveyance

HI = Hazard Index

TPH = Total Petroleum Hydrocarbons

RAP = Remedial Action Plan

RMP = Risk Management Plan

TPHd = Total Petroleum Hydrocarbons quantified as diesel

TPHg = Total Petroleum Hydrocarbons quantified as gasoline

TPHk = Total Petroleum Hydrocarbons quantified as kerosene

TPHmo = Total Petroleum Hydrocarbons quantified as motor oil

TPHr = Total Petroleum Hydrocarbons quantified as recoverable

COC = Chemical of Concern

Notes:

- (a) Remediation goals for most COCs are risk-based remediation goals that are the lowest calculated values of the non-carcinogenic or carcinogenic risk goal for each COC that are protective of all potentially exposed populations. All remediation goals applicable at USAR Parcels 6 and 7, except if noted, are taken directly from the RAP / RMP (EKI, 2002a, 2002b).
- (b) Vapor intrusion is the only potentially complete exposure pathway for COCs in groundwater. Consequently, as described in Section 7.3.2 of the RAP / RMP (EKI, 2002a, 2002b), risk-based remediation goals for non-volatile compounds in groundwater were not calculated. However, the narrative goal is to prevent further significant increases of metals and other non-volatile COC concentrations in groundwater.
- (c) A more detailed evaluation should be considered if remediation goals based on leaching to groundwater govern the need for future remediation.
- (d) The Army's Fuel Storage Tank Sites Cleanup Levels (IT, 2000n) have been adopted as the site-specific remediation goals for petroleum hydrocarbons in soil and groundwater.
- (e) No remediation goals for TPHk were established in the Army's Fuel Storage Tank Sites Cleanup Levels (IT, 2000n), from which OBRA adopted site-specific remediation goals for petroleum hydrocarbons in soil and groundwater at the Former OAB - EDC. Rather than calculate risk-based remediation goals for TPHk, the remediation goals for TPHg in soil and groundwater established in the RAP / RMP (EKI, 2002) were conservatively adopted as the site-specific remediation goals for TPHk in soil and groundwater for former Parcels 6 and 7.
- (f) No site-specific goal was established for "TPH recoverable", which is generally considered to be weathered, high molecular weight residual TPH. TPH recoverable is normally managed to control nuisance conditions (e.g., odor or deficiency of impacted soil for structural purposes).
- (g) Prefix "MAX" denotes that the calculated risk-based concentration is 100,000 mg/kg or greater. A non-risk based "ceiling limit" concentration for metals and certain SVOCs that are solids at ambient temperatures is given as 100,000 mg/kg, consistent with U.S. EPA Region IX Preliminary Remediation Goals (U.S. EPA, 2000).
- (h) The remediation goal for total chromium was calculated from the chromium (III) and chromium (IV) remediation goal assuming a 1:6 ratio of chromium(VI) to chromium(III), consistent with U.S. EPA Region IX Preliminary Remediation Goals (U.S. EPA, 2000).
- (i) The U.S. EPA Region IX Preliminary Remediation Goal (U.S. EPA, 2000) has been adopted as the site-specific remediation goal for lead in soil.
- (j) Prefix "SAT" denotes risk-based value exceeds calculated soil saturation concentration, thus, the estimated saturation value is listed inside the parenthesis.



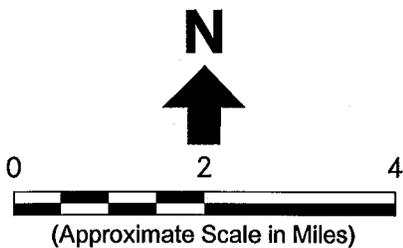
Reference: U.S.G.S. 1:100,000 Series Topographic Map, San Francisco Quadrangle, California, 1978.

Notes:

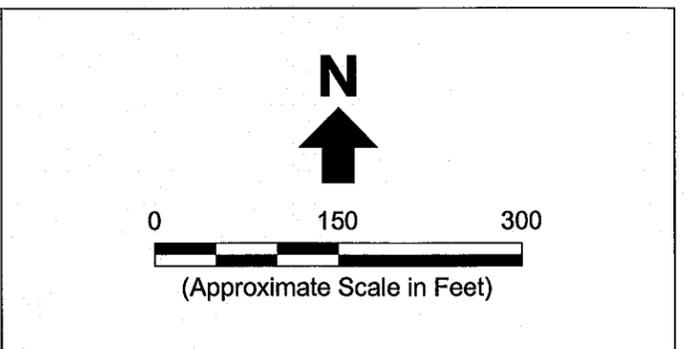
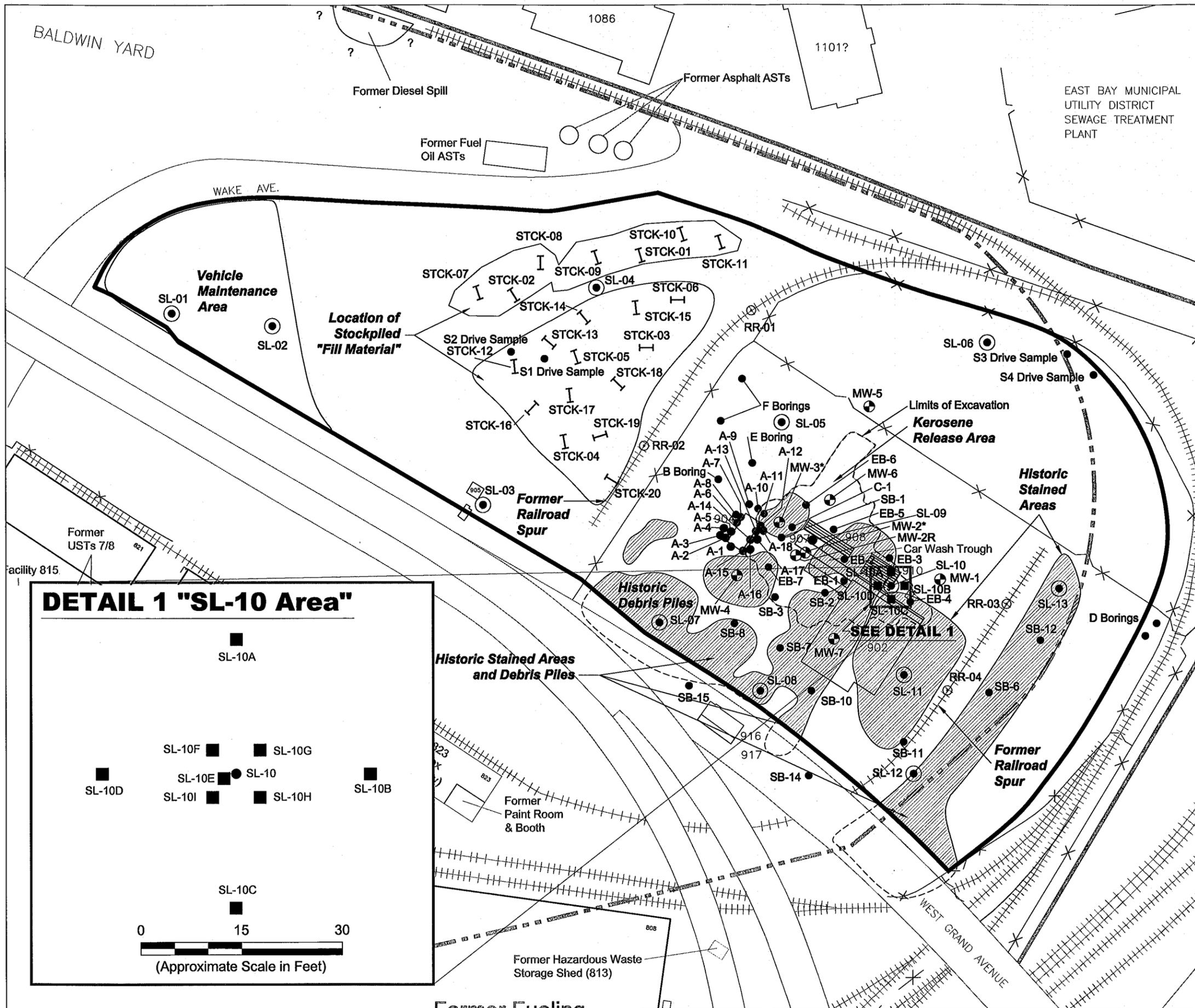
- 1. All locations are approximate.

**Erler &
Kalinowski, Inc.**

Site Location



Oakland, CA
July 2004
EKI A10063.01
Figure 1



- Notes:**
1. All locations are approximate.
 2. The historic stains and debris piles observed on aerial photographs appear to extend off-site beneath West Grand Avenue overpass in some locations.
 3. Figure taken from Phase II Investigation Report, Former Parcels 6 and 7, Former Oakland Army Base, Oakland, California, dated 12 September 2003. Prepared by EKI on behalf of the Oakland Base Reuse Authority.

Erler & Kalinowski, Inc.

Former Parcels 6 and 7
Phase II Sampling Locations

Oakland, CA
July 2004
EKI A10063.01
Figure 2

RECORDING REQUESTED BY:
United States
Department of the Army

WHEN RECORDED, MAIL TO:

Department of Toxic Substances Control
Sacramento Regional Office
8800 Cal Center Drive
Sacramento, California 95826-3268
Attn: Anthony J. Landis, P.E.
Chief, Northern California Operations
Office of Military Facilities

First American Title Guaranty Company hereby certifies that the within instrument is a true and correct copy of the original instrument recorded in the office of the recorder of the County Alameda, State of California,

on 11/18/04

Recorder's Serial No. 513848

FIRST AMERICAN TITLE GUARANTY COMPANY

By [Signature]

(Space above this line is reserved for recorder's use.)

COVENANT TO RESTRICT USE OF PROPERTY
ENVIRONMENTAL RESTRICTION

Subaru Lot
Former Oakland Army Base
Oakland, California

This Covenant to Restrict Use of Property ("Covenant") is made by and between the United States Department of the Army, herein referred to as the "Covenantor," the current owner of property known as the Subaru Lot situated in Oakland, County of Alameda, State of California, described in Exhibit A, which is attached and incorporated here by this reference, herein referred to as the "Property" or "Subaru Lot", and the State of California, Department of Toxic Substances Control ("DTSC"). Pursuant to California Civil Code ("Civil Code") section 1471(a)(3), DTSC has determined that this Covenant is reasonably necessary to protect present or future human health or safety or the environment. The Covenantor and DTSC, collectively referred to as the "Parties," hereby agree that in accordance with Civil Code section 1471, California Health and Safety Code sections 25222.1 and 25355.5, and California Code of Regulations, title 22, section 67391.1, that the use of the Property be restricted as set forth in this Covenant to protect human health, safety, and the environment and that this Covenant shall run with the land.

ARTICLE I STATEMENT OF FACTS

1.01 The Property, approximately 19 acres, is more particularly described and depicted in Exhibit A. Exhibit A contains a legal description and maps showing the boundary of the Property. The Property is part of the former Oakland Army Base, in the County of Alameda, State of California.

1.02 The Property is located adjacent to the portion of the Oakland Army Base transferred to the Oakland Base Reuse Authority ("OBRA") by a no-cost Economic Development Conveyance ("EDC Property"). The EDC Property is subject to the Remedial Action Plan Oakland Army Base Oakland, California, dated September 27, 2002 ("RAP") and accompanying Risk Management Plan Oakland Army Base Oakland, California, dated September 27, 2002 ("RMP"). The RAP describes contamination in various locations throughout the EDC Property that is known to be significant ("RAP sites"), and describes means by which such contamination will be remediated. The RMP identifies locations of known and yet unidentified contamination ("RMP locations"), determines presumptive style remedies for those locations and establishes risk management protocols site-wide.

1.03 The Property was used in the past for vehicle storage, operation of a small lumber mill with two rail spurs, as a vehicle servicing facility, and for stockpiling soil. In 1996, kerosene ("TPHk") contamination in the soil and groundwater resulting from the vehicle servicing facility activities was remediated under the oversight of the Regional Water Quality Control Board. Investigative site assessments performed under DTSC oversight in 2003 did not identify any contaminants of concern above risk based remediation goals; however, historical uses of the Property suggest that land use controls are nevertheless appropriate.

Based on the Amendment to Final Remedial Action Plan Oakland Army Base Oakland, California For Subaru Lot, Parcels 6 and 7 Heroic War Dead United States Army Reserve Center ("Subaru Lot RAP Amendment"), which determined that there are no RAP sites or RMP locations on the Subaru Lot, DTSC has concluded that the restrictions set forth in Article IV of this Covenant are necessary. DTSC has further concluded that the Property operated or occupied subject to the restrictions of this Covenant does not present an unacceptable threat to human safety or the environment.

ARTICLE II DEFINITIONS

2.01 Covenantor. "Covenantor" shall mean the Department of the Army, and its successors and assigns.

2.02 DTSC. "DTSC" means the State of California Department of Toxic Substances Control and includes its successor agencies, if any.

2.03 Occupant. "Occupant" shall mean owners and any person or entity entitled by leasehold, license, easement, servitude, agreement or other legal relationship to the right to enter and possess, occupy or improve any portion of the Property after Covenantor has conveyed the Property.

2.04 Owner. "Owner" means the Covenantor's successors in interest, and their successors in interest, including heirs and assigns, during their ownership of all or any portion of the Property.

ARTICLE III GENERAL PROVISIONS

3.01 Restrictions to Run with the Land. This Covenant sets forth protective provisions, covenants, restrictions, and conditions (collectively, "Environmental Restrictions"), subject to which the Property and every portion thereof shall be improved, held, used, occupied, leased, sold, hypothecated, encumbered, and/or conveyed. Each and every Environmental Restriction: (a) runs with the land pursuant to Health and Safety Code sections 25222.1 and/or 25355.5(a)(1)(C) and Civil Code section 1471; (b) inures to the benefit of and passes with each and every portion of the Property; (c) is for the benefit of, and is enforceable by DTSC; and (d) is imposed upon the entire Property unless expressly stated as applicable only to a specific portion of the Property.

3.02 Binding upon Owners and Lessees/Occupants. Pursuant to Health and Safety Code section 25355.5(a)(1)(C), this Covenant binds all Owners and Occupants of the Property, their heirs, successors, and assignees, and the agents, employees, and lessees of the owners, heirs, successors, and assignees. Pursuant to Civil Code section 1471 all successive owners of the Property and each person having any interest derived through any owner are expressly bound hereby for the benefit of DTSC.

3.03 Written Notification of the Presence of Hazardous Substances. Prior to the sale, lease, rent, or sublease of the Property, or any portion thereof, the owner, lessor, renter, or sublessor shall give the buyer, lessee, renter, or sublessee notice that hazardous substances are located on or beneath the Property, as required by Health and Safety Code section 25359.7.

3.04 Incorporation into Deeds, Leases, or Rental Agreements. The Environmental Restrictions set forth herein shall be incorporated by reference in each and all deeds, leases, or rental agreements entered into for any portion of the Property to which they are in effect and applicable.

3.05 Conveyance of Property. The Owner shall provide notice to DTSC not later than thirty (30) days after any conveyance of any ownership interest in the Property (excluding mortgages, liens, and other non-possessory encumbrances).

3.06 Access for DTSC. DTSC shall have reasonable right of entry and access to the Property for inspection, monitoring, and other activities consistent with the purposes of this

Covenant as deemed necessary by DTSC to protect the public health or safety or the environment.

3.07 Costs of Administering the Covenant to be Paid by Owner. The terms of this Covenant run with the land and will continue in perpetuity unless a variance is granted pursuant to section 6.01, or unless terminated pursuant to section 6.02. DTSC has incurred and will in the future incur costs associated with the administration of this Covenant. Therefore, the Owner hereby covenants for itself and for all subsequent owners that, pursuant to California Code of Regulations, title 22, section 67391.1(h), the property owner agrees to pay DTSC's costs associated with the administration of this Covenant. In the event that property ownership changes between the time DTSC incurs administrative costs and the invoice for such costs is received, each owner of the property for the period covered by the invoice as well as the current owner is responsible for such costs.

ARTICLE IV ENVIRONMENTAL RESTRICTIONS

4.01 Environmental Restrictions.

(a) Sensitive land uses, including, but not limited to, residential housing, schools for persons under 18 years of age, day-care facilities for children, hospitals, and hospices are prohibited. Reuse of Site soil outside of the Site boundary for any purpose is permitted only with the written approval of DTSC.

(b) The construction of groundwater wells and extraction of groundwater from new and/or existing wells for any purpose are permitted only with the written approval of DTSC. Construction dewatering activities are permitted subject to all applicable local and State requirements, including those of the California Regional Water Quality Control Board, for disposing of the liquid from dewatering activities.

4.02 Implementation and Enforcement Plan. All current and successive property owners shall comply with the Implementation and Enforcement Plan which includes the following requirements:

(a) A written report shall be submitted to DTSC annually. The report submittal date shall be within thirty (30) days following the anniversary date of the initial property transfer. The report shall include: (1) inspection results, (2) a certification attesting to the compliance of the terms and conditions of the Covenant, and (3) a discussion on any dewatering activities and final disposition of the liquid, violations of the Covenant, and any action taken to ensure compliance with the Covenant.

(b) DTSC shall be provided with reasonable right of entry and access to the property for periodic inspections to ensure compliance with the Covenant.

ARTICLE V ENFORCEMENT

5.01 Enforcement. Failure of the Owner to comply with any of the Environmental Restrictions specifically applicable to it shall be grounds for DTSC to obtain injunctive relief prohibiting commencement or continuation of any activities restricted by this Covenant. Actual or threatened violation of this Covenant, including but not limited to commencement or completion of any activities that violate this Covenant, may be prohibited or restrained, or the interest intended for protection by this Covenant may be enforced, by injunctive relief or any other remedy as provided by law.

ARTICLE VI VARIANCE, TERMINATION AND TERM

6.01 Variance. Covenantor, or any other aggrieved person, may apply to DTSC for a written variance from the provisions of this Covenant. Such application shall be made in accordance with Health and Safety Code section 25233. DTSC may modify the Covenant in accordance with California Code of Regulation, title 22, section 67391.1.

6.02 Termination. Covenantor, or any other aggrieved person, may apply to DTSC for a termination of the Environmental Restrictions or other terms of this Covenant as they apply to all or any portion of the Property. Such application shall be made in accordance with Health and Safety Code section 25234. DTSC may terminate the Covenant in accordance with California Code of Regulation, title 22, section 67391.1.

6.03 Term. Unless ended in accordance with the Termination paragraph above, by law, or by DTSC in the exercise of its discretion, this Covenant shall continue in effect in perpetuity.

ARTICLE VII MISCELLANEOUS

7.01 No Dedication Intended. Nothing set forth in this Covenant shall be construed to be a gift or dedication, or offer of a gift or dedication, of the Property, or any portion thereof to the general public or anyone else for any purpose whatsoever.

7.02 Recordation. The Covenantor shall record this Covenant, with Exhibit A, in the County of Alameda within ten (10) days of the Covenantor's receipt of a fully executed original.

7.03 Notices. Whenever any person gives or serves any notice ("notice" as used herein includes any demand or other communication with respect to this Covenant), each such notice shall be in writing and shall be deemed effective: (1) when delivered, if personally delivered to the person being served or to an officer of a corporate party being served, or (2)

three (3) business days after deposit in the mail, if mailed by United States mail, postage paid, certified, return receipt requested:

To Covenantor: Department of the Army
Commander, HQ 63D Regional Readiness Command
4235 Yorktown Avenue, Building 7
Los Alamitos, CA 90720-5002
Attention: Wayne J. Alves
Chief, Environmental Division

To DTSC: Department of Toxic Substances Control
Sacramento Regional Office
8800 Cal Center Drive
Sacramento, California 95826-3268
Attention: Anthony J. Landis, P.E.
Chief, Northern California Operations
Office of Military Facilities

Any party may change its address or the individual to whose attention a notice is to be sent by giving written notice in compliance with this paragraph.

7.04 Partial Invalidity. If any portion of this Environmental Restriction or other terms set forth herein are determined by a court of competent jurisdiction to be invalid for any reason, the surviving portions of this Covenant shall remain in full force and effect as if such portion found invalid had not been included.

7.05 Exhibit. The exhibit referenced in this Covenant is deemed incorporated into this Covenant by reference.

7.06 Section Headings. The section headings set forth in this Covenant are included for convenience and reference only and shall be disregarded in the construction and interpretation of any of the provisions of this Covenant.

7.07 Representative Authority. The undersigned representative of each party to this Covenant certifies that he or she is fully authorized to enter into the terms and conditions of this Covenant and to execute and legally bind that party to this Covenant.

7.08 Statutory References. All statutory references include successor provisions.

IN WITNESS WHEREOF, the Parties execute this Covenant.

Covenantor:

By: Joseph W. Whitaker Date: 31 Aug 2004
Joseph W. Whitaker
Deputy Assistant Secretary of the Army
Installations and Housing
Office of the Assistant Secretary of the Army for Installations and Environment

Department of Toxic Substances Control:

By: Anthony J. Landis Date: 8-9-04
Anthony J. Landis, P.E.
Chief, Northern California Operations
Office of Military Facilities

STATE OF California)

COUNTY OF Sacramento)

On this 9th day of August, in the year 2004, before me
Kathleen Duncan, a Notary Public in and for said State,
personally appeared Anthony J. Landis

personally known to me (or proved to me on the basis of satisfactory evidence) to be the
person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that
he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their
signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s)
acted, executed the instrument.

WITNESS my hand and official seal.



Signature Kathleen Duncan

STATE OF Virginia)

COUNTY OF Prince William)

On this 31st day of August, in the year 2004, before me
Gloria Johnson, a Notary Public in and for said State,
personally appeared JOSEPH W. WHITAKER,

personally known to me (or proved to me on the basis of satisfactory evidence) to be the
person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that
he/~~she~~/they executed the same in his/~~her~~/their authorized capacity(ies), and that by his/~~her~~/their
signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s)
acted, executed the instrument.

WITNESS my hand and official seal.

Signature


My Commission Expires October 31, 2008

EXHIBIT A

**LEGAL DESCRIPTION
AND
MAP OF PROPERTY**

Schedule 1.1 (87)
Legal Description
Subaru Lot
Oakland Army Base

All that certain real property situated in the City of Oakland, County of Alameda, State of California, described as follows:

Parcel 2C

A portion of the Parcels of land described in that certain Indenture between the Southern Pacific Company and the United States of America, recorded April 23, 1941, in Book 4017 of Official Records, Page 485 in the Office of the Recorder of said Alameda County (hereinafter referred to as 4017 O.R. 485); A portion of the lands described in that certain Final Judgment as to Interests of Defendant City of Oakland, A Municipal Corporation, United States of America vs. City of Oakland, et al., Case No. 21758-L, Case No. 21930-L, Case No. 22084-L, District Court of the United States in and for the Northern District of California, Southern Division, recorded February 24, 1960, Reel 032, Image 660 of Official Records in the Office of the Recorder of said Alameda County (hereinafter referred to as Reel: 32, Image:660); A portion of the lands described in that certain Final Judgment as to Parcel No. 6, United States of America vs. City of Oakland, State of California, et al., Case No. 21930-L, District Court of the United States in and for the Northern District of California, Southern Division, recorded May 23, 1960, Reel 092, Image 111 of Official Records, in the Office of the Recorder of said Alameda County (hereinafter referred to as Reel:092, Image:111), all of which are more particularly described as follows:

COMMENCING at City of Oakland monument No. 7SE13, said monument being a pin set in concrete in a monument well marking the intersection of the centerlines of Maritime Street and 10th Street, as said streets are shown on that unrecorded map entitled "Oakland Army Terminal Boundary Map" prepared by Wilsey & Ham Engineers in 1958 for the U.S. Army Corps of Engineers, File No. 45-I-286 (hereinafter referred to as the Army Map), said monument also being Port of Oakland Monument ID H006 as shown upon Record of Survey 990, filed for record in Book 18 of Records of Surveys, at Pages 50-60, Alameda County Official Records;

Thence North 48°22'05" East, 5692.24 feet to the northern most corner of Parcel 1, Tract 1 as described in said Final Judgment as to Tract 1 and as to Lack of Interests of Certain Persons as to Property Subject to the Above Action, United States of America vs. Santa Fe Land and Improvement Co., Southern Pacific Railroad Company, et al., Case No. 23099-S, District Court of the United States in and for the Northern District of California, Southern Division, recorded October 22, 1951 in Book 6566 of Official Records, Page 301 in the Office of the Recorder of said Alameda County (hereinafter referred to as 6566 O.R. 301), said corner being the northwest terminus of the course described as "North 71°40'17" West 585.40 feet" in the description of said Parcel 1, Tract 1 (6566 O.R. 301), said corner being marked by a 2 ½" brass disk with punch mark stamped "City of Oakland Survey Station 8NW9" as shown on Record of Survey No. 1705, filed in Book 26 of Records of Surveys, at Page 1, Alameda County Official Records;

Thence along the northwestern line of said Parcel 1, Tract 1 (6566 O.R. 301) South 79°57'58" West, 9.41 feet to the beginning of a non-tangent curve concave southwesterly, having a radius

of 599.96 feet and a central angle of $20^{\circ}37'16''$, from which beginning the radius point bears South $36^{\circ}18'10''$ West;

Thence along said curve to the right, an arc distance of 215.93 feet to a point on the generally northeastern line of Parcel A as described in an unrecorded "Transfer and Acceptance of Military Real Property" from the Military Traffic Management Command of the Oakland Army Base to the 63rd R.S.C., dated December 17, 1998, said Parcel A being commonly referred to as the "Subaru Lot" (said Parcel A will hereinafter be referred to as the Subaru Lot), being a point on the course described as "South $70^{\circ}14'01''$ East, 101.26 feet" in the description of said Parcel A (the Subaru Lot), and being the POINT OF BEGINNING of Parcel 15A as herein described;

Thence along the northeastern, eastern and southeastern lines of said Parcel A (the Subaru Lot) the following twelve courses:

- 1) South $70^{\circ}14'16''$ East, 42.04 feet to an angle point in said line, said point being marked by a $1\frac{1}{2}''$ brass disk with bolt stamped "LS 6379";
- 2) South $71^{\circ}46'24''$ East, 32.44 feet to an angle point in said line, said point being marked by a $1\frac{1}{2}''$ brass disk with bolt stamped "LS 6379";
- 3) South $74^{\circ}35'56''$ East, 103.17 feet to an angle point in said line, said point being marked by a $1\frac{1}{2}''$ brass disk with bolt stamped "LS 6379";
- 4) South $71^{\circ}25'40''$ East, 87.02 feet to the beginning of a non-tangent curve concave southwesterly, having a radius of 354.97 feet and a central angle of $59^{\circ}49'02''$, from which beginning the radius point bears South $30^{\circ}09'08''$ West, said beginning of curve being marked by a $1\frac{1}{2}''$ brass disk with bolt stamped "LS 6379";
- 5) along said curve to the right, an arc distance of 370.59 feet to the beginning of a compound curve concave westerly, having a radius of 199.99 feet and a central angle of $25^{\circ}52'29''$, said point of compound curvature being marked by a nail and washer with tag stamped "LS 6379";
- 6) along said curve to the right, an arc distance of 90.32 feet to a point of tangency being marked by a nail and washer with tag stamped "LS 6379";
- 7) South $25^{\circ}50'39''$ West, 100.04 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";
- 8) South $30^{\circ}42'24''$ West, 148.96 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";
- 9) South $37^{\circ}08'59''$ West, 99.92 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";
- 10) South $40^{\circ}33'22''$ West, 49.03 feet to an angle point in said line, said point being marked by a nail and washer with tag stamped "LS 6379";
- 11) South $49^{\circ}48'18''$ West, 93.04 feet to an angle point in said line;

12) South $56^{\circ}00'39''$ West, 30.42 feet to the a point on the generally northeastern line of Parcel 56444 as described in that certain Quitclaim Deed, recorded on February 13, 2002 as Document No. 2002072863 of Official Records, in the Office of the Recorder of Alameda County (hereinafter referred to as Doc. 2002072863), said point being the beginning of a non-tangent curve concave southwesterly, having a radius of 1647.00 feet and a central angle of $08^{\circ}46'22''$, from which beginning point the radius point bears South $46^{\circ}46'37''$ West;

Thence along the generally northeastern line of said Parcel 56444 (Doc. 2002072863) the following eight courses:

- 1) along said curve to the left, an arc distance of 252.18 feet to a point from which the radius point bears South $38^{\circ}00'16''$ West, being the beginning of a non-tangent curve concave southwesterly, having a radius of 1647.00 feet and a central angle of $7^{\circ}24'24''$, from which the radius point bears South $39^{\circ}39'54''$ West;
- 2) along said curve to the left, an arc distance of 212.91 feet to a point of tangency;
- 3) North $57^{\circ}44'30''$ West, 113.40 feet to an angle point;
- 4) North $49^{\circ}58'48''$ West, 124.70 feet to an angle point;
- 5) North $59^{\circ}26'20''$ West, 696.99 feet to an angle point;
- 6) North $38^{\circ}53'13''$ West, 28.48 feet to an angle point;
- 7) North $59^{\circ}26'21''$ West, 95.01 feet to an angle point;
- 8) North $65^{\circ}41'40''$ West, 26.04 feet to a point on the generally northwestern line of said Parcel A (the Subaru Lot), said point being the beginning of a non-tangent curve concave easterly, having a radius of 20:00 feet and a central angle of $29^{\circ}55'43''$, from which beginning point the radius point bears North $87^{\circ}47'11''$ East;

Thence along the northwesterly, northerly and northeasterly lines of said Parcel A (the Subaru Lot) the following thirteen courses:

- 1) along said curve to the right, an arc distance of 10.45 feet to the beginning of a compound curve concave southeasterly, having a radius of 199.99 feet and a central angle of $39^{\circ}56'30''$, said point of compound curvature being marked by a $1\frac{1}{2}''$ brass disk and spike stamped "LS 6379";
- 2) along said curve to the right, an arc distance of 139.42 feet to a point of tangency being marked by a 1" iron pipe with plug and tack stamped "LS 6379";
- 3) North $67^{\circ}39'24''$ East, 25.68 feet to the beginning of a curve concave southerly, having a radius of 299.98 feet and a central angle of $25^{\circ}11'31''$;

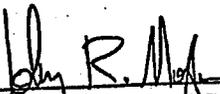
- 4) along said curve to the right, an arc distance of 131.90 feet to a point of tangency being marked by a 1" iron pipe with plug stamped "LS 6379";

- 5) South 87°09'05" East, 415.50 feet to an angle point in said line, said point being marked by a 1" iron pipe with plug stamped "LS 6379";
- 6) North 80°41'00" East, 170.83 feet to an angle point in said line, said point being marked by a 1" iron pipe with plug stamped "LS 6379";
- 7) South 70°15'39" East, 49.25 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 8) South 72°38'25" East, 67.85 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 9) South 69°32'54" East, 44.74 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 10) South 66°07'36" East, 44.94 feet to an angle point in said line, said point being marked by a ¾" brass tag in concrete stamped "LS 6379";
- 11) South 63°28'21" East, 40.88 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 12) South 69°21'45" East, 49.64 feet to an angle point in said line, said point being marked by a 1 ½" brass disk with bolt stamped "LS 6379";
- 13) South 70°14'16" East, 59.22 feet to the POINT OF BEGINNING, containing 829,036 square feet (19.032 acres), more or less, measured in ground distances.

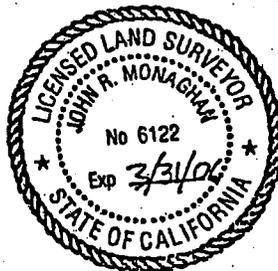
Bearings and distances called for herein are based upon the California Coordinate System, Zone III, North American Datum of 1983 (1986 values) as shown upon that certain map entitled Record of Survey 990, filed in Book 18 of Record of Surveys, Pages 50-60, Alameda County Records unless otherwise indicated. To obtain ground level distances, multiply distances called for herein by 1.0000705.

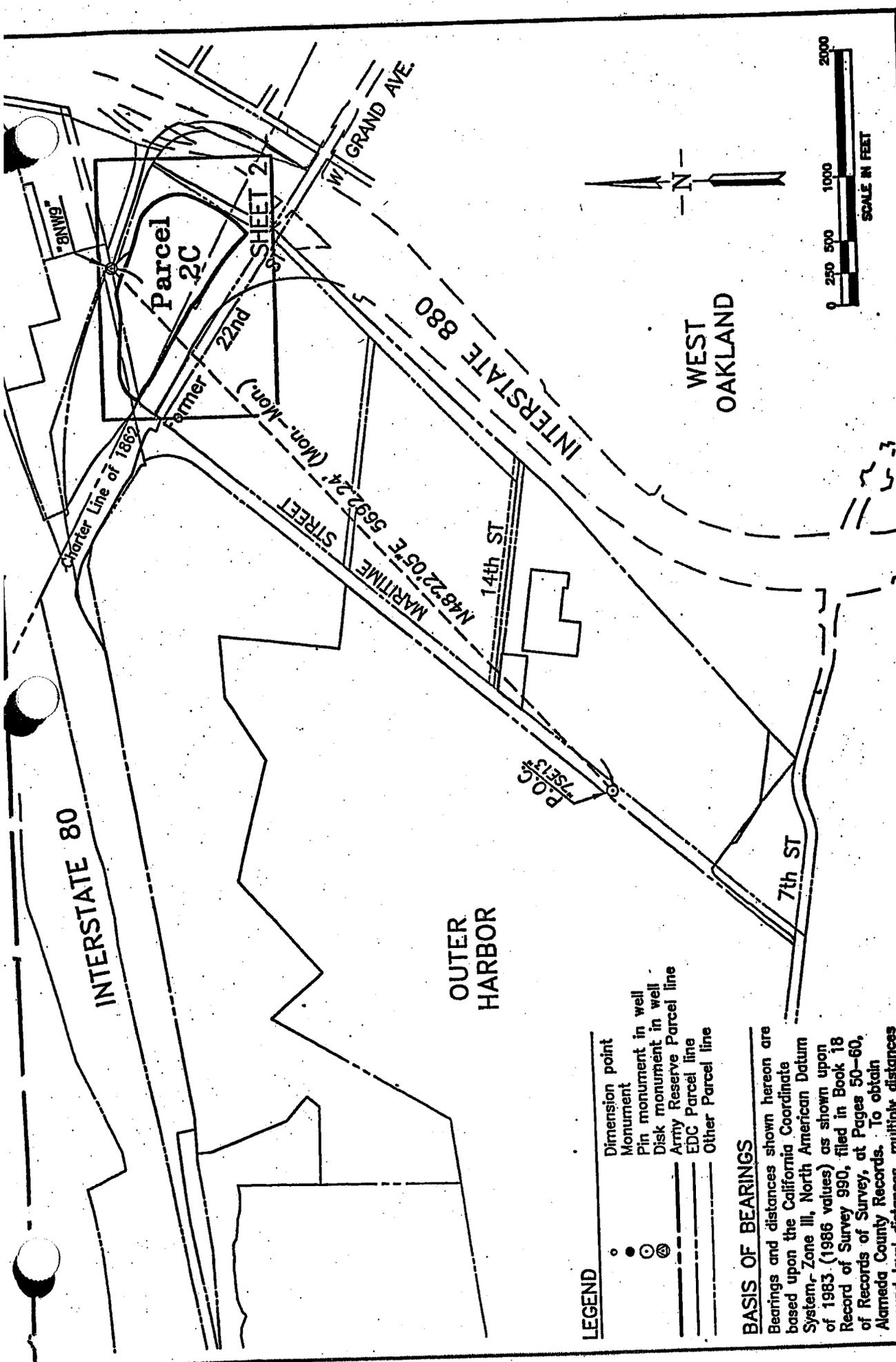
End of Description

I hereby state that this description and its accompanying plat were prepared by me, or under my direction, in July 2003.


 John R. Monaghan, LS 6122
 License Expires: 03/31/06

7/15/03
 Date





LEGEND

- Dimension point
- Monument
- Pin monument in well
- ⊙ Disk monument in well
- ⊙ Army Reserve Parcel line
- EDC Parcel line
- Other Parcel line

BASIS OF BEARINGS

Bearings and distances shown hereon are based upon the California Coordinate System, Zone III, North American Datum of 1983 (1986 values) as shown upon Record of Survey 990, filed in Book 18 of Records of Survey, at Pages 50-60, Alameda County Records. To obtain ground level distances, multiply distances shown hereon by 1.0000705.

PORT OF OAKLAND

LAND SURVEYS AND MAPPING

530 Water Street
Oakland, California



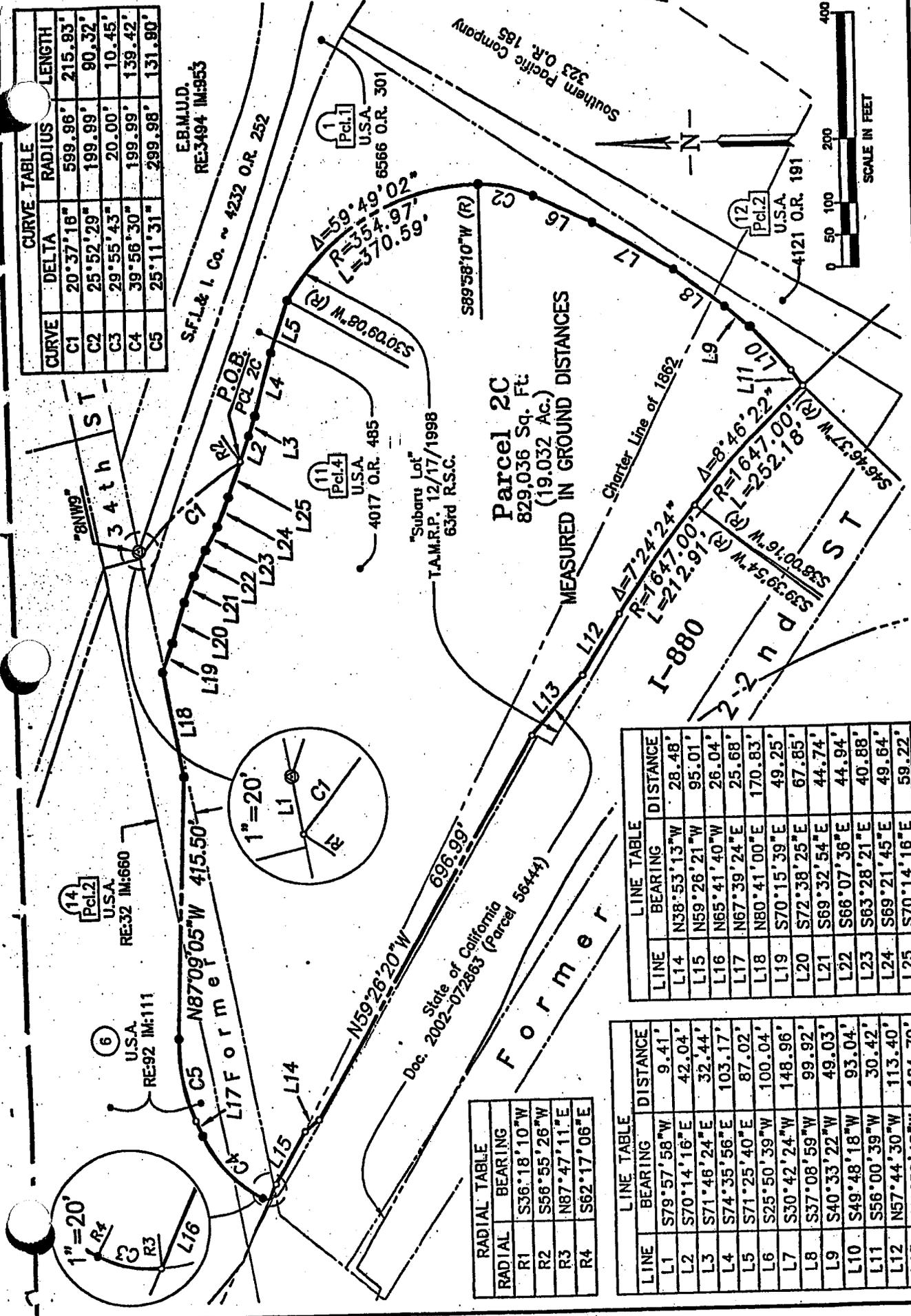
**SCHEDULE 1.1 (87)
PLAT TO ACCOMPANY LEGAL DESCRIPTION**

SUBARU LOT
OAKLAND ARMY BASE

DRAWN BY: DAM	Field Etc:
CHECKED BY: JRM	Wrk. Ord: 104471
SCALE: 1" = 1000'	Data File:
DATE: 7/15/2003	Revision:
SHEET 1 OF 2	Rev. date:
ATTACHMENTS:	
FILE LOC.: SUBARU.DWG (1)	

CURVE	DELTA	RADIUS	LENGTH
C1	20°37'16"	599.96'	215.93'
C2	25°52'29"	199.99'	90.32'
C3	29°55'43"	20.00'	10.45'
C4	39°56'30"	199.99'	139.42'
C5	25°11'31"	299.98'	131.90'

E.B.M.U.D.
RE-3494 IM-853



RADIAL	BEARING	DISTANCE
R1	S36°18'10"W	9.41'
R2	S56°55'26"W	42.04'
R3	N87°47'11"E	32.44'
R4	S62°17'06"E	103.17'

LINE	BEARING	DISTANCE
L1	S79°57'58"W	9.41'
L2	S70°14'16"E	42.04'
L3	S71°46'24"E	32.44'
L4	S74°35'56"E	103.17'
L5	S71°25'40"E	87.02'
L6	S25°50'39"W	100.04'
L7	S30°42'24"W	148.96'
L8	S37°08'59"W	99.92'
L9	S40°33'22"W	49.03'
L10	S49°48'18"W	93.04'
L11	S56°00'39"W	30.42'
L12	N57°44'30"W	113.40'
L13	N49°58'48"W	124.70'

LINE	BEARING	DISTANCE
L14	N38°53'13"W	28.48'
L15	N59°26'21"W	95.01'
L16	N65°41'40"W	26.04'
L17	N67°39'24"E	25.68'
L18	N80°41'00"E	170.83'
L19	S70°15'39"E	49.25'
L20	S72°38'25"E	67.85'
L21	S69°32'54"E	44.74'
L22	S66°07'36"E	44.94'
L23	S63°28'21"E	40.88'
L24	S69°21'45"E	49.64'
L25	S70°14'16"E	59.22'

PORT OF OAKLAND

LAND SURVEYS AND MAPPING

530 Water Street
Oakland, California

SCHEDULE 1.1 (87)
PLAT TO ACCOMPANY LEGAL DESCRIPTION
SUBARU LOT
OAKLAND ARMY BASE

DRAWN BY: DAM	Field B/c
CHECKED BY: JRM	Wrk. Ord: 104471
SCALE: 1" = 200'	Data File:
DATE: 7/15/2003	Revised:
SHEET 2 OF 2	Rev. date:
ATTACHMENTS:	
FILE LOC: > SUBARU.DWG (2)	