THIRD FIVE-YEAR REVIEW REPORT

for

South Bay Asbestos Superfund Site

ALVISO, SAN JOSE, CALIFORNIA

September 2010

Prepared for:

U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, California 94105

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75 Hawthorne Street
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Approved by:

Kathleen Salyer, Assistant Director
Superfund Division
California Site Cleanup Branch
U.S. EPA Region IX

9/22/10
Date

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List of Acronyms

ABS	activity-based sampling
ARARs	applicable or relevant and appropriate requirements
ATV	all terrain vehicle
bgs	below ground surface
CARB 435	California Air Resource Board Method 435
Cal-OSHA	California Occupational Safety and Health Administration
CIWMB	California Integrated Waste Management Board
CD	Consent Decree
CDM	CDM Federal Programs Corporation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CIC	Community Involvement Coordinator
DHS	California Department of Health Services
EEC	Environmental Educational Center
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Difference
f/cc	fibers per cubic centimeter
GIS	geographic information system
LEA	Local Enforcement Agency
NIOSH	National Institute for Occupational Safety and Health
NOA	naturally occurring asbestos
NPL	National Priorities List
O&M	operation and maintenance
OSHA	Occupational Safety and Health Act
OU	operable unit
PCM	Phase Contrast Microscopy
PCME	Phase Contrast Microscopy Equivalent
PG&E	Pacific Gas and Electric
PPA	Prospective Purchaser Agreement
PRP	potentially responsible party
Raisch Co.	A.J. Raisch Paving Company
RAO	Remedial Action Objectives
RD	Remedial Design
ROD	Record of Decision
RI/FS	remedial investigation/feasibility study
RPM	Remedial Project Manager
SBA	South Bay Asbestos Superfund Site
SCVWD	Santa Clara Valley Water District
SME	Summerset Mobile Estates
SMP	soil management plan
USACE	United States Army Corps of Engineers
Water Board	California Regional Water Quality Control Board – San Francisco Bay Region

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name : South Bay Asbestos Site

EPA ID: 0942 **CERCLIS ID :** CAD980894885

Region: IX **State:** CA **City/County:** Alviso District, San Jose/Santa Clara County

SITE STATUS

NPL status: ■ Final ❑ Deleted ❑ Other (specify) _____

Remediation status (choose all that apply): ❑ Operating ■ Complete

Multiple OUs? ■ YES ❑ NO **Construction completion date:** September 23, 1998

Has site been put into reuse? ■ YES ❑ NO

REVIEW STATUS

Reviewing agency: ■ EPA ❑ State ❑ Tribe ❑ Other Federal Agency _____

Author name: Eric Yunker

Author title: Remedial Project Manager **Author affiliation:** EPA Region IX

Review period: May – September 2010

Date(s) of site inspection: May 26 and July 1, 2010

Type of review: ■ Statutory

❑ Policy ❑ Post-SARA ❑ Pre-SARA ❑ NPL-Removal only

❑ Non-NPL Remedial Action Site ❑ NPL State/Tribe-lead

❑ Regional Discretion)

Review number: ❑ 1 (first) ❑ 2 (second) ■ 3 (third) ❑ Other (specify)
Triggering action: ❑ Actual RA Onsite Construction ❑ Actual RA at OU #1 ■ Previous Five-Year Review Report (2005) ❑ Construction Completion ❑ Other (specify) _____
Triggering action date: September 2005
Due date (five years after triggering action date): September 2010

Issues:

1. The 1989 Record of Decision (ROD) requires placement of deed restrictions as institutional controls on former landfills at the Site to protect the integrity of the final landfill caps. The Summerset Mobile Estates (SME) portion of former Santos Landfill and the Sainte Claire Landfill do not have the ROD-required deed restrictions placed on their titles.

2. The Marshland Landfill at the Site has not had the ROD-required deed restriction placed on its title, however, this capped landfill is regulated by the following two State agencies: 1) California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) as a Class III landfill and is subject to its waste discharge requirements for closure and operation and maintenance (O&M), and 2) California State Integrated Waste Management Board (CIWMB) requirements under the Title 27 Landfill Closure Regulations. An ESD is needed to specify that no further controls are needed at the Marshland Landfill and that state requirements meet the deed restriction requirements in the ROD.

Recommendations and Follow-up Actions:

1. EPA will work towards placing deed restrictions on the property titles for the SME portion of the former Santos Landfill and the Sainte Claire Landfill.

2. EPA will prepare an ESD that will specify that no further institutional controls are needed at the Marshland Landfill since the use of existing Water Board requirements and the CIWMB Title 27 regulations meet the deed restriction requirements in the ROD.

Protectiveness Statement:

The South Bay Asbestos Superfund site consists of two operable units (OUs): The Ring Levee (OU-1) and the Overall Site (OU-2), which includes the truck yards and landfills. The remedy at OU-1, the Ring Levee, is protective of human health and the environment because the major source of asbestos exposure that could result in unacceptable risks has been removed. The remedial actions at OU-2, the Overall Site, are currently protective of human health and the environment where the remedial actions were implemented because the major sources of asbestos exposure that could result in unacceptable risks are being controlled (landfill covers) or have been removed (truck yards).

Because the remedial actions at all OUs are currently protective, the Site is protective of human health and the environment in the short term. For the remedy at OU-2 to be protective in the long term the institutional controls need to be implemented at the SME portion of the former Santos Landfill and the Sainte Claire Landfill. For the Marshland Landfill, the EPA needs to prepare an ESD that will specify the use of Water Board requirements and CIWMB Title 27 regulations in lieu of deed restriction requirements in the ROD and that no further controls are needed.

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Executive Summary

The United States Environmental Protection Agency (EPA) has completed this Third Five-Year Review of the remedial actions implemented at the South Bay Asbestos Superfund Site (SBA Site) in San Jose, California. The South Bay Asbestos Superfund Site is located in the Alviso district of San Jose, California, at the southern edge of San Francisco Bay.

The Five-Year Review is required by statute and performed because hazardous substances, pollutants, or contaminants remain at the SBA Site above levels that allow for unrestricted use and unlimited exposure. The Second Five-Year Review, signed by the EPA in September 2005 (EPA, 2005), is the triggering action for this review. This Third Five-Year Review evaluates the remedial objectives for the SBA Site as stated in EPA Decision Documents including two Records of Decision (RODs) (EPA, 1988 and EPA, 1989) a ROD Amendment (EPA, 1991), and an Explanation of Significant Difference (ESD) (EPA, 1993).

The remedial objective for the SBA Site is to control the release of asbestos fibers into the air from asbestos-contaminated soils and other asbestos-containing material. EPA divided the remediation of SBA into two operable units (OUs): Ring Levee (OU-1) and the remainder of the SBA Site or Overall Site (OU-2).

The remedy for OU-1 was removal of the asbestos-containing Ring Levee in 1994 (EPA, 2000) and restoration of the wetlands that once occupied the Ring Levee's location (USACE, 2003). The remedy for OU-2 included the following actions: 1) paving of four truck yards, 2) the excavation and removal of asbestos-containing soil at the four truck yards, 3) verifying the adequacy of landfill final covers, and 4) placing deed restrictions on three landfill areas (Marshland, Santos, and Sainte Claire) where asbestos-containing cement pipe may have been buried.

The First Five-Year Review found that the remedial actions at the Ring Levee, the temporary levee, and the four truck yards were completed in accordance with the ROD and ESD requirements for OU-1 and OU-2. The remedy at OU-1 (Ring Levee) and OU-2 was determined to be protective of human health and the environment because the major source of asbestos exposure that could result in unacceptable risks have been removed (Ring Levee and truck yards) or are being controlled (landfill covers).

The Second Five-Year Review found that the cleanup continued to be protective of human health and the environment, and included the recommendation to place deed restrictions on the titles of the Santos and Sainte Claire Landfills for long term protection. One significant issue raised during the development of the Second Five-Year Review Report was whether or not the one percent asbestos in soil screening level, used to delineate soil areas for remediation, was sufficiently protective of human health at the SBA Site (EPA, 2005). A new understanding of how low concentrations of asbestos in soil can translate into actual airborne exposures raised the issue of whether the soil screening level used for soil cleanup at the SBA Site was still protective (EPA, 2005).

In order to address whether or not the one percent asbestos cleanup level in soil was still protective, EPA determined that additional asbestos sampling was needed at the SBA Site. In August 2007, EPA conducted an activity-based sampling (ABS) event in several public areas of Alviso. ABS involves monitoring the breathing zone in order to obtain estimates of asbestos exposure of personnel during dust-generating activities to determine if significant exposure to asbestos can occur. The results of the ABS event indicate that the estimates of asbestos exposure are below risk-based levels of concern. Therefore, no further evaluation or remedial action is recommended. EPA has recently concluded that the original remedy continues to be protective because the risks from asbestos exposure in the Alviso community are low and within Superfund remedial goals (EPA, 2010).

Regarding the ROD required institutional controls (i.e., deed restrictions), to date, only one deed restriction has been recorded on the title of the Bixby Technology Center (formerly Legacy Tech Park) portion of the former Santos Landfill. EPA is currently working to place deed restrictions on the property titles for the Summerset Mobile Estates (SME) portion of the former Santos Landfill and the Sainte Claire Landfill. The Marshland Landfill has been regulated by the California Regional Water Quality Control Board – San Francisco Bay Region (Water Board) as a Class III landfill and is subject to the closure and operation and maintenance (O&M) requirements of the Water Board as well as the Title 27 requirements of the California State Integrated Waste Management Board (CIWMB).

For the remedy at OU-2 to be protective in the long term, these institutional controls need to be implemented at the SME portion of the former Santos Landfill and the Sainte Claire Landfill. For the Marshland Landfill, EPA intends to prepare an ESD that will specify the use of Water Board requirements and Title 27 regulations in lieu of deed restriction requirements in the ROD.

These remedies provide permanent solutions to meet the remedial objectives. However, since asbestos will remain buried on-site at the landfill areas, a review is necessary every five years to ensure that human health and the environment continue to be protected. The next five-year review will be conducted on or before September 2015.

Section 1
Introduction

The United States Environmental Protection Agency (EPA) conducted the Third Five-Year Review of the remedial actions implemented at the South Bay Asbestos (SBA) Superfund Site (hereinafter SBA Site, or Site) in the City of San Jose in Santa Clara County, California (Figure 1).

By statute, EPA is preparing this Five-Year Review consistent with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan. CERCLA Section 121(c), as amended, states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the Site, the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The National Contingency Plan, part 300.430(f)(4)(ii) of the Code of Federal Regulations, states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

Consequently, this Five-Year Review was performed because hazardous substances, pollutants, or constituents remain at the SBA Site above levels that allow for unlimited use and unrestricted exposure.

This is the Third Five-Year Review for the SBA Site. The triggering action for this statutory review is September 27, 2005, the date of the Second Five-Year Review.

Section 2
Site Chronology

Table 2-1 provides a chronology of events at the SBA Site.

Table 2-1
Chronology of Site Events
South Bay Asbestos, Santa Clara County, CA

Event	Date
Three landfill areas within SBA receive asbestos waste (from asbestos-cement pipe manufacturing plant)	1953-1982
Congress enacts CERCLA	1980
Large flood occurs in Alviso; City of San Jose constructs Ring Levee for protection	March 1983
Presence of asbestos contamination identified in Alviso and Ring Levee	August 1983
SBA is proposed to the NPL	October 1984
SBA is finalized on the NPL	June 1986
EPA begins spraying Ring Levee with polymer dust suppressant	May 1986
EPA begins Remedial Investigation/Feasibility Study	1986
OU-1 ROD (Ring Levee Capped in Place)	September 29, 1988
EPA issues Remedial Investigation Report	1988
EPA issues Feasibility Study Report	1989
OU-2 ROD (Overall Site)	September 29, 1989
OU-1 Amendment (ROD Amendment, Ring Levee Removal)	June 26, 1991
EPA issues Unilateral Administrative Orders to truck yard owners	September 1991
Remedial design plans submitted for paving truck yard areas (OU-2)	1992
Remedial action completed (paving) at truck yard areas (OU-2)	December 1992
OU-1 ESD signed	October 18, 1993
Removal of Ring Levee (OU-1)	December 1993
Removal Completion Report for temporary levee	February 1997
Approval of remedial action (removal of asbestos containing soil material) at 3 of 4 truck yard areas (OU-2)	May 1998
Preliminary Close Out Report	September 1998
First Five-Year Review	September 29, 2000
Removal project completed at Environmental Education Center	November 2003

Table 2-1(continued)

Event	Date
Deed restriction placed on Legacy Tech Park portion of Santos Landfill (WIX/NSJ Real Estate Limited Partnership, 2004)	October 2004
Approval of remedial action (removal of asbestos-containing soil material) at fourth truck yard area (OU-2)	November 2004
Second Five-Year Review	September 2005
Field Sampling and Quality Assurance Project Plans for the SBA Exposure Assessment is submitted	August 2007
EPA conducts Activity-Based Sampling (ABS) for asbestos	August 2007
Marshland Landfill/Legacy America Center files Title 27 Landfill Closure report with the Santa Clara County Recorder and LEA, City of San Jose (Crawford Consulting Inc., 2007)	September 2007
Construction activities for two commercial buildings at Marshland Landfill/Legacy America Center begin	December 2007
Electrical utility trenching activities conducted by PG&E at Bixby Technology Center	July 2009
Five-Year Cap Inspection Report for Bixby Technology Center (formerly Legacy) submitted to EPA	June 2010
Five-Year Cap Inspection Report (Soil Management Plan Update Report) for Marshland Landfill/Legacy America Center submitted to EPA	June 2010
EPA completes the *Asbestos Exposure Assessment and Risk Evaluation Summary Report* based on activity-based sampling results for the SBA Site	August 2010

Section 3
Background

3.1 Physical Characteristics

The SBA Site is located in the Alviso district of San Jose, California, at the southern edge of San Francisco Bay (Figure 1). It encompasses the entire 550-acre community of Alviso where about 2,100 residents live.

The SBA Site is a low-lying area susceptible to flooding due to its proximity to San Francisco Bay and to the Guadalupe River and Coyote Creek. Guadalupe River, along with Coyote Creek, Los Gatos Creek and Llagas Creek, forms a major drainage basin within the Santa Clara Valley and flow into San Francisco Bay immediately north of the SBA Site. Tidal effects near the Bay make the Guadalupe River water brackish and unsuitable for beneficial uses other than non-contact recreation (CDM et al., 1988a). The SBA Site area is bordered by salt ponds to the north and by some of the last remaining Bay wetlands to the south and the west. Near Alviso, a fragment of the marshland survives as the New Chicago Marsh, a National Wildlife Refuge about 300 acres in size. An extensive Salt Pond Wetlands Restoration Project is currently underway in the southern part of S.F. Bay.

The overall northeasterly wind direction pattern at the SBA Site reflects the sea breeze and topographic effects which strongly influence winds on a day-to-day basis in the South Bay area. A weak southeasterly return flow occurs in the late night and early morning hours (CDM et al., 1988a). This type of information is especially pertinent for evaluating ambient air quality at this Site because of the pathway it can create for airborne asbestos fibers.

Aquifers of the Santa Clara Valley are composed of unconsolidated to semi-consolidated alluvial materials derived from the surrounding mountain ranges. Tidal and marine deposits are interbedded with these alluvial materials, becoming thicker in areas near San Francisco Bay. Confined and unconfined groundwater aquifers occur in the Santa Clara Valley. In the vicinity of the SBA Site, the native sediments are predominantly fine-grained clays, silts, and sandy clays. These beds of fine-grained material are cut by ancient stream channels at varying depths below the surface. Wells and borings drilled for the 1988 Remedial Investigation (RI) encountered only clay and silty clay in the upper 20 to 30 feet below the surface. The low permeability of the sediments resulted in very low recharge flow rates during well sampling (CDM et al., 1988b).

The field investigation revealed that the groundwater table occurs between 5 and 10 feet below ground surface (bgs) in Alviso. The groundwater flow direction at the SBA Site is unclear due to the flat topography, the river, salt evaporation ponds, and water mounding at the Marshland Landfill. It was determined during the RI that groundwater is not a media of concern at the SBA Site.

3.2 Land and Resource Use

Former Land Use

Asbestos-related manufacturing began in the Alviso area in the early 1950s. The Keasby & Mattison Company operated an asbestos-cement pipe manufacturing plant about four miles south of the Site in Santa Clara, from August 1953 through June 1962. CertainTeed Corporation purchased Keasby & Mattison Company in June 1962, and manufactured asbestos-cement pressure and sewer pipe and fittings until June 1982. Though not much is known about the Keasby & Mattison operation, several types of waste were produced at the CertainTeed plant, including broken asbestos pipe, machining and processing waste, settling tank waste and empty asbestos-fiber bags. It has been reported that numerous Alviso residents used the waste asbestos-cement pipe to drain excess water from their properties before curbs and gutters were installed.

Several landfills were located within the SBA Site boundaries, including the Santos, Marshland, and Sainte Claire Landfills. All three landfills may have received asbestos-containing wastes. In addition, some areas within the SBA Site, such as truck yards, may have been filled with asbestos-containing soils in order to raise the elevation of their properties to improve flood protection.

Current Land Use

Historically, Santa Clara Valley has been a major agricultural region. With the growth of the high tech industry, residential construction and service businesses rapidly expanded on former agricultural land. Groundwater in the Alviso area is too saline, due to high concentrations calcium, sodium, magnesium, and potassium, to be used for drinking or irrigation purposes (CDM et al., 1988b).

The SBA Site, which includes the community of Alviso, is zoned for a mixture of residential, commercial, light industrial and agricultural land uses. Specific land uses include: schools, small markets, restaurants, retail businesses, a hotel and recreational areas including basketball and volleyball courts. During the past decade there has been successful reuse of the SBA Site with the development of commercial office buildings on two former landfill areas: 1) Bixby Technology Center on Santos Landfill, and 2) Legacy America Center on Marshland Landfill.

3.3 History of Contamination

Three landfills within the SBA Site (Santos, Marshland, and Sainte Claire Landfills) were thought to have received asbestos waste from an asbestos-cement pipe manufacturing plant from 1953 until 1982. Several types of waste that were produced at the plant were transported to the landfills, including broken asbestos/cement pipe, machine and processing waste, and asbestos fiber bags. In addition, some areas, such as a number of truck yards, may have been filled with asbestos-containing soils in order to improve flood protection.

Due to flooding in 1983, the City of San Jose constructed a levee (which became known as the Ring Levee) around Alviso in order to pump out the flood waters. The levee was about two miles long, six feet high, and twenty feet wide and constructed of material from the Raisch Quarry at 55 Hillsdale Avenue in San Jose, California. The quarry material was later found to contain serpentine, a naturally occurring asbestos-containing rock.

Waste asbestos/cement pipe was discovered in August 1983 in the levee of the Guadalupe River in the community of Alviso. The discovery occurred on property owned by the City of San Jose during construction of a flood control outfall structure. An industrial hygienist from the California Occupational Safety and Health Administration (Cal-OSHA) collected samples of excavated material which were found to contain concentrations of asbestos ranging from 20 percent to 40 percent by weight. Cal-OSHA referred the situation to the California Department of Health Services (DHS). In 1986, DHS referred the SBA Site to EPA. Since then, EPA has served as the lead agency.

3.4 Initial Response

After confirming the presence of asbestos in the Guadalupe River levee in 1983, DHS ordered the Santa Clara Valley Water District (SCVWD) to remove all the asbestos-contaminated soil. DHS then collected additional soil samples throughout the community of Alviso. Those sample results indicated that the asbestos was randomly distributed in surface soils throughout the community of Alviso, including the Ring Levee (as high as 40 percent). The higher values of asbestos in soils, ranging from 5 to 20 percent, were found in an unpaved street and parking lot and truck yards which indicated areas where Ring Levee building material may have been stockpiled during construction. Due to these findings, EPA proposed the SBA Site for inclusion on the National Priorities List (NPL) in October 1984.

In June and August 1985, DHS conducted "worst case" scenario field experiments at the Ring Levee to determine if the asbestos present in the soils could pose a significant health risk. DHS forwarded the results to EPA, which in turn forwarded the results to the Department of Health and Human Services, Agency for Toxic Substances Control and Disease Registry. The Agency recommended remedial measures be implemented to "stabilize those sites to prevent the asbestos from being suspended in the air where residents may inhale the fibers." By 1986, DHS referred the SBA Site to EPA for further investigation and possible remediation when DHS determined that State funding was not available to address remediation at the SBA Site. The SBA Site was placed on the final NPL in June 1986.

Based on initial characterization data, EPA conducted several emergency cleanup actions under its removal authority to immediately reduce the potential for asbestos exposure. These actions were carried out from 1985-1987 and included:

- Paving a lot adjacent to the George Mayne School.
- Paving an unpaved section of Spreckles Avenue.

- Removing an asbestos debris pile and chip sealing the road and parking lot at the Environmental Education Center, where the City of San Jose had installed culverts in a salt pond levee to help in draining floodwaters.

- Spraying the Ring Levee with a dust-suppressing polymer.

The polymer dust suppressant was sprayed in May 1986 and in 1987. The City of San Jose took over the spraying from 1988 until the levee was removed in 1993.

Also in 1986, EPA initiated a Remedial Investigation/Feasibility Study (RI/FS) for the entire SBA Site which was completed in February 1989. The primary contaminant of concern was asbestos, a known human carcinogen.

3.5 Basis for Taking Action

The greatest health threat to people at the Site was the inhalation of airborne asbestos fibers that have the potential to cause lung disease. In order to determine the extent of asbestos contamination, EPA conducted extensive soil and air sampling throughout the community. The soil sample results were consistent with those described above. The Ring Levee, truck yard areas and several unpaved roads and lots contained the highest levels of asbestos. Soil sample results also indicated that asbestos was randomly distributed throughout the community of Alviso, albeit at much lower levels.

Extensive ambient air sampling for asbestos was conducted during the period of July to October 1987 as part of the RI. The concentrations of asbestos measured at the air sampling stations within Alviso averaged three to six times higher than those located outside the community. EPA concluded that man-made disturbance of asbestos in soils, especially from truck traffic on unpaved yards, was the primary cause of airborne asbestos in Alviso. Based on these results, the risk assessment concluded that the ambient air in Alviso presented an elevated risk of lung cancer due to the potential for asbestos exposure. Because of the determination that these potential risks existed, EPA decided that remedial action was necessary.

Section 4
Remedial Actions

The following section summarizes the remedial actions selected and implemented at the SBA Site OUs as well as the operation and maintenance of the remedies.

4.1 Remedy Selection

Ring Levee Removal (OU-1)

The original ROD dated September 29, 1988, required the Ring Levee to be capped in place with a vegetated soil cover. The two potentially responsible parties (PRPs) were identified as the City of San Jose, which constructed the Ring Levee, and the A.J. Raisch Paving Company (Raisch Co.), which supplied the asbestos-containing soil material.

Further negotiations with the PRPs resulted in EPA issuing a ROD Amendment dated June 26, 1991, requiring the removal of the entire Ring Levee. This provided a permanent solution by entirely removing the largest source of asbestos-containing material from the SBA Site. The ROD Amendment also required wetlands mitigation along with the restoration of previously existing wetlands underlying the levee. In a consent decree (CD) signed with EPA, the City of San Jose, and Raisch Co. agreed to perform the remedial action as required in the ROD Amendment. The CD became effective on October 28, 1991.

Specific components of the Ring Levee OU-1 ROD Amendment included the following:

- Removal of the entire asbestos-contaminated Ring Levee following completion of the Coyote Creek Flood Control Project.
- Continued spraying of the levee (semiannually or as needed) with a polymer sealant for dust control until the levee was removed.
- Conducting post-removal soil sampling to confirm that the asbestos-containing Ring Levee material was excavated and removed to pre-existing conditions.
- Implementation of stringent dust control measures prior to and during levee removal.
- Off-site disposal of the levee material in compliance with state and federal requirements.
- Restoration of the previously existing wetlands underlying the levee as well as mitigation for the lost wetlands functions and values.

In addition to the remedial activities described above, the CD required that a Community Outreach Plan be implemented to keep residents of Alviso informed of the Remedial Design/Remedial Action progress.

An ESD was signed on October 18, 1993, to clarify certain aspects of the ROD Amendment and allow for the removal of the Ring Levee approximately two years prior to the

anticipated completion of the Coyote Creek Flood Control Project. In addition, because of concerns expressed by the SCVWD and the City of San Jose that a Ring Levee around the community of Alviso is necessary to provide some degree of flood control, the ESD modified the remedy to require the following:

- Construction of an interim replacement levee, using clean material.
- Removal of the interim levee within one year following the completion of the Coyote Creek Flood Project.

Overall Site (OU-2)

The selected remedy for the Overall Site (OU-2) was established in a separate ROD dated September 29, 1989. The OU-2 selected remedy was Alternative No. 2 as described in the 1989 ROD. The remedies and actions included the following:

- Placing of deed restrictions on landfills after assessing the adequacy of the existing cover material to meet asbestos control requirements for thickness.
- Paving of truck yards where asbestos is found in soils at concentrations greater than one percent and where there is significant vehicular traffic.
- Routine maintenance and monitoring of the remediation.
- Monthly wet sweeping of Alviso streets to control dust emissions.
- Removing any obvious sources of asbestos waste debris, such as pipes.

4.2 Remedy Implementation

This section will focus on the implementation of the two RODs and the ESD pertaining to permanent remedies at the SBA Site OUs. In late 2004, a third removal action not associated with either ROD was conducted, which involved the removal of asbestos-containing soil material along a road berm and levee trail at the Environmental Educational Center (EEC) at the Site. The removal action was conducted to mitigate potential endangerment of human health and/or the environment.

Ring Levee (OU-1)

Based on the results of the pilot study, the remedial design plan was approved and the notice to proceed with the remedial action was issued to the PRPs on October 15, 1993. Ring Levee removal activities occurred between October 19, 1993, and December 1993. The final inspection was conducted on January 25, 1994. For more information on the Ring Levee removal, confirmation soil sampling, air monitoring, material disposal, temporary levee construction (1994) and removal (1996), see the Second Five-Year Review report (EPA, 2005).

The objective of the Wetlands Mitigation and Restoration Project (wetlands project) was to replace and restore wetlands lost as a result of construction of the Ring Levee. The wetlands

project was implemented by the City of San Jose once the temporary levee was removed in 1996. On May 13, 2003, the USACE issued an approval letter with EPA's concurrence to the City of San Jose, determining that the mitigation and restoration was complete and no further work was necessary (USACE, 2003). For more information on the wetlands project, see the Second Five-Year Review report (EPA, 2005).

Overall Site (OU-2)

All construction activities for OU-2 at the SBA Site have been completed. This section describes the history and plans for implementation of the remedial actions.

Landfill Areas

The ROD required that EPA verify that the three landfill areas met the asbestos control requirements for cover material thickness. The landfill cover requirements under the Clean Air Act's National Emission Standards for Hazardous Air Pollutants (NESHAPs) call for two feet of non-vegetated soil cover or six inches of vegetated soil cover where it is known that asbestos waste has been buried. Other suitable cover material such as concrete or asphalt paving would also meet these requirements. Based on asbestos sampling results and landfill closure plans, EPA determined that the soil covers at the Santos, Marshland, and St. Claire Landfills were acceptable and that the landfills were in compliance with NESHAPs cover requirements. Therefore, the only remedial action required for the landfill areas were deed restrictions (including maintenance requirements) to ensure that the cover is inspected and maintained by present and future owners and operators.

Since the Marshland Landfill (a.k.a. Highway 237 Disposal Site) has been regulated by the State of California as a Class III Landfill, it is subject to the Water Board waste discharge requirements for closure and operations and maintenance (O&M) as well as the Title 27 Landfill Closure Regulations of the CIWMB. The CIWMB requires the City of San Jose Local Enforcement Agency (LEA) to conduct quarterly inspections. The CIWMB requirements also include imposition of a deed notice, which describes the landfill area, the closure plan, and environmental restrictions on the property for future site use. EPA determined that for this property the existing Title 27 regulations for closed disposal sites provided adequate long-term controls to ensure the integrity of the cap; therefore, deed restrictions were not necessary (EPA, 2005). For more information on the Title 27 regulations, see the Second Five-Year Review report (EPA, 2005).

The Marshland Landfill is presently known as the Legacy America Center and has been developed with the construction of two office buildings. Construction of the buildings began in December, 2007 and was completed in 2010. The owner, Legacy Partners, entered into a prospective purchaser agreement (PPA) with EPA when they purchased this property for the development of a commercial office complex on the site. The PPA required that extensive asbestos control measures be implemented during construction under an SMP, which included soil wetting, dust suppression and asbestos ambient air monitoring. The PPA also required approval by the Water Board of its closure and development plan prior to the start of construction in October 2000. A final closure and development plan was approved by the Water Board in September 2000. The Marshland Landfill closure activities, including excavation and relocation of landfill materials onsite and construction of the final

landfill site cap, were completed in March 2002 (EPA, 2005). For more information on the Marshland Landfill closure activities, see the Second Five-Year Review report (EPA, 2005).

The Santos Landfill, which has been an inactive waste disposal site since the early 1960s, has two separately owned parcels. One parcel has been occupied by the SME (a mobile home park) since the mid-1970s and is owned by the Santos family estate. There is currently no deed restriction on the property; however, the LEA conducts quarterly inspections of the SME property for cap integrity and maintenance.

The second parcel of the Santos Landfill is occupied by the Bixby Technology Center (formerly Legacy Tech Park), which was built under a PPA with EPA. The PPA required that the site cap be constructed, maintained, and inspected annually. The cap consists of concrete slab floors and 60-millimeter thick high density polyethylene liners beneath the five buildings; asphalt and concrete pavement beneath the exterior parking areas and walkways; and 18 inches of imported topsoil beneath landscaped areas. Extensive asbestos control methods were required during construction under a Soil Management Plan (SMP). Under the SMP, soil wetting, dust suppression, and asbestos ambient air monitoring were conducted.

Truck Yards

In December 1992, four truck yards that had greater than one percent asbestos in the soil had either been covered with asphalt, concrete or chip seal pavement under a Unilateral Administrative Order. Excavation and removal of asbestos containing soil material (ACSM) on three of the truck yards were completed in January, 1998. In August 2004, the fourth truck yard had 1,700 cubic yards of ACSM (greater than one percent) removed and disposed at the Nine-Par Landfill, operated by the City of San Jose. On the basis of the results of confirmation soil sampling, EPA concluded that the asbestos contamination was effectively removed from the property. Because of this remediation, the O&M requirements of the ROD no longer apply and deed restrictions are not necessary on these properties. For more information on the remedial activities at the truck yards, see the Second Five-Year Review report (EPA, 2005).

Wet Street Sweeping

Wet sweeping of Alviso streets has been conducted to control dust emissions by the City of San Jose on a monthly basis since the fall of 1989, as part of a permanent city-wide street cleaning program. The practice has been ongoing in accordance with the 1989 ROD for OU-2.

Removal of Obvious Sources

The ROD also required removal of any obvious sources of asbestos waste debris. No sources were found in Alviso (EPA, 2005).

Environmental Education Center

In September 2003, EPA joined the City of San Jose under an Action Memorandum to mitigate threats to human health and the environment posed by the presence of asbestos-containing soils located at the EEC at the SBA Site. The EPA conducted the removal action

by excavating 4,500 cubic yards of ACSM at the EEC. The City of San Jose was responsible for providing the disposal site at the Nine-Par Landfill and to restore the project area at the EEC. In December 2004, the United States Fish and Wildlife Service concurred with the closeout of the EEC project (EPA, 2005). For more information on the removal action at the EEC, see the second Five-Year Review report (EPA, 2005).

4.3 System Operations/Operation and Maintenance

This section summarizes routine preventative maintenance for the SBA Site. The O&M and monitoring activities for OU-2 are focused on institutional controls, as described below.

The institutional controls for the SBA Site landfills consist of three primary objectives:

- Prevent exposure through preventing breaching of the cap
- Maintain the cap
- Provide notice to future owners and property users

Compliance with these objectives is periodically monitored by the LEA. The City of San Jose LEA conducts quarterly inspections of the SBA Site landfills to ensure compliance with the applicable Title 27 standards. As the LEA, the City of San Jose is required to inspect closed landfills quarterly until no potential threat exists to public health and safety or the environment. In addition, all post-closure land uses must be designed and maintained to protect public health and safety, and must maintain the integrity of the cap. Landfill owners are required to file, with the County Recorder and the LEA, a detailed description of the landfill property including; a map, boundaries of fill areas, closure date, location of closure and post-closure plans, and a statement that the future site use is restricted in accordance with the post-closure maintenance plan. In addition, landfill owners are required to: (1) notify prospective owners of the applicable standards, conditions of closure and compliance agreements, and (2) notify the LEA within 30 days of any property transfer.

EPA has no information regarding the project O&M costs for maintenance of the landfill caps since there have been no significant maintenance activities required during the past five years. All inspections have revealed the caps are in good condition with minor asphalt crack repairs conducted at a minimal cost.

Section 5
Progress Since Last Five-Year Review

5.1 2005 Five-Year Review Protectiveness Statement

From the Second Five-Year Review, the following statements were made regarding the protectiveness of the selected remedy for the SBA Site:

> *"The remedy at OU-1, the Ring Levee, is protective of human health and the environment because the major source of asbestos exposure that could result in unacceptable risks has been removed.*
>
> *The remedial actions at OU-2, the Overall Site, are currently protective of human health and the environment where they were implemented because the major sources of asbestos exposure that could result in unacceptable risks are being controlled (landfill covers) or have been removed (truck yards).*
>
> *A new understanding of how low concentrations of asbestos in soil translate into actual airborne exposures raises the issue of whether the soil screening level used to determine the need for cleanup activities at the site is still protective. EPA plans to re-evaluate the soil asbestos data and re-sample, if necessary. EPA is deferring the final protectiveness determination for this site until this analysis is completed. For the remedy at OU-2 to be protective in the long term the institutional controls need to be implemented at the SME portion of the former Santos Landfill and the Sainte Claire Landfill."*

5.2 Results from Implemented Actions since 2005 Five-Year Review

Table 5-1 summarizes the issues, recommendations, follow-up actions identified as part of the Second Five-Year Review (EPA, 2005), identifies the party responsible for implementing the follow-up actions, and summarizes the actions taken to date.

Table 5-1
Actions Taken Since the Second Five-Year Review
South Bay Asbestos, Santa Clara County, CA

Issues from Previous Review	Recommendations/ Follow-Up Actions	Party Responsible	Milestone Date	Action Taken and Outcome	Date of Action
Asbestos in Soil Screening Level	Additional data review and possible sampling. Evaluate the use of revised toxicity values.	EPA	September 2006	Based on the review of historical data, EPA conducted activity-based sampling within the Alviso community.	August 2007
Institutional Controls	Evaluate use of Title 27 regulations in lieu of Deed Restrictions for SME portion of the former Santos Landfill and the Sainte Claire Landfill.	EPA	September 2006	EPA is currently working with property owners to implement deed restrictions at the SME portion of the former Santos Landfill and the Sainte Claire Landfill.	Ongoing
Institutional Controls	Issue ESD to specify that the Marshland Landfill is a Class III landfill regulated by the Water Board and CIWMB. No further controls needed.	EPA	September 2006	EPA is preparing an ESD to document use of state requirements in lieu of deed restrictions at the Marshland Landfill.	Ongoing

Activity-Based Sampling

At the time of remedy selection for the SBA Site, EPA's standard-of-practice assumed that dust-generating activities on soils containing less than one percent asbestos would not create airborne asbestos exposures of potential health concern. Since then, studies have indicated a better understanding of how low concentrations of asbestos in soil translate into actual airborne exposures. To verify whether the soil screening level used to determine the need for direct cleanup activities at the Site was still protective, personal exposure data were collected in an activity-based sampling (ABS) event. These data were then to be used in a risk evaluation to determine whether significant exposure to airborne asbestos would occur during dust-generating activities within the Alviso community (EPA, 2007). During the ABS event, the breathing zone of sampling personnel was monitored during normal individual and recreational dust-generating activities in several public areas of Alviso (EPA, 2010). The Field Sampling and Quality Assurance Project Plans for the SBA were used to implement the asbestos exposure assessment (Lockheed Martin, 2007). The ABS field event occurred in August 2007.

For the ABS program, individuals mimicked typical outdoor and recreational activities. All terrain vehicle (ATV) riding was used as a surrogate for driving or riding in a car, truck or motorcycle and for riding a bicycle on the streets in town. Bicycle riding and raking were

used as surrogates for soil-disturbing recreational activities at an athletic field. Roadside ambient air sampling was used as a surrogate for exposure to road dust while walking, or being pushed in a stroller, next to streets in town. Ambient air monitoring at reference stations was also performed to measure background exposures during quiescent activities. The air sample locations and soil sample locations are presented in Figures 3 and 4, respectively.

Results of the ABS air and soil sampling are discussed in Section 6.4 along with the human health risk evaluation of the data collected by EPA.

Construction at the Marshland Landfill

Although the landfill was closed in 2002 in preparation for a new commercial development, construction did not occur due to the economic downturn in Silicon Valley. Since the Second Five-Year Review, the commercial development has been completed. Two, six-story buildings surface asphalt-covered parking lots, roadways, and landscaping are currently on the property. The minimum four-foot thick soil cover is well maintained and shows no signs of any significant cracking or erosion of the slopes, which are vegetated with grasses.

Trenching Activities at Bixby Technology Center

In July 2009, an excavation project was conducted at the Bixby Technology Center (formerly Legacy Tech Park) portion of the Santos Landfill. This Pacific Gas and Electric (PG&E) project to upgrade the underground utility service for the TIVO business in the Bixby Technology Center, consisted of installing a new power pole and feeders into an existing underground junction box (City of San Jose, 2009). American Compliance Services, LLC provided asbestos oversight services, pre-abatement inspection of the work areas, and collected asbestos air perimeter samples during excavation of the trench to document effectiveness of control methods used during removal of contaminated soil (ACS, 2009). A trench approximately 175 feet long, 42 inches deep, and 18 inches wide, was excavated and a hole 3 feet wide by 10 feet deep was drilled through the contaminated soil (ACS, 2009). Composite soil samples of the excavated soil from the disposal containers were collected and analyzed for asbestos using the California Air Resource Board Method (CARB 435). Sample results are discussed in Section 6.4 of this report.

Section 6
Five-Year Review Process

The following sections discuss the Five-Year Review data gathering process and findings.

6.1 Administrative Components

This Third Five-Year Review for the SBA Site was led by Eric Yunker, EPA Remedial Project Manager (RPM) for the SBA Site. The Five-Year Review team included Leana Rosetti, the EPA Community Involvement Coordinator (CIC) and technical support was provided by CDM. The five-year review consisted of community notification, document review, data review, review of human health risk evaluations and institutional controls, SBA Site inspection, and interviews with community residents. This work was initiated in May 2010, and extended through September 2010.

6.2 Community Notification and Involvement

In May 2010, the RPM, CIC, and CDM conducted a Site visit of the community of Alviso focusing on the areas where environmental remediation work has taken place. Community involvement planning activities began in June 2010 when the CIC wrote a draft outreach strategy for the Third Five-Year Review. In July 2010, the RPM, CIC, and CDM interviewed Alviso residents and a City of San Jose representative. A public notice was placed in the *San Jose Mercury News* in July 2010 announcing the Third Five-Year Review. The notice was translated and was also placed in the Spanish language newspaper, *El Observador*. In July 2010, a fact sheet regarding the Third Five-Year Review Report was sent to the people in the Alviso community. To date, there have been no responses to the public notice.

Following the release of the Third Five-Year Review, EPA will produce and distribute a fact sheet to the community in the vicinity of the SBA Site. The fact sheet will summarize the findings of the Third Five-Year Review and provide instructions regarding how to access a copy of the Third Five-Year Review Report. The Report will also be placed in the local information repository near the SBA Site.

6.3 Document Review

As a part of the Third Five-Year Review for the SBA Site, documents relevant to the SBA Site since 2005 were reviewed (listing included in Appendix A). Most of the documents that were selected for this review were focused primarily on Site-related actions that have occurred during the past five years. A list of the documents reviewed as part of this report is provided in Appendix A.

6.4 Data Review, Analysis and Interpretation

The following sections describe the ABS asbestos sampling, exposure assessment and risk evaluation, and the OU-2 landfill inspection and reporting.

Activity-Based Sampling

This section summarizes the results of the activity-based air sampling and the soil sampling that occurred in 2007. ABS was used to measure personal asbestos exposures during typical outdoor and recreational activities. A full presentation of all asbestos sampling results can be found in the sampling and analytical report (Lockheed Martin, 2009). The results of the risk evaluation are presented in the *Asbestos Exposure Assessment and Risk Evaluation Summary Report* (EPA, 2010).

Air

Tables 6-1 through 6-3 present data on asbestos concentrations measured during the various outdoor and recreational activities during the ABS sampling. Exposure data are expressed as phase contrast microscopy equivalent (PCME) fiber concentrations per cubic centimeter of air (f/cc), which is the metric used by EPA and other health agencies to determine potential risks from asbestos exposures. Mean exposure concentrations were calculated from the breathing zone or stationary monitors (with non-detect = zero f/cc) and then incorporated into a risk evaluation. The ABS air sampling locations are presented in Figure 3.

All Terrain Vehicle Riding

All Terrain Vehicle (ATV) riding was performed as a surrogate for driving or riding in a car, truck or motorcycle and for riding a bicycle on the streets in town. Asbestos PCME fibers were detected in four of the 15 ABS air samples collected during ATV riding. The data in Table 6-1 represent the mean fiber concentrations for three to five ATV riders in each of the four areas studied.

Table 6-1
Personal Exposure Data from ATV Riding on Alviso Streets
South Bay Asbestos, Santa Clara County, CA

Study Area	PCME (f/cc)
State Street Personal Exposure Mean (n=5)	0.00020
Elizabeth and Hope Personal Exposure Mean (n=3)	0.00129
Older Residential Personal Exposure Mean (n=4)	0.00000
Newer Residential Personal Exposure Mean (n=3)	0.00033

Roadside Exposures

Roadside ambient air sampling was used as a surrogate for exposure to asbestos in road dust while walking, or being pushed in a stroller, next to streets in town. The data in Table 6-2 represent the mean fiber concentrations for 3 to 8 roadside samplers in each study area.

Table 6-2
Roadside Exposure Data from ATV Riding on Alviso Streets
South Bay Asbestos, Santa Clara County, CA

Study Area	PCME (f/cc)
State Street Roadside Exposure Mean (n=4)	0.00124
Elizabeth and Hope Roadside Exposure Mean (n=4)	0.00000
Older Residential Roadside Exposure Mean (n=8)	0.00000
Newer Residential Roadside Exposure Mean (n=3)	0.00000

Athletic Field Exposures

Bicycle riding and raking were used as surrogates for soil-disturbing recreational activities at an athletic field. Table 6-3 presents the data for personal asbestos exposure levels and the up-wind and down-wind raking sampling. The average concentration of all of these measurements was used to estimate asbestos exposure concentrations during recreational activities at the athletic field.

Table 6-3
Exposure Data from Recreational Activities at the Athletic Field
South Bay Asbestos, Santa Clara County, CA

Sample Type	PCME (f/cc)
Athletic Field Rake – Upwind	0.00099
Athletic Field Rake – Downwind	0.00000
Athletic Field Rake – Personal	0.00000
Athletic Field Bike – Personal (n=3)	0.00032
Athletic Field Activities Mean	**0.00033**

Ambient Exposures

In addition to the ABS sampling, air monitoring was performed at four reference stations in the community to measure asbestos concentrations in ambient air, which would reflect exposures during quiescent activities (activities not involving soil or outdoor dust disturbance). Airborne PCME asbestos fibers were detected in only three of twenty samples and at only two of the four reference station locations. All three detections were at relatively low concentrations, ranging from 0.00016 to 0.00033 f/cc. For purposes of the exposure assessment and risk evaluation, the overall mean concentration of all of the reference station results was 0.00003 f/cc. This was assumed to represent the long-term ambient air asbestos concentration and exposure level during quiescent activities.

Soil

All soil samples except one were non-detect for asbestos at the analytical sensitivity of 0.25% (Lockheed Martin, 2009). Figure 4 illustrates all soil sampling locations and indicates the location of the single positive sample (#42081) which measured 0.25%. The data for the soil particle size and soil moisture content are described further in the *Asbestos Exposure Assessment using ABS Report* (Lockheed Martin, 2009).

Exposure Assessment and Risk Evaluation

Based on the ABS analytical results, EPA conducted an exposure assessment and risk evaluation of asbestos exposures in the community. Risks for Alviso residents due to asbestos exposures measured in the ABS were estimated according to a typical Superfund reasonable maximum exposure (RME) assessment. The RME risk for someone residing in Alviso for 30 years and engaging in extensive outdoor and recreational soil-disturbing activities was estimated to be 1.4x10-5 (14 in one-million). This estimated risk was determined to be low and well within the Superfund target risk range of 10-6 (approximately 1 in one-million) to 10-4 (approximately 100 in one-million). The data and details of the exposure assessment and risk evaluation are further described in the *Asbestos Exposure Assessment and Risk Evaluation Summary Report* (EPA, 2010).

Conclusions from the ABS Study and Risk Evaluation

Based on the ABS analytical results, the RME exposure assessment and risk evaluation, EPA concluded that the estimates of asbestos exposure are below risk-based levels of concern. Therefore, no further evaluation or remedial action is recommended, and the original remedy for the SBA Site continues to be protective.

OU-2 Landfill Areas

The soil management plans (SMP) for the Legacy America Center/Marshland Landfill and Bixby Technology Center/Santos Landfill require a five-year cap inspection to be conducted and report to be provided to EPA. Review of the Five-Year Cap Inspection Report (SCS Engineers, 2010) indicated that Bixby Technology Center is well maintained with visible indication that the integrity of the cap is not compromised. The visual inspection conducted on May 24, 2010, also included accessible building base exteriors, paved surfaces and landscaped areas. The Five-Year Cap Inspection Report stated that no major cracks, holes or degradation were observed in the building base exteriors, paved areas or landscaped areas (SCS Engineers, 2010). Superficial cracks and varying degrees of normal pavement wear were observed on the asphalt surfaces of the parking lot located to the north of Building 2190, where white residue was observed and foot-sized depressions noted (SCS Engineers, 2010). EPA confirmed these findings during recent Site inspections conducted in May 2010 for this Five–Year Review (Appendix B consists of the Site Inspection Checklist). Routine maintenance of the asphalt parking lot, which consists of application of a seal coat, is scheduled to occur in the fall of 2010.

Review of the Five-Year Update Report (Crawford Consulting Inc., 2010) indicated that the Legacy America Center/Marshland Landfill site cap is well maintained with no visible

indication that the integrity of the cap is compromised. During the Site visit in April 2010, no erosion or damage to the cover was observed and no repairs to the cap are necessary.

Review of the City of San Jose LEA quarterly inspection reports indicate that there have not been any observed or reported problems or special occurrences. In general, the reports state that there were no changes to the closed landfill site. While inspecting the site during development or construction, the LEA reported that there were no significant issues. The LEA's continued quarterly inspections indicate that erosion control materials were in place to protect the site from inclement weather (City of San Jose, 2005 to 2010). In February 2008, the LEA inspector observed a large hole and excavated dirt pile on the south end of the Bixby Technology Center portion of the Santos Landfill (City of San Jose, 2008). According to the LEA inspection report, Bixby was working with the California Department of Toxic Substances Control and PG&E to backfill the hole. In June 2008, the LEA inspection report indicated that PG&E backfilled the excavation and repaired the cap. Prior to the backfill, two soil samples were collected from the clean fill for analysis of asbestos using CARB 435. The analytical results for the soil samples reported non-detectable concentrations of asbestos fibers (City of San Jose, 2008).

During another PG&E trenching project at the Bixby Technology Center in 2009, the results of the perimeter air samples ranged from less than 0.004 f/cc to 0.011 f/cc. The perimeter air sample results did not exceed the 0.015 f/cc air quality standard established by EPA for perimeter air samples analyzed using PCM, NIOSH 7400 Method (ACS, 2009). The soil analytical results ranged from less than 0.25% chrysotile fibers to 0.25% chrysotile fibers. The Air Resources Board restricts the use of soil with an asbestos content of 0.25% or greater for surfacing application (ACS, 2009).

6.5 Site Inspection

Inspections at the SBA Site were conducted on May 26, 2010, by representatives of EPA including the RPM and the CIC and representatives from CDM. The primary purpose of the inspections was to assess the protectiveness of the remedy for OU-2 with regard to the maintenance of the cap at the three landfill areas (the Santos, Sainte Claire, and Marshland Landfills) where asbestos-cement pipe is believed to be disposed. A summary of the findings is presented below. The Site inspection photographs are provided in Appendix C.

Overall, no significant issues regarding the three landfill caps were identified during the inspections. There was no evidence of any significant breach in the integrity of the caps, including cracks, holes, or erosion of landscaped areas. There were some superficial cracks and wear in paved areas; however, none of this represented an area of concern or triggered the need for any maintenance or repairs.

Santos Landfill

The SME portion of the Santos Landfill consists of 112 mobile homes. The foundation for each of the mobile homes is several feet above the ground on metal and concrete supports placed on top of the soil cap. Almost all of the crawlspaces under the homes are enclosed with removable skirting made of either wood or plastic foam. All of the home lots have paved driveways and landscaped yards. All of the roadways in the SME are paved and well maintained with no significant cracks or wear showing on the surface. Appendix C

contains several photos taken during the inspections of SME showing conditions of the mobile homes, the landscaped areas, and paved roadways.

The 24-acre Bixby Technology Center (formerly Legacy Tech Park) portion of the Santos Landfill is a commercial office complex consisting of five, two-story buildings, paved access roads and parking lots, and landscaped areas. Overall, the Site is well maintained, with no signs that the integrity of the cap is compromised or that there is a need for repairs. Appendix C contains several photos taken during the inspection of the Bixby Technology Center showing conditions of the office buildings, paved lots, and landscaped areas.

Marshland Landfill

The Marshland Landfill consists of approximately 60 acres of a closed landfill which is elevated about 50 feet above the surrounding terrain. The Landfill was closed in 2002 in preparation for a new commercial development which was delayed due to the economic downturn in Silicon Valley. The Landfill property, a.k.a. the Legacy America Center, currently contains two, six-story buildings, surface asphalt-covered parking lots, roadways, and landscaping. The minimum four-foot thick soil cover is well maintained and shows no signs of any significant cracking or erosion of the slopes, which are vegetated with grasses. Appendix C contains photos taken during the inspection of the Marshland Landfill showing current conditions on the Legacy America Center property.

Sainte Claire Landfill

The Sainte Claire Landfill property consists of two lots: (1) a lot on the west side of Gold Street, which is vacant and has a surface paved mostly with asphalt with no significant holes or cracks noted, and (2) a lot on the east side of Gold Street, which is used for storage of old cars, trucks, trailers, and carts. The cover consists of solid compacted soil and gravel and no significant holes or cracks were observed on the surface. Appendix C contains several photos taken during the inspection of the Sainte Claire Landfill showing conditions of both lots.

During the SBA Site inspection, wetland areas that had been restored after the Ring Levee was removed were observed. The SBA Site inspection team also visited those truck yard properties where asbestos-containing soil had been removed. These properties were well maintained with no changes in land use observed since the last Five Year Review in 2005.

6.6 Interviews

As part of the Third-Five Year Review, interviews were conducted during the SBA Site inspection and over the phone with six individuals, including Alviso residents, city officials and people working in the community.

Overall, all parties interviewed were familiar with the history of the SBA Site. Interviewees described that following the removal of the Ring Levee, the community's concern with the Site has decreased and they are not aware of any new issues with the Site. Some community members are still concerned about the long-term health effects and would like to know where asbestos is still left in-place so that appropriate precautions are taken. Several people also expressed that EPA should let the community know what precautions are needed to be taken and what to watch out for.

Another concern involves the monitoring of new construction projects in the community. With respect to that issue, a city official indicated that when new development projects are proposed, the City of San Jose Environmental Services Department reviews a United States Geological Survey (USGS) map. This map indicates areas of naturally occurring asbestos (NOA) in the San Jose area and has been added as a layer to the geographic information system (GIS). In addition, the SBA Site has been added as a layer to the GIS. If the GIS layer indicates that the proposed project is located within the SBA Site or NOA could be present on the property, soil samples are collected before development begins. If the analytical results show that there is NOA present in the soil, mitigation practices are implemented during construction activities to minimize the disturbance of the NOA. When the work is completed, a cap is put into place to prevent future disruption of the NOA on the property.

Another individual commented that the replacement levee at the EEC was very steep and would not support vegetation, making it prone to erosion. After adding additional soil, plants were finally able to grow on the levee.

In general, the interviewers expressed interest to remain updated through fact sheets, emails, and recommended that EPA issue additional mailings or post information on a website. Interview summary forms are provided in Appendix D.

Section 7
Technical Assessment

This section evaluates whether the remedy is functioning as intended, the current status of assumptions, and new information affecting the remedy.

Question A:
Is the remedy functioning as intended by the decision document?

Yes. The review of documents, ARARs, risk assumptions, and the results of the SBA Site inspection indicate that the remedy is operating and functioning as intended by the RODs for OU-1, as modified by the ESD, and OU-2. The removal of the asbestos-containing Ring Levee for OU-1 was completed in 1993, and confirmation sampling at that time indicted that the asbestos removal was successful and complete. The wetlands restoration project was completed in 2003.

The capping at the three landfills has achieved the remedial objectives to prevent direct contact with asbestos-contaminated soil and debris. O&M of the caps has been effective and is monitored by the San Jose LEA and EPA. The ROD called for the paved capping of four truck yards and long-term maintenance of the paving remedy. After the capping was complete, the truck yard owners elected to remove the asbestos-containing soil in lieu of placing deed restrictions on the properties. This was successfully completed on three truck yards in 1998 and the fourth one in 2004. Therefore, no further action is required and the remedy for the truck yards is complete.

Wet sweeping of Alviso streets has been conducted to control dust emissions by the City of San Jose on a monthly basis since fall 1989, as part of a permanent city-wide street cleaning program. The practice has been ongoing in accordance with the 1989 ROD for OU-2.

The ROD required institutional controls in the form of deed restrictions as institutional controls to be placed on the capped landfills. A deed restriction is in-place as required under the ROD at the Bixby Technology Center portion of the Santos Landfill. No further institutional controls are needed at the Marshland landfill due to existing state requirements. Deed restrictions are not in-place at the two remaining landfill properties; the SME portion of the Santos Landfill and Sainte Claire Landfill.

Question B:
Are the exposure assumptions, toxicity data, clean-up levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Changes in Standards

A review of the ARARs in RODs, for OU-1 and OU-2 ROD Amendment for OU-1 and the ESD for OU-1 was conducted for this Third Five-Year Review and findings of the review are

summarized in an ARARs Review Technical Memorandum to file (Appendix E). Review of the ARARs has determined no substantive regulatory changes since the previous Five-Year Review and no changes to SBA Site conditions that would warrant additional ARARs.

Changes in Exposure Pathways

There have been no changes to the physical conditions of the SBA Site that would negatively affect the protectiveness of the remedy. Changes in physical conditions that are relevant to protectiveness include the remedial actions of removing the Ring Levee and paving truck yards in Alviso. These actions either eliminated or controlled major sources of asbestos exposure for the community. All landfill covers remain intact and well maintained.

Changes in Risk Assessment Methods

At the time of remedy selection, EPA's standard-of-practice assumed that dust-generating activities on soils containing less than one percent asbestos would not create airborne asbestos exposures of potential health concern. At the SBA Site, remedial activities were concentrated primarily on those areas where soils containing greater than one percent asbestos had been identified, i.e., the truck yards, landfills and Ring Levee. Although EPA relied on the one percent asbestos screening rule during the remedy selection, EPA also considered the potential for significant soil disturbance and dust generation in identifying areas of concern. This change in EPA's standard of practice does not affect the protectiveness of the remedy selected, which has resulted in removal or containment of the major sources of potential asbestos exposure in the community, but required a re-assessment of the initial evaluation of risk at the SBA Site. This re-assessment of the potential risk to human health was completed and has been documented by EPA (2010).

Changes in Toxicity

EPA has recently initiated a reassessment of the toxicity values used for asbestos risk assessment, although this effort is not expected to be finalized in the immediate future. Thus, it is recommended that the next Five-Year Review consider any revised toxicity values.

Question C:

Has any other information come to light that could call into question the protectiveness of the remedy?

No ecological risks were identified during this Third Five-Year Review; therefore, monitoring of ecological receptors is not necessary. This determination is based on the following: (1) the asbestos-containing soil sediments in the OU-1 Ring Levee were removed from the impacted wetlands in 1993, and (2) the remedy under OU-2 included the removal of asbestos-containing soil material from four truck yards and the verification of adequate landfill caps where asbestos-containing pipe was buried. The potential routes of exposure to ecological receptors, therefore, have been eliminated. No weather-related events or natural disasters, including flooding or earthquakes, have affected the protectiveness of the remedy. In August 2007, the EPA completed a re-assessment of risk from exposure to asbestos using ABS methodologies and performed a risk analysis. The results of the ABS event indicate that the estimates of asbestos exposure are below risk-based levels of concern.

Therefore, no further evaluation or remedial action is recommended. EPA concluded that the original remedy continues to be protective in the short term because the risks from asbestos exposure in the Alviso community are low and within Superfund goals, (EPA, 2010). As detailed previously, additional actions are needed to ensure protectiveness in the long term. There is no other information that calls into question the protectiveness of the remedy.

7.1 Technical Assessment Summary

According to the data reviewed including the *Asbestos Exposure Assessment and Risk Evaluation Report* (EPA, 2010), the SBA Site inspection, and the interviews, the remedy is functioning as intended by the RODs for OU-1, as modified by the ESD, and OU-2. There have been no changes in the physical conditions of the SBA Site that would affect the protectiveness of the remedy. All of the ARARs for soil contamination cited in the ROD have been met. There is no other information that calls into question the protectiveness of the remedy.

Section 8
Issues

The issues identified during this five-year review are summarized in Table 8-1.

Table 8-1
Summary Table of Issues
South Bay Asbestos, Santa Clara County, CA

Issues	Affects Current Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
1. The SME portion of the Santos Landfill and the Sainte Claire Landfill do not have the ROD-required deed restriction placed on their titles.	No	Yes
2. An ESD is needed to specify that no further controls are needed at the Marshland Landfill and that state requirements meet the deed restriction requirements in the ROD.	No	No

Section 9
Recommendations and Follow-Up Actions

Table 9-1 presents a summary of the issues, recommendations, and follow-up actions pertaining to this Third Five-Year Review report.

Table 9-1
Summary Table of Issues, Recommendations, and Follow-Up Actions
South Bay Asbestos, Santa Clara County, CA

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness (Y/N)	
					Current	Future
No deed restrictions are in-place at the SME portion of Santos Landfill or the Sainte Claire Landfill	EPA will place deed restrictions on the property titles for the SME portion of the former Santos Landfill and the Sainte Claire Landfill.	EPA	-	September 2011	N	Y
Need ESD to specify that state requirements provide adequate Institutional Controls at Marshland Landfill	EPA will prepare an ESD that will specify that no further institutional controls are needed at the Marshland Landfill since the use of existing Water Board requirements and the CIWMB Title 27 regulations meet the deed restriction requirements in the ROD.	EPA	-	April 2011	N	N

Section 10
Protectiveness Statement

The South Bay Asbestos Superfund site consists of two operable units (OUs): The Ring Levee (OU-1) and the Overall Site (OU-2), which includes the truck yards and landfills. The remedy at OU-1, the Ring Levee, is protective of human health and the environment because the major source of asbestos exposure that could result in unacceptable risks has been removed. The remedial actions at OU-2, the Overall Site, are currently protective of human health and the environment where they were implemented because the major sources of asbestos exposure that could result in unacceptable risks are being controlled (landfill covers) or have been removed (truck yards).

Because the remedial actions at all OUs are currently protective, the Site is protective of human health and the environment in the short term. For the remedy at OU-2 to be protective in the long term, institutional controls need to be implemented at the SME portion of the former Santos Landfill and the Sainte Claire Landfill. For the Marshland Landfill, the EPA needs to prepare an ESD that will specify the use of Water Board requirements and CIWMB Title 27 regulations in lieu of deed restriction requirements in the ROD and that no further controls are needed.

Section 11
Next Review

The next five-year review for the SBA Site will be performed by September 2015.

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Figures

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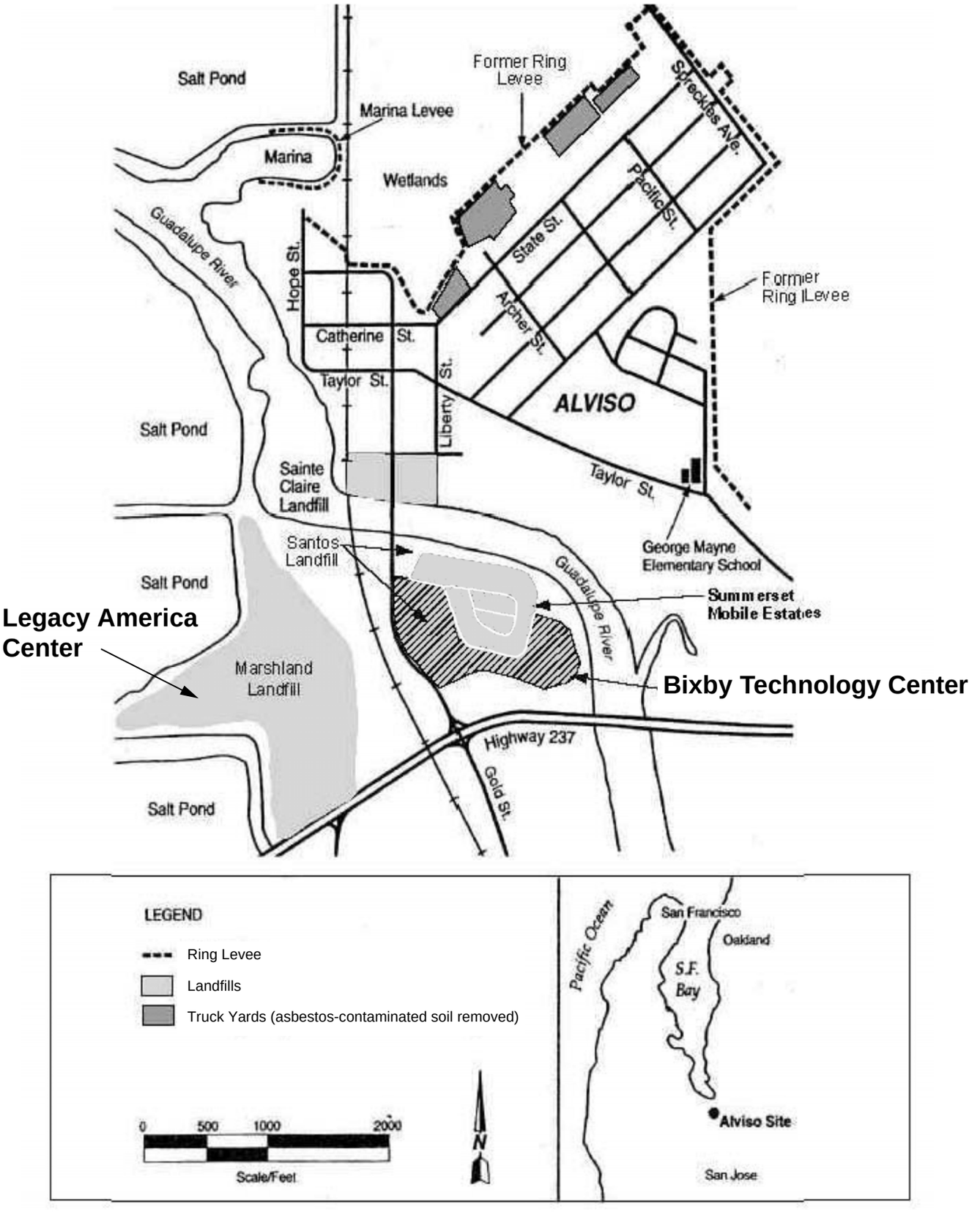
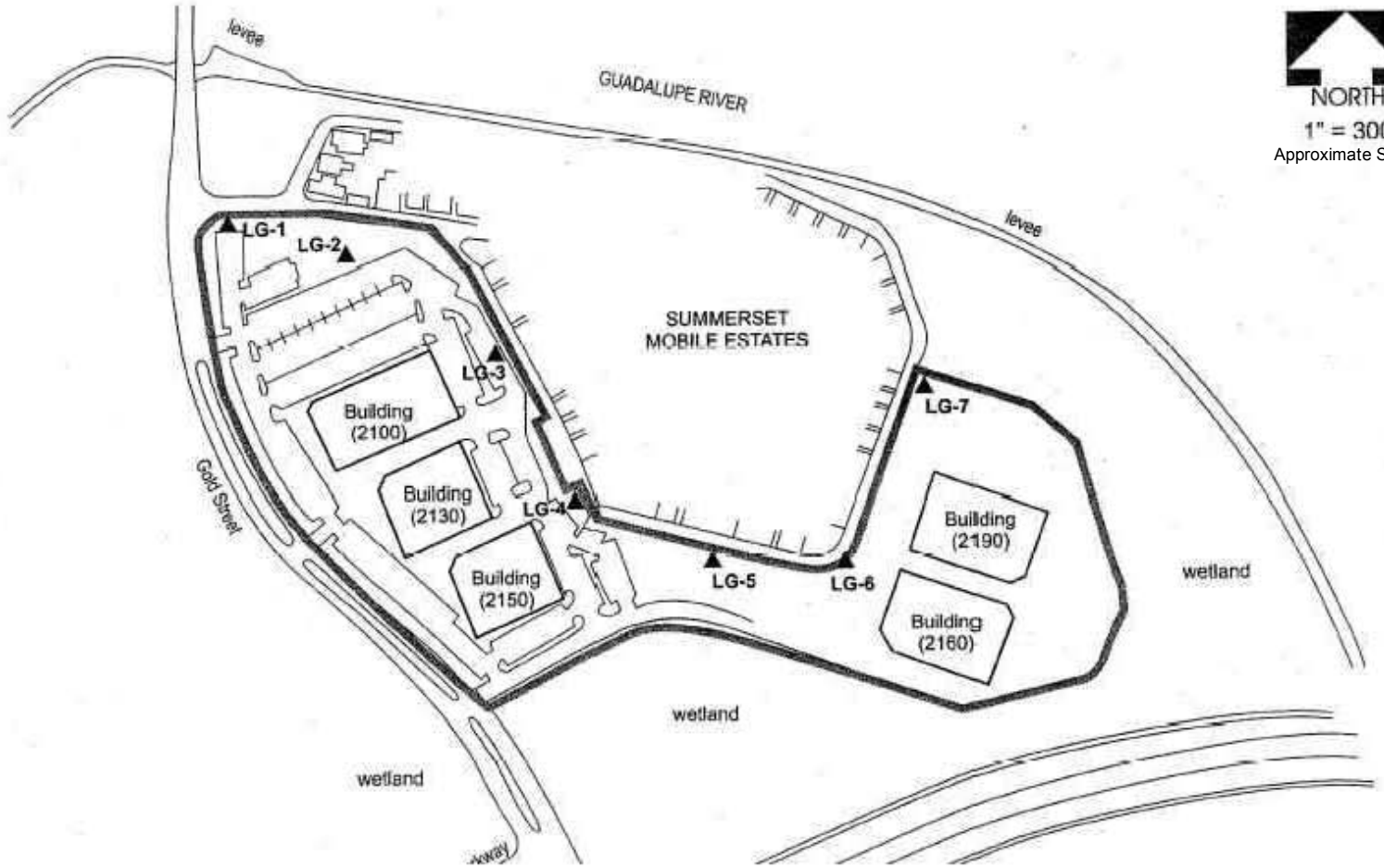


Figure 1
Site Location Map
South Bay Asbestos
Third Five-Year Review Report
Alviso, California

CDM



KEY

▲ LG-2 **Subsurface Landfill Gas Monitoring Probe**

Property Boundary of Bixby Tech Center @ 237

(2150) **Street Number**

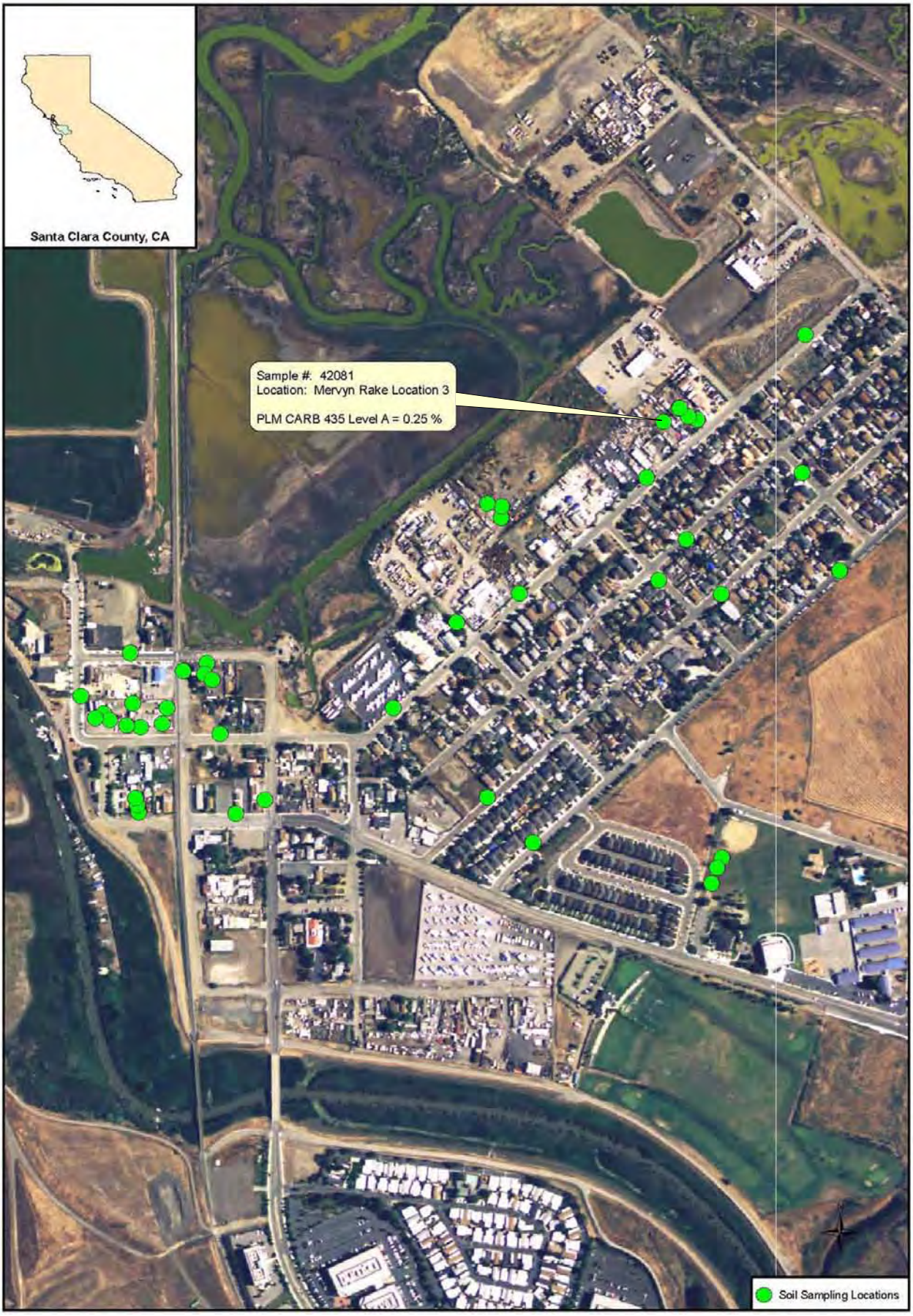
Figure 2
Santos Landfill Map with Bixby Tech Center and Summerset Mobile Estates
South Bay Asbestos
Third Five-Year Review Report
Alviso, California

CDM

0 0.25 0.5 Kilometers
Approximate Scale

CDM

Figure 3
Activity-Based Sampling Air Sampling Locations
August 2007
South Bay Asbestos
Third Five-Year Review Report
Alviso, California



CDM

Figure 4
Activity-Based Sampling Soil Sampling Locations
August 2007
South Bay Asbestos
Third Five-Year Review Report
Alviso, California

Appendix A
Documents Reviewed

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Appendix A
Documents Reviewed

American Compliance Services, LLC. 2009. *Asbestos Oversight Services-PG&E Excavation at TIVO, 2160 Gold Street, Alviso, California.* July 24.

CDM Federal Programs Corporation, Roy F. Weston Inc.,, Woodward Clyde Consultants, Clement Associates and IDF Inc. CC Johnson & Malhorta (CDM et al). 1988a. *Remedial Investigation Report, Volume I. South Bay Asbestos Site, Alviso, California*. December.

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Crawford Consulting Inc. 2007. *Letter Report, Title 27 Landfill Closure Recording Statement, Highway 237 Landfill, San Jose, California.* September 10.

_____. 2010. *Letter Report, 2010 Soil Management Plan Update for Legacy America Center, San Jose, California.* June 24.

Lockheed Martin. 2007. *Field Sampling and Quality Assurance Project Plans for South Bay (Alviso) Asbestos Exposure Assessment, San Francisco Bay, California.* August.

Lockheed Martin. 2009. *Asbestos Exposure Assessment using Activity-Based Sampling (August 20-24, 2007)-South Bay Asbestos Superfund Site, Alviso, CA*. March 31.

SCS Engineers. 2010. *Five-Year Cap Inspection Report: Bixby Technology Center, 2100-2190 Gold Street, San Jose, California.* June 7.

U.S. Army Corps of Engineers (USACE). 2003. *Letter: Subject line File Number 15493S signed by Calvin C. Fong, Chief, Regulatory Branch, San Francisco District*. May 13.

United States Environmental Protection Agency (EPA). 1988. *EPA Superfund Record of Decision: South Bay Asbestos Site EPA ID: CAD980894885 OU 01 Alviso, California.* September 29.

_____. 1989. *EPA Superfund Record of Decision: South Bay Asbestos Site EPA ID: CAD980894885 OU 02 Alviso, California*. September 29.

_____. 1991. *EPA Superfund Record of Decision Amendment: South Bay Asbestos Site EPA ID: CAD980894885 OU 01 Alviso, California.* June 26.

_____. 1993. *EPA Superfund Explanation of Significant Differences to the Record of Decision, South Bay Asbestos Site EPA ID: CAD980894885 OU 02 Alviso, California.* October 18.

_____. 1998. *EPA Preliminary Close Out Report, South Bay Asbestos Site EPA ID: CAD980894885 San Jose, California.* September 23.

_____. 2000. *EPA Five Year Review Report, South Bay Asbestos Site EPA ID: CAD980894885 San Jose, California.* September 29.

_____. 2001. *Comprehensive Five-Year Review Guidance, Office of Emergency and Remedial* Response. OSWER No. 9355.7-03D-P, EPA Doc. No. 540-R-01-007. June.

_____. 2005. *Second Five-Year Review Report for South Bay Asbestos Site, San Jose, California.* September 27.

_____. 2007. *Fact Sheet: EPA Will Conduct Additional Asbestos Sampling for South Bay Asbestos Superfund Site.* July.

_____. 2010. *Asbestos Exposure Assessment and Risk Evaluation Summary Report for South Bay Asbestos Superfund Site, Alviso, CA.* August.

Appendix B
Five-Year Review Site Inspection Checklist

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Site Inspection Checklist

I. SITE INFORMATION	
Site name: South Bay Asbestos Legacy America Center-located on the former Marshland Landfill	**Date of inspection:** 5/26/2010
Location and Region: Alviso, CA, Region IX	**EPA ID:** CAD980894885
Agency, office, or company leading the five-year review: EPA Region IX	**Weather/temperature:** Sunny – approximately 65 degrees F

Remedy Includes: (Check all that apply)

- ✓ Landfill cover/containment
- ☐ Access controls
- ✓ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other_____
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ✓ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Mark Wheeler (Name) Consultant for Owner (Title) May 26, 2010 (Date)
   Interviewed ✓ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ✓ Report attached _____

III. ON-SITE DOCUMENTS & RECORDS VERIFIED ☐ Applicable ✓ N/A

IV. O&M COSTS ✓ Applicable ☐ N/A

1. **O&M Organization**
   - ☐ State in-house
   - ☐ PRP in-house
   - ☐ Federal Facility in-house
   - ☐ Other_____
   - ☐ Contractor for State
   - ✓ Contractor for PRP
   - ☐ Contractor for Federal Facility

2. **O&M Cost Records – None available.**

V. ACCESS AND INSTITUTIONAL CONTROLS ✓ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ☐ Gates secured ✓ N/A
   Remarks _____

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ✓ N/A
   Remarks _____

C. Institutional Controls (ICs)

1. **Implementation and enforcement**
   Site conditions imply ICs not properly implemented ☐ Yes ✓ No ☐ N/A
   Site conditions imply ICs not being fully enforced ☐ Yes ✓ No ☐ N/A

   Type of monitoring (*e.g.*, self-reporting, drive by) Site Inspections
   Frequency Quarterly
   Responsible party/agency LEA (City of San Jose)
   Contact Ed Schreiner (Name) Inspector (Title) _____ (Date) _____ (Phone no.)

   Reporting is up-to-date ✓ Yes ☐ No ☐ N/A
   Reports are verified by the lead agency ✓ Yes ☐ No ☐ N/A

   Specific requirements in deed or decision documents have been met ✓ Yes ☐ No ☐ N/A
   Violations have been reported ☐ Yes ☐ No ✓ N/A
   Other problems or suggestions: ☐ Report attached
   The requirements for the institutional controls have been met at the Legacy America Center/Marshland Landfill with the Water Board Waste Discharge Requirements and CIWMB Title 27 regulations.

2. **Adequacy** ✓ ICs are adequate ☐ ICs are inadequate ☐ N/A
   Remarks The landfill final cover is in-place and being maintained.

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ✓ No vandalism evident
   Remarks _____

2. **Land use changes on site** ☐ N/A
   Remarks The property was vacant in 2005. Since the last Five-Year Review, the property was developed with two six-story office buildings, asphalt-covered parking lots, and landscape vegetation.
   _____

3. **Land use changes off site** ✓ N/A
   Remarks _____
   _____

VI. GENERAL SITE CONDITIONS ✓ Applicable ☐ N/A

A. Roads

1. **Roads damaged** ✓ Location shown on site map ✓ Roads adequate ☐ N/A
Remarks_____
_____

B. Other Site Conditions

Remarks The site has been developed with 2 six-story office buildings, asphalt parking lots, and landscape vegetation.

VII. LANDFILL COVERS ✓ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ✓ Settlement not evident
Areal extent_____ Depth_____
Remarks_____
_____

2. **Cracks** ☐Location shown on site map ✓ Cracking not evident
Lengths_____ Widths_____ Depths_____
Remarks_____
_____

3. **Erosion** ☐Location shown on site map ✓ Erosion not evident
Areal extent_____ Depth_____
Remarks_____
_____

4. **Holes** ☐ Location shown on site map ✓ Holes not evident
Areal extent_____ Depth_____
Remarks_____
_____

5. **Vegetative Cover** ☐ Grass ☐ Cover properly established ✓ No signs of stress
☐ Trees/Shrubs (indicate size and locations on a diagram)
Remarks_____
_____

6. **Alternative Cover (armored rock, concrete, etc.)** ✓ N/A
Remarks_____ _____
_____

7. **Bulges** ☐ Location shown on site map ✓ Bulges not evident
Areal extent_____ Height_____
Remarks_____
_____

8. **Wet Areas/Water Damage** ✓ Wet areas/water damage not evident
☐ Wet areas ☐ Location shown on site map Areal extent_____
☐ Ponding ☐ Location shown on site map Areal extent_____
☐ Seeps ☐ Location shown on site map Areal extent_____
☐ Soft subgrade ☐ Location shown on site map Areal extent_____
Remarks_____
_____

9. **Slope Instability** ☐Slides ☐ Location shown on site map ✓ No evidence of slope instability
Areal extent_____
Remarks_____
_____

B. Benches ☐ Applicable ✓ N/A
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

C. Letdown Channels ☐ Applicable ✓ N/A
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

D. Cover Penetrations ✓ Applicable ☐ N/A

1. **Gas Vents** ☐ Active ✓ Passive
☐ Properly secured/locked ✓ Functioning ☐ Routinely sampled ☐Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance
☐ N/A
Remarks_____
_____

2. **Gas Monitoring Probes**
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓ N/A
Remarks_____
_____

3. **Monitoring Wells** (within surface area of landfill)
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓ N/A
Remarks_____
_____

4. **Leachate Extraction Wells**
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓ N/A
Remarks_____
_____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ✓ N/A
Remarks_____
_____

E. Gas Collection and Treatment	☐ Applicable	✓ N/A
F. Cover Drainage Layer	☐ Applicable	✓ N/A
G. Detention/Sedimentation Ponds	☐Applicable	✓ N/A
H. Retaining Walls	☐ Applicable	✓ N/A
I. Perimeter Ditches/Off-Site Discharge	☐Applicable	✓ N/A

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✓ N/A	
IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ✓ N/A	
X. OTHER REMEDIES ☐ Applicable ✓ N/A	
XI. OVERALL OBSERVATIONS ✓ Applicable ☐ N/A	
A.	**Implementation of the Remedy**
	Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). The remedy at the Legacy America Center/Marshland Landfill (ACML) is to encapsulate asbestos-containing materials, maintain the final landfill cover, and provide notice to future property owners/users regarding the history of the ACML. Overall, the remedy at the ACML is effective and functioning.
B.	**Adequacy of O&M**
	Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. No observed disturbances or issues associated with the landfill control systems.
C.	**Early Indicators of Potential Remedy Problems**
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. None observed.
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. None identified at this time.

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Site Inspection Checklist

I. SITE INFORMATION

Site name:	**Date of inspection:**
South Bay Asbestos Summerset Mobile Estates-located on the former Santos Landfill	5/26/2010
Location and Region:	**EPA ID:**
Alviso, CA, Region IX	CAD980894885
Agency, office, or company leading the five-year review:	**Weather/temperature:**
EPA Region IX	Sunny – approximately 65 degrees F

Remedy Includes: (Check all that apply)

- ✓ Landfill cover/containment
- ☐ Access controls
- ✓ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other_____
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ✓ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Mary Veliz (Name) Regional Manager (Title) May 26, 2010 (Date)
   Interviewed ✓ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ✓ Report attached _____

2. **O&M staff** Mike Valencia (Name) Onsite Assistant Manager (Title) May 26, 2010 (Date)
   Interviewed ✓ at site ☐ at office ☐ by phone Phone no. NA
   Problems, suggestions; ☐ Report attached _____

III. ON-SITE DOCUMENTS & RECORDS VERIFIED ☐ Applicable ✓ N/A

IV. O&M COSTS ✓ Applicable ☐ N/A

1. **O&M Organization**
   - ☐ State in-house
   - ☐ Contractor for State
   - ☐ PRP in-house
   - ☐ Contractor for PRP
   - ☐ Federal Facility in-house
   - ☐ Contractor for Federal Facility
   - ✓ Other Waterhouse Management: Manages the SME mobile home park.

2. **O&M Cost Records – None available**

V. ACCESS AND INSTITUTIONAL CONTROLS ✓ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ✓ Gates secured ☐N/A
   Remarks

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ✓ N/A
   Remarks

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented	☐ Yes	✓ No	☐ N/A
Site conditions imply ICs not being fully enforced	☐ Yes	✓ No	☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) Site Inspections
Frequency Quarterly
Responsible party/agency LEA, City of San Jose

Contact	Sharon Clute	Inspector	_____	_____
	Name	Title	Date	Phone no.

Reporting is up-to-date	✓ Yes	☐ No	☐ N/A
Reports are verified by the lead agency	✓ Yes	☐ No	☐ N/A
Specific requirements in deed or decision documents have been met	✓ Yes*	✓ No*	☐ N/A
Violations have been reported	☐ Yes	✓ No	☐N/A

Other problems or suggestions: ☐ Report attached
* The final cover complies with the ROD requirements; however, EPA is currently working to establish a deed restriction to be placed on the title for the Sainte Claire Landfill property.

2. **Adequacy** ☐ Cs are adequate ✓ ICs are inadequate ☐ N/A
   Remarks The landfill final cover is in-place and being maintained. However, deed restrictions are still required as a long-term control.

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ✓ No vandalism evident
   Remarks _____

2. **Land use changes on site** ✓ N/A
   Remarks_____
   _____

3. **Land use changes off site** ✓ N/A
   Remarks_____
   _____

VI. GENERAL SITE CONDITIONS ✓ Applicable ☐ N/A

A. Roads

1. **Roads damaged** ✓ Location shown on site map ✓ Roads adequate ☐ N/A
   Remarks_____
   _____

B. Other Site Conditions

Remarks _No other site conditions are noted.

VII. LANDFILL COVERS ✓ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ✓ Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____
   _____

2. **Cracks** ☐ Location shown on site map ✓ Cracking not evident
   Lengths_____ Widths_____ Depths_____
   Remarks _____
   _____

3. **Erosion** ☐Location shown on site map ✓ Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____
   _____

4. **Holes** ☐ Location shown on site map ✓ Holes not evident
   Areal extent_____ Depth_____
   Remarks_____
   _____

5. **Vegetative Cover** ☐ Grass ☐ Cover properly established ✓ No signs of stress
   ☐ Trees/Shrubs (indicate size and locations on a diagram)
   Remarks_____
   _____

6. **Alternative Cover (armored rock, concrete, etc.)** ✓ N/A
   Remarks_____
   _____

7.	**Bulges** ☐ Location shown on site map ✓ Bulges not evident Areal extent_____ Height_____ Remarks_____ _____	
8.	**Wet Areas/Water Damage** ✓ Wet areas/water damage not evident	
	☐ Wet areas	☐ Location shown on site map Areal extent_____
	☐ Ponding	☐ Location shown on site map Areal extent_____
	☐ Seeps	☐ Location shown on site map Areal extent_____
	☐ Soft subgrade	☐ Location shown on site map Areal extent_____
	Remarks_____ _____	
9.	**Slope Instability** ☐Slides ☐ Location shown on site map ✓ No evidence of slope instability Areal extent_____ Remarks_____ _____	
B. Benches ☐ Applicable ✓ N/A (Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
C. Letdown Channels ☐ Applicable ✓ N/A (Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)		
D. Cover Penetrations ☐ Applicable ✓ N/A		
E. Gas Collection and Treatment	☐ Applicable	✓ N/A
F. Cover Drainage Layer	☐ Applicable	✓ N/A
G. Detention/Sedimentation Ponds	☐Applicable	✓ N/A
H. Retaining Walls	☐ Applicable	✓ N/A
I. Perimeter Ditches/Off-Site Discharge	☐Applicable	✓ N/A

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✓ N/A

IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ✓ N/A		
A. Groundwater Extraction Wells, Pumps, and Pipelines	☐ Applicable	✓ N/A
B. Surface Water Collection Structures, Pumps, and Pipelines	☐ Applicable	✓ N/A
C. Treatment System	☐Applicable	✓ N/A

D. Monitoring Data	✓ Applicable ☐ N/A
1.	Monitoring Data ✓ Is routinely submitted on time ☐ Is of acceptable quality Quarterly gas sampling data indicate that the gas present in the air is not at levels that would cause harm to human health and safety.
2.	Monitoring data suggests: ☐ Groundwater plume is effectively contained ☐ Contaminant concentrations are declining
E. Monitored Natural Attenuation	☐Applicable ✓ N/A

X. OTHER REMEDIES ☐ Applicable ✓ N/A

XI. OVERALL OBSERVATIONS ✓ Applicable ☐ N/A

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).
The remedy at the SME is to prevent breaching of the landfill cap, maintain the cap, and provide notice to future property owners/users regarding the history of the SME. Overall, the cover remedy at the SME is effective and functioning.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.
No observed disturbance to the existing final landfill cover; therefore, the remedy continues to be protective.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.
None observed.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.
None identified at this time.

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Site Inspection Checklist

I. SITE INFORMATION	
Site name: South Bay Asbestos Bixby Technology Center-located on the former Santos Landfill	**Date of inspection:** 5/26/2010
Location and Region: Alviso, CA, Region IX	**EPA ID:** CAD980894885
Agency, office, or company leading the five-year review: EPA Region IX	**Weather/temperature:** Sunny – approximately 65 degrees F

Remedy Includes: (Check all that apply)

- ✓ Landfill cover/containment
- ☐ Access controls
- ✓ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other_____

- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ✓ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Leslie Cook (Name) Senior Property Manager (Title) May 26, 2010 (Date)
   Interviewed ✓ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ✓ Report attached _____

III. ON-SITE DOCUMENTS & RECORDS VERIFIED ☐ Applicable ✓ N/A

IV. O&M COSTS ✓ Applicable ☐ N/A

1. **O&M Organization**
   - ☐ State in-house
   - ☐ PRP in-house
   - ☐ Federal Facility in-house
   - ✓ Other Leslie Cook, Senior Property Manager (Bixby)
   - ☐ Contractor for State
   - ☐ Contractor for PRP
   - ☐ Contractor for Federal Facility

2. **O&M Cost Records – None Available**

V. ACCESS AND INSTITUTIONAL CONTROLS ✓ Applicable ☐ N/A

A. Fencing _____

1. **Fencing damaged** ☐ Location shown on site map ☐ Gates secured ✓ N/A
   Remarks_____

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ✓ N/A
   Remarks_____

C. Institutional Controls (ICs)

1. **Implementation and enforcement**
   Site conditions imply ICs not properly implemented ☐ Yes ✓ No ☐ N/A
   Site conditions imply ICs not being fully enforced ☐ Yes ✓ No ☐ N/A

   Type of monitoring (*e.g.*, self-reporting, drive by) Site Inspections
   Frequency Quarterly
   Responsible party/agency City of San Jose, LEA
   Contact Sharon Clute (Name) Inspector (Title) _____ (Date) _____ (Phone no.)

   Reporting is up-to-date ✓ Yes ☐ No ☐ N/A
   Reports are verified by the lead agency ✓ Yes ☐ No ☐ N/A

   Specific requirements in deed or decision documents have been met ✓ Yes ☐ No ☐ N/A
   Violations have been reported ☐ Yes ✓No ☐ N/A

2. **Adequacy** ✓ ICs are adequate ☐ ICs are inadequate ☐ N/A
   Remarks A deed restriction is in place for the Bixby Technology Center portion of the Santos Landfill.

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ✓ No vandalism evident
   Remarks _____

2. **Land use changes on site** ✓ N/A
   Remarks_____

3. **Land use changes off site** ✓ N/A
   Remarks_____

VI. GENERAL SITE CONDITIONS ✓ Applicable ☐ N/A

A. Roads

1. **Roads damaged** ✓ Location shown on site map ✓ Roads adequate ☐ N/A
   Remarks_____
   _____

B. Other Site Conditions

Remarks
The site has five office buildings and continues to operate as a business park, with regular maintenance and inspection activities.

VII. LANDFILL COVERS ✓ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ✓ Settlement not evident
Areal extent_____ Depth_____
Remarks_____

2. **Cracks** ✓ Location shown on site map ☐ Cracking not evident
Lengths_____ Widths_____ Depths_____
Remarks Cracks were observed in the northeast portion of the parking lot. Ms. Cook stated that water seeps out of these cracks. Once the water evaporates, a white precipitate remains on the asphalt. Ms. Cook reported that these portions of the parking lot will be repaved later this summer and that the operations and maintenance costs are already contained in the current annual budget.

3. **Erosion** ☐Location shown on site map ✓ Erosion not evident
Areal extent_____ Depth_____
Remarks_____

4. **Holes** ☐ Location shown on site map ✓ Holes not evident
Areal extent_____ Depth_____
Remarks_____

5. **Vegetative Cover** ☐ Grass ☐ Cover properly established ✓ No signs of stress
☐ Trees/Shrubs (indicate size and locations on a diagram)
Remarks_____
_____

6. **Alternative Cover (armored rock, concrete, etc.)** ✓ N/A
Remarks An asphalt paving surface and buildings cover almost the entire Bixby Technology Center property. The remaining areas contain a vegetative landscape cover.

7. **Bulges** ☐ Location shown on site map ✓ Bulges not evident
Areal extent_____ Height_____
Remarks_____
_____

8. **Wet Areas/Water Damage** ✓ Wet areas/water damage not evident
☐ Wet areas ☐ Location shown on site map Areal extent_____
☐ Ponding ☐ Location shown on site map Areal extent_____
☐ Seeps ☐ Location shown on site map Areal extent_____
☐ Soft subgrade ☐ Location shown on site map Areal extent_____
Remarks_____
_____

9. **Slope Instability** ☐Slides ☐ Location shown on site map ✓ No evidence of slope instability
Areal extent_____
Remarks_____
_____

B. Benches ☐ Applicable ✓ N/A
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

C. Letdown Channels ☐ Applicable ✓ N/A

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

D. Cover Penetrations ✓ Applicable ☐ N/A

1. **Gas Vents** ☐ Active ✓ Passive
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐Good condition
   ☐ Evidence of leakage at penetration ✓ Needs Maintenance
   ☐ N/A
   Remark: One of the passive gas (#LG-4) vents was observed to not be able to spin freely.
   _____

2. **Gas Monitoring Probes**
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓ N/A
   Remarks_____
   _____

3. **Monitoring Wells** (within surface area of landfill)
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓N/A
   Remarks_____
   _____

4. **Leachate Extraction Wells**
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ Evidence of leakage at penetration ☐ Needs Maintenance ✓N/A
   Remarks_____
   _____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ✓ N/A
   Remarks_____
   _____

E. Gas Collection and Treatment	☐ Applicable	✓ N/A
F. Cover Drainage Layer	☐ Applicable	✓ N/A
G. Detention/Sedimentation Ponds	☐Applicable	✓ N/A
H. Retaining Walls	☐ Applicable	✓ N/A
I. Perimeter Ditches/Off-Site Discharge	☐Applicable	✓ N/A

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✓ N/A	
IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ✓ N/A	
X. OTHER REMEDIES ☐ Applicable ✓ N/A	
XI. OVERALL OBSERVATIONS ✓ Applicable ☐ N/A	
A.	**Implementation of the Remedy**
	Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.). The remedy at the Santos Landfill (as it applies to the Bixby Technology Park (BTP)) is to encapsulate the asbestos-containing materials, maintain the cap, and provide notice to future property owners/users regarding the history of the BTP. Overall, the remedy at the BTP is effective and functioning.
B.	**Adequacy of O&M**
	Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy. The O&M program at the BTP was observed to be consistent and effective. The remedy continues to be protective
C.	**Early Indicators of Potential Remedy Problems**
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future. None observed.
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. None identified at this time.

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Site Inspection Checklist

I. SITE INFORMATION

Site name:	**Date of inspection:**
South Bay Asbestos Mel's General Repair-located on the former Sainte Claire Landfill	5/26/2010
Location and Region:	**EPA ID:**
Alviso, CA, Region IX	CAD980894885
Agency, office, or company leading the five-year review:	**Weather/temperature:**
EPA Region IX	Sunny – approximately 65 degrees F

Remedy Includes: (Check all that apply)

- ✓ Landfill cover/containment
- ☐ Access controls
- ✓ Institutional controls
- ☐ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other_____

- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ✓ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Mel Guerrera (Name) Operator (Title) May 26, 2010 (Date)
   Interviewed ✓ at site ☐ at office ☐ by phone Phone no. _____
   Problems, suggestions; ✓ Report attached _____

III. ON-SITE DOCUMENTS & RECORDS VERIFIED ☐ Applicable ✓ N/A

IV. O&M COSTS ✓ Applicable ☐ N/A

1. **O&M Organization**
   - ☐ State in-house
   - ☐ PRP in-house
   - ☐ Federal Facility in-house
   - ✓ Other Mel Guerrera
   - ☐ Contractor for State
   - ☐ Contractor for PRP
   - ☐ Contractor for Federal Facility

2. **O&M Cost Records – None available**

V. ACCESS AND INSTITUTIONAL CONTROLS ✓ Applicable ☐ N/A

A. Fencing The site was surrounded by fencing.

1. **Fencing damaged** ☐ Location shown on site map ✓ Gates secured ☐N/A

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ✓ N/A

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ✓ No ☐ N/A
Site conditions imply ICs not being fully enforced ☐ Yes ✓ No ☐ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) Site Inspections
Frequency Quarterly
Responsible party/agency LEA, City of San Jose
Contact Sharon Clute (Name) Inspector (Title) _____ (Date) _____ (Phone no.)

Reporting is up-to-date ✓ Yes ☐ No ☐ N/A
Reports are verified by the lead agency ☐ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ✓ Yes* ✓ No* ☐ N/A
Violations have been reported ☐ Yes ✓ No ☐ N/A
Other problems or suggestions: ☐ Report attached
* The final cover complies with the ROD requirements; however, EPA is currently working to establish a deed restriction to be placed on the title for the Sainte Claire Landfill property.

2. **Adequacy** ☐ ICs are adequate ✓ ICs are inadequate ☐ N/A
Remarks The landfill final cover is in-place and being maintained. However, a deed restriction is still required as a long-term control.

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ✓ No vandalism evident
Remarks _____

2. **Land use changes on site** ✓ N/A
Remarks There have been no land use changes since the last Five-Year Review.

3. **Land use changes off site** ✓ N/A
Remarks_____
_____

VI. GENERAL SITE CONDITIONS ✓ Applicable ☐ N/A

A. Roads

1. **Roads damaged** ✓ Location shown on site map ✓ Roads adequate ☐ N/A
Remarks_____
_____

B. Other Site Conditions

Remarks The site continues to operate as a storage and repair yard.

VII. LANDFILL COVERS ✓ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ✓ Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Cracks** ☐Location shown on site map ✓ Cracking not evident
   Lengths_____ Widths_____ Depths_____
   Remarks Mr. Guerrera stated that the site is covered with 1.5 feet of gravel.

3. **Erosion** ☐Location shown on site map ✓ Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Holes** ☐ Location shown on site map ✓ Holes not evident
   Areal extent_____ Depth_____
   Remarks_____

5. **Vegetative Cover** ☐ Grass ☐ Cover properly established ✓ No signs of stress
   ☐ Trees/Shrubs (indicate size and locations on a diagram)
   Remarks_____

6. **Alternative Cover (armored rock, concrete, etc.)** ☐ N/A
   Remarks Gravel surface.

7. **Bulges** ☐ Location shown on site map ✓ Bulges not evident
   Areal extent_____ Height_____
   Remarks_____

8. **Wet Areas/Water Damage** ✓ Wet areas/water damage not evident
   ☐ Wet areas ☐ Location shown on site map Areal extent_____
   ☐ Ponding ☐ Location shown on site map Areal extent_____
   ☐ Seeps ☐ Location shown on site map Areal extent_____
   ☐ Soft subgrade ☐ Location shown on site map Areal extent_____
   Remarks_____

9. **Slope Instability** ☐Slides ☐ Location shown on site map ✓ No evidence of slope instability
   Areal extent_____
   Remarks_____

B. Benches ☐ Applicable ✓ N/A
(e.g., Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

C. Letdown Channels (e.g., Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)	☐ Applicable ✓ N/A
D. Cover Penetrations	☐ Applicable ✓ N/A
E. Gas Collection and Treatment	☐ Applicable ✓ N/A
F. Cover Drainage Layer	☐ Applicable ✓ N/A
G. Detention/Sedimentation Ponds	☐Applicable ✓ N/A
H. Retaining Walls	☐ Applicable ✓ N/A
I. Perimeter Ditches/Off-Site Discharge	☐Applicable ✓ N/A

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✓ N/A

IX. GROUNDWATER/SURFACE WATER REMEDIES ☐ Applicable ✓ N/A

X. OTHER REMEDIES ☐ Applicable ✓ N/A

XI. OVERALL OBSERVATIONS ✓ Applicable ☐ N/A

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).
The remedy at the Sainte Claire Landfill is to encapsulate asbestos-containing materials, maintain the cap, and provide notice to future property owners/users regarding the history of the Sainte Claire Landfill. Overall, the cover remedy is effective and functioning.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.
No observed disturbance to the existing final landfill cover; therefore, the remedy continues to be protective.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, which suggests that the protectiveness of the remedy may be compromised in the future.
None observed.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.
None identified at this time.

Appendix C
Site Inspection Photographs

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Site Inspection Photographs
South Bay Asbestos Superfund Site – Third Five-Year Review Report
Alviso, CA
Date of Photographs: May 26, 2010

Photograph 1: View of Summerset Mobile Estates, which is located over the Santos Landfill and has paved roadways, trailer homes, driveways, and landscaped areas.

Photograph 2: View of northern property boundary of the Summerset Mobile Estates portion of the Santos Landfill.

Photograph 3: View of one of the buildings located in the Bixby Tech Park portion of the Santos Landfill.

Photograph 4: View of the utility pole (right) installed during the PG&E trenching project in July 2009.

Photograph 5: View of parking lot where the utility trench was excavated during the PG&E project. The asphalt parking lot has since been re-paved.

Photograph 6: View of cracks and white residue present within the northeastern portion of the parking lot for Bixby Technology Park.

Photograph 7: View of one of the subsurface gas landfill monitoring probe located on the northern property boundary of the Bixby Technology Park.

Photograph 8: View facing northwest of the asphalt parking lot on the Marshland Landfill/Legacy America Center. The photograph was taken from the sixth floor of the building onsite. The salt ponds can be seen in the distance.

Photograph 9: View facing north of the asphalt parking lot on the Marshland Landfill/Legacy America Center. The photograph was taken from the sixth floor of the building onsite. The salt ponds can be seen in the distance.

Photograph 10: View facing northeast of the asphalt parking lot on the Marshland Landfill/Legacy America Center and the portion of the property that will be developed in the future. The photograph was taken from the sixth floor of the building onsite.

Photograph 11: View facing east of the Marshland Landfill/Legacy America Center and the portion of the property that will be developed in the future. The photograph was taken from the sixth floor of the building onsite.

Photograph 12: View facing southeast of the asphalt parking lot on the Marshland Landfill/Legacy America Center. Highway 237 can been seen in the distance. The photograph was taken from the sixth floor of the building onsite.

Photograph 13: View facing northeast of the two six-story buildings built on the Marshland Landfill/Legacy America Center property between 2007 and 2009.

Photograph 14: View facing northwest of the western portion of the Sainte Claire Landfill, which is located on the west side of Gold Street.

Photograph 15: View facing northeast of the eastern portion of the Sainte Claire Landfill, which is located on the east side of Gold Street. This property is occupied with Mel's General Repair and is used as a storage area.

Photograph 16: View facing southeast of the interior portion of Mel's General Repair. The Guadelupe River Levee can be seen in the background.

Photograph 17: View facing southeast of the levee outfall within the Guadelupe River Levee.

Photograph 18: View of the Archer Street entrance of one of one of the trucks yards.

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Appendix D
Five-Year Review Interview Summary Forms

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INTERVIEW RECORD

Site Name: South Bay Asbestos		**EPA ID No.:** CAD980894885
Subject: Site Activities from 2005 to 2010		**Time:** 11:30 **Date:** 7/1/10
Type: ☐ Telephone **X** Visit ☐ Other **Location of Visit:** Summerset Estates Mobilehome Park, Alviso, California		☐ Incoming ☐ Outgoing

Contact Made By:

Name: Eric Yunker	**Title:** EPA Region IX Superfund Project Manager	**Organization:** EPA Region IX
Name: Leana Rosetti	**Title:** EPA Region IX Superfund Community Involvement Coordinator	**Organization:** EPA Region IX
Name: Ahnna Westrich	**Title:** Staff Geologist	**Organization:** Camp, Dresser, and McKee, Inc. (CDM)

Individual Contacted:

Name:	**Title:** Resident	**Organization:** Summerset Estates Mobilehome Park
Telephone No: NA **Fax No:** NA **E-Mail Address:** NA	**Street Address:** 2052 Gold Street **City, State, Zip:** Alviso, CA 95002	

Summary of Conversation

This individual has been a resident at the SME since July 1977.

1. What is your overall impression of the project? (general sentiment)

- He stated that he was familiar with the history of SBA and he is not too worried about the work related to the SBA.

2. What effects have site operations had on the surrounding community?

- He indicated that there have not been any issues recently with respect to the SBA.

3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.

- He indicated that when he moved his coach into the SME in 1977, he brought in soil from a walnut orchard in Saratoga, which raised his plot about six to eight inches in height. Since then he has installed a sprinkler system and a fence on his plot. He stated that the SME does not always enforce the no-digging rule. For example, his sprinkler system was installed 18-inches bgs and other residents have planted trees on their plots. He also said that some people do follow the no-digging rule. For example, He pointed out that his neighbor across the street constructed a raised flower bed, which was

approximately 18-inches above ground, in order to plant vegetation along the street.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

- No.

5. Do you feel well informed about the site's activities and progress?

- The interviewee mentioned that he probably received the EPA Facts Sheet regarding the activity-based sampling that occurred in August 2007, but does not remember the information. He receives multiple information sheets in the mail from the City of San Jose regarding the installation of the nature center stand at the entrance of SME and Guadalupe River flood control. He also receives information sheets from the SCVWD and the City of San Jose City Council. The EPA representatives indicated that they would contact JT a few days after sending out the next EPA Facts Sheet to confirm that he received the information.

6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- He indicated that since the residents of Alviso receive multiple information sheets, they typically do not read them. Therefore, he mentioned that if an introductory letter was included with the facts sheet, that more people might actually read the information. He also said that it would be a good idea for the EPA to submit an article to the *Seagull Dropping*, which is a monthly SME newspaper. He also thought that it would be a good idea if the EPA held a public meeting to inform the community about the status of the SBA.

INTERVIEW RECORD

Site Name: South Bay Asbestos	**EPA ID No.:** CAD980894885	
Subject: Site Activities from 2005 to 2010	**Time:** 12:35	**Date:** 7/1/10
Type: ☐ Telephone **X** Visit ☐ Other **Location of Visit:** San Jose Public Library, Alviso Branch, Alviso, California	☐ Incoming ☐ Outgoing	

Contact Made By:

Name: Eric Yunker	**Title:** EPA Region IX Superfund Project Manager	**Organization:** EPA Region IX
Name: Leana Rosetti	**Title:** EPA Region IX Superfund Community Involvement Coordinator	**Organization:** EPA Region IX
Name: Ahnna Westrich	**Title:** Staff Geologist	**Organization:** Camp, Dresser, and McKee, Inc. (CDM)

Individual Contacted:

Name:	**Title:** Resident/Librarian	**Organization:** San Jose Public Library, Alviso Branch
Telephone No: (408) 263-3626 **Fax No:** NA **E-Mail Address:** NA	**Street Address:** 5050 North 1st Street **City, State, Zip:** Alviso, CA 95002	

Summary of Conversation

The interviewee has lived in Alviso, California all of her life (>30 years) and has lived in the SME for the past six years.

1. What is your overall impression of the project? (general sentiment)

- The interviewee stated that she is familiar with the history of the levee that surrounded Alviso and does not have any concerns regarding the SBA. She received the information sheet for the activity-based sampling (ABS) and remembered when the ABS occurred.

2. What effects have site operations had on the surrounding community?

- Overall, she indicated that the community members are more at ease because of the cleanup of the SBA, especially since the levee has been removed and new development is occurring.

3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.

- She mentioned that the community members remain concerned about the long-term health effects of asbestos. For example, she stated that there have been a few lawsuits regarding respiratory-related illness.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

- She mentioned that in 2009 the Police Department dug a trench on a vacant lot located on Grand Avenue.

5. Do you feel well informed about the site's activities and progress?

- She is satisfied with the level of information that the EPA has provided for the community and does not feel neglected by the EPA.

6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- She stated that no one has requested to view the EPA documents stored at the Alviso Branch of the San Jose Library. Another librarian indicated that the SBA Repository was viewed approximately five times, including a small group of people, over the last few years.
- She believed that it would be a good idea if the EPA held a public meeting to inform the community about the status of the SBA. She mentioned that another person to interview would be Lourdes Murphy.
- She stated that it was beneficial to have the information sheet in Spanish since the population of Alviso was 80% Hispanic. She mentioned that the *San Jose Mercury News* is the newspaper that most community members read.

INTERVIEW RECORD

Site Name: South Bay Asbestos		**EPA ID No.:** CAD980894885
Subject: Site Activities from 2005 to 2010	**Time:** 14:40	**Date:** 7/1/10
Type: ☐ Telephone **X** Visit ☐ Other **Location of Visit:** San Jose Public Library, Alviso Branch, Alviso, California	☐ Incoming	☐ Outgoing

Contact Made By:

Name: Eric Yunker	**Title:** EPA Region IX Superfund Project Manager	**Organization:** EPA Region IX
Name: Leana Rosetti	**Title:** EPA Region IX Superfund Community Involvement Coordinator	**Organization:** EPA Region IX
Name: Ahnna Westrich	**Title:** Staff Geologist	**Organization:** Camp, Dresser, and McKee, Inc. (CDM)

Individual Contacted:

Name:	**Title:** Official with the Environmental Services Department	**Organization:** City of San Jose
Telephone No: **Fax No:** NA **E-Mail Address:**	**Street Address:** 200 East Santa Clara Street, 10th Floor **City, State, Zip:** San Jose, CA 95113	

Summary of Conversation

The interviewee indicated that the Environmental Services Department has been involved with the SBA project since 1983.

1. What is your overall impression of the project? (general sentiment)

- The interviewee interacted with the media and community during the ABS field work. He believed that the field work coordination went well during the ABS. He said that the EPA communication with the community regarding the SBA is on-going.

2. What effects have site operations had on the surrounding community?

- The interviewee said that the community is more concerned with other projects that affect the community, including the sewer plant re-zone and socioeconomic conditions of Alviso.

3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.

- The interviewee stated that the main concern for the community before the ABS field work was whether or not the SBA would be closed/de-listed.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

- He stated that he was unaware of the Police Department trench activities on Grand Avenue.

5. Do you feel well informed about the site's activities and progress?

- Yes.

6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- He said that Mr. Eric Yunker (EPA) is a good point of contact for the SBA project. The interviewee mentioned that another person to interview would be Kansen Chu, a City Council member for the City of San Jose. He also indicated that the Alviso Community Action Group would be a good contact.
- The interviewee said that a United States Geological Survey map layer, which indicates areas of naturally occurring asbestos (NOA) in the San Jose area, has been added to geographic information system (GIS). Therefore, when new development projects are proposed, the GIS map of the area is reviewed to learn if there is the possibility that NOA is located on the property. If the GIS layer indicates that NOA could be present on the property, soil samples are collected before development begins. If the analytical results show that there is NOA present in the soil, mitigation practices are set in place during construction activities to minimize the disturbance of the NOA and a cap is put into place to prevent future disruption of the NOA on the property. For example, soil samples were collected before sidewalk extension and repair project occurred in Alviso to confirm the presence of asbestos in the soil.

INTERVIEW RECORD

Site Name: South Bay Asbestos		**EPA ID No.:** CAD980894885
Subject: Site Activities from 2005 to 2010	**Time:** 2:00	**Date:** 7/6/10
Type: **X** Telephone ☐ Visit ☐ Other **Location of Visit:** Telephone		☐ Incoming **X** Outgoing

Contact Made By:

Name: Eric Yunker	**Title:** EPA Region IX Superfund Project Manager	**Organization:** EPA Region IX
Name: Leana Rosetti	**Title:** EPA Region IX Superfund Community Involvement Coordinator	**Organization:** EPA Region IX
Name: Ahnna Westrich	**Title:** Staff Geologist	**Organization:** Camp, Dresser, and McKee, Inc. (CDM)

Individual Contacted:

Name:	**Title:** Works at the Environmental Education Center	**Organization:** United State Fish and Wildlife Service Don Edwards San Francisco Bay National Wildlife Refuge
Telephone No: (415) 972-3070 **Fax No:** NA **E-Mail Address:** NA		**Street Address:** Environmental Education Center Access Road **City, State, Zip:** Alviso, CA 95002

Summary of Conversation

The interviewee works at the Environmental Education Center for the Don Edwards San Francisco Bay National Wildlife Refuge.

1. What is your overall impression of the project? (general sentiment)

- The interviewee was around for the clean-up activities. As far as she knows, with respect to the EEC, the asbestos contaminated soil has been taken care of and has been replaced with clean soil.

2. What effects have site operations had on the surrounding community?

- While the ring levee was in place, a slurry was placed on the ring levee every year, which impacted the community.
- Since the ring levee has been removed, the community does not have to worry about the levee cap anymore.

3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.

- The interviewee is not aware of community health concerns regarding asbestos.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

- No.

5. Do you feel well informed about the site's activities and progress?

- The interviewee feels well informed about the project through the Facts Sheets. The last Facts Sheet that she received was for the 2005 Five-Year Review Report.
- She would like to know the locations where the asbestos is still in place.

6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- The interviewee would like to receive more information regarding the status of current and future project activities. The best way to reach her would be through email.
- Her main concern regarding the replacement levee is that it is very steep and very little vegetation has actually grown on the levee until this year.
- The interviewee mentioned that cracks have formed on the edges of the asphalt, which is located on top of the cap from the EEC garage to the salt pond. She stated that she did not see anything through the cracks.

INTERVIEW RECORD

Site Name: South Bay Asbestos		**EPA ID No.:** CAD980894885
Subject: Site Activities from 2005 to 2010	**Time:** Morning	**Date:** 7/13/10
Type: **X** Telephone ☐ Visit ☐ Other **Location of Visit:** Telephone	☐ Incoming	**X** Outgoing

Contact Made By:

Name: Eric Yunker	**Title:** EPA Region IX Superfund Project Manager	**Organization:** EPA Region IX
Name: Leana Rosetti	**Title:** EPA Region IX Superfund Community Involvement Coordinator	**Organization:** EPA Region IX
Name: Ahnna Westrich	**Title:** Staff Geologist	**Organization:** Camp, Dresser, and McKee, Inc. (CDM)

Individual Contacted:

Name:	**Title:** Resident	**Organization:** "Santa Visits Alviso" Foundation
Telephone No: NA **Fax No:** NA **E-Mail Address:** NA	**Street Address:** Michigan Avenue **City, State, Zip:** Alviso, CA 95002	

Summary of Conversation

The interviewee is a resident of Alviso and a member of the "Santa Visits Alviso" Foundation.

1. What is your overall impression of the project? (general sentiment)

- She's happy it's been capped/removed and that we'll continue to check up on it every 5 years.

2. What effects have site operations had on the surrounding community?

- She hasn't had any health issues and has lived there all her life. One perhaps related effect of having the ring levee removed is that the Guadalupe River levee had to be raised several feet.

3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.

- No.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

- No.

5. Do you feel well informed about the site's activities and progress?

- Hasn't heard much about it, maybe we could post flyers at the elementary and middle school and church. When asked what Spanish speaking paper is best for publicity, she said she's heard of *El Observador*.

6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- No comment.

INTERVIEW RECORD

Site Name: South Bay Asbestos		**EPA ID No.:** CAD980894885
Subject: Site Activities from 2005 to 2010	**Time:** Morning	**Date:** 7/13/10
Type: **X** Telephone ☐ Visit ☐ Other **Location of Visit:**	☐ Incoming	**X** Outgoing

Contact Made By:

Name: Eric Yunker	**Title:** EPA Region IX Superfund Project Manager	**Organization:** EPA Region IX
Name: Leana Rosetti	**Title:** EPA Region IX Superfund Community Involvement Coordinator	**Organization:** EPA Region IX
Name: Ahnna Westrich	**Title:** Staff Geologist	**Organization:** Camp, Dresser, and McKee, Inc. (CDM)

Individual Contacted:

Name:	**Title:** Works at this organization	**Organization:** Gardner Family Health Network, Inc. including the Alviso Health Center St. James Health Center

Telephone No: **Fax No:** NA **E-Mail Address:** NA	**Street Address:** 55 East Julian Street **City, State, Zip:** San Jose, CA 95112

Summary of Conversation

The interviewee works at the Gardner Family Health Network, Inc.

1. What is your overall impression of the project? (general sentiment)

- Haven't heard anything forever—since the last 5 year review. Out of site, out of mind—there are other issues that people are worried about now.

2. What effects have site operations had on the surrounding community?

- Removal of levy brought anxiety down. As time has gone by, no one really thinks about it anymore.

3. Are you aware of any community concerns regarding the site or its operation and administration? If so, please give details.

- No, community feels safer. No one seems to have health concerns regarding asbestos.

4. Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

- He doesn't live in the community so doesn't know.

5. Do you feel well informed about the site's activities and progress?

- Not really, hasn't heard much at all about the site; but maybe that's because there's no problem. There is curb/street digging and construction going on, but who's monitoring that? They say there's construction going on, but they don't mention asbestos; people also don't think to ask. Is this even a concern? It would help to clarify this for the community.

6. Do you have any comments, suggestions, or recommendations regarding the site's management or operation?

- People are not aware of what they should be watching out for—construction, etc. Maybe EPA could refresh people's memories of where dirt disturbance could be a problem; for example, maybe it's just the areas that were capped, and point out where those are.

Appendix E
ARARs Review Technical Memorandum

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CDM

Memorandum

To: *File*

From: *Ed Song*
Yash Nyznyk

Date: *August 9, 2010*

Subject: *South Bay Asbestos Superfund Site, San Jose, CA*
Third Five Year Review Report
ARARs Review Memorandum

This memo discusses the results of the Applicable or Relevant and Appropriate Requirements (ARARs) review performed for the South Bay Asbestos (SBA) Superfund Site Third Five Year Review (FYR) Report.

The purpose of this ARARs review is to determine whether laws, regulations, or guidance promulgated since approval of site Records of Decision (RODs), ROD Amendments, or Explanations of Significant Difference (ESDs) alter the determination of the remedy's protectiveness of human health and the environment. The preamble to the National Contingency Plan (NCP) states that remedy selection decisions are not to be reopened unless new or modified requirements call into question the protectiveness of the selected remedy (55 CFR 8757, March 8, 1990). This is interpreted to mean generally that ARARs are frozen at the time of remedy approval. Changes to ARARs where necessary can be memorialized in ROD Amendments or ESDs.

A review of ARARs and since-promulgated laws, regulations, and guidance was conducted to determine whether the ARARs selected for the site remedies continue to be protective of human health and the environment.

The following documents were reviewed for ARARs:

- ROD for OU-1 approved September 29, 1988 (EPA, 1988)
- ROD for OU-2 approved September 29, 1989 (EPA, 1989) (selecting Alternative 2)
- ROD Amendment for OU-1 approved June 26, 1991 (EPA, 1991)
- ESD for OU-1 approved October 18, 1993 (EPA, 1993)

- Preliminary Close Out Report for OU-1 and OU-2 (EPA, 1998)
- Second Five-Year Review for South Bay Asbestos Site conducted in September 2005 (EPA, 2005)

ARAR Background

Section 121(d) of CERCLA requires that remedial actions implemented at CERCLA sites attain any federal or more stringent state environmental standards, requirements, criteria, or limitations that are determined to be ARARs.

Applicable requirements are those cleanup standards, criteria, or limitations promulgated under federal or state law that address the specific situation at a CERCLA site. If a requirement is not applicable, the requirement is evaluated to determine whether it is relevant and appropriate. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, while not applicable, address problems or situations sufficiently similar to the circumstances of the proposed response action and are well-suited to the conditions of the site. The criteria for determining relevance and appropriateness are listed in Title 40, Code of Federal Regulations (CFR), Section 300.400(g)(2).

Pursuant to EPA guidance, ARARs generally are classified into three categories: chemical-specific, location-specific, and action-specific requirements. These categories of ARARs are defined below:

- **Chemical-specific ARARs** include those laws and requirements that regulate the release to the environment of materials possessing certain chemical or physical characteristics or containing specified chemical compounds. These requirements generally set health- or risk-based concentration limits or discharge limitations for specific hazardous substances. If, in a specific situation, a chemical is subject to more than one discharge or exposure limit, the more stringent of the requirements should generally be applied.

- **Location-specific ARARs** are those requirements that relate to the geographical or physical position of the site, rather than the nature of the contaminants. These requirements may limit the placement of remedial action features, and may impose additional constraints on the cleanup action. For example, location-specific ARARs may refer to activities in the vicinity of wetlands, endangered species habitat, or areas of historical or cultural significance.

- **Action-specific ARARs** are requirements that apply to specific actions that may be associated with site remediation. Action-specific ARARs often define acceptable handling, treatment, and disposal procedures for hazardous substances. Examples of action-specific

ARARs include requirements applicable to landfill closure, wastewater discharge, hazardous waste disposal, and emissions of air pollutants.

To-be-considered (TBC) criteria are defined in 40 CFR 300.400(g)(3). TBCs are non-promulgated criteria, advisories, guidance, and proposed standards issued by federal or state governments that may provide useful information or recommended procedures for remedial action.

ARAR Review Results

Review of the ARARs has determined no substantive regulatory changes since the previous FYR and no changes to site conditions that would warrant additional ARARs. Discussed below are regulations that were examined to determine applicability to the SBA Site.

Asebestos

Because there were no health-based standards available for asbestos in soils at the time of the 1989 ROD, EPA used a quantitative risk characterization instead of ARARs to determine exposure scenarios for the site. The quantitative studies found that the most significant risk to human health came through the inhalation pathway for asbestos that may result from soil disturbance. Based on the then-current detection limit for asbestos, EPA established a remediation goal for the SBA Site of less than 1% asbestos in soil as determined by polarized light microscopy (PLM), described in Appendix I of the 1989 ROD (EPA, 2005).

With the issuance of the OSWER Directive 9345.4-05 ("Clarifying Cleanup Goals and Identification of New Assessment Tools for Evaluating Asbestos at Superfund Cleanups" Memo) in August 2004, EPA expressed its intent to address the limitations posed by the 1% asbestos in soil threshold. Recent data provided evidence that soil and debris containing asbestos at significantly less than those levels could still release unacceptable air concentrations of asbestos. Thus, the memo indicated that EPA Regions should develop risk-based, site-specific action levels to determine if response actions should be taken when materials containing less than 1% asbestos are found on a site; however, the Directive did not carry any enforceable regulation changes (EPA, 2004).

Following OSWER Directive 9345.4-05, EPA developed and released the *Framework for Investigating Asbestos-Contaminated Superfund Sites* (September 2008) and *Assessing Protectiveness for Asbestos Sites: Supplemental Guidance to Comprehensive Five-Year Review Guidance* (October 2009). These documents provide a framework for investigating and characterizing the potential for human exposure from asbestos contamination. In particular, *Assessing Protectiveness for Asbestos Sites* recommends that areas not previously remediated due to being under the 1% asbestos threshold should be re-evaluated if current or reasonably anticipated future activity at the site could result in human exposure to airborne asbestos.

Title 27 Requirements

The 1989 ROD requires placement of deed restrictions as institutional controls on former landfills at the site to protect the integrity of the landfill caps. Less than one year after selection of the 1989 ROD remedy, the new Title 27 land use regulations that govern post-closure activities at former landfills were promulgated. These Landfill Closure Regulations are currently being implemented at all site landfills by the local enforcement agency (LEA). To date only one capped landfill at the site has had the ROD-required deed restriction placed on its title – the Legacy Tech Park portion of the Santos Landfill.

For the Marshland Landfill, EPA has determined that the existing State regulations (Title 27) provide adequate long-term controls to ensure the integrity of the cap. The landfill has been regulated by the Regional Water Quality Control Board (Water Board) as a Class III landfill and is subject to the waste discharge requirements of the Water Board which address closure and O&M. The requirements of the California State Integrated Waste Management Board under Title 27 have also been implemented by the LEA at the Marshland Landfill, including a Post-Closure Land Use Plan and quarterly inspections.

For the Summerset Mobile Estates portion of Santos Landfill and the St. Claire Landfill, EPA is also evaluating the use of Title 27 Landfill Closure Regulations to satisfy the ROD requirement for a deed restriction. EPA will determine whether the controls provided through Title 27 regulations are as protective of the cap as the proprietary control that would be met through deed restrictions (EPA, 2005).

The Title 27 Landfill Closure Regulations were identified as TBCs and were included in Table 6-4 of the Second Five Year Review Report (EPA, 2005).

References

United States Environmental Protection Agency (EPA). 1988. *EPA Superfund Record of Decision: South Bay Asbestos Site EPA ID: CAD980894885 OU 01 Alviso, California.* September 29.

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