

## **8. CEQA DOCUMENTATION**

The CEQA, modeled after the National Environmental Policy Act (“NEPA”) of 1969, was enacted in 1970 as a system of checks and balances for land-use development and management decisions in California. It is an administrative procedure to ensure comprehensive environmental review of cumulative impacts prior to project approval. It has no agency enforcement tool, but allows challenge in courts.

A CEQA project is a project that has a potential for resulting in a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. CEQA applies to all discretionary projects proposed to be carried out or approved by California public agencies, unless an exemption applies.

DTSC has prepared an Initial Study and Negative Declaration for the Site to ensure that CEQA requirements have been satisfied (see Appendix L).



## 9. ADMINISTRATIVE RECORD LIST

- Caltrans, 2003. *Construction Site Best Management Practice Manual*, California Department of Transportation, March 2003.
- Cohen, 2010. *Pre-Demolition Hazardous Materials Survey*, 1010 to 1024 Morse Avenue, Sunnyvale, California, The Cohen Group, 22 April 2010.
- County of Santa Clara, 2006. *Fuel Leak Site Case Closure for Classics at City Park, 1036 Kiel Court, Sunnyvale, CA; Case No. 14-760, SCVWDID No. 06SIW19B02f*, County of Santa Clara, 15 November 2006.
- DHS, 2010. *MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants*, California Department of Health Services, 4 February 2010.
- DTSC, 1997. *Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessments at Hazardous Waste Sites and Permitted Facilities*, California Environmental Protection Agency, Department of Toxic Substances Control, February 1997.
- DTSC, 1999. *Preliminary Endangerment Assessment Guidance Manual*, California Environmental Protection Agency, Department of Toxic Substances Control, Second Printing. June 1999.
- DTSC, 2001. *Transportation Plan –Guidance for Developing Transportation Plans for Removal or Remedial Actions*, California Environmental Protection Agency, Department of Toxic Substances Control, Interim Final, 5 December 2001 (update of *Transportation Plan Preparation Guidance for Site Remediation*, dated May 1994).
- DTSC, 2009. *Arsenic Strategies: Determination of Arsenic Remediation Development of Arsenic Cleanup Goals*, California Environmental Protection Agency, Department of Toxic Substances Control, 16 January 2009.
- EKI, 2010a. *Results of Phase II Soil and Grab Groundwater Sampling*, 1010 to 1024 Morse Avenue, Sunnyvale, California, Erler & Kalinowski, Inc., 9 April 2010.
- EKI, 2010b. *Report of Results of Additional Soil Characterization*, 1010 to 1024 Morse Avenue, Sunnyvale, California, Erler & Kalinowski, Inc., 5 October 2010.
- LBNL, 2002. *Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory*, June 2002.
- OEHHA, 2010. *California Human Health Screening Levels ("CHHSLs"), Soil-Screening Numbers Updated Table*, Office of Environmental Health Hazard Assessment, 23 September 2010.



RWQCB, 2008. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, California Regional Water Quality Control Board (“RWQCB”), Interim Final – November 2007, Revised May 2008.

Santa Clara Valley Water District, 1997a. *Underground Storage Tank Case Closure – Direct Delivery Service, 925 Morse Avenue, Sunnyvale, CA; Case No. 04-017; Underground Storage Tank Cleanup Fund No. 3385*, Santa Clara Valley Water District, 14 January 1997.

Santa Clara Valley Water District, 1997b. *Fuel Leak Site Case Closure – Specialty Garage and Refuse, 438 Toyama Drive, Sunnyvale, CA; Case No. 11-076; Underground Storage Tank Cleanup Fund No. 7100*, Santa Clara Valley Water District, 2 May 1997.

URS, 2009. *Phase I Environmental Site Assessment*, Fair Oaks Industrial Complex, 1010 Morse Avenue, Sunnyvale, California, URS, 17 June 2009.

U.S. EPA, 1989. *Risk Assessment Guidance for Superfund, Volume 1- Human Health Evaluation Manual*, U.S. Environmental Protection Agency, December 1989.

U.S. EPA, 1992. *Guidance for Data Useability in Risk Assessment (Part A), Final. Office of Emergency and Remedial Response*, Publication 9285.7-09A, U.S. Environmental Protection Agency, April 1992.

**TABLE 1A**  
**PHASE II SAMPLING AND ANALYTICAL PROTOCOL**  
1010 - 1024 Morse Avenue, Sunnyvale, CA

Location ID	Sample Interval (ft bbr)	Depth Composite Sample ID	Analyses	Grab Groundwater Sample ID	Grab Groundwater Sample Analysis
SU1	1-1.5	AComp14	As, Pb, OCP, moisture	--	--
SU4	0.75-1.25				
SU1	2-2.5	BComp14	As, Pb, OCP, moisture	--	--
SU4	2.5-3				
SU2	1-1.5	AComp23	As, Pb, OCP, moisture	--	--
SU3	1-1.5				
SU2	2.5-3	BComp23	As, Pb, OCP, moisture	--	--
SU3	2.5-3				
SU6	1-1.5	AComp67	As, Pb, OCP, moisture	--	--
SU7	1-1.5				
SU6	2.5-3	BComp67	As, Pb, OCP, moisture	--	--
SU7	2.5-3				
SU5	1-1.5	AComp58	As, Pb, OCP, moisture	--	--
SU8	1-1.5				
SU5	2.5-3	BComp58	As, Pb, OCP, moisture	--	--
SU8	2.5-3				
SU9	1-1.5	AComp910	As, Pb, OCP, moisture	--	--
SU10	1-1.5				
SU9	2.5-3	BComp910	As, Pb, OCP, moisture	--	--
SU10	2.5-3				
NTRAN	--	NTRAN	PCBs, TPH-d, TPH-mo	--	--
ETRAN	--	ETRAN	PCBs, TPH-d, TPH-mo	--	--
SU1	4-14	--	--	SU1W	TPH-g, TPH-d, TPH-mo, VOCs
SU3	4-14			SU3W	TPH-g, TPH-d, TPH-mo, VOCs
SU4	4.25-14.25			SU4W	TPH-g, TPH-d, TPH-mo, VOCs
SU5	4.25-14.25			SU5W	TPH-g, TPH-d, TPH-mo, VOCs
SU6	4.25-14.25			SU6W	TPH-g, TPH-d, TPH-mo, VOCs

**Abbreviations:**

- "--" - not applicable
- As - arsenic
- Pb - lead
- OCP - organochlorine pesticides
- ft bbr - feet below baserock

**TABLE 1B**  
**NON-BUILDING COMPOSITE SAMPLING AND ANALYTICAL PROTOCOL**

1010 - 1024 Morse Avenue, Sunnyvale, CA

Cell	Sample Interval (ft bbr)	Composite Components (a,b,c)						Depth Composite Name	Cell Composite Sample ID (d)	Analyses
		C1A	C1B	C1C	C1D	--	--			
C1	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C1-Bdepth	C1-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C1-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C1-Edepth		As, Pb, moisture
		C3A	C3B	C3C	C3D	--	--			
C3	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C3-Bdepth	C3-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C3-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C3-Edepth		As, Pb, moisture
		C4A	C4B	C4D	--	--	--			
C4	0 - 0.5	C,D	C,D	C,D	--	--	--	C4-Bdepth	C4-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C4-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	--	--	--	C4-Edepth		As, Pb, moisture
		C5A	C5B	C5C	--	--	--			
C5	0 - 0.5	C,D	C,D	C,D	--	--	--	C5-Bdepth	C5-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C5-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	--	--	--	C5-Edepth		As, Pb, moisture
		C6A	C6B	C6C	C6D	--	--			
C6	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C6-Bdepth	C6-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C6-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C6-Edepth		As, Pb, moisture
		C7C	C7D	C12A	C12B	C12C	C12D			
C7C12	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C7C12-Bdepth	C7C12-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C7C12-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C7C12-Edepth		As, Pb, moisture

**TABLE 1B**  
**NON-BUILDING COMPOSITE SAMPLING AND ANALYTICAL PROTOCOL**

1010 - 1024 Morse Avenue, Sunnyvale, CA

Cell	Sample Interval (ft bbr)	Composite Components (a,b,c)						Depth Composite Name	Cell Composite Sample ID (d)	Analyses
		C8A	C8B	C8C	C8D	--	--			
C8	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C8-Bdepth	C8-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C8-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C8-Edepth		As, Pb, moisture
		C9A	C9D	--	--	--	--			
C9	0 - 0.5	C,D	C,D	--	--	--	--	C9-Bdepth	C9-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	--	--	--	--	--		--
	1 - 1.5	C,D	C,D	--	--	--	--	C9-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	--	--	--	--	C9-Edepth		As, Pb, moisture
		C10B	C10C	--	--	--	--			
C10	0 - 0.5	C,D	C,D	--	--	--	--	C10-Bdepth	C10-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	--	--	--	--	--		--
	1 - 1.5	C,D	C,D	--	--	--	--	C10-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	--	--	--	--	C10-Edepth		As, Pb, moisture
		C11A	C11B	C11C	C11D	--	--			
C11	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C11-Bdepth	C11-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C11-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C11-Edepth		As, Pb, moisture
		C13A	C13B	C13C	C13D	--	--			
C13	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C13-Bdepth	C13-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C13-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C13-Edepth		As, Pb, moisture
		C14A	C14B	C14C	C14D	--	--			
C14	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C14-Bdepth	C14-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C14-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C14-Edepth		As, Pb, moisture

**TABLE 1B  
NON-BUILDING COMPOSITE SAMPLING AND ANALYTICAL PROTOCOL**

1010 - 1024 Morse Avenue, Sunnyvale, CA

Cell	Sample Interval (ft bbr)	Composite Components (a,b,c)						Depth Composite Name	Cell Composite Sample ID (d)	Analyses
		C15B	C15C	C15D	--	--	--			
C15	0 - 0.5	C,D	C,D	C,D	--	--	--	C15-Bdepth	C15-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C15-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	--	--	--	C15-Edepth		As, Pb, moisture
		C16A	C16C	C16D	--	--	--			
C16	0 - 0.5	C,D	C,D	C,D	--	--	--	C16-Bdepth	C16-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C16-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	--	--	--	C16-Edepth		As, Pb, moisture
		C17C	C17D	C22A	C22B	--	--			
C17C22	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C17C22-Bdepth	C17C22-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C17C22-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C17C22-Edepth		As, Pb, moisture
		C18C	C18D	C23A	C23B	--	--			
C18C23	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C18C23-Bdepth	C18C23-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C18C23-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C18C23-Edepth		As, Pb, moisture
		C19A	C19B	C19C	C19D	--	--			
C19	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C19-Bdepth	C19-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C19-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	C19-Edepth		As, Pb, moisture
		C20B	C20C	C20D	--	--	--			
C20	0 - 0.5	C,D	C,D	C,D	--	--	--	C20-Bdepth	C20-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C20-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	--	--	--	C20-Edepth		As, Pb, moisture

**TABLE 1B**  
**NON-BUILDING COMPOSITE SAMPLING AND ANALYTICAL PROTOCOL**

1010 - 1024 Morse Avenue, Sunnyvale, CA

Cell	Sample Interval (ft bbr)	Composite Components (a,b,c)						Depth Composite Name	Cell Composite Sample ID (d)	Analyses
		C21A	C21B	C21D	--	--	--			
C21	0 - 0.5	C,D	C,D	C,D	--	--	--	C21-Bdepth	C21-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C21-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	--	--	--	C21-Edepth		As, Pb, moisture
C24		C24A	C24B	C24D	--	--	--			
	0 - 0.5	C,D	C,D	C,D	--	--	--	C24-Bdepth	C24-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C24-Ddepth		As, Pb, moisture
1.5 - 2	C,D	C,D	C,D	--	--	--	C24-Edepth	As, Pb, moisture		
C25		C25B	C25C	C25D	--	--	--			
	0 - 0.5	C,D	C,D	C,D	--	--	--	C25-Bdepth	C25-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C25-Ddepth		As, Pb, moisture
1.5 - 2	C,D	C,D	C,D	--	--	--	C25-Edepth	As, Pb, moisture		
C26		C26A	C26B	C26C	C26D	--	--			
	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C26-Bdepth	C26-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C26-Ddepth		As, Pb, moisture
1.5 - 2	C,D	C,D	C,D	C,D	--	--	C26-Edepth	As, Pb, moisture		
C27		C27A	C27B	C27C	C27D	--	--			
	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C27-Bdepth	C27-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C27-Ddepth		As, Pb, moisture
1.5 - 2	C,D	C,D	C,D	C,D	--	--	C27-Edepth	As, Pb, moisture		
C28		C28A	C28B	C28C	C28D	--	--			
	0 - 0.5	C,D	C,D	C,D	C,D	--	--	C28-Bdepth	C28-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	C28-Ddepth		As, Pb, moisture
1.5 - 2	C,D	C,D	C,D	C,D	--	--	C28-Edepth	As, Pb, moisture		

**TABLE 1B  
NON-BUILDING COMPOSITE SAMPLING AND ANALYTICAL PROTOCOL**

1010 - 1024 Morse Avenue, Sunnyvale, CA

Cell	Sample Interval (ft bbr)	Composite Components (a,b,c)						Depth Composite Name	Cell Composite Sample ID (d)	Analyses
		C29A	C29C	C29D	--	--	--			
C29	0 - 0.5	C,D	C,D	C,D	--	--	--	C29-Bdepth	C29-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	--	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	--	--	--	C29-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	--	--	--	C29-Edepth		As, Pb, moisture
C30		C30B	C30C	--	--	--	--			
	0 - 0.5	C,D	<b>C,D</b>	--	--	--	--	C30-Bdepth	C30-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	--	--	--	--	--		--
	1 - 1.5	C,D	<b>C,D</b>	--	--	--	--	C30-Ddepth		As, Pb, moisture
1.5 - 2	C,D	<b>C,D</b>	--	--	--	--	C1-Edepth	As, Pb, moisture		

**Abbreviations:**

"--" - not applicable

As - arsenic

Pb - lead

OCP - organochlorine pesticides

ft bbr - feet below baserock

na - not available for composite sampling

**Notes:**

(a) "C" indicates sample was only used in cell composite.

(b) "D" indicates sample was used in individual depth composites.

(c) Components marked with bolded "**D**" also collected as discreet samples and analyzed for As, Pb, OCPs, and moisture.

(d) All cell composites analyzed for As, Pb, OCPs and moisture.

**TABLE 1C**  
**BUILDING COMPOSITE SAMPLING AND ANALYTICAL PROTOCOL**  
1010 - 1024 Morse Avenue, Sunnyvale, CA

Building	Sample Interval (ft bbr)	Composite Components (a,b)						Depth Composite Name	Building Composite Sample ID (c)	Analyses
		C21C	C22C	C22D	C23C	C23D	--			
1010	Baseroack	D	na	D	D	D	--	B1010-Adepth	--	As, Pb, OCP, moisture
	0 - 0.5	C,D	C,D	C,D	C,D	D	--	B1010-Bdepth	B1010-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	C	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	D	--	B1010-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	D	--	B1010-Edepth		As, Pb, moisture
		C25A	C24C	C29B	C30A	C30D	--			
1012	Baseroack	D	D	D	D	D	--	B1012-Adepth	--	As, Pb, OCP, moisture
	0 - 0.5	C,D	C,D	C,D	C,D	C,D	--	B1012-Bdepth	B1012-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	C	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	C,D	--	B1012-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	C,D	--	B1012-Edepth		As, Pb, moisture
		C4C	C9B	C9C	C10A	C15A	C20A			
1014	Baseroack	D	D	D	D	na	D	B1014-Adepth	--	As, Pb, OCP, moisture
	0 - 0.5	C,D	C,D	C,D	C,D	C,D	C,D	B1014-Bdepth	B1014-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	C	C	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	C,D	C,D	B1014-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	C,D	C,D	B1014-Edepth		As, Pb, moisture
		C17A	C17B	C18A	C18B	--	--			
1016	Baseroack	D	D	D	D	--	--	B1016-Adepth	--	As, Pb, OCP, moisture
	0 - 0.5	C,D	C,D	C,D	C,D	--	--	B1016-Bdepth	B1016-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	--	--	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	--	--	B1016-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	--	--	B1016-Edepth		As, Pb, moisture
		C2A	C2B	C2C	C2D	C7A	C7B			
1020 - 1024	Baseroack	na	na	D	na	D	D	B102024-Adepth	--	As, Pb, OCP, moisture
	0 - 0.5	C,D	C,D	C,D	C,D	C,D	C,D	B102024-Bdepth	B102024-Cellcomp	As, Pb, OCP, moisture
	0.5 - 1	C	C	C	C	C	C	--		--
	1 - 1.5	C,D	C,D	C,D	C,D	C,D	C,D	B102024-Ddepth		As, Pb, moisture
	1.5 - 2	C,D	C,D	C,D	C,D	C,D	C,D	B102024-Edepth		As, Pb, moisture

**TABLE 1C**  
**BUILDING COMPOSITE SAMPLING AND ANALYTICAL PROTOCOL**  
1010 - 1024 Morse Avenue, Sunnyvale, CA

**Abbreviations:**

"--" - not applicable

As - arsenic

Pb - lead

OCP - organochlorine pesticides

ft bbr - feet below baserock

na - not available for composite sampling

**Notes:**

(a) "C" indicates sample was only used in cell composite.

(b) "D" indicates sample was used in individual depth composites.

(c) All cell composites analyzed for As, Pb, OCPs and moisture.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS FOR ORGANOCHLORINE PESTICIDES,**  
**LEAD, AND ARSENIC IN SOIL SAMPLES**

1020 - 1024 Morse Avenue, Sunnyvale, CA

Sample Location	Sample ID	Sample Date	Sample Depth (ft bbr)	Analytical Results (mg/kg dry weight unless otherwise noted) (a,b,c)								
				Pesticides				Selected Metals				
				4,4'-DDD	4,4'-DDE	4,4'-DDT	Other Pesticides	Lead	WET Lead (mg/L)	TCLP Lead (mg/L)	Arsenic	WET Arsenic (mg/L)
<b>Cell Composites</b>												
C1	C1-B DEPTH	7/14/2010	0 - 0.5	<0.013	0.231	<0.013	ND	104	1.97	<0.005	29.2	--
	C1-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	9.88	--	--	8.57	--
	C1-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	9.46	--	--	5.81	--
	C1-CELL COMP	7/14/2010	0 - 2	<0.013	0.0495	<0.013	ND	37.5	--	--	16.8	--
C3	C3-B DEPTH	7/13/2010	0 - 0.5	<0.0128	0.217	<0.0128	ND	122	2.05	<0.005	53.1	1.67
	C3-D DEPTH	7/13/2010	1 - 1.5	--	--	--	--	39	--	--	21.9	--
	C3-E DEPTH	7/13/2010	1.5 - 2	--	--	--	--	11.8	--	--	13.9	--
	C3-CELL COMP	7/13/2010	0 - 2	<0.0128	<0.0128	<0.0128	ND	45.1	--	--	22.3	--
C4	C4-B DEPTH	7/14/2010	0 - 0.5	<0.0125	0.302	<0.0125	ND	82.4	0.409	--	28.4	--
	C4-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	15.2	--	--	20.2	--
	C4-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	8.95	--	--	8.31	--
	C4-CELL COMP	7/14/2010	0 - 2	<0.0131	0.0374	<0.0131	ND	44.8	--	--	24	--
C5	C5-B DEPTH	7/14/2010	0 - 0.5	<0.012	0.157	<0.012	ND	82.3	1.52	--	38.2	--
	C5-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	8.58	--	--	15.8	--
	C5-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	7.81	--	--	9.21	--
	C5-CELL COMP	7/14/2010	0 - 2	<0.0123	0.0252	<0.0123	ND	43.3	--	--	21.8	--
C6	C6-B DEPTH	7/14/2010	0 - 0.5	<0.0126	0.0456	<0.0126	ND	57.1	0.756	--	26.2	--
	C6-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	8.68	--	--	7.13	--
	C6-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	8.87	--	--	6.52	--
	C6-CELL COMP	7/14/2010	0 - 2	<0.0134	<0.0134	<0.0134	ND	16.2	--	--	11.7	--
C7C12	C7C12-B DEPTH	7/15/2010	0 - 0.5	<0.0126	0.122	<0.0126	ND	72.1	1.31	--	23.3	--
	C7C12-D DEPTH	7/15/2010	1 - 1.5	--	--	--	--	89.1	1.53	--	29.6	--
	C7C12-E DEPTH	7/15/2010	1.5 - 2	--	--	--	--	42.3	--	--	16	--
	C7C12-CELL COMP	7/15/2010	0 - 2	<0.0127	0.105	<0.0127	ND	67.8	--	--	23.9	--
C8	C8-B DEPTH	7/13/2010	0 - 0.5	<0.0123	0.0812	<0.0123	ND	69	1.25	--	34.4	--
	C8-D DEPTH	7/13/2010	1 - 1.5	--	--	--	--	8.98	--	--	8.55	--
	C8-E DEPTH	7/13/2010	1.5 - 2	--	--	--	--	7.95	--	--	6.63	--
	C8-CELL COMP	7/13/2010	0 - 2	<0.0131	<0.0131	<0.0131	ND	26.4	--	--	13.8	--
C9	C9-B DEPTH	7/15/2010	0 - 0.5	<0.0126	0.0841	<0.0126	ND	61.7	1.03	--	23	--
	C9-D DEPTH	7/15/2010	1 - 1.5	--	--	--	--	19.2	--	--	14	--
	C9-E DEPTH	7/15/2010	1.5 - 2	--	--	--	--	10.1	--	--	8.81	--
	C9-CELL COMP	7/15/2010	0 - 2	<0.0128	<0.0128	<0.0128	ND	45.5	--	--	20.9	--
C10	C10-B DEPTH	7/14/2010	0 - 0.5	0.0179	0.215	<0.0118	ND	73.4	1.29	--	19.1	--
	C10-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	32.2	--	--	13.7	--
	C10-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	5.13	--	--	6.65	--
	C10-CELL COMP	7/14/2010	0 - 2	0.0132	0.1	<0.0117	ND	37.3	--	--	12.8	--
C11	C11-B DEPTH	7/15/2010	0 - 0.5	<0.0129	0.171	<0.0129	ND	74	1.31	--	29.9	--
	C11-D DEPTH	7/15/2010	1 - 1.5	--	--	--	--	71.3	1.16	--	23.3	--
	C11-E DEPTH	7/15/2010	1.5 - 2	--	--	--	--	15.9	--	--	10.4	--
	C11-CELL COMP	7/15/2010	0 - 2	<0.0129	0.0201	<0.0129	ND	50.5	--	--	16.5	--
C13	C13-B DEPTH	7/14/2010	0 - 0.5	<0.0125	0.0881	<0.0125	ND	38.3	--	--	16.8	--
	C13-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	112	1.82	<0.005	40.5	--
	C13-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	102	1.14	<0.005	44.1	--
	C13-CELL COMP	7/14/2010	0 - 2	<0.0129	0.0425	<0.0129	ND	95.8	--	--	30.5	--
C14	C14-B DEPTH	7/15/2010	0 - 0.5	0.0148	0.289	<0.0124	ND	120	2.04	<0.005	28.4	--
	C14-D DEPTH	7/15/2010	1 - 1.5	--	--	--	--	25.8	--	--	14.8	--
	C14-E DEPTH	7/15/2010	1.5 - 2	--	--	--	--	8.87	--	--	8.21	--
	C14-CELL COMP	7/15/2010	0 - 2	<0.0127	0.0239	<0.0127	ND	71	--	--	19.3	--
C15	C15-B DEPTH	7/15/2010	0 - 0.5	<0.0117	0.0644	<0.0117	ND	39.5	--	--	14	--
	C15-D DEPTH	7/15/2010	1 - 1.5	--	--	--	--	99.1	1.87	--	20.4	--
	C15-E DEPTH	7/15/2010	1.5 - 2	--	--	--	--	27.4	--	--	16.2	--
	C15-CELL COMP	7/15/2010	0 - 2	<0.0121	0.0357	<0.0121	ND	51.9	--	--	12.4	--
<b>Cal/EPA Residential CHHSLs (d)</b>				<b>2.3</b>	<b>1.6</b>	<b>1.6</b>	<b>na</b>	<b>80</b>	<b>na</b>	<b>na</b>	<b>0.07</b>	<b>na</b>
<b>Site-Specific Background Arsenic Concentration (e)</b>				<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>17</b>	<b>na</b>
<b>Hazardous Waste Criteria</b>												
<b>Total Threshold Limit Concentration</b>				<b>1</b>	<b>1</b>	<b>1</b>	<b>na</b>	<b>1,000</b>	<b>na</b>	<b>na</b>	<b>500</b>	<b>na</b>
<b>Soluble Threshold Limit Concentration</b>				<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>5</b>	<b>na</b>	<b>na</b>	<b>5</b>
<b>RCRA Regulatory Level</b>				<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>5</b>	<b>na</b>	<b>na</b>

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS FOR ORGANOCHLORINE PESTICIDES,**  
**LEAD, AND ARSENIC IN SOIL SAMPLES**

1020 - 1024 Morse Avenue, Sunnyvale, CA

Sample Location	Sample ID	Sample Date	Sample Depth (ft bbr)	Analytical Results (mg/kg dry weight unless otherwise noted) (a,b,c)								
				Pesticides				Selected Metals				
				4,4'-DDD	4,4'-DDE	4,4'-DDT	Other Pesticides	Lead	WET Lead (mg/L)	TCLP Lead (mg/L)	Arsenic	WET Arsenic (mg/L)
<b>Cell Composites</b>												
C16	C16-B DEPTH	7/15/2010	0 - 0.5	<0.0128	0.0566	<0.0128	ND	46.9	--	--	15.7	--
	C16-D DEPTH	7/15/2010	1 - 1.5	--	--	--	--	10.2	--	--	7.17	--
	C16-E DEPTH	7/15/2010	1.5 - 2	--	--	--	--	10.3	--	--	5.24	--
	C16-CELL COMP	7/15/2010	0 - 2	<0.0129	<0.0129	<0.0129	ND	22.7	--	--	9.4	--
C17C22	C17C22-B DEPTH	7/14/2010	0 - 0.5	<0.0117	0.0265	<0.0117	ND	24.8	--	--	11.2	--
	C17C22-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	15.6	--	--	9.02	--
	C17C22-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	7.99	--	--	6.01	--
	C17C22-CELL COMP	7/14/2010	0 - 2	<0.0118	<0.0118	<0.0118	ND	14	--	--	7.51	--
C18C23	C18C23-B DEPTH	7/14/2010	0 - 0.5	<0.0128	0.0182	<0.0128	ND	23.1	--	--	15.2	--
	C18C23-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	27.7	--	--	14.2	--
	C18C23-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	8.31	--	--	10.1	--
	C18C23-CELL COMP	7/14/2010	0 - 2	<0.0129	<0.0129	<0.0129	ND	22.5	--	--	12.5	--
C19	C19-B DEPTH	7/13/2010	0 - 0.5	<0.0129	0.156	<0.0129	ND	65.1	1.06	--	24.2	--
	C19-D DEPTH	7/13/2010	1 - 1.5	--	--	--	--	63.2	0.766	--	22.3	--
	C19-E DEPTH	7/13/2010	1.5 - 2	--	--	--	--	8.6	--	--	9.02	--
	C19-CELL COMP	7/13/2010	0 - 2	<0.013	0.0713	<0.013	ND	64.4	--	--	18.5	--
C20	C20-B DEPTH	7/14/2010	0 - 0.5	0.0192	0.303	<0.0121	ND	90.7	1.67	--	23.4	--
	C20-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	61.1	1.26	--	15.1	--
	C20-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	10.9	--	--	6.24	--
	C20-CELL COMP	7/14/2010	0 - 2	<0.012	0.0498	<0.012	ND	61	--	--	15	--
C21	C21-B DEPTH	7/16/2010	0 - 0.5	<0.0131	0.0776	<0.0131	ND	60	0.95	--	17.3	--
	C21-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	18.1	--	--	7.76	--
	C21-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	9.83	--	--	5.43	--
	C21-CELL COMP	7/16/2010	0 - 2	<0.0133	0.019	<0.0133	ND	32.1	--	--	9.36	--
C24	C24-B DEPTH	7/16/2010	0 - 0.5	<0.0137	0.288	0.017	ND	190	2.44	<0.005	29.7	--
	C24-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	41.8	--	--	12.7	--
	C24-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	8.2	--	--	6.9	--
	C24-CELL COMP	7/16/2010	0 - 2	<0.0132	0.0453	<0.0132	ND	36.1	--	--	11.5	--
C25	C25-B DEPTH	7/16/2010	0 - 0.5	<0.0122	0.099	<0.0122	ND	53.4	1.14	--	20.1	--
	C25-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	80.5	1.9	--	19.8	--
	C25-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	30.6	--	--	11.9	--
	C25-CELL COMP	7/16/2010	0 - 2	<0.0136	0.0762	<0.0136	ND	60.3	--	--	18.8	--
C26	C26-B DEPTH	7/16/2010	0 - 0.5	0.0162	0.143	<0.0141	ND	129	1.91	<0.005	22.5	--
	C26-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	11	--	--	5.58	--
	C26-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	15.8	--	--	7.86	--
	C26-CELL COMP	7/16/2010	0 - 2	<0.0132	0.023	<0.0132	ND	21.4	--	--	8.25	--
C27	C27-B DEPTH	7/16/2010	0 - 0.5	<0.0139	0.101	<0.0139	ND	135	2.16	<0.005	21.8	--
	C27-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	10	--	--	5.75	--
	C27-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	10.2	--	--	5.26	--
	C27-CELL COMP	7/16/2010	0 - 2	<0.0132	0.016	<0.0132	ND	25.2	--	--	10.2	--
C28	C28-B DEPTH	7/16/2010	0 - 0.5	<0.0138	0.114	<0.0138	ND	38.7	--	--	13	--
	C28-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	9.69	--	--	5.81	--
	C28-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	6.5	--	--	4.75	--
	C28-CELL COMP	7/16/2010	0 - 2	<0.0126	<0.0126	<0.0126	ND	11.9	--	--	7.97	--
C29	C29-B DEPTH	7/14/2010	0 - 0.5	<0.0128	0.0833	<0.0128	ND	43.8	--	--	13.3	--
	C29-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	6.38	--	--	5.79	--
	C29-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	6.28	--	--	5.11	--
	C29-CELL COMP	7/14/2010	0 - 2	<0.0126	<0.0126	<0.0126	ND	12.2	--	--	8.45	--
C30	C30-B DEPTH	7/15/2010	0 - 0.5	0.02	0.34	0.0358	ND	97.2	1.93	--	25.5	--
	C30-D DEPTH	7/15/2010	1 - 1.5	--	--	--	--	31	--	--	11.4	--
	C30-E DEPTH	7/15/2010	1.5 - 2	--	--	--	--	19.9	--	--	7.05	--
	C30-CELL COMP	7/15/2010	0 - 2	0.0171	0.251	0.0326	ND	72.4	--	--	17.9	--
<b>Cal/EPA Residential CHHSLs (d)</b>				<b>2.3</b>	<b>1.6</b>	<b>1.6</b>	<b>na</b>	<b>80</b>	<b>na</b>	<b>na</b>	<b>0.07</b>	<b>na</b>
<b>Site-Specific Background Arsenic Concentration (e)</b>				<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>17</b>	<b>na</b>
<b>Hazardous Waste Criteria</b>												
<b>Total Threshold Limit Concentration</b>				<b>1</b>	<b>1</b>	<b>1</b>	<b>na</b>	<b>1,000</b>	<b>na</b>	<b>na</b>	<b>500</b>	<b>na</b>
<b>Soluble Threshold Limit Concentration</b>				<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>5</b>	<b>na</b>	<b>na</b>	<b>5</b>
<b>RCRA Regulatory Level</b>				<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>5</b>	<b>na</b>	<b>na</b>

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**LEAD, AND ARSENIC IN SOIL SAMPLES**

1020 - 1024 Morse Avenue, Sunnyvale, CA

Sample Location	Sample ID	Sample Date	Sample Depth (ft bbr)	Analytical Results (mg/kg dry weight unless otherwise noted) (a,b,c)									
				Pesticides				Selected Metals					
				4,4'-DDD	4,4'-DDE	4,4'-DDT	Other Pesticides	Lead	WET Lead (mg/L)	TCLP Lead (mg/L)	Arsenic	WET Arsenic (mg/L)	
<b>Building Composites</b>													
B1010	B1010-A DEPTH	7/16/2010		<0.0119	<0.0119	<0.0119	ND	4.99	--	--	10.3	--	
	B1010-B DEPTH	7/16/2010	0 - 0.5	<0.013	0.193	<0.013	ND	<b>122</b>	3.29	<0.005	<b>30.7</b>	--	
	B1010-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	7.34	--	--	6.69	--	
	B1010-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	7.09	--	--	6.3	--	
	B1010-CELL COMP	7/16/2010	0 - 2	<0.0128	<0.0128	<0.0128	ND	42.6	--	--	14.7	--	
B1012	B1012-A DEPTH	7/16/2010	Baserock	<0.0121	<0.0121	<0.0121	ND	4.64	--	--	9.03	--	
	B1012-B DEPTH	7/16/2010	0 - 0.5	<0.0125	0.0716	<0.0125	ND	<b>86.3</b>	1.53	--	<b>23.4</b>	--	
	B1012-D DEPTH	7/16/2010	1 - 1.5	--	--	--	--	6.78	--	--	13.6	--	
	B1012-E DEPTH	7/16/2010	1.5 - 2	--	--	--	--	4.97	--	--	5.73	--	
	B1012-CELL COMP	7/16/2010	0 - 2	<0.0120	0.0214	<0.0120	ND	48.8	--	--	14	--	
B1014	B1014-A DEPTH	7/14/2010	Baserock	<0.0125	<0.0125	<0.0125	ND	7.02	--	--	11.6	--	
	B1014-B DEPTH	7/14/2010	0 - 0.5	<0.0127	0.086	<0.0127	ND	55.5	0.834	--	16.4	--	
	B1014-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	<b>88.4</b>	0.91	--	<b>34.5</b>	--	
	B1014-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	18.8	--	--	15.4	--	
	B1014-CELL COMP	7/16/2010	0 - 2	0.0149	0.177	<0.0132	ND	48.9	--	--	<b>19.7</b>	--	
B1016	B1016-A DEPTH	7/14/2010	Baserock	<0.0118	<0.0118	<0.0118	ND	8.69	--	--	13.7	--	
	B1016-B DEPTH	7/14/2010	0 - 0.5	<0.0128	0.29	0.0153	ND	<b>166</b>	3.07	<0.005	<b>39</b>	--	
	B1016-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	8.96	--	--	7.35	--	
	B1016-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	8.05	--	--	5.19	--	
	B1016-CELL COMP	7/14/2010	0 - 2	<0.0127	0.0342	<0.0127	ND	40.2	--	--	12.8	--	
B102024	B102024-A DEPTH	7/14/2010	Baserock	<0.0107	<0.0107	<0.0107	ND	5.27	--	--	5.81	--	
	B102024-B DEPTH	7/14/2010	0 - 0.5	<0.013	0.0782	<0.013	ND	67.5	1.21	--	<b>30.9</b>	--	
	B102024-D DEPTH	7/14/2010	1 - 1.5	--	--	--	--	16.5	--	--	11.8	--	
	B102024-E DEPTH	7/14/2010	1.5 - 2	--	--	--	--	17.4	--	--	9.66	--	
	B102024-CELL COMP	7/16/2010	0 - 2	<0.0127	0.0327	<0.0127	ND	32	--	--	15.7	--	
<b>Discrete Samples</b>													
C4A	C4A-0.0-0.5	7/16/2010	0 - 0.5	<0.0122	<0.0122	<0.0122	ND	7.85	--	--	7.67	--	
C5B	C5B-0.0-0.5	7/16/2010	0 - 0.5	<0.012	0.0757	<0.012	ND	67	--	--	<b>22.9</b>	--	
C15B	C15B-0.0-0.5	7/16/2010	0 - 0.5	<0.0117	<0.0117	<0.0117	ND	36.2	--	--	9.98	--	
C20C	C20C-0.0-0.5	7/16/2010	0 - 0.5	<0.0119	0.0394	<0.0119	ND	<b>94.7</b>	--	--	<b>19.9</b>	--	
C30C	C30C-0.0-0.5	7/16/2010	0 - 0.5	<0.0116	0.197	0.013	ND	<b>138</b>	--	--	<b>24.1</b>	--	
<b>Phase II Samples</b>													
SU1	SU1-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	
SU4	SU4-0.75-1.25	3/15/2010	0.75-1.25	--	--	--	--	--	--	--	--	--	
	AComp14	3/15/2010	0.75-1.5	<0.013	0.336	<0.013	ND	<b>138</b>	--	--	<b>44.9</b>	--	
SU1	SU1-2-2.5	3/15/2010	2-2.5	--	--	--	--	--	--	--	--	--	
SU4	SU4-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	
	BComp14	3/15/2010	2-3	<0.0128	0.407	<0.0128	ND	51.6	--	--	16.6	--	
SU2	SU2-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	
SU3	SU3-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	
	AComp23	3/15/2010	1-1.5	<0.0115	<0.0115	<0.0115	ND	13.1	--	--	3.75	--	
SU2	SU2-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	
SU3	SU3-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	
	BComp23	3/15/2010	2.5-3	<0.0116	<0.0116	<0.0116	ND	6.13	--	--	5.6	--	
SU6	SU6-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	
SU7	SU7-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	
	AComp67	3/15/2010	1-1.5	0.0225	0.325	<0.0119	ND	63.1	--	--	16.3	--	
SU6	SU6-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	
SU7	SU7-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	
	BComp67	3/15/2010	2.5-3	<0.0128	<0.0128	<0.0128	ND	9.56	--	--	7.42	--	
SU5	SU5-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	
SU8	SU8-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	
	AComp58	3/15/2010	1-1.5	<0.0127	0.0163	<0.0127	ND	14.4	--	--	10.4	--	
<b>Cal/EPA Residential CHHSLs (d)</b>				<b>2.3</b>	<b>1.6</b>	<b>1.6</b>	<i>na</i>	<b>80</b>	<i>na</i>	<i>na</i>	<b>0.07</b>	<i>na</i>	
<b>Site-Specific Background Arsenic Concentration (e)</b>				<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<b>17</b>	<i>na</i>	
<b>Hazardous Waste Criteria</b>													
<b>Total Threshold Limit Concentration</b>				<b>1</b>	<b>1</b>	<b>1</b>	<i>na</i>	<b>1,000</b>	<i>na</i>	<i>na</i>	<b>500</b>	<i>na</i>	
<b>Soluble Threshold Limit Concentration</b>				<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<b>na</b>	<b>5</b>	<i>na</i>	<b>na</b>	<b>5</b>	
<b>RCRA Regulatory Level</b>				<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<b>na</b>	<b>na</b>	<b>5</b>	<i>na</i>	<b>na</b>	

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS FOR ORGANOCHLORINE PESTICIDES,**  
**LEAD, AND ARSENIC IN SOIL SAMPLES**

1020 - 1024 Morse Avenue, Sunnyvale, CA

Sample Location	Sample ID	Sample Date	Sample Depth (ft bbr)	Analytical Results (mg/kg dry weight unless otherwise noted) (a,b,c)									
				Pesticides				Selected Metals					
				4,4'-DDD	4,4'-DDE	4,4'-DDT	Other Pesticides	Lead	WET Lead (mg/L)	TCLP Lead (mg/L)	Arsenic	WET Arsenic (mg/L)	
<b>Phase II Samples</b>													
SU5	SU5-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	--
SU8	SU8-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	--
	BComp58	3/15/2010	2.5-3	<0.0125	<0.0125	<0.0125	ND	8.52	--	--	6.19	--	--
SU9	SU9-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	--
SU10	SU10-1-1.5	3/15/2010	1-1.5	--	--	--	--	--	--	--	--	--	--
	AComp910	3/15/2010	1-1.5	0.0159	0.657	<0.0131	ND	<b>166</b>	--	--	<b>31</b>	--	--
SU9	SU9-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	--
SU10	SU10-2.5-3	3/15/2010	2.5-3	--	--	--	--	--	--	--	--	--	--
	BComp910	3/15/2010	2.5-3	<0.0125	<0.0125	<0.0125	ND	8.82	--	--	8.54	--	--
<b>Cal/EPA Residential CHHSLs (d)</b>				<b>2.3</b>	<b>1.6</b>	<b>1.6</b>	<i>na</i>	<b>80</b>	<i>na</i>	<i>na</i>	<b>0.07</b>	<i>na</i>	<i>na</i>
<b>Site-Specific Background Arsenic Concentration (e)</b>				<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<b>17</b>	<i>na</i>	<i>na</i>
<b>Hazardous Waste Criteria</b>													
<b>Total Threshold Limit Concentration</b>				<b>1</b>	<b>1</b>	<b>1</b>	<i>na</i>	<b>1,000</b>	<i>na</i>	<i>na</i>	<b>500</b>	<i>na</i>	<i>na</i>
<b>Soluble Threshold Limit Concentration</b>				<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<b>5</b>	<i>na</i>	<i>na</i>	<i>na</i>	<b>5</b>
<b>RCRA Regulatory Level</b>				<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<b>5</b>	<i>na</i>	<i>na</i>	<i>na</i>

**Abbreviations:**

"--" - not analyzed  
 <0.50 - Compound not detected at or above indicated laboratory reporting limit  
 ft bbr - Feet below baserock  
 mg/kg - Milligrams per kilogram  
 na - not applicable  
 ND - not detected  
 mg/L - Milligrams per liter  
 RCRA - Resource Conservation and Recovery Act  
 TCLP - Toxicity Characteristic Leaching Procedure  
 WET - Waste Extraction Test

**Notes:**

- (a) Soil samples analyzed by K Prime, Inc. Santa Rosa, California.
- (b) Organochlorine pesticides analyzed using US EPA Method 3550/8081. Total Lead and arsenic analyzed using US EPA Method 3050B/6020A. WET Lead and Arsenic analyzed using CA WET. TCLP Lead analyzed using EPA 1311.
- (c) Bold value indicates detected concentration exceeds respective ESL or CHHSL. Arsenic concentrations are bolded only if they exceed background levels.
- (d) Cal/EPA CHHSLs: California EPA, Department of Toxic Substances Control, California Human Health Screening Levels ("CHHSLs"), Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005 (Table 1, Residential Land Use). Lead CHHSL updated in October 2009.
- (e) See text for details.

**TABLE 3**  
**SUMMARY OF ANALYTICAL RESULTS FOR TPH AND VOCs**  
**IN GRAB GROUNDWATER SAMPLES**

1010 - 1024 Morse Avenue, Sunnyvale, CA

Soil Borehole ID	Grab Groundwater Sample ID	Sample Date	Analytical Results (a)				
			TPH (mg/L) (b)			VOCs (ug/L) (c)	
			TPH as Gasoline	TPH as Diesel Fuel	TPH as Motor Oil	Tetrachloroethylene (PCE)	Other VOCs
SU1	SU1W	3/15/2010	<0.05	<0.063	<0.063	1.02	ND
SU3	SU3W	3/15/2010	<0.05	<0.063	<0.063	<b>7.6</b>	ND
SU4	SU4W	3/15/2010	<0.05	<0.063	<0.063	<0.5	ND
SU5	SU5W	3/15/2010	<0.05	<0.063	<0.063	<0.5	ND
SU6	SU6W	3/15/2010	<0.05	<0.063	<0.063	<0.5	ND
<b>California MCLs (d)</b>			<b>na</b>	<b>na</b>	<b>na</b>	<b>5</b>	<b>na</b>

**Abbreviations:**

<0.05 - Compound not detected at or above indicated laboratory detection limit

TPH - Total petroleum hydrocarbons

mg/L - Milligrams per liter

na - not applicable

ND - Not detected at or above laboratory detection limits

ug/L - Micrograms per liter

VOCs - Volatile Organic Compounds

**Notes:**

(a) Grab groundwater samples analyzed by K Prime, Inc. Santa Rosa, California.

(b) TPH as Gasoline (gasoline range organics (GRO)) by U.S. EPA Method 8015B. TPH as

Diesel Fuel (diesel range organics (DRO)) by U.S. EPA Method 8015B (with silica gel cleanup).

TPH as Motor Oil (heavy range organics (HRO)) by U.S. EPA Method 8015B (with silica gel cleanup)

(c) VOCs using U.S. EPA Method 5030/8260B. No other VOCs were detected in grab groundwater samples above their respective laboratory reporting limits.

(d) California MCLs: California Department of Health Services, MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants, 4 February 2010.

**TABLE 4**  
**LIST OF POTENTIAL ARARS AND TBCS**  
1010 - 1024 Morse Avenue, Sunnyvale, CA

Requirement	Description	ARAR or TBC
<b>POTENTIAL CHEMICAL-SPECIFIC ARARs AND TBCs</b>		
Resource Conservation and Recovery Act ("RCRA"), as amended by the Hazardous and Solid Waste Amendments (40 CFR 260 to 299, 42 USC 7401-7642)	Federal act that classifies and regulates hazardous waste and facilities that treat, store and dispose of hazardous waste. These regulations define RCRA hazardous waste if "listed" or "characteristically" hazardous. TCLP criteria classify RCRA hazardous wastes for on-site or off-site disposal of excavated Site soil and extracted groundwater.	ARAR (a)
RCRA Land Disposal Restrictions (40 CFR Part 268)	RCRA hazardous wastes are potentially subject to land disposal restrictions. Land disposal restrictions can set performance requirements on treatment of the wastes for identified chemical constituents before land disposal. If chemical-specific universal treatment standards are exceeded, material must be treated prior to land disposal.	ARAR (a)
Hazardous Waste Control Act (Chapter 6.5, section 25100, 22 CCR 66260.1)	Establishes criteria for determining waste classification for the purposes of transportation and land disposal of wastes in California. Regulates treatment, storage, transportation and disposal of substances identified as hazardous.	ARAR (a)
Total Threshold Limit Concentrations ("TTLCs") and Soluble Threshold Limit Concentrations ("STLCs") (22 CCR Section 66261.24)	Title 22 of CCR lists TTLC and STLC values for classification of "hazardous" and "extremely hazardous" wastes. TTLC and STLC criteria for classifying California hazardous wastes are ARARs for on-site or off-site disposal of soil excavated from the Site.	ARAR (a)
Hazardous Waste Generator Requirements (22 CCR 66262.1)	Establishes standards applicable to generators of hazardous waste.	ARAR (a)
Land Disposal Restrictions (22 CCR 66268.7)	Establishes standards for treatment and land disposal of hazardous waste.	ARAR (a)
Stockpiling Requirements for Contaminated Soil (Section 25123.3(a)(2))	Establishes standards for stockpiling of non-RCRA contaminated soil.	ARAR (a)
California Hazardous Substances Account Act (Section 25340-25392)	Establishes fees regarding disposal of hazardous substances and outlines process for cleanup of hazardous substance release sites.	ARAR (a)
Clean Water Act (33 USCA 125-1-1376 and 40 CFR 100-149)	Federal act that establishes a system of national effluent discharge standards and ocean discharge requirements. Section 304 establishes water quality criteria based on the designated or potential use of the water and designated use of the receiving waters. Section 404 prohibits discharge of dredged or fill material into wetlands without a permit. US Army Corps of Engineers regulates activities that may physically alter the waters of the United State.	ARAR

**TABLE 4**  
**LIST OF POTENTIAL ARARS AND TBCS**  
1010 - 1024 Morse Avenue, Sunnyvale, CA

Requirement	Description	ARAR or TBC
<b>POTENTIAL CHEMICAL-SPECIFIC ARARs AND TBCs</b>		
Federal Drinking Water Standards (40 CFR Part 141) and California Drinking Water Standards (22 CCR Section 64431, 64444, & 64449)	Chemical-specific drinking water standards are promulgated under the federal Safe Drinking Water Act as Maximum Contaminant Levels ("MCLs"). California has also promulgated drinking water standards, "California MCLs". Shallow groundwater in the vicinity of the Site is not currently used for potable water supply and is not likely to be used as a drinking water source in the future.	ARAR
California State Water Resources Control Board - 1) Sources of Drinking Water Resolution 88-63, 2) Nondegradation Policy Resolution 68-16, and 3) Containment Zone Policy Resolution 92-49	These promulgated State policies address water quality objectives for the State of California.	ARAR
Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65") (22 CCR section 12000 )	Proposition 65 prohibits the discharge, into a source of drinking water, of chemicals listed in 22 CCR Section 12000. The statute also requires that a reasonable warning be given to individuals who may be exposed to listed substances at levels posing an unacceptable risk.	ARAR
Porter Cologne Water Quality Act (23 CCR Chapter 3, Subchapter 15, WC section 13000)	Establishes the authority of the State Water Resources Control Board and Regional Water Quality Control Boards to protect water quality by identifying beneficial uses of the waters of the State, establishing water quality objectives, and regulating discharges to waters of the state.	ARAR
San Francisco Bay Basin Water Quality Control Plan ("Basin Plan"), dated December 2006	Adopts narrative standards and permissible concentrations of organic and inorganic chemicals for surface water, groundwater, point sources and non-point sources. Establishes beneficial uses of surface waters and groundwater.	ARAR
Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (40 CFR Section 131.38)	The Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California (40 CFR Section 131.38) promulgates criteria for priority toxic pollutants in the State of California for inland surface waters and enclosed bays and estuaries.	ARAR
California Human Health Screening Levels ("CHHSLs")	The CHHSLs were developed by the Office of Environmental Health Hazard Assessment ("OEHHA") on behalf of California EPA ("Cal-EPA") and are soil or soil gas concentrations that Cal-EPA considers to be below thresholds of concern for risks to human health.	TBC
NPDES Permit	The State Water Resources Control Board ("SWRCB"), as part of the National Pollutant Discharge Elimination System ("NPDES"), has adopted a statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity (General Permit) to address discharges of storm water runoff from construction projects that encompass one acre or more in total acreage of soil disturbances.	ARAR

**TABLE 4**  
**LIST OF POTENTIAL ARARS AND TBCS**  
 1010 - 1024 Morse Avenue, Sunnyvale, CA

Requirement	Description	ARAR or TBC
<b>POTENTIAL LOCATION-SPECIFIC ARARs AND TBCs</b>		
National Archeological and Historic Preservation Act (16 USC Section 469-470, 36 CFR 800 and Part 65)	If significant scientific, pre-historic, or historic artifacts are found at the Site, provisions of this Act may require implementation.	ARAR
Endangered Species Act of 1973	Established to conserve endangered or threatened species. No endangered or threatened species are known to be present at the Site or its vicinity.	ARAR
RCRA Treatment Standards (40 CFR 268.40-49)	RCRA treatment standards for disposal of hazardous waste include total waste standards, waste extract standards, and treatment technology standards.	ARAR (a)
Federal Clean Air Act (42 USC Section 7401-7642, 40 CFR 50 – 69)	Identifies categories of industrial sources and treatment standards. Establishes primary and secondary ambient air standards. States develop implementation plans for attainment of the standards. The Bay Area Air Quality Management District ("BAAQMD") is the local implementing agency. Where BAAQMD requirements have been incorporated into the State Implementation Plan ("SIP") and approved by USEPA, they are federally-enforceable. Where BAAQMD requirements have not been incorporated into the SIP and approved by USEPA, they are not federally-enforceable.	ARAR

**TABLE 4**  
**LIST OF POTENTIAL ARARS AND TBCS**  
1010 - 1024 Morse Avenue, Sunnyvale, CA

Requirement	Description	ARAR or TBC
<b>POTENTIAL ACTION-SPECIFIC ARARs AND TBCs</b>		
Bay Area Air Quality Management District ("BAAQMD") Rules and Regulations	Applicable BAAQMD rules and regulations for remedial actions may include: a) Particulate Matter and Visible Emissions (Regulation 6) - limits the quantity of particulate matter in the atmosphere by controlling emission rates, concentration, visible emissions and opacity;b) Odorous Substances (Regulation 7) - establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds;c) Hazardous Pollutants such as lead, vinyl chloride, and benzene (Regulation 11) - sets emission and/or performance standards for hazardous pollutants to limit the emissions of volatile organic.	ARAR
Hazardous Waste Manifest System, Recordkeeping, and Reporting(40 CFR Parts 262, 263 & 264 and 22 CCR Sections 66262, 66263 & 66264, CHSC Sections 25160-25166.5)	Applicable for RCRA and non-RCRA classified hazardous waste that may be transported off-site for treatment and disposal. Standards applicable to generators and transporters of hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities that include manifest, transport, recordkeeping, and reporting requirements.	ARAR (a)
Hazardous Materials Transportation Regulations (49 CFR Parts 107, 171-177)	Federal regulations were established for the safe and secure transportation of hazardous materials in commerce under the federal hazardous materials transportation law (49 USC 5101). These regulations are applicable to those who cause hazardous materials to be transported and to those who manufacture or maintain a packaging or a component of a packaging qualified for use in the transportation of a hazardous material.	ARAR (a)
California Hazardous Waste Haulers Act (22 CCR Chapter 30)	State regulations concerning the transportation of hazardous waste, including all inspection, licensing, and registration of trucks, trailers, semi trailers, vacuum tanks, cargo tanks, and containers used to transport all types of hazardous wastes. No state or local agency, including, but not limited to, a chartered city or county, shall adopt or enforce any ordinance or regulation which is inconsistent with the rules and regulations adopted by the Department of Toxic Substances Control, the Department of the California Highway Patrol, or the State Fire Marshal pursuant to this article.	ARAR (a)
Regulatory Oversight - Soil Excavation and Handling (CHSC 25356.1 and 25358.9)	Addresses permitting and oversight regarding excavation and handling of soil. Excludes on-site work from certain permitting requirements by the DTSC if the work is being conducted pursuant to the RAW and the cleanup complies with all applicable laws, rules, regulations, standards, and requirements.	ARAR
Occupational Safety and Health Administration (29 CFR Part 1910.120)	Requirements for health and safety for on-site workers involved in hazardous waste operations and emergency response that are applicable to clean-up operations at sites recognized by governmental bodies as hazardous waste sites. Identifies permissible exposure limits (PELs) for inhalation or dermal exposure of workers to chemicals. When PELs are exceeded, OSHA requires the use of personal protective equipment or other methods to block exposure.	ARAR (a)

**TABLE 4**  
**LIST OF POTENTIAL ARARS AND TBCS**

1010 - 1024 Morse Avenue, Sunnyvale, CA

Requirement	Description	ARAR or TBC
<b>POTENTIAL ACTION-SPECIFIC ARARs AND TBCs</b>		
California Occupational Health and Safety (8 CCR 5192)	Requires workers involved in hazardous substance operations associated with cleanup of sites perform the cleanup operations in accordance with Cal OSHA health and safety requirements.	ARAR
California Environmental Quality Act ("CEQA") (Public Resources Code, Division 13, Section 21000 )	Unless an exemption applies, CEQA requires completion of an Environmental Impact Report ("EIR") or issuance of a Negative or Mitigated Negative Declaration before implementation of a project (such as redevelopment or remedial actions) that have the potential to have a physical impact on the environment. The purpose of an EIR is to provide State and local agencies and the general public with detailed information on the potentially significant environmental effects which a proposed project is likely to have and to list ways which the significant environmental effects may be minimized and indicate alternatives to the project.	ARAR
Municipal Code of the City of Sunnyvale Chapter 16.08.03 - Hours of Construction - Time and noise limitations	Limits the amount of noise generated during certain times of day.	ARAR

**Abbreviations:**

ARARs = Applicable or Relevant and Appropriate Requirements  
 BAAQMD = Bay Area Air Quality Management District  
 CCR = California Code of Regulations  
 CEQA = California Environmental Quality Act  
 CFR = Code of Federal Regulations  
 CHSC = California Health and Safety Code  
 DTSC = California Department of Toxic Substances Control  
 EPA-SLs = USEPA Screening Levels  
 MCLs = Maximum Contaminant Levels  
 NCP = National Oil and Hazardous Substances Pollution Contingency Plan  
 PCBs = polychlorinated biphenyls  
 RCRA = Resource Conservation and Recovery Act  
 SIP = State Implementation Plan  
 STLCs = Soluble Threshold Limit Concentrations  
 TBCs = To Be Considered  
 TCLP = Toxicity Characteristic Leaching Procedure  
 TPH = Total Petroleum Hydrocarbons  
 TTLCs = Total Threshold Limit Concentrations  
 USC = United States Code  
 USEPA = U.S. Environmental Protection Agency

**Notes:**

(a) Only applicable if future sampling indicates that the soil is a hazardous waste if excavated.

**TABLE 5**  
**ANALYSIS OF REMOVAL ACTION ALTERNATIVES**  
 1010 - 1024 Morse Avenue, Sunnyvale, CA

Removal Action Alternative		Alternative 1	Alternative 2	Alternative 3
<b>Description (a)</b>		<p><b>No Further Action:</b>                      This Alternative does not include removal of Site soil with COCs above SSCGs. COCs would remain in place at their current concentrations and there would be no reduction in the potential risks. The No Further Action alternative would allow potential human exposure to the existing Site soil contamination upon redevelopment of the Site as a park. As a result, acceptance by the State and the community would be unobtainable.</p>	<p><b>Excavation and Off-Site Disposal:</b>                      Entails physical removal of COC-impacted soils from the Site and transporting those soils to a permitted landfill for disposal.</p>	<p><b>Soil Containment/In-Place Capping:</b>                      Entails capping of shallow soil to limit direct contact with COC-impacted soil, recording of a deed restriction, and preparation of a Site Management Plan ("SMP"). Subsurface workers will be protected by appropriate worker health and safety protocols. The cap would likely consist of one of the following cap materials: at least 2 feet of clean soil (including landscaped areas), above ground structures, and concrete or asphalt pavement to be constructed as part of redevelopment of the park.</p>
<b>Acceptance Criteria for Analysis of Removal Action Alternatives</b>	Effectiveness	Not Effective	Effective in the long-term for protection of human health from direct exposure to soil. Potential on-Site and off-Site short-term impacts from dust and traffic would be addressed by available mitigation measures and engineering controls.	Effective in the long-term as long as the integrity of the cap system is maintained, a deed restriction is recorded, and protocols established in the SMP to maintain the cap and for subsurface activities are followed. Potential on-Site and off-Site short-term impacts from dust and traffic would be addressed by available mitigation measures and engineering controls.
	Implementability	Easily Implementable.	Implementable using standard construction equipment. Will require control measures to reduce potential dust impacts to on-Site workers and local community.	Implementable using standard construction equipment. Like Alternative 2, will require control measures to reduce potential dust impacts during Site grading for construction of the cap. Will result in a mound being formed at the Site due to the need to install soil cover for much of the park (unless artificial turf is used). Requires installation and on-going monitoring of the cap system, recording of a deed restriction, and preparation and implementation of the SMP.
	Costs (b)	--	\$1,410,000	\$1,080,000
	Compliance with ARARs and TBCs	Does not comply with ARARs and TBCs.	Will comply with the applicable ARARs and TBCs to the extent practicable.	Will comply with the applicable ARARs and TBCs to the extent practicable.
<b>Conclusion</b>		Lack of effectiveness and non-compliance with acceptance criteria precludes selection.	Recommended Alternative.	Not recommended. Implementation of Alternative requires on-going monitoring and maintenance of cap system, recording of a deed restriction, and implementation of a SMP.

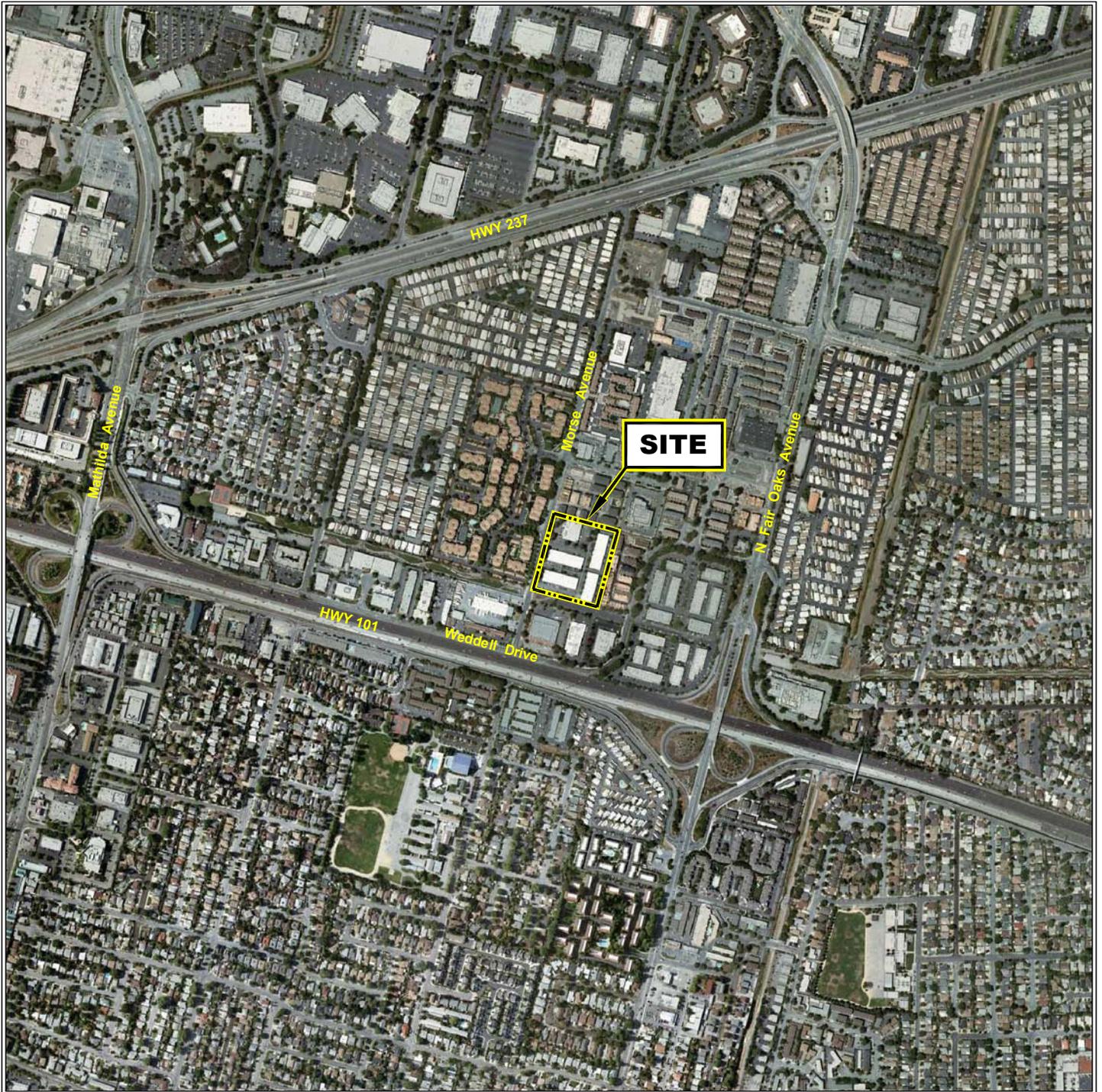
**Abbreviations:**

ARARs = Applicable or Relevant and Appropriate Requirements  
 COCs = chemicals of potential concern  
 RAO = Remedial Action Objective

SMP = Site Management Plan  
 SSCG = Site-specific cleanup goal  
 TBCs = To Be Considered

**Notes:**

- (a) A detailed description of Alternatives 1 to 3 is provided in Section 4 of the text.  
 (b) See Appendix A for further details.



Reference: Google Earth Pro; Imagery date June 30, 2007.

**Notes:**

- 1. All locations are approximate.

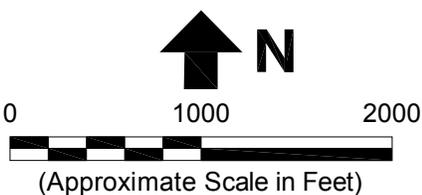
**Erler &  
Kalinowski, Inc.**

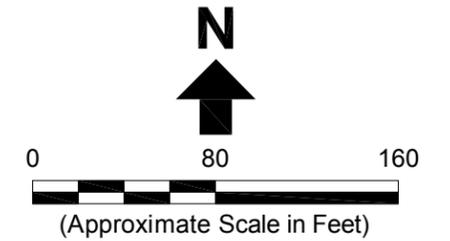
Site Location Map

1010 - 1024 Morse Avenue  
Sunnyvale, CA

November 2011  
EKI B10004.00

Figure 1





**Legend:**

- Approximate Site Boundary
- ⊕ Soil and Grab Groundwater Sample Borehole (March 2010)
- ⊕ Soil Sample Borehole (March 2010)
- A Soil Borehole (July 2010)
- ⊞ Pad-Mounted Transformer
- (1010) Building Street Address
- C1 Cell Number
- Cell Boundary
- Building Composite
- Cell Composite
- Multiple Cell Composite
- Discrete Soil Sample
- Machine Shop Soil Sample

**Notes:**

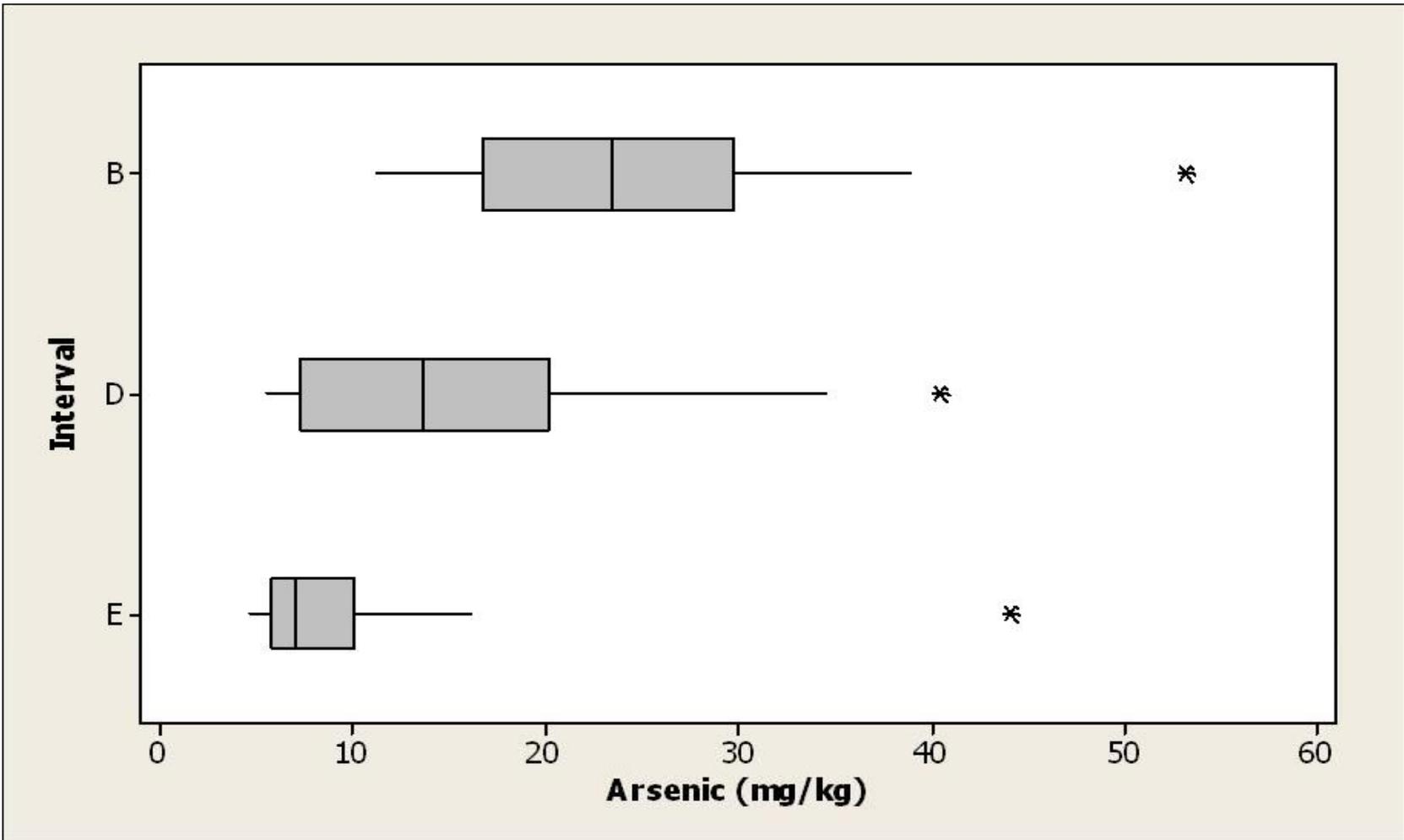
1. All locations are approximate.
2. Basemap source: Google Earth Pro; Imagery date 30 June 2007.

# Erler & Kalinowski, Inc.

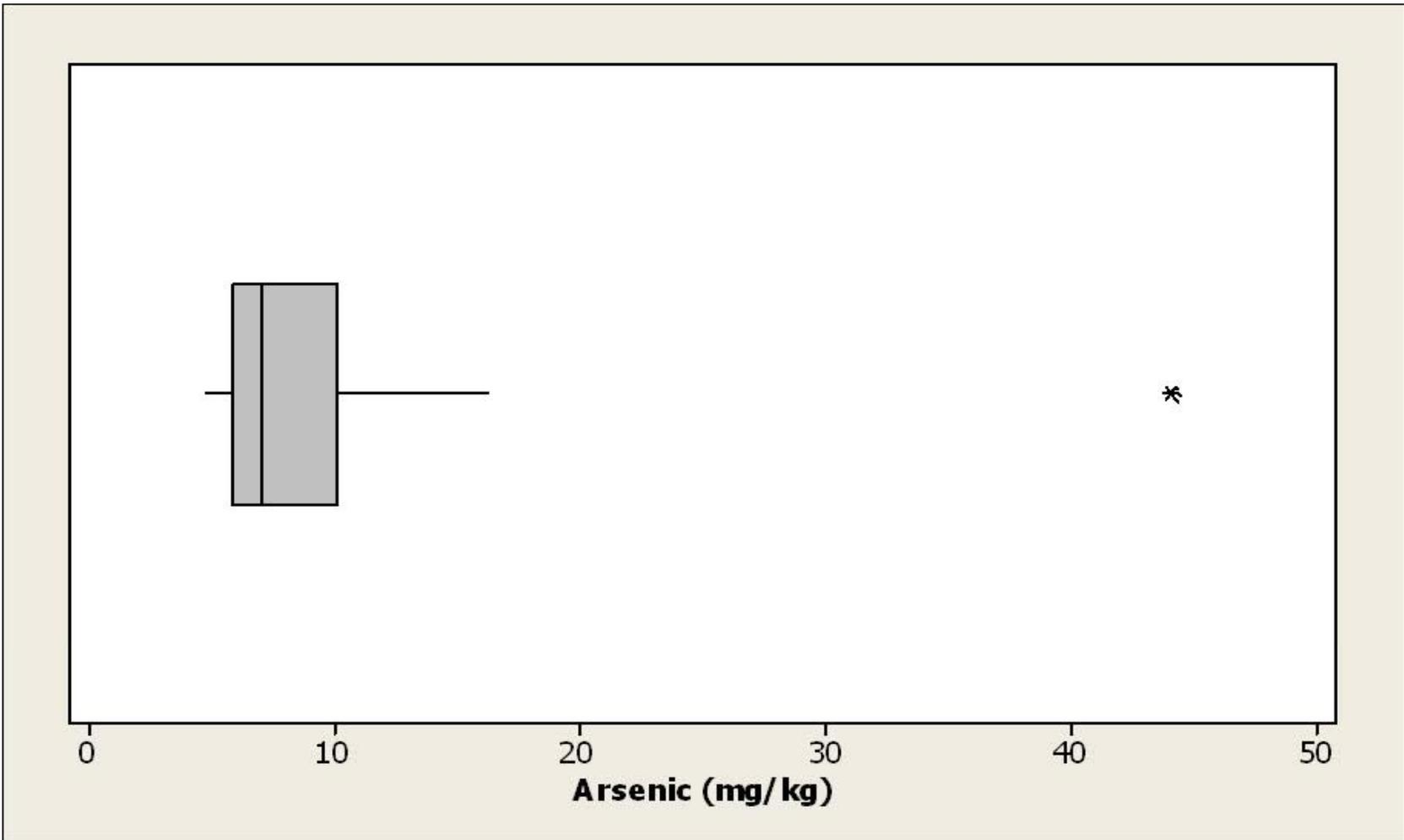
Approximate Soil Sample Locations

1010 - 1024 Morse Avenue  
Sunnyvale, CA  
November 2011  
EKI B10004.00

Figure 2

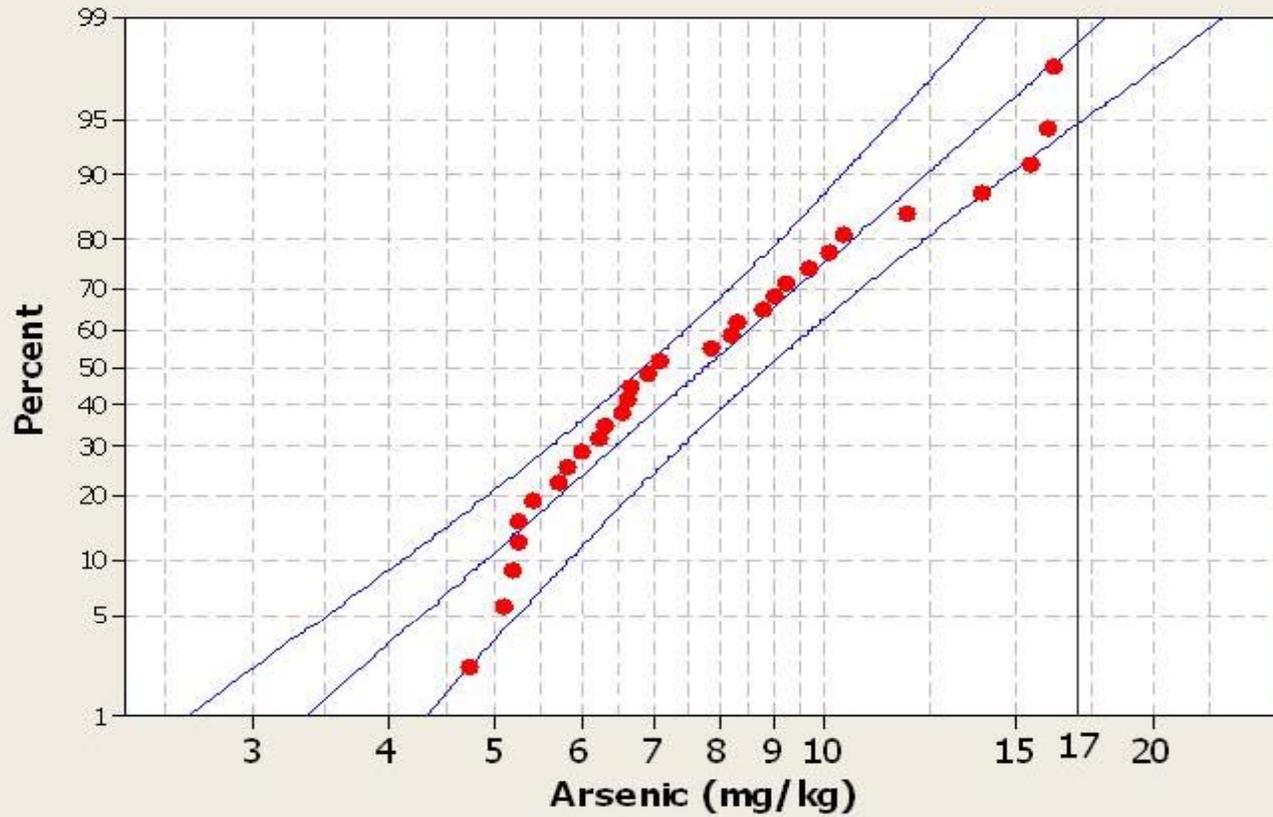


Erler &  
Kalinowski, Inc.  
**Boxplot of Arsenic for Depth Intervals B, D, and E**  
1010 - 1024 Morse Avenue  
Sunnyvale, California  
November 2011  
EKI B10004.00  
**Figure 3**



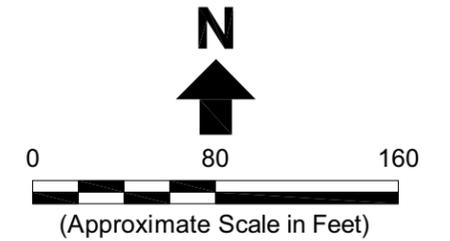
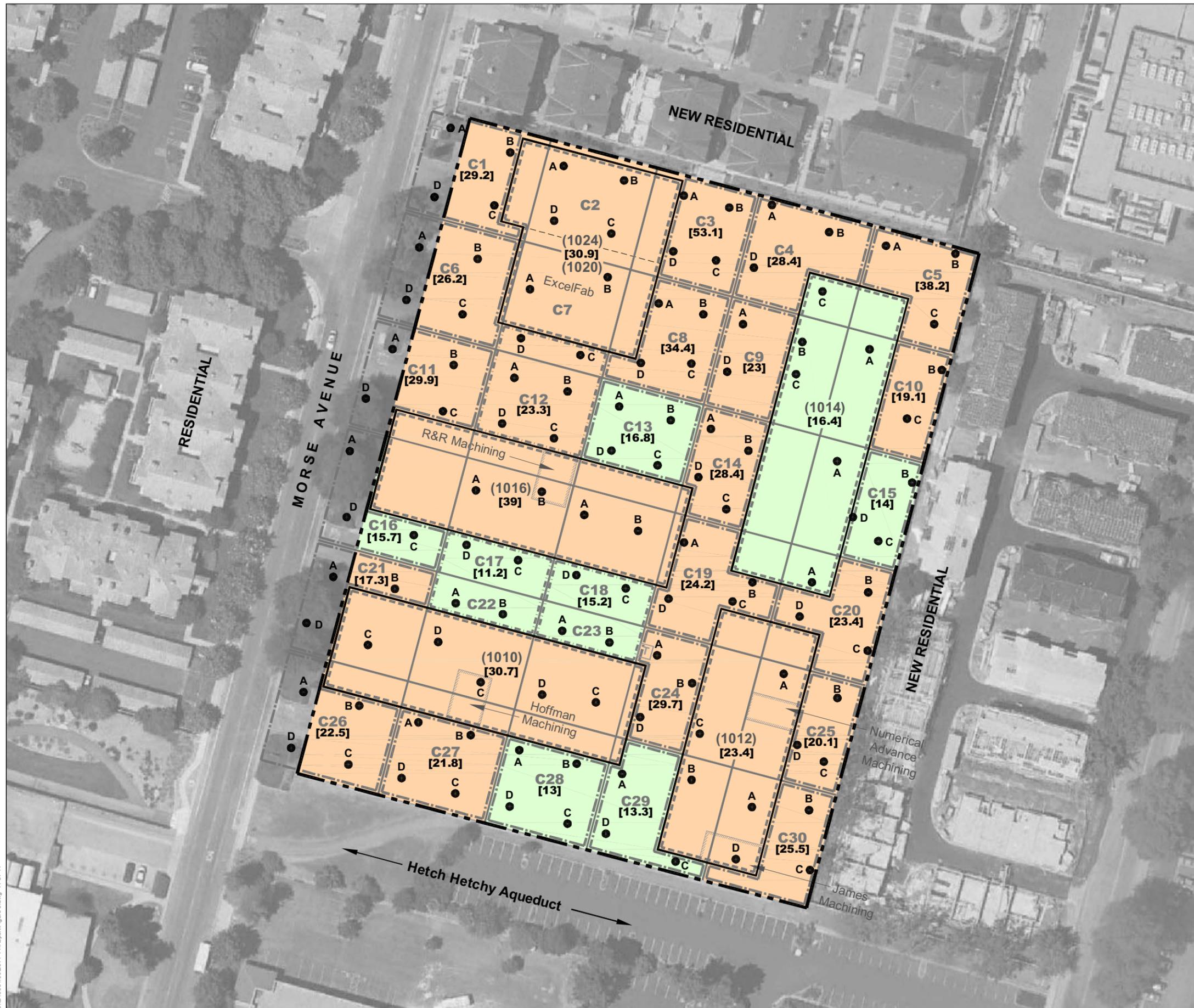
Erler &  
Kalinowski, Inc.  
**Boxplot of Arsenic for Depth Interval E**  
1010 - 1024 Morse Avenue  
Sunnyvale, California  
November 2011  
EKI B10004.00  
**Figure 4**

### Lognormal - 95% CI



Loc	2.052
Scale	0.3611
N	30
AD	0.703
P-Value	0.060

Erler &  
Kalinowski, Inc.  
Probability Plot of Arsenic for Depth Interval E and Outlier Removed  
1010 - 1024 Morse Avenue  
Sunnyvale, California  
November 2011  
EKI B10004.00  
**Figure 5**



**Legend:**

- Approximate Site Boundary
- Soil Borehole (July 2010)
- Pad-Mounted Transformer
- (1010)** Building Street Address
- C1** Cell Number
- [14]** Arsenic Concentrations in Milligrams Per Kilogram (mg/kg)
- Cell Boundary
- Building Composite
- Cell Composite
- Multiple Cell Composite
- ≤ 17 mg/kg
- > 17 mg/kg

**Notes:**

1. All locations are approximate.
2. Basemap source: Google Earth Pro; Imagery date 30 June 2007.

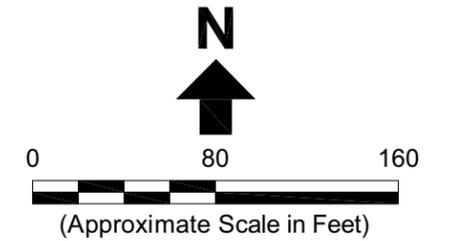
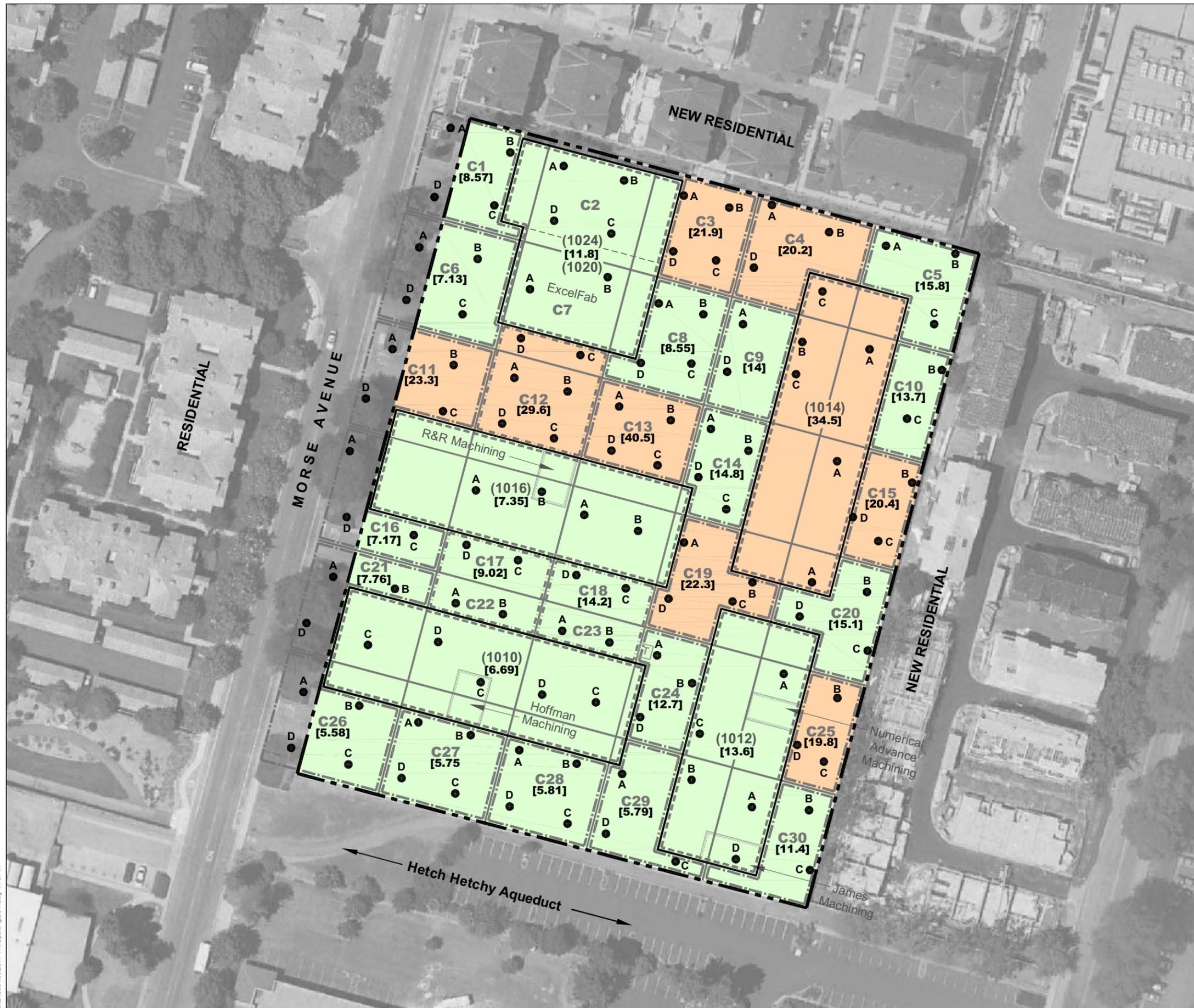
# Erler & Kalinowski, Inc.

Arsenic Concentrations in Soil  
0 - 0.5 Feet Below Baserock

1010 - 1024 Morse Avenue  
Sunnyvale, CA  
November 2011  
EKI B10004.00

Figure 6

G:\B10004\_00\2011-11\Report\Figure 6.dwg 11-07-11



- Legend:**
- Approximate Site Boundary
  - A Soil Borehole (July 2010)
  - ⊠ Pad-Mounted Transformer
  - (1010) Building Street Address
  - C1 Cell Number
  - [13.7] Arsenic Concentrations in Milligrams Per Kilogram (mg/kg)
  - Cell Boundary
  - - - Building Composite
  - - - Cell Composite
  - - - Multiple Cell Composite
  - ≤17 mg/kg
  - >17 mg/kg

- Notes:**
1. All locations are approximate.
  2. Basemap source: Google Earth Pro; Imagery date 30 June 2007.

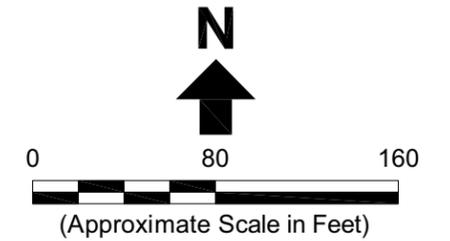
# Erlar & Kalinowski, Inc.

Arsenic Concentrations in Soil  
1 - 1.5 Feet Below Baserock

1010 - 1024 Morse Avenue  
Sunnyvale, CA  
November 2011  
EKI B10004.00

Figure 7

G:\B10004\002011-11\Report\Figure7.dwg 11-07-11



**Legend:**

- Approximate Site Boundary
- A Soil Borehole (July 2010)
- ⊠ Pad-Mounted Transformer
- (1010) Building Street Address
- C1 Cell Number
- [20.4] Arsenic Concentrations in Milligrams Per Kilogram (mg/kg)
- Cell Boundary
- - - Building Composite
- - - Cell Composite
- - - Multiple Cell Composite
- Light Green ≤17 mg/kg
- Orange >17 mg/kg

**Notes:**

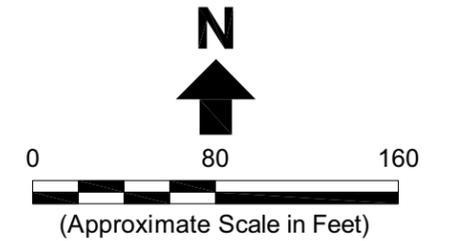
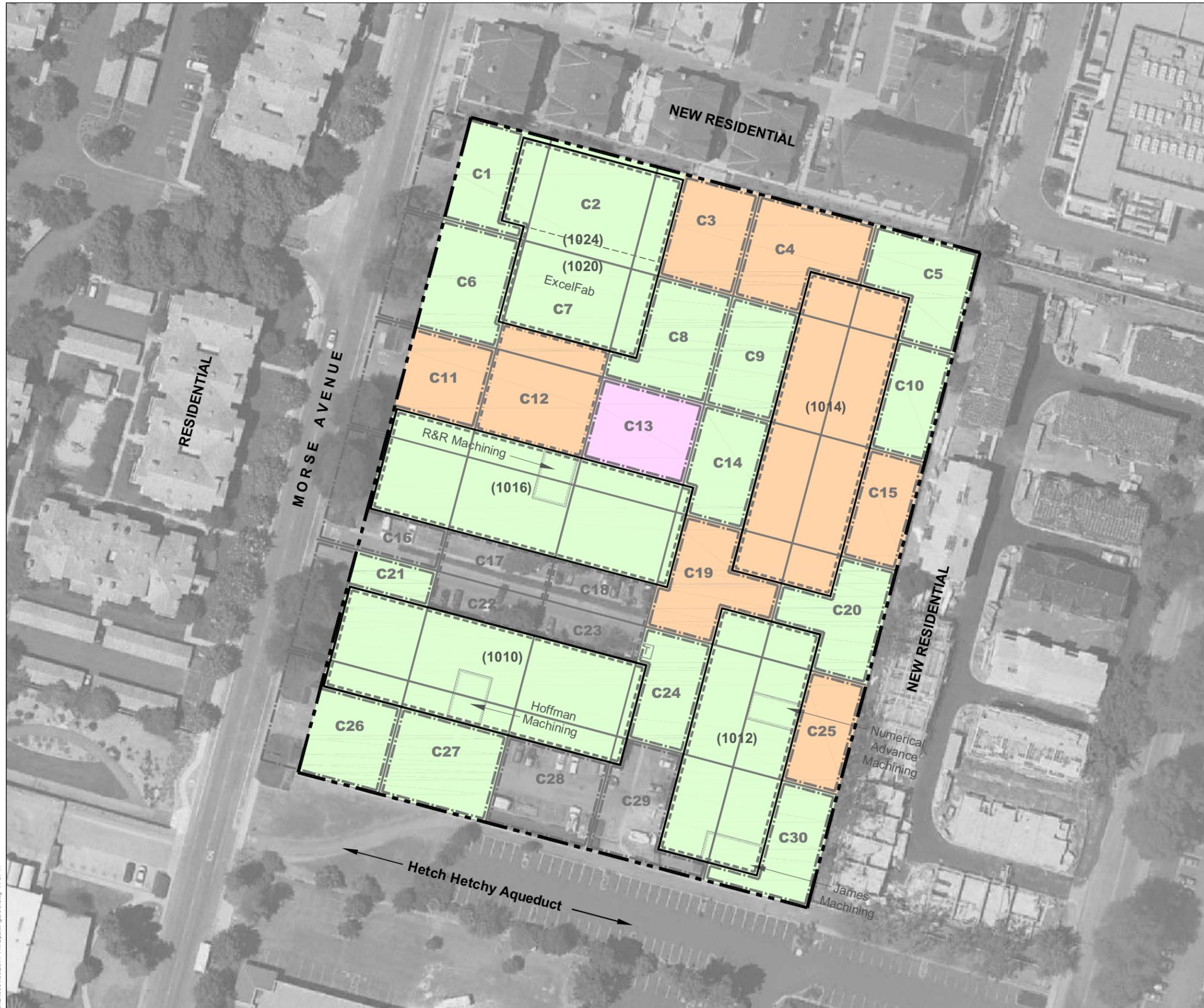
1. All locations are approximate.
2. Basemap source: Google Earth Pro; Imagery date 30 June 2007.

## Erler & Kalinowski, Inc.

Arsenic Concentrations in Soil  
1.5 - 2 Feet Below Baserock

1010 - 1024 Morse Avenue  
Sunnyvale, CA  
November 2011  
EKI B10004.00

Figure 8



- Legend:**
- Approximate Site Boundary
  - T Pad-Mounted Transformer
  - (1010) Building Street Address
  - C1 Cell Number
  - Cell Boundary
  - - - Building Composite
  - - - Cell Composite
  - - - Multiple Cell Composite

- Proposed Excavation Depth:**
- 1 Feet Below Baserock
  - 1.5 Feet Below Baserock
  - 2 Feet Below Baserock

- Notes:**
1. All locations are approximate.
  2. Basemap source: Google Earth Pro; Imagery date 30 June 2007.

# Erler & Kalinowski, Inc.

Initial Lateral and Vertical Extents of Excavation

1010 - 1024 Morse Avenue  
Sunnyvale, CA  
November 2011  
EKI B10004.00

Figure 9



**Appendix A**  
Supporting Information for Estimated Costs of Removal Action Alternatives

**TABLE A-1**  
**SUMMARY OF PRESENT WORTH OF ESTIMATED COSTS**  
**FOR REMOVAL ACTION ALTERNATIVES**

1010-1024 Morse Avenue, Sunnyvale, California

Potential Removal Alternative	Estimated Costs (2011 Dollars) (a,b)		
	Capital Costs	Present Worth of Total Annual Costs	Present Worth of Total Costs
1 No Further Action	\$0	\$0	\$0
2 Excavation and Off-Site Disposal - Arsenic > 17 mg/kg	\$1,410,000	\$0	\$1,410,000
3 Soil Containment/Capping-In-Place	\$910,000	\$170,000	\$1,080,000

**Notes:**

- (a) Consistent with U.S. EPA *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, dated July 2000, present worth of total estimated costs have been calculated assuming a real discount rate of 2.3 percent. The real discount rate is assumed to be equivalent to the nominal interest rate on 30-year federal treasury notes and bonds upon adjustment to remove the effect of expected inflation. The real discount rate has been estimated following guidelines in Circulation No. A-94 published by the Federal Office of Management and Budget, revised December 2010.
- (b) Consistent with EPA *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, dated July 2000, present worth of total estimated costs assume that annual costs will be experienced for 30 years for removal alternatives that leave impacted soils in place, because cap maintenance will require "perpetual care."

**TABLE A-2**  
**ALTERNATIVE 2: ESTIMATED CAPITAL COSTS TO**  
**EXCAVATE AND DISPOSE SOIL WITH ARSENIC GREATER THAN 17 MG/KG**  
**(ALTERNATIVE ASSUMES ALL SOIL IS NON-HAZARDOUS)**

1010 - 1024 Morse Avenue, Sunnyvale, California

Task Description	ESTIMATED COSTS				
	Unit	Quantity	Unit Cost	Subtotal	Total (a)
<b>Pre-Remediation Engineering Services</b>					
● Engineering Design					
Perform general planning activities	ls	1	\$12,000	\$12,000	
Conduct surveying	ls	1	\$6,000	\$6,000	
Prepare remedial design plans and specifications	sheet	4	\$9,000	\$36,000	
Coordinate with waste management facilities	ls	1	\$2,000	\$2,000	
Bid, award, and negotiate construction contract	ls	1	\$10,000	\$10,000	
					\$66,000
<b>General Site Preparation</b>					
● Mobilize contractor equipment and supplies to site	ls	1	\$25,000	\$25,000	
● Erect and maintain perimeter temporary fence	ft	540	\$7	\$3,780	
● Survey and stake site	ls	1	\$6,000	\$6,000	
● Demobilize and cleanup site	ls	1	\$5,000	\$5,000	
					\$39,780
<b>Excavate Soil Identified as non-Hazardous Waste</b>					
● Excavate and stockpile existing top soil for reuse in park	cy	200	\$3.20	\$640	
● Excavate non-hazardous waste (3 cy bucket) and place in truck	cy	10,414	\$4.40	\$45,822	
● Transport and dispose of non-hazardous waste at Class II facility	ton	16,662	\$40	\$666,499	
● Disposal characterization to test for non-RCRA hazardous waste					
Waste Extraction Test (STLC) (extraction only)	ea	27	\$65	\$1,755	
Lead (EPA Method 6020)	ea	27	\$28	\$756	
					\$715,471
<b>Backfill Soil (assumed to be completed as part of park construction)</b>					
<b>Construction Management Services</b>					
● Construction observation					
Provide senior engineering manager	week	10	\$2,700	\$27,000	
Provide resident engineer	week	10	\$8,000	\$80,000	
Provide office support	week	10	\$2,200	\$22,000	
Vehicle	week	10	\$200	\$2,000	
Provide equipment	week	10	\$300	\$3,000	
Perform air monitoring	week	5	\$10,000	\$50,000	
Collect and composite soil confirmation bottom samples (4 samples/cell)	ea	115	\$43	\$4,945	
Collect soil sidewall samples	ea	25	\$43	\$1,075	
Analyze confirmation samples					
Arsenic (EPA Method 6020)	ea	60	\$33	\$1,980	
Survey of final excavation area	ls	1	\$6,000	\$6,000	
Prepare removal action completion report	ls	1	\$30,000	\$30,000	
					\$228,000
<b>Engineering Project Management</b>					
● 9% of Construction Management Services	ls	9%	--	--	\$20,520

**TABLE A-2**  
**ALTERNATIVE 2: ESTIMATED CAPITAL COSTS TO**  
**EXCAVATE AND DISPOSE SOIL WITH ARSENIC GREATER THAN 17 MG/KG**  
**(ALTERNATIVE ASSUMES ALL SOIL IS NON-HAZARDOUS)**  
1010 - 1024 Morse Avenue, Sunnyvale, California

Task Description	ESTIMATED COSTS				
	Unit	Quantity	Unit Cost	Subtotal	Total (a)
<i>Subtotal Estimated Costs (w/ contractor overhead and profit):</i>					<i>\$1,070,000</i>
<i>Legal and Administrative Costs (assumed to be 5 percent of subtotal estimated costs w/ contractor overhead and profit):</i>					<i>\$54,000</i>
<i>Subtotal Estimated Costs (w/ legal and administrative costs):</i>					<i>\$1,124,000</i>
<i>Contingencies (assumed to be 25 percent of subtotal estimated costs w/ legal and administrative costs):</i>					<i>\$281,000</i>
<b><i>Total Capital Costs of Removal Alternative:</i></b>					<b><i>\$1,410,000</i></b>

**Abbreviations:**

"cy" = cubic yard

"ea" = each

"ft" = feet

"ls" = lump sum

"mg/kg" = milligrams per kilogram

**Notes:**

(a) Totals may not sum exactly due to rounding.

**TABLE A-3**  
**ALTERNATIVE 3: ESTIMATED CAPITAL COSTS TO**  
**INSTALL SOIL COVER**

1010 - 1024 Morse Avenue, Sunnyvale, California

Task Description	ESTIMATED COSTS				
	Unit	Quantity	Unit Cost	Subtotal	Total (a)
<b>Pre-Remediation Engineering Services</b>					
● Engineering Design					
Perform general planning activities	ls	1	\$12,000	\$12,000	
Conduct surveying	ls	1	\$6,000	\$6,000	
Prepare remedial design plans and specifications	sheet	4	\$9,000	\$36,000	
Bid, award, and negotiate construction contract	ls	1	\$10,000	\$10,000	
					\$64,000
<b>General Site Preparation</b>					
● Mobilize contractor equipment and supplies to site	ls	1	\$25,000	\$25,000	
● Erect and maintain perimeter temporary fence	ft	540	\$7	\$3,780	
● Survey and stake site	ls	1	\$6,000	\$6,000	
● Demobilize and cleanup site	ls	1	\$5,000	\$5,000	
					\$39,780
<b>Install 2-Foot Soil Cover</b>					
● Site grading (1.5 feet)	sf	200,918	\$0.06	\$12,055	
● Install visual barrier	sf	214,918	\$0.50	\$107,459	
● Testing imported cover material	ls	1	\$40,000	\$40,000	
● Purchase, import, place, and compact cover material	cy	15,920	\$25	\$397,996	
					\$397,996
<b>Restore Vegetation (assumed to be completed as part of park construction)</b>					
<b>Construction Management Services</b>					
● Construction observation					
Provide senior engineering manager	week	9	\$2,700	\$24,300	
Provide resident engineer	week	9	\$8,000	\$72,000	
Provide office support	week	9	\$2,200	\$19,800	
Vehicle	week	9	\$200	\$1,800	
Provide equipment	week	9	\$300	\$2,700	
Perform air monitoring	week	2	\$10,000	\$20,000	
Prepare construction report for soil cover	ls	1	\$20,000	\$20,000	
Prepare Operation and Maintenance Plan	ls	1	\$5,000	\$5,000	
● Land Use Controls					
Site-Specific Land Use Control Coordination	ls	1	\$5,000	\$5,000	
					\$170,600
<b>Engineering Project Management</b>					
● 9% of Construction Management Services	ls	9%	--	--	\$15,354

**TABLE A-3**  
**ALTERNATIVE 3: ESTIMATED CAPITAL COSTS TO**  
**INSTALL SOIL COVER**

1010 - 1024 Morse Avenue, Sunnyvale, California

Task Description	ESTIMATED COSTS				
	Unit	Quantity	Unit Cost	Subtotal	Total (a)
<i>Subtotal Estimated Costs (w/ contractor overhead and profit):</i>					<i>\$690,000</i>
<i>Legal and Administrative Costs (assumed to be 5 percent of subtotal estimated costs w/ contractor overhead and profit):</i>					<i>\$35,000</i>
<i>Subtotal Estimated Costs (w/ legal and administrative costs):</i>					<i>\$725,000</i>
<i>Contingencies (assumed to be 25 percent of subtotal estimated costs w/ legal and administrative costs):</i>					<i>\$181,000</i>
<b><i>Total Estimated Capital Costs of Removal Alternative:</i></b>					<b><i>\$910,000</i></b>

**Abbreviations:**

"cy" = cubic yard

"ea" = each

"ft" = feet

"ls" = lump sum

"mg/kg" = milligrams per kilogram

"sf" = square feet

**Notes:**

(a) Totals may not sum exactly due to rounding.

**TABLE A-4**  
**ALTERNATIVE 3: ESTIMATED ANNUAL COSTS TO**  
**MAINTAIN CAP OVER SOIL**  
1010 - 1024 Morse Avenue, Sunnyvale, California

Task Description	ESTIMATED COSTS				
	Unit	Quantity	Unit Cost	Subtotal	Total (a)
Inspect and Repair Cover System					
• Inspection to assess status of cover and identify needed repairs	ls	1	\$2,000	\$2,000	
• Repair periodic breaches to cover	ls	1	\$500	\$500	
• Prepare annual letter report of cover status	ls	1	\$2,000	\$2,000	
• Conduct five year review of remedy performance	ls	1	\$1,000	\$1,000	
					\$5,500
<i>Subtotal Estimated Costs (w/ contractor overhead and profit):</i>					<i>\$6,000</i>
<i>Legal and Administrative Costs (assumed to be 5 percent of subtotal estimated costs w/ contractor overhead and profit):</i>					<i>\$300</i>
<i>Subtotal Estimated Costs (w/ legal and administrative costs):</i>					<i>\$6,300</i>
<i>Contingencies (assumed to be 25 percent of subtotal estimated costs w/ legal and administrative costs):</i>					<i>\$1,600</i>
<b><i>Total Estimated Annual Costs of Removal Alternative:</i></b>					<b><i>\$7,900</i></b>
				<i>Estimated Duration of Annual Costs:</i>	<i>30 years</i>
				<i>Assumed Real Discount Rate:</i>	<i>2.3%</i>
<b><i>Total Estimated Present Worth of Annual Costs of Removal Alternative:</i></b>					<b><i>\$170,000</i></b>

**Notes:**

(a) Totals may not sum exactly due to rounding.

**TABLE A-5**  
**EXCAVATION VOLUME CALCULATIONS FOR**  
**ALTERNATIVE 2**

1010-1024 Morse Avenue, Sunnyvale, California

Cell or Building ID	Excavation Surface Area (a) (sf)	Excavation Depth (b) (ft)	Excavation Volume (c) (cf)	Excavation Volume (c) (cy)
C1	3,924	1.2	4,709	174
C3	5,166	1.7	8,782	325
C4	6,612	1.7	11,240	416
C5	5,769	1.2	6,923	256
C6	5,655	1.2	6,786	251
C8	5,964	1.2	7,157	265
C9	4,889	1.2	5,867	217
C10	4,027	1.2	4,832	179
C11	4,409	1.7	7,495	278
C12	7,721	1.7	13,126	486
C13 (d)	5,574	3.2	17,837	661
C14	4,702	1.2	5,642	209
C15	4,027	1.7	6,846	254
C16	2,289	0.0	0	0
C17C22	5,644	0.0	0	0
C18C23	5,385	0.0	0	0
C19	5,954	1.7	10,122	375
C20	5,520	1.2	6,624	245
C21	1,967	1.2	2,360	87
C24	4,453	1.2	5,344	198
C25	4,085	1.7	6,945	257
C26	4,731	1.2	5,677	210
C27	6,279	1.2	7,535	279
C28	5,991	0.0	0	0
C29	5,518	0.0	0	0
C30	4,796	1.2	5,755	213
B1010	20,143	1.2	24,172	895
B1012	16,062	1.2	19,274	714
B1014	19,885	1.7	33,805	1,252
B1016	20,143	1.2	24,172	895
B102024	18,461	1.2	22,153	820
<b>TOTALS</b>	<b>225,745</b>		<b>281,179</b>	<b>10,414</b>

**TABLE A-5**  
**EXCAVATION VOLUME CALCULATIONS FOR**  
**ALTERNATIVE 2**

1010-1024 Morse Avenue, Sunnyvale, California

**Abbreviations:**

"cf" = cubic feet

"cy" = cubic yard

"ft" = feet

"mg/kg" = milligrams per kilogram

"sf" = square feet

**Notes:**

- (a) Surface area within the Site boundary of cell or building as measured based on Figure 2.
- (b) Excavation depth based on comparison of available data to cleanup goal of 17 mg/kg arsenic in soil and professional judgment. Except for the bottom 2 inches of baserock or structural fill, assumes asphalt, concrete slabs, foundations, structural fill, and baserock are removed as part of demolition.
- (c) Excavation Volume = Excavation Surface Area x Excavation Depth
- (c) Assumes a foot of additional excavation will be required for this cell to meet the cleanup goal for arsenic.

**TABLE A-6  
SOIL COVER AREA FOR  
ALTERNATIVE 3**

1010-1024 Morse Avenue, Sunnyvale, California

Cell or Building ID	Cell or Building Surface Area (a) (sf)	Soil Cover Area (b) (sf)	Soil Cover Volume (c,d) (cf)	Soil Cover Volume (c,d) (cy)
C1	3,924	6,812	13,624	505
C3	5,166	5,270	10,540	390
C4	6,612	6,612	13,224	490
C5	5,769	5,769	11,538	427
C6	5,655	8,618	17,236	638
C8	5,964	5,964	11,928	442
C9	4,889	4,889	9,778	362
C10	4,027	4,027	8,054	298
C11	4,409	7,422	14,844	550
C12	7,721	7,422	14,844	550
C13 (d)	5,574	5,574	11,148	413
C14	4,702	4,702	9,404	348
C15	4,027	4,027	8,054	298
C16	2,289	0	0	0
C17C22	5,644	0	0	0
C18C23	5,385	0	0	0
C19	5,954	5,954	11,908	441
C20	5,520	5,520	11,040	409
C21	1,967	5,104	10,208	378
C24	4,453	4,453	8,906	330
C25	4,085	4,085	8,170	303
C26	4,731	7,879	15,758	584
C27	6,279	6,279	12,558	465
C28	5,991	0	0	0
C29	5,518	0	0	0
C30	4,796	4,796	9,592	355
B1010	20,143	19,978	39,956	1,480
B1012	16,062	16,062	32,124	1,190
B1014	19,885	19,885	39,770	1,473
B1016	20,143	19,978	39,956	1,480
B102024	18,461	17,837	35,674	1,321
<b>TOTALS</b>	<b>225,745</b>	<b>214,918</b>	<b>429,836</b>	<b>15,920</b>

**TABLE A-6**  
**SOIL COVER AREA FOR**  
**ALTERNATIVE 3**

1010-1024 Morse Avenue, Sunnyvale, California

**Abbreviations:**

"cf" = cubic feet

"cy" = cubic yard

"mg/kg" = milligrams per kilogram

"sf" = square feet

**Notes:**

(a) Surface area within the Site boundary of cell or building as measured based on Figure 2.

(b) The cover is assumed for locations where the soil concentrations of arsenic exceed 17 mg/kg.

(c) Soil cover volume assumes 2 feet of import fill required to create an adequate soil cover; assumes a minimal amount of the park is covered by hardscape (where 2 feet of soil would not be required).

(d) Excavation Volume = Excavation Surface Area x Excavation Depth

**Appendix B**  
Transportation Plan

**APPENDIX B**

**TRANSPORTATION PLAN**

**Morse Park  
1010 - 1024 Morse Avenue  
Sunnyvale, California**

**TABLE OF CONTENTS**

**1.0 INTRODUCTION..... 1**

1.1 Site Description and History..... 1

1.2 Regulatory Status..... 2

1.3 Purpose and Objectives ..... 2

1.4 Nature and Extent of Contamination..... 2

**2.0 CHARACTERISTICS OF MATERIAL TO BE TRANSPORTED..... 2**

2.1 Excavated Soil Characteristics ..... 2

2.2 Liquid Waste Characteristics..... 2

2.3 Other Waste Characteristics ..... 3

**3.0 DESTINATION OF MATERIAL TO BE TRANSPORTED..... 3**

3.1 Soil Management..... 3

3.2 Liquid Waste Management..... 4

3.3 Other Waste Management ..... 4

**4.0 TRUCK TRANSPORTATION ..... 4**

4.1 Transportation of Soil..... 5

4.2 Transportation of Liquid Waste..... 5

4.3 Transportation of Other Waste ..... 5

**5.0 TRANSPORTATION ROUTES ..... 5**

5.1 Local Transportation Routes ..... 6

5.2 Route to Disposal Facilities..... 8

**6.0 TRAFFIC CONTROL AND LOADING PROCEDURES ..... 9**

6.1 Traffic Control On- and Off-Site..... 9

6.2 Traffic Control During Loading ..... 10

**7.0 WORKER VEHICLE PARKING..... 11**

**8.0 RECORD KEEPING..... 11**

**9.0 HEALTH AND SAFETY ..... 12**

**10.0 CONTINGENCY PLAN ..... 13**

10.1 Steps Required For All Accidents ..... 14

10.2 Steps for Spills of Diesel Fuel, Hydraulic Fluid, or Other Automotive Fluid(s) 14

10.3 Steps for Spills of Other Chemicals ..... 14

10.4 Loading and Unloading ..... 15

**APPENDIX B**

**TRANSPORTATION PLAN**

**Morse Park  
1010 - 1024 Morse Avenue  
Sunnyvale, California**

**TABLE OF CONTENTS**

**11.0 REFERENCES..... 15**

**FIGURES**

- B-1 Site Location Map
- B-2 Local Transportation Routes
- B-3 Routes to Disposal Facilities

## **1.0 INTRODUCTION**

This Transportation Plan has been prepared by Erler & Kalinowski, Inc. (“EKI”) on behalf of our client, the City of Sunnyvale (“City”), to describe the general traffic control and waste transportation procedures that will be employed during implementation of the *Removal Action Workplan* (“RAW”) (EKI, 2011) for Morse Park, located at 1010 to 1024 Morse Avenue in Sunnyvale, California (“Site”; see Figure B-1). The preferred cleanup alternative in the RAW entails excavation and off-Site disposal of impacted shallow soils and transportation of those soils to a permitted off-Site disposal facility. The City will select a licensed remediation contractor (“Contractor”) to implement the RAW.

This Plan is prepared in accordance with the California Environmental Protection Agency (“Cal-EPA”) Department of Toxic Substances and Control (“DTSC”) Guidance Document, *Transportation Plan - Preparation Guidance for Site Remediation* (“DTSC Guidance Document”; Cal-EPA, 2001).

The Contractor selected by the City to perform the soil excavation and disposal activities at the Site will be required to prepare an addendum to this Transportation Plan that specifies: (1) the actual off-Site disposal facility and the transportation routes if actual disposal facility vary from facility listed in this Transportation Plan, (2) the Contractor’s selected transportation company, and (3) any proposed deviations from procedures specified in this Transportation Plan. The Contractor will implement the procedures documented in this Transportation Plan as well as the Contractor’s addendum to this Plan. EKI (“Client Representative”) and the City will verify that the Contractor implements this Transportation Plan and the Contractor’s addendum to this Plan.

### **1.1 Site Description and History**

Morse Park is located on the east side of Morse Avenue, just north of East Weddell Drive and the Hetch-Hetchy aqueduct. The Site is approximately 5.2 acres in size and is identified by the following Santa Clara County Assessor’s Parcel Number: APN 110-14-202. The Site is bordered to the north and east by recently-constructed residential townhome units; to the northeast by Global Crossing, a communication technology company; to the south by the Hetch-Hetchy aqueduct; and to the west by Morse Avenue and multi-family residential across Morse Avenue.

The Site has been owned by the City since approximately 1991. The Site was leased until recently to a number of tenants for private industrial and commercial uses. Past uses have included machine shops and metal fabrication. The Site was developed initially in the mid- to late-1970s, and was part of a larger orchard prior to its current development. The City intends to demolish the existing structures and redevelop the Site into a public park.

## **1.2 Regulatory Status**

DTSC is the designated Lead Agency responsible for oversight of the cleanup of soil at the Site. DTSC and the City have entered into a Voluntary Cleanup Agreement. The City or Client Representative will confer with DTSC for review and approval of this Transportation Plan and the Contractor's Site-specific addendum.

## **1.3 Purpose and Objectives**

The purpose of the Transportation Plan is to describe the general procedures and protocols to minimize potential health, safety, and environmental risks resulting from the transportation of material and/or equipment to off-Site disposal facilities during soil excavation activities at the Site.

## **1.4 Nature and Extent of Contamination**

Previous environmental investigations have found that the chemical of concern ("COC") in soil at the Site is arsenic. The maximum arsenic concentration detected in soil is 53.1 milligrams per kilogram ("mg/kg"). Lead has also been detected up to a concentration of 190 mg/kg, but was not retained as a COC. The EKI Site-specific Health and Safety Plan ("HSP") in Appendix I of the RAW describes the associated potential chemical hazards.

## **2.0 CHARACTERISTICS OF MATERIAL TO BE TRANSPORTED**

This section describes the waste characteristics of materials to be disposed of by the Contractor during implementation of the RAW.

### **2.1 Excavated Soil Characteristics**

Cleanup activities at the Site will result in excavation of approximately 16,700 tons of soil that will be disposed of at off-Site disposal facilities. Based on available soil analytical and waste characterization data for both arsenic and lead, it is anticipated that all of the excavated soil will be disposed of as non-hazardous Class II waste. The nature of contaminants in Site soil is described above in Section 1.4.

It is assumed that permitted land disposal facilities will be contacted by the Contractor prior to the commencement of excavation activities regarding available capacity and likelihood of acceptance of the excavated soil based on available data to allow for direct loading and disposal of the excavated soil from the Site. In general, excavated soils are planned to be directly off-hauled, not stockpiled.

### **2.2 Liquid Waste Characteristics**

The liquid waste to be transported from the Site may include water from decontamination activities, captured storm water, or groundwater if encountered during the excavation. This decontamination water may include some or all of the compounds found in soil.

Liquid wastes will be characterized for disposal prior to off-Site transportation and disposal. It is not anticipated that the Contractor will need to dewater the excavations. It is also possible that accumulated storm water could be included as a liquid waste transported off-Site for disposal. Accumulated liquid wastes from the temporary on-Site sanitation facilities will also be periodically removed from the Site.

### **2.3 Other Waste Characteristics**

Other waste generated at the Site may include hardscape demolition debris such as concrete, asphalt, rock, and incidental debris from removal of the Site features remaining after demolition of the existing buildings. Demolition debris will be disposed of at an off-Site non-hazardous disposal facility. If applicable, concrete, asphalt, and other demolition debris will be recycled at an off-Site recycling facility proposed by the Contractor and accepted by the City. Vegetation debris will be disposed of as non-hazardous municipal waste. Other demolition debris will be disposed of at an off-Site non-hazardous disposal recycling facility. Trash resulting from the soil excavation activities will be accumulated on-Site and periodically removed as non-hazardous municipal waste.

### **3.0 DESTINATION OF MATERIAL TO BE TRANSPORTED**

This section describes where the material generated during implementation of the RAW at the Site could potentially be disposed. The actual selected off-Site disposal facilities will be provided by the Contractor in a Site-specific addendum.

#### **3.1 Soil Management**

Transportation and disposal information for off-Site disposal presented herein is based on information provided by Allied Waste and Waste Management, Inc. Prior to performing the soil excavation work, it is recommended that the waste classifications be pre-approved by the landfills that will be accepting the soil for disposal. The City will approve the selected landfills from the options provided in the Contractor's proposal.

Soil characterized as non-hazardous Class II waste may be disposed of at the following off-Site disposal facilities or another permitted off-Site disposal facility as proposed by the Contractor:

1. Allied Waste – Keller Canyon Disposal Facility (U.S. EPA ID 110001163053)  
901 Bailey Road, Pittsburg, California, 94565 (925) 625-4711
2. Waste Management, Inc. – Altamont Landfill (U.S. EPA ID 110000831404)  
10840 Altamont Pass Rd, Livermore, California, 94551 (800) 449-6349
3. Republic – Vasco Road Landfill (U.S. EPA ID 110009544671)  
4001 North Vasco Road, Livermore, CA 94551 (925) 4470491

4. Allied Waste – Forward Inc. Landfill (U.S. EPA ID 110000610116)  
1145 W. Charter Way, Stockton, CA 95206 (800) 204-4242
5. Waste Management, Inc. – Kettleman Hills Facility (U.S. EPA ID  
CAT 000 646 117)  
35251 Old Skyline Road, Kettleman City, CA 93239 (559) 386-9711

Prior to performing the soil excavation work, the Contractor will confirm the waste classifications and profiles with the facilities that will be accepting the soil for disposal.

### **3.2 Liquid Waste Management**

Any groundwater, decontamination water, and storm water generated at the Site will be collected in appropriate holding tanks and sampled to evaluate the appropriate subsequent management. Liquid wastes will be trucked to permitted off-Site disposal facilities.

Wastewater characterized as non-hazardous Class II waste may be disposed of at the following off-Site disposal facilities or another permitted off-Site disposal facility as proposed by the Contractor:

1. Seaport Environmental  
700 Seaport Blvd, Redwood City, California, 94063 (650) 264-1024
2. Donald M. Somers Water Pollution Control Plant  
1444 Borregas Avenue, Sunnyvale, California 94089 (408) 730-7260
3. Waste Management, Inc. – Kettleman Hills Facility  
35251 Old Skyline Road, Kettleman City, California (559) 386-9711

The on-Site temporary sanitation facilities will be periodically evacuated and the removed materials transported to the local wastewater treatment facility or other appropriate disposal facility for portable toilet wastes.

### **3.3 Other Waste Management**

Non-hazardous waste such as general trash, concrete, asphalt, rock, and other non-hazardous demolition debris may be disposed of at a local municipal waste landfill as proposed by the Contractor or if applicable, may be recycled at an off-Site recycling facility as proposed by the Contractor.

## **4.0 TRUCK TRANSPORTATION**

This section describes how material generated during implementation of the RAW for the Site will be transported from the Site to the off-Site disposal location.

#### **4.1 Transportation of Soil**

Excavated soil will be loaded into trucks such as end dump trucks and will be transported to the appropriate off-Site disposal facility via surface streets and highways. The Contractor will select the transporter for excavated soil. The Contractor will be required to submit proof of the transporter's valid hauler registration. The Contractor will ensure that all vehicles utilized for transport of hazardous waste are properly registered, operated, and placarded (if necessary) in compliance with local, state, and federal requirements. All drivers shall be required to be able to provide proof of a valid driver's license. Although no hazardous waste is anticipated to be generated based on the available data, hazardous waste (if any) will be accompanied by federal Uniform Hazardous Waste Manifests.

Assuming 16,700 tons of soil are excavated, and each truck carries approximately 20 tons per load, an estimated 835 truckloads of soil will leave the Site. Depending on the destination, available trucks, excavation rate (for direct load), and traffic conditions, the project could likely have about 20 to 30 trucks per day leaving the Site for approximately 30 to 45 days. EKI has assumed that excavation and off-haul activities could occur for up to 10 weeks.

#### **4.2 Transportation of Liquid Waste**

Wastewater will be transported to the appropriate off-Site disposal facility via surface streets and highways in 5,000-gallon tanker trucks, or other appropriately sized vehicle for transportation of liquid waste. The Contractor will select the transporter for wastewater.

#### **4.3 Transportation of Other Waste**

All non-hazardous waste (e.g., general trash, concrete, asphalt, rock, etc.) will be transported in appropriate covered transfer trucks and disposed off-Site at a local municipal waste landfill or, if applicable, will be recycled at an off-Site recycling facility as proposed by the Contractor.

### **5.0 TRANSPORTATION ROUTES**

This section describes the routes that material generated during implementation of the RAW for the Site may take during transportation from the Site to the off-Site disposal locations. As discussed in Section 3.0, the actual selected off-Site disposal facilities will be provided by the Contractor. If the Contractor's selected disposal facilities vary from those listed in Section 3.0, the Contractor will also provide transportation route maps to the selected disposal facilities in the Site-specific addendum, as described in Section 1.0.

The trucking around the Site would likely be conducted between the hours of 7:30 am and 4:30 pm. A list of emergency service organizations is included in the table below.

## Emergency Contact Agencies along Transportation Routes

Agency	Contact Phone Number
California Highway Patrol	911 (on cellular phone)
City of Sunnyvale Police	(408) 730-7100
Santa Clara County Sheriff	(408) 808-4400
California Department of Transportation	(510) 286-4444 District 4 (Bay Area) (209) 948-7543 District 10 (Stockton) (559) 488-4348 District 6 (Fresno)

### 5.1 Local Transportation Routes

The proposed local transportation routes from and to the Site are shown on Figure B-2 and described below. Trucks will not be allowed to use interior residential streets (e.g., Tasman Drive) to get to California State Route 237. There are no known schools or other sensitive use sites between the site and the freeways used to transport these wastes.

#### Route from the Site to California State Route 237 East:

- Head south on Morse Avenue towards John W. Christian Greenbelt
- Turn left at E Weddell Dr
- Turn right at N Fair Oaks Avenue
- Slight right to merge onto Highway 101 South toward San Jose
- Take exit 394 for Lawrence Expressway
- Turn left onto Lawrence Expressway
- Take the exit onto California State Route 237 East towards Milpitas

#### Route from the Site to California State Route 237 West:

- Head south on Morse Avenue towards John W. Christian Greenbelt
- Turn left at E Weddell Dr
- Turn right at N Fair Oaks Avenue
- Slight right to merge onto Highway 101 South toward San Jose
- Take exit 394 for Lawrence Expressway
- Turn left onto Lawrence Expressway

- Take the exit onto California State Route 237 West towards Mountain View

Route from the Site to Highway 101 North:

- Head south on Morse Avenue towards John W. Christian Greenbelt
- Turn left at E Weddell Dr
- Turn right at N Fair Oaks Avenue
- Merge onto Highway 101 North via the ramp toward San Francisco

Route from the Site to Highway 101 South:

- Head south on Morse Avenue towards John W. Christian Greenbelt
- Turn left at E Weddell Dr
- Turn right at N Fair Oaks Avenue
- Slight right to merge onto Highway 101 South toward San Jose

Route from California State Route 237 East to the Site:

- Head west toward Exit 5
- Keep left at the fork and merge onto Lawrence Expressway
- Take the exit onto Highway 101 North
- Take exit 395 for Fair Oaks Avenue
- Take the first left onto E Weddell Drive
- Turn right onto Morse Avenue
- Continue on Morse Avenue and arrive at Site

Route from California State Route 237 West to the Site:

- Head east toward Exit 5
- Take exit 5 for Lawrence Expressway towards Caribbean Drive
- Keep right at the fork and merge onto Lawrence Expressway

- Take the exit onto Highway 101 North
- Take exit 395 for Fair Oaks Avenue
- Take the first left onto E Weddell Drive
- Turn right onto Morse Avenue
- Continue on Morse Avenue and arrive at Site

Route from Highway 101 North to the Site:

- Take exit 395 for Fair Oaks Avenue
- Merge onto N Fair Oaks Avenue
- Take the first left onto E Weddell Dr
- Turn right at Morse Avenue
- Continue on Morse Avenue and arrive at Site

Route from the Highway 101 South to Site:

- Take exit 395 for Fair Oaks Avenue
- Turn right at N Fair Oaks Avenue
- Take the first left onto E Weddell Dr
- Turn right at Morse Avenue
- Continue on Morse Avenue and arrive at Site

## **5.2 Route to Disposal Facilities**

The following are possible routes to the disposal facilities from the Site:

- Allied Waste's Forward Landfill - From California State Route 237 East, take Interstate 880 North, take Interstate 680 North, East to Interstate 580 to Stockton.
- Allied Waste's Keller Canyon Landfill – From California State Route 237 East, take Interstate 880 North, take Interstate 680 North and Highway 4 to Pittsburg.
- Donald M. Somers Water Pollution Control Plant – From Site head south on Morse Avenue, turn right onto E Weddell Drive, head northwest on W Weddell

Drive, take first left onto Ross Drive, take first right onto take N. Mathilda Avenue, continue onto W Caribbean Drive, turn right onto Borregas Avenue.

- Republic’s Vasco Road Landfill - From California State Route 237 East, take Interstate 880 North, take Interstate 680 North, East to Interstate 580 to Stockton.
- Seaport Environmental - From California State Route 237 West, take Highway 101 North to the Seaport Boulevard exit in Redwood City.
- Waste Management’s Altamont Disposal Facility - From California State Route 237 East, take Interstate 880 North, take Interstate 680 North, East to Interstate 580 to Livermore.
- Waste Management’s Kettleman Hills Disposal Facility - From Highway 101 South, take California State Route 152 East to Interstate 5 South.

Potential routes to the possible disposal facilities in California are shown on Figure B-3.

## **6.0 TRAFFIC CONTROL AND LOADING PROCEDURES**

This section describes the traffic control and loading procedures to be carried out by the Contractor during implementation of the RAW for the Site.

Per Sunnyvale’s noise ordinance, work hours are limited to weekdays between 7:30 am and 6:00 pm. However, it is anticipated that actual work hours for this project will be limited to between 7:30 am and 4:30 pm. The Contractor shall comply with all local sound control and voice level rules, regulations and ordinances which apply to any work performed.

### **6.1 Traffic Control On- and Off-Site**

The Contractor will be required to provide a safe and convenient passage of public traffic in the vicinity of the Site during soil excavation activities. At a minimum, the Contractor will take the following steps before initiating the soil excavation:

- Determine the location and type of signage before work begins for the project;
- Determine methods and equipment the Contractor will use for closing lanes and for flagging and controlling one-way traffic, as necessary;
- Note the various traffic control devices specified to be used – some of these devices will require certificates of compliance; and
- Ensure flaggers are trained in accordance with the Manual on Uniform Traffic Control Devices (“MUTCD”) and MUTCD CA *Supplement* and the *Construction Safety Orders*.

Traffic control procedures that may be used during vehicle entrance to and exit from the Site include signs and a flag person. As appropriate, the flag person will slow or stop traffic on Morse Avenue as trucks exit the Site. The Contractor will close lanes in a manner that conforms to California Department of Transportation and the City's requirements.

Due to limited available area on-Site, trucks are anticipated to be staged at Weddell Drive, which is parallel to Highway 101. The Contractor will call the trucks from the designated truck staging area as needed for loading.

## **6.2 Traffic Control During Loading**

The Contractor will control work area entry of unauthorized personnel. All visitors to the Site who enter the defined work areas will be requested to sign the daily log maintained by the Contractor and will be advised of the potential health hazards associated with the excavation activities. Non-essential and non-certified individuals will be directed away from the work areas. The work zone boundary will be demarcated with orange cones or other visible delineation, such as fencing.

The degree of traffic control along the streets surrounding the Site will depend on Site conditions encountered at the time of soil off-haul. If traffic along the streets presents a problem as determined by the Contractor or Client Representatives, flagmen will be used to ensure safety and to regulate flow of trucks. Traffic control will comply with the City and Santa Clara County requirements, as well as the current version of the California MUTCD, prepared by the California Department of Transportation. Trucks are anticipated to temporary stage off-Site along Weddell Drive, as approved by the City. Truck traffic will enter the Site from Morse Avenue as shown on Figure B-2.

Soil will be loaded into trucks using an excavator, backhoe, or front-end loader. Loading will occur adjacent to the excavation area (or stockpile, if present). Based on the existing data, excavation areas will not extend below the water table into the saturated zone. In loading the trucks for off-Site transportation of excavated soil, control measures will be employed as necessary to prevent the generation of free water during transport in the unlikely event that soil from the saturated zone is excavated. Soil excavated from the saturated zone will be drained to the greatest extent feasible within the excavation prior to loading the soil for off-Site transportation, and if necessary, adsorbent material such as kitty litter could be added to reduce the overall moisture content prior to departure from the Site.

Prior to departure, trucks will be covered with tarps to prevent the release of dust once the trucks leave the Site. After loading, all impacted materials will be removed prior to the trucks leaving the work area following the procedures established in the Decontamination Plan (see Appendix C). The actual loading, turn around, and decontamination locations will be determined by the Contractor in the field based on Site conditions at the time of the work. While on-truck axle scales may be used as an indication of truck weight capacity, all trucks conveying waste will be weighed on certified scales at the off-Site disposal facility. In addition, trucks will stop, as required,

at any and all state-operated weigh stations en route to their designated off-Site disposal facility.

After covering the load, the trucks will proceed to the decontamination pad and following decontamination, they will exit the Site on Morse Avenue. The location of the decontamination pad will be determined by the Contractor based on staging of excavation activities.

The following control measures that will be addressed by the Contractor are described below. Specific means and methods will be determined by the Contractor within the guidance of the specifications, and may be adjusted in the field to address unforeseen conditions.

- Traffic control will comply with City requirements, as well as the current version of the California Manual on Uniform Traffic Control Devices, prepared by the California Department of Transportation;
- Loading will occur adjacent to the excavation area (or stockpile, if present);
- Prior to entering the decontamination area, the loads will be covered with tarps by personnel with appropriate health and safety training;
- Decontamination will be conducted on-Site in accordance with the Decontamination Plan (Appendix C of the RAW);
- Tarps will be employed to seal/cover cargo containers prior to departure from the Site to prevent the release of dust, debris, or hazardous wastes/substances during transport; and

Prior to leaving the Site, the Contractor will inspect each vehicle to ensure proper loading, covering/sealing, decontamination, placarding (if required), and manifesting has been implemented.

## **7.0 WORKER VEHICLE PARKING**

In order to minimize the impact on parking availability in the vicinity of the Site, an area on site will be designated for worker vehicle parking. The parking area will likely be located on the southeastern portion of the Site where there is an area that is not planned for excavation, but the actual location will be determined by the Contractor based on the anticipated excavation staging and sequencing.

## **8.0 RECORD KEEPING**

The Contractor will maintain daily field logs. Each daily log will include the date, time, weight/volume, waste/material, trucking company, driver, and vehicles used for each trip. Daily field logs will be prepared by hand or on laptop computer in the field at the time of

performance, showing:

- Truck Identification and Company.
- Time scheduled in, or arrival upon return.
- Manifest Number.
- Waste type loaded and area removed from.
- Estimated waste quantity entered on manifest.
- Time departed from the Site.

Soil that is classified as non-hazardous waste will be accompanied by a bill of lading to track shipment. If any soils are classified as RCRA hazardous waste or non-RCRA California hazardous waste, such soils will be accompanied by a Uniform Hazardous Waste Manifest that will be signed by both the transporter and a representative of the City that is authorized to sign hazardous waste manifests.

All manifests and shipping documents will be carried in the truck cab within reach of the driver in accordance with U.S. Department of Transportation regulations. Other documents furnished to the driver with each load will include either a map or driving directions specifying the approved transportation routes. Upon arrival at the Site, new drivers will be furnished a check-list summary of this Transportation Plan and will receive a health and safety briefing as described in Section 9.0. A copy of the Transportation Plan will also be available at the Site.

## **9.0 HEALTH AND SAFETY**

The Contractor shall implement a Site-specific health and safety plan (“HSP”), as applicable to transportation personnel. At a minimum, the HSP will include the following:

- All workers should be properly trained in hazardous waste operations in accordance with 29 CFR 1910.120 and CCR Title 8 Section 5192;
- State the type of health and safety training that will be provided to Site personnel and vehicle operators;
- Describe what the transportation personnel will and will not be permitted to do, based on training, during loading;
- Discuss how the health and safety plan will be communicated to drivers (e.g., tailgate meetings) and how the plan will be enforced; and

- Describe notification procedures and contingency plans for accidents or breakdowns en route.

Site personnel will be qualified and trained in accordance with the requirements of the Contractor's Site-specific HSP. All personnel will receive a Site-specific orientation on the physical and chemical hazards anticipated to be present in the wastes they may be potentially exposed to or work with in the course of assigned job duties.

## **10.0 CONTINGENCY PLAN**

This contingency plan is prepared for chemical spills and other accidents that may occur with transport vehicles on-Site or in transport between the Site and off-Site disposal facilities. It is also applicable for vehicles delivering construction material, outside services, and supplies. It addresses the steps that need to be followed for all accidents as well as several accident-specific steps. For informational purposes, copies of this plan will be provided to drivers carrying hazardous waste (if any) excavated from the Site.

It is the responsibility of the transportation contractor to notify the appropriate emergency service organizations prior to the transportation of hazardous wastes through their areas.

Due to the different factors that could impact any off-Site spill scenario, it is not appropriate to describe specific spill mitigation procedures in this document. The following is a list of possible steps that should be taken in the event of an off-Site release:

- If possible, stop vehicle safely, move off roadway, and isolate vehicle and load (place traffic cones and keep observers from the area) to prevent additional accidents.
- Survey the situation, identify any injured parties, and determine immediate cause and potential implications (e.g., wind direction, potential receptors, etc.).
- Call for emergency assistance by dialing 911.
- Report incident using the 24-hour emergency contact information included on the hazardous waste manifest.
- Report incident to State of California Office of Emergency Services by contacting the California State Warning Center (800-852-7550).
- Assist any injured personnel.
- If possible, contain spills of contaminated material.
- Contact City's construction manager.
- Complete incident report.

## **10.1 Steps Required For All Accidents**

- Secure the area of vehicles and spill, if appropriate. If possible, stop vehicle safely off roadway to avoid additional accidents.
- Assist any injured personnel.
- Assess severity of accident and call 911 for emergency assistance as appropriate.
- Pursuant to U.S. Department of Transportation Regulations 392.22 to 392.25, place at appropriate location(s) traffic control device(s). It is recommended that flame-producing signals not be used. Keep fire, flames, lighted cigarettes, cigars, and pipes away from the scene.
- Notify the Contractor and the transportation company's operations manager or designee. The transportation company's operations manager or designee will communicate with Contractor and coordinate response with appropriate agencies.

## **10.2 Steps for Spills of Diesel Fuel, Hydraulic Fluid, or Other Automotive Fluid(s)**

- Contain the spill and prevent liquid from draining onto roadways, sewers, storm drain, or streams.
- If needed, add protection around drains and sewer inlets.
- Notify Contractor Site Superintendent and transportation company supervisors.
- The transportation company supervisor will provide guidance on the notification of:
  - California Highway Patrol
  - Local Police and Fire Departments
  - Local Consolidated Unified Permitting Agency ("CUPA")
  - U.S. Coast Guard and other spill notification agencies
- If on the work site, Contractor will implement cleanup procedures; subcontractors and suppliers must follow their own procedures regarding conducting cleanup for spills on public roads and non-Site private properties.
- Wear personal protective equipment as outlined in the Contractor's Site-specific HSP (Section 8.0).

## **10.3 Steps for Spills of Other Chemicals**

- Contain the spill, prevent liquid from draining onto roadways, sewers, storm drain, or streams.
- If needed, add protection around drains and sewer inlets.

- Notify Contractor Site Superintendent and transportation company supervisors.
- The supervisor will provide guidance on the notification of:
  - California Highway Patrol
  - Local Police and Fire Departments
  - Local CUPA
  - U.S. Coast Guard and other spill notification agencies
- Refer to shipping papers to determine the name and hazard classes of the chemicals. Give this information to any first responders. Advise fire department if the chemical is water reactive.
- Where appropriate, Contractor employees may conduct cleanups. This will be done using personal protective equipment as outlined in the Contractor's Site-specific HSP (Section 8.0).

#### **10.4 Loading and Unloading**

The vehicle driver is responsible for ensuring that materials are safely loaded and unloaded from the driver's vehicle. This responsibility will include, but is not limited to:

- Making certain that the loading and dumping conditions are safe.
- Ensuring that each load is evenly distributed through the trailer.
- Determining that the ground for loading and unloading is stable - do not unload on uneven or unstable ground.
- Determining that the wind conditions and vehicle direction relative to the wind are appropriate – do not dump during heavy crosswinds.
- Ensuring that there are no obstacles at the dump locations – do not dump when adjacent to another vehicle.
- Ensuring that locks on tailgates have been released prior to dumping and suspensions are set properly. Pay close attention to the vehicles and pedestrians at all locations.

#### **11.0 REFERENCES**

Cal-EPA, 2001. *Transportation Plan - Preparation Guidance for Site Remediation, Interim Final*, California Environmental Protection Agency, Department of Toxic Substance Control, December 2001, available at:  
[www.dtsc.ca.gov/HazardousWaste/Transporters/upload/SMB\\_Transportation-Plan.pdf](http://www.dtsc.ca.gov/HazardousWaste/Transporters/upload/SMB_Transportation-Plan.pdf).