



**PUBLIC MEETING NOTICE FOR  
DRAFT U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) A) BROWNFIELD  
CLEANUP GRANT PROPOSALS FOR THE 3600 BLOCK OF RIO LINDA  
BOULEVARD AND B) COMMUNITY-WIDE ASSESSMENT GRANT PROPOSAL FOR  
NORTH SACRAMENTO**

SHRA and the City of Sacramento will be holding an Open House to present and gather community input on the grant proposals. The Open House will be held on Monday, December 19<sup>th</sup> from 4:00 – 6:00 PM at the Robertson Community Center located at 3525 Norwood Avenue.

Cleanup Grant Proposals for the 3600 Block of Rio Linda Boulevard

Notice is hereby given that the Sacramento Housing and Redevelopment Agency (SHRA) has prepared three draft Brownfield Cleanup Grant Proposals and associated Analysis of Brownfields Cleanup Alternatives (ABCA) for the 3600 Rio Linda Boulevard block in the Del Paso Heights neighborhood of Sacramento, CA.

The Open House will offer an opportunity for the community to find out more about the project and grant proposals, how to get involved with the project and potential brownfield job training opportunities.

The draft grant proposals and ABCAs are available for review online at [www.shra.org](http://www.shra.org). You may also request a copy by email by contacting Brad Satterwhite at [bsatterwhite@shra.org](mailto:bsatterwhite@shra.org). If you wish to make comments on the draft proposals you may do so at the Open House or by submitting written comments no later than December 19, 2016 to Brad Satterwhite, SHRA, 801 12<sup>th</sup> Street, Sacramento, CA 95814.

Questions about the draft proposals may be directed to Brad Satterwhite at (916) 449-6242 or [bsatterwhite@shra.org](mailto:bsatterwhite@shra.org).

Community-wide Assessment Grant Proposal for North Sacramento

Notice is hereby given that the City of Sacramento intends to apply for a Community-wide Assessment Grant from the EPA. The focus area for the funds is the area bound by Northgate Boulevard on the west, the American River on the south and city limits on the north and east. If awarded, the grant funds will be used to conduct community outreach related to brownfields sites, perform Phase I and Phase II environmental site assessments and conduct reuse planning activities. Questions regarding the Community-wide Assessment Grant Application should be directed to Denise Malvetti at [dmalvetti@cityofsacramento.org](mailto:dmalvetti@cityofsacramento.org).

## 1. COMMUNITY NEED

### a. Targeted Community and Brownfields

*Community and Target Area Descriptions:* The subject site is located in the Del Paso Heights neighborhood of Sacramento; the Capital of the State of California and one of the most diverse cities in the nation. The history of Del Paso Heights can be traced back to Spanish land grants of the 1840's. At one time, the area was part of Rancho Del Paso—a privately-owned ranch of just more than 1,000 acres. Prior to World War II, the ranch was sold to and subdivided by the North Sacramento Land Company, initiating the area's urbanization.

During the Second World War the community grew substantially due to its location between the former McClellan Air Force Base (McClellan) and downtown Sacramento. However, growth during this time did not occur strategically, creating a disconnected urban fabric with significant gaps in developed areas. As the wartime economy wound down and highways were built diverting traffic away from the area Del Paso Heights began to show signs of economic stress and disinvestment.

To combat the decline and disinvestment in the community, the Del Paso Heights Redevelopment Area was adopted in 1970 and the Sacramento Housing and Redevelopment Agency (SHRA) invested millions in infrastructure and facility improvements, mixed-income housing and environmental cleanup of abandoned gas station and dry cleaner sites. However, in 2012, redevelopment programs were eliminated in California cutting off access to local funds used for investment in the community. With the loss of redevelopment, the City of Sacramento and SHRA have placed a renewed focus on revitalization of the neighborhood with the designation in 2015 of a "Promise Zone"; creating federal, state and local partnerships meant to improve quality of life in Sacramento's most vulnerable areas, including Del Paso Heights.

*Demographic Information and Indicators of Need:* Despite SHRA's investments, the neighborhood still struggles with physical, social and economic issues. However, Del Paso Heights is considered an underserved neighborhood with a strong sense of community offering affordable housing with the potential for growth and investment. The neighborhood has a strong housing market with over 30 homes having sold in the last six months alone according to [www.redfin.com](http://www.redfin.com) and has an estimated demand for 389 single family homes with a majority of the demand coming from qualifying incomes less than \$110,000 (according to a 2015 Sustainable Design Assessment Team (SDAT) report prepared for the City of Sacramento by the American Institute of Architects). The median listing price for a home has risen 47% since August 2015 according to [www.realtor.com](http://www.realtor.com). The neighborhood also currently has an occupancy rate of 87% (SDAT). It is also one of the most diverse neighborhoods in Sacramento, with an almost even demographic split among white, black, Latino and Asian residents, but with over 50% of the total population being considered minority.

EPA Cleanup Grant - Narrative

3605 Rio Linda Boulevard and 810 Roanoke Avenue, Sacramento, CA 95838

	<b>95838</b>	<b>Sacramento</b>	<b>California</b>	<b>National</b>
Population	<b>35,935</b>	476,075	38,066,920	314,107,084
Unemployment	<b>16%</b>	14%	11%	9%
Poverty Rate	<b>31%</b>	22%	16%	16%
Percent Minority	<b>60%</b>	50%	38%	26%
Median Household Income	<b>\$39,481</b>	\$50,013	\$61,489	\$53,482
Median Home Value	<b>\$133,600</b>	\$228,400	\$371,400	\$175,700
Housing Units built 2000 or later	<b>13%</b>	16%	13%	15%
Monthly Costs as % of HH Income (35% or more)	<b>42%</b>	32%	36%	26%
Educational Attainment, Bachelor's Degree or Higher	<b>10%</b>	29%	31%	29%
Receiving Food Stamps/SNAP benefits in past 12 months	<b>23%</b>	13%	9%	13%

Source: All data is from the 2010 – 2014 U.S. Census American Community Survey (ACS)

*Brownfields and Their Impacts:* Addressing contamination and building housing at this site, known as the Rio Linda Superblock, has been a priority of the community for over two decades. A report to the Sacramento City Council in 1989 noted that businesses located at the Rio Linda Superblock had led to the spread of blight and deterioration of the surrounding residential community. At the direction of the former Del Paso Heights Redevelopment Advisory Committee (DPH-RAC), Sacramento Housing and Redevelopment Commission (SHRC) and Sacramento City Council; SHRA began acquiring parcels, including the subject site, in the early 1990’s for the development of single family homes. Site assembly and environmental testing continued through the 2000’s. A Corrective Action Plan (CAP) was approved by the Sacramento County Environmental Management Department (SCEMD) in 2010. In 2011, a significant amount of soil was removed and stockpiled on-site. However, further testing determined that the contamination was more extensive than originally thought and remediation was halted. No activity has occurred at the site since then.

Several setbacks stalled the project over the last 20 years, including lengthy acquisition processes, elimination of redevelopment in California and serious environmental contamination from illegal dumping and previous uses such as a gas station, auto body shop and a trucking company. The main contributor to the heavy metals contamination is associated with an on-site waste debris field from an unknown source.

The site is adjacent to the Woodhaven Senior Apartment Community, the Gran Casa Linda public housing authority community, Del Paso Heights Library, a mix of newer and older single-family homes, a Sacramento Regional Transit bus line and the Sacramento Northern Bike Trail. The area is zoned as “Multi-Unit Dwelling Zone (R-2A)” to accommodate higher density residential development.

## **b. Welfare, Environmental and Public Health Impacts**

*Welfare Impacts:* People move to and stay in Del Paso Heights because of strong family and community ties and affordable housing prices. Many members of the community are engaged and committed to their community. However, Del Paso Heights still faces many challenges including an inequitable pattern of growth, a high rate of poverty and high unemployment. According to a 2015 Sacramento Business Journal article the site is in a zip code (95838) that ranks 88<sup>th</sup> out of 90 zip codes in the region based on factors such as median household income, median home value, adults with advanced degrees and poverty rate. With the opening of nearby Highway 160 and closure of McClellan, the community became more economically and physically isolated. Many former gas stations and dry cleaners were abandoned, including 12 Leaking Underground Storage Tank (LUST) sites and one dry cleaner site within a mile of the site.

The neighborhood also lacks basic retail and services that most other neighborhoods have. According to the USDA, Del Paso Heights is considered a “food desert”. Food deserts are areas characterized by a food imbalance between fast food restaurants and stores or markets offering healthy food options. The site is located in a census tract where a significant number of residents are more than a ½ mile from the nearest supermarket.

*Cumulative Environmental Issues:* Addressing contaminated sites in Del Paso Heights had been a priority of the DPH-RAC since its inception in 1970. As a result, SHRA, until the elimination of redevelopment, had spent significant resources addressing contamination and blighted properties throughout the neighborhood. Still, Del Paso Heights is one of the most burdened and vulnerable communities impacted by brownfields, ranking in the top 10% in the State of California, according to the *CalEnviroScreen* Health Screening Tool, a mapping tool that helps identify California communities that are most affected by many sources of pollution and where people are often especially vulnerable to pollution’s effects.

Del Paso Heights is also one of three target areas of the Greater Sacramento Region Environmental Justice Initiative (Initiative), a partnership between local non-profits through support from the California Wellness Foundation and the University of California, Davis Center for Regional Change (CRC). The Initiative produced a 2013 report called “From Wasted Spaces to Healthy Places: Transforming Brownfields and Vacant Spaces in Sacramento.” The report highlighted the environmental justice inequities in Del Paso Heights, listing the community in the top tier of the following indicators:

- CalEnviroScreen Environmental Health Burden Screening Score
- Sum of Hazardous Waste Facilities and Generators by Zip Code for the Region
- Leaking Underground Storage Tank Sites by Zip Code for the Region.

Other cumulative environmental issues impacting the community include:

- Students from the nearby Harmon Johnson Elementary School were relocated six years ago because its original site was too close to an underground natural-gas storage facility and high-pressure lines. Pacific Gas and Electric Company listed the pipeline among its top 100 pipeline segments in need of monitoring, replacing or upgrading because of safety concerns.
- Impacts caused by the closure of McClellan are still being felt today as it not only impacted the community economically and physically, but also environmentally as it was declared a Superfund site 1987, with cleanup and revitalization efforts still underway to this day.

*Cumulative Public Health Impacts:* Cumulative public health impacts to Del Paso Heights include a disjointed urban fabric, regional poor air quality, disproportional amount of brownfield sites and abandoned gas stations, major underground storage facilities and supply pipelines and poor access to food.

This subject site is one of the biggest contributing factors to public health impacts in the community due to the size and scope of the project and its proximity to sensitive populations, including minorities, seniors and children. These populations are more severely impacted in this neighborhood because the subject site is adjacent to the Woodhaven Senior Apartment Community, the Gran Casa Linda public housing authority community, Del Paso Heights Library, and Sacramento Northern Bike Trail.

Due to continued trespassing on the subject site, there has been an increased exposure to the lead in the shallow soil. Analytical results show that the soil contains lead and cadmium at concentrations that exceed California Human Health Screening Levels (CHHSLs) for residential use. According to the CDC, exposure to even low levels of lead by children can cause adverse cognitive, cardiovascular and immunological effects.

The site is proposed for the development of affordable single-family homes which would benefit both existing and new residents as the site enjoys and would enhance access to the Sacramento Northern Bike Trail and the Sacramento Regional Transit bus line that connects the site to a nearby light rail station. Additionally, the subject site will no longer be a source of crime and blight to the neighborhood.

A 2015 report, "Captializing Environmental Justice in the Sacramento Region: Building a Strategic Framework for Regional Action" prepared by the CRC, identifies Del Paso Heights as one of three neighborhoods that is more severely impacted by environmental justice related issues than the region as a whole. The report documents cumulative environmental hazards and social vulnerabilities of low-income communities and communities of color in the region. The report notes that Del Paso Heights is ranked in the highest percentiles for linguistic isolation, poverty unemployment and asthma cases as compared to the state as a whole. The report further points out that Del Paso Heights is in the 70<sup>th</sup> percentile for cleanup sites and 60<sup>th</sup> percentile for particulate matter as compared to the region.

### **c. Financial Need**

*Economic Conditions:* The private sector has not been interested in the cost and liability associated with cleaning up brownfield sites in the neighborhood which has created a major barrier to revitalization efforts. As a result, the community relies heavily on public investment. Additionally, up until recently there has not been a dedicated champion for revitalization efforts since the loss of the DPH-RAC.

Prior to the loss of redevelopment in California, redevelopment tax-increment financing was the main financing tool for SHRA to close funding gaps caused by perceived or actual site contamination. Through the use of redevelopment tax-increment financing, SHRA had spent over \$1 million on planning, acquisition, assessment and remediation of the Rio Linda Superblock. SHRA has also invested significant staff resources while working on site assembly, negotiating with property owners, managing environmental contracts, coordinating with the local oversight agency and updating the community on project progress.

SHRA has struggled with how to finance completion of the project since it was halted in 2011. SHRA no longer has a local funding resource for brownfields cleanup and must rely on outside funding sources such as grants from various State of California agencies, the U.S. Department of Housing and Urban Development (HUD) or the U.S. Environmental Protection Agency (EPA). With that said, SHRA, in partnership with the City of Sacramento, is committed to completing this project with as many sources of funding as it can. SHRA has identified limited additional resources that can be used as leverage to the EPA grant below in the *Ability to Leverage* section. These resources combined with funding from the EPA will make the remediation project financially feasible.

*Economic Effects of Brownfields:* The historic development pattern of the community coupled with the loss of McClellan left significant gaps in the fabric of the neighborhood as ranchettes were parceled off for smaller lots and interstates were built to bypass the area. Del Paso Heights was left with a 13% vacant parcel rate and numerous brownfield sites that formerly catered to travelers which has placed a heavier burden on the community in terms of cost and time it takes to return sites to viable use.

The economic effects include the amount of resources exhausted to date, loss of property tax revenue, negative impact on adjacent property values, on-going site maintenance and to some extent the loss of customer base for potential neighborhood-serving retail. It is estimated that since the infill site has been vacant for at least 20 years there has been a loss of up to \$560,000 in property tax revenue to date. According to SmartAsset's online Property Tax Calculator, the entire project could generate approximately \$28,000 in annual property taxes if developed with the proposed 21 homes at the median home value of \$140,000.

Furthermore, a 2001 National Vacant Properties Campaign study in Philadelphia found that houses within 150 feet of vacant or abandoned property experienced a net loss of \$7,627 in

value. With 12 homes directly adjacent to the subject site this results in a potential net loss of up to \$91,000 in property values.

Finally, it is estimated that the vacant site is costing SHRA \$5,000 - 10,000 a year for maintenance and fencing. The site has remained fenced for over five years costing SHRA \$25,000 - \$50,000 to date.

## **2. PROJECT DESCRIPTION AND FEASIBILITY OF SUCCESS**

### **a. Project Description**

*Existing Conditions:* The subject site includes two parcels that are part of an 11 parcel, 3.82-acre redevelopment project known as the Rio Linda Superblock, the 2nd largest infill site in Del Paso Heights. According to a number of Phase I and II Environmental Site Assessments (ESAs) conducted between 1992 and 2016, the subject parcels have always been vacant; however, past adjacent uses within the Rio Linda Superblock included a gas station, auto body shop, trucking company, tavern and a now defunct railroad. The ESAs indicated a debris field spread across the site, consisting of a conglomeration of rubber hoses and tubing, woven materials, thermal wrapping materials, springs, fabrics, batteries and metal debris, reportedly from illegal dumping. The soils within the debris field caused the surrounding soils to turn grey. The soil is also impacted by a range of metals and hazardous substances including lead, arsenic and cadmium that are above California Human Health Screening Levels (CHHSL) for residential/unrestricted land use which has an 80 mg/kg cleanup goal under the CHHSLs. Of the 91 samples taken, 54% were above the residential CHHSLs. 24% of the samples were so high that they were even above the commercial/industrial CHHSL goal of 320 mg/kg.

Waste characterization analyses of Site soil found lead exceeding the California hazardous waste criteria, and in some cases federal (RCRA) hazardous waste criteria, indicating that the soil will require disposal at a special hazardous waste landfill if removed from the property. Disposal to a special hazardous waste landfill can cost as much as \$220/ton.

It is estimated there is as much as 1,255 tons of impacted soil on the subject parcels and 6,620 tons across the entire Rio Linda Superblock that must be excavated across the site to achieve unrestricted land use and allow for residential development.

*Proposed Cleanup Plan:* Remediation of the subject site is consistent with the attached Analysis of Brownfields Cleanup Alternatives (ABCA). The original CAP approved in 2010 included excavation and disposal of all soil until residential CHHSLs were achieved. However in 2011, confirmation samples taken during interim soil removal activities indicated that the soil contained significantly higher contamination than originally thought and the project was halted. It has since been determined that the most cost effective method of remediating the site is treating (lead stabilization) the contaminated soil on-site to reduce its level of contamination, allowing for disposal at a lower-cost landfill. This method, listed as Alternative 3 in the ABCA, includes mechanical mixing of lime/phosphate with excavated soil.

Bench scale testing of the treatment of soil would need to be conducted to ensure the lead stabilization is effective in reducing to the leachability of lead to levels below hazardous waste criteria for disposal as a non-hazardous waste at an appropriate landfill. Lead stabilization activities in a residential area would require aggressive dust control of lime to control fugitive emission of the caustic material to the neighborhood. For health and safety purposes, perimeter air sampling and analysis, dust monitoring and meteorological monitoring will take place during and after excavation.

Treating the soil on-site is a deviation from the previously approved CAP. However, the main goal of the CAP is to remediate the site to residential CHHSLs which this alternative would still accomplish. Any deviations from the original CAP would be coordinated with SCEMD, the oversight agency for the project.

*Alignment with Revitalization Plans:* Every five years the DPH-RAC developed a 5-Year Implementation Plan that included the priorities and goals of the community, proposed projects, programs and expenditures, all with the primary purpose of alleviating blighting conditions in the neighborhood. The 2009-2014 Redevelopment Plan called out this project as a top priority noting that completion of this project would result in reversing depreciated property values and eliminating factors hindering viable use.

The proposed project is consistent with the City of Sacramento's General Plan and Housing Element. A key component of the General Plan and Housing Element is a shift toward infill development with a focus on sustainable and complete neighborhoods and providing homeownership opportunities for modest income families. The site is listed in the vacant lot residential land inventory and is identified as an adequate site because it has existing services, city's existing water and sewer capacity can accommodate its share of regional housing need within planning period.

The proposed project is also consistent with the City of Sacramento's 2007 Sustainability Master Plan and 2012 Climate Action Plan by promoting sustainable growth patterns and infill development, creating a more complete neighborhood and developing along existing transit lines, creating a "Healthy Urban Environment" through restorative redevelopment, cleaning brownfields for future use and reducing vehicle trip generation and the use of fossil fuels by allowing for redevelopment of an infill site.

The project is also consistent with the Livability Principles of the interagency partnership between HUD, DOT and EPA by:

- Promoting equitable and affordable housing
- Supporting existing communities by targeting federal funding toward existing communities and coordinate and leverage federal policies and investments
- Valuing communities and neighborhoods



SHRA in partnership with future non-profit developers will take advantage of the various tools geared towards infill development. For example, since 2002, the City of Sacramento has offered its Infill Strategy that creates a more streamlined regulatory process and provides flexible standards, pre-approved house plans and reduced or waived fees for infill development projects. The Infill Strategy also identifies target areas, including Del Paso Heights, for focusing its financial infill incentives.

As a Sustainable Communities Challenge Grant recipient and a leader in community revitalization, SHRA understands the positive impact that quality and equitable infill development can have on a community. This was recognized by HUD this past September when they awarded SHRA a Choice Neighborhoods Implementation Grant, which builds on the recognition by 13 federal agencies that partner as part of the Promise Zone.

## **b. Task Descriptions and Budget Table**

### *Task Descriptions:*

Task 1: Engineering/Sampling/Reporting: This task includes reporting by the consultant and contractor(s), perimeter air sampling and analysis, dust monitoring, meteorological monitoring, confirmation sampling and analysis during and after excavation. This task also includes permitting, oversight fees, closure reporting and coordination with SCEMD and necessary updates to the ABCA and SWPPP by the contractor or consultant. The cost estimate for this task is \$4,500 in contractual costs. This task will be paid fully with SHRA's cost share. Outputs include: Final ABCA, closure report to SCEMD and a No Further Action Letter from SCEMD.

Task 2: Project Management and Oversight: This task includes SHRA project and consultant/contractor management and oversight including contracting, invoicing, procurement, permitting, reporting, fencing and coordination with SCEMD. The task also includes costs for management of Memorandum of Understandings (MOU) with Mutual Assistance Network (MAN) and the Sacramento Employment and Training Agency (SETA), see *Community Engagement and Partnerships* section. The cost estimate is \$5,250 for SHRA personnel (\$3,938) and benefits (\$1,313). This task will be paid fully with SHRA's cost share. Outputs include: contracts with consultants/contractors, invoices, reports and reimbursement requests to EPA, agreements with MAN and SETA.

Task 3: Memorandum of Understanding with Mutual Assistance Network (MAN): This task includes the costs associated with our MOU with MAN for its role in serving as SHRA's lead community-based organization throughout the project. MAN will provide a variety of services to SHRA which are detailed in the *Community Engagement and Partnerships* section. The cost estimate for this task is \$4,725 in contractual costs and would be fully funded through SHRA's cost share.

Task 4: Excavation, Treatment and Disposal: This task assumes that the selected alternative will be Alternative 3. This task includes contractual costs for excavation and on-site

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treatment/lead-stabilization by a licensed contractor(s) until confirmation sampling confirms that residential CHHSLs have been achieved. On-site treatment of contaminated soil with lime/phosphate will allow for some of the soil to be disposed of at a lower-cost landfill. Soil will then be loaded on to trucks and transported to a licensed landfill. The task also includes bench scale testing of the treatment of soil would need to be conducted to ensure the lead stabilization is effective in reducing to the leachability of lead to levels below hazardous waste criteria for disposal as a non-hazardous waste at an appropriate landfill. Finally, SHRA with assistance from SETA anticipates covering costs incurred by the consultant/contractor for the job training position(s). The cost estimate for this task is \$227,740 and would be covered through the full EPA grant and \$25,525 in cost share. The remaining costs will be covered with leveraged funds. This estimate assumes disposal at different level landfills resulting with a per ton average cost of approximately \$193. Output includes: Excavation, treatment and removal of approximately 1,255 tons of contaminated soils.

### *Budget Table:*

<b>Budget Categories</b>	<b>Task 1</b>	<b>Task 2</b>	<b>Task 3</b>	<b>Task 4</b>	<b>TOTAL</b>
Personnel		\$3,938			\$3,938
Fringe Benefits		\$1,313			\$1,313
Equipment					\$0
Contractual	\$4,500		\$4,725	\$225,525	\$234,750
<b>EPA TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$200,000</b>	<b>\$200,000</b>
SHRA Cost Match	\$4,500	\$5,250	\$4,725	\$25,525	\$40,000
<b>TOTAL COST</b>	<b>\$4,500</b>	<b>\$5,250</b>	<b>\$4,725</b>	<b>\$225,525</b>	<b>\$240,000</b>

Note: SHRA will cover any overages in the event project costs go over \$240,000.

### **c. Ability to Leverage**

Cleanup of the subject parcels is estimated at \$242,215 while cleanup of the entire Rio Linda Superblock is estimated at approximately \$1.28 million. SHRA has applied for two other EPA grants which would bring the total to \$720,000, including \$120,000 from SHRA for the required cost share. This leaves a gap in the amount of approximately \$560,000 for the preferred Alternative 3 or as much as \$690,000 if implementing Alternative 2. The City of Sacramento has committed to provide \$200,000 through an EPA RLF grant and the remaining leveraged funds would come from a combination of other federal resources administered by SHRA including:

- Community Development Block Grant (CDBG): SHRA receives approximately \$4 million annually in CDBG funds on behalf of the City of Sacramento. However, these funds must be used Citywide and are used for a variety of capital improvement, public service and housing projects.

- Neighborhood Stabilization Program (NSP): SHRA received NSP allocations in 2008 and 2011 as part of American Recovery and Reinvestment Act (ARRA). There is currently only approximately \$500,000 remaining to spend on NSP-eligible projects throughout the City of Sacramento. This project has been determined to be an eligible activity because it will result in affordable housing.

Please see Attachment D for the Letter of Commitment from the City of Sacramento and SHRA's proof of ability to leverage these funds for the project.

### **3. COMMUNITY ENGAGEMENT AND PARTNERSHIPS**

#### **a. Engaging the Community**

*Community Groups/Organizations:* Below are a list of community groups and organizations that SHRA provided the draft grant application and ABCA to for input.

- North Sacramento Community Coalition (NSCC): An alliance of non-profits focused on improving Del Paso Heights and surrounding neighborhoods.
- Mutual Assistance Network (MAN): A non-profit agency rooted in Del Paso Heights that combines direct work with community development and coordination to bring opportunities to the neighborhood.
- Sacramento Employment and Training Agency: The preeminent workforce development agency in Sacramento, SETA manages the Head Start program, Community Services Block Grant and Sacramento Works programs for Sacramento. Sacramento Works is a network of job centers providing a variety of services for both employers and job-seekers.
- Del Paso Heights Community Association: A non-profit that services a resource to inform and advocate for the quality of life in Del Paso Heights.
- Sacramento Employment and Economic Development Corporation (SEED): A community-based non-profit with a focus on facilitating health-based economic development and revitalization in disadvantaged neighborhoods.
- Promise Zone Sustainably Built Community Action Team: A partnership between various organizations including the California Arts Council, City of Sacramento Police Department, Habitat for Humanity and WalkSacramento.

*Community/Public Meetings:* SHRA staff presented the Rio Linda Superblock project on three separate occasions in the last three months. Comments from the meetings are provided in Attachment E.

- SHRA held an open house, jointly with the City of Sacramento, to present and gather community input on the proposed grant application and ABCA. The meeting was held on December 19<sup>th</sup> at the Robertson Community Center located near the subject site.
- SHRA presented the proposed grant application and ABCA to the North Sacramento Coalition on December 5<sup>th</sup>.

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- SHRA presented the project as part of its Vacant Lot Strategy report to the SHRC on September 21<sup>st</sup> and the Sacramento City Council on October 25th.

*Public noticing:* The proposal, ABCA and December 19<sup>th</sup> Open House were publicly noticed in the following ways:

- The Daily Observer, an African-American newspaper, on November 24, 2016 and December 8, 2016
- El Hispano on December 7, 2016
- SHRA website on November 18, 2016 and December 8, 2016
- SHRA main office building entrance and Facebook on December 8, 2016
- Promise Zone Website on December 6, 2016
- Posted on the local Councilmember's website on December 8, 2016
- Posted at the following nearby community centers:
  - Robertson Community Center where the Open House is located
  - Firehouse Community Center
  - Johnston Community Center
  - Arcade Community Center

For the protection of adjacent residents, the consultant will conduct perimeter air sampling and analysis, dust control and monitoring during and after excavation. A sign will be posted at the site providing contact for information for SHRA and MAN staff in case the community has questions or concerns during the project. See below for details on SHRA's partnership with MAN. Additionally, progress updates will be provided on SHRA's website and Facebook page and to the community organizations listed above.

### **b. Partnerships with Government Agencies**

SCEMD has regulatory oversight for this project on behalf of the State of California. Treating the soil on-site is a deviation from the previously approved CAP. Any deviations will be coordinated with SCEMD prior to the project commencing. The results of the cleanup will be submitted to SCEMD before site closure can be granted. Closure meetings are publicly noticed. A letter of commitment from SCEMD is attached to this proposal in Attachment C.

### **c. Partnerships with Community Organizations**

*Community Organization Description & Role:* MAN has committed to serving as SHRA's lead community-based organization throughout the project and SHRA is proposing to use a portion of its cost share and leveraged funds to support this effort. SHRA and MAN will enter into a MOU for services including:

- Contracting with neighborhood residents to be project liaisons
- Monitoring project activities and progress such as trespassing, worker-related issues, safety related concerns and health and safety related matters, such as dust control

- Handle any community inquiries or issues
- Monitoring and review of contractor documentation to ensure local hire goals are being tracked or followed
- If needed, serve on selection panel for any solicitation of contractors/consultants
- Post about the project/progress on their website and track progress with photos

*Letters of Commitment:* Please see the attached Letters of Commitment from MAN and SETA. SETA will be serving as our primary workforce development partner as described below. We have also reached out to NSCC about their role during the project.

#### **d. Partnerships with Workforce Development Programs**

SHRA is proposing to use a portion of its cost share and leveraged funds to support a brownfield job trainee(s) position for a community member that could work with hired consultants or contractors. SETA has offered to serve as SHRA's lead workforce development partner for this effort. SETA is willing to help develop language for any solicitations related to the project, locate and place a trainee (preferably from Del Paso Heights) and serve as a liaison with the City of Richmond, CA, a recent EPA Workforce Development and Job Training grantee.

Additionally, under Section 3 of the Housing and Urban Development Act of 1968, SHRA requires contractors and subcontractors to ensure that employment opportunities are directed to public housing residents and other low-income persons, to the greatest extent possible. Contractors and sub-contractors are required to report on their efforts. The goals of the program include:

- At least 30 percent of new hires meet these requirements.
- At least 10 percent of the contract dollar amount for subcontracts must meet these requirements.

As noted above, SHRA has partnered with MAN to help track progress as it relates to Section 3.

### **4. PROJECT BENEFITS**

#### **a. Welfare, Environmental and Public Health Benefits**

The redevelopment proposal for the site is 21 single-family homes for low- and moderate-income homebuyers. Redevelopment of the site would reconnect the neighborhood by filling in a sizeable gap in development and eliminate access to a blighted site. Furthermore, the creation of high quality affordable housing will also help in creating the needed rooftops to support increased service levels in transit and retail.

As stated in previous Del Paso Heights Redevelopment Area Implementation Plans this project has been a priority of the community for over 20 years. Furthermore, the importance of

redeveloping this site has been voiced on numerous occasions to the SHRC and City Council, including in a 1989 staff report which stated this project would meet the following goals:

- Improve the neighborhood environment and image;
- Eliminate blighted and blighting conditions; and
- Increase and develop affordable housing.

The near-term benefits of this project include:

- Remediation of the largest known brownfield site and 2<sup>nd</sup> largest infill site in Del Paso Heights
- Elimination of potential exposure pathways to sensitive populations due to trespassing by children from the surrounding homes
- Elimination of the liability of vacant lots for SHRA

The long-term benefits include:

- Elimination of a blighted and vacant property that has been the subject of illegal dumping and trespassing
- Development of new housing stock for low- and moderate-income families
- Potential for increased ridership along the adjacent bus route
- Safer access to the adjacent Sacramento Northern Bike Trail for nearby residents

## **b. Economic and Community Benefits**

Catalyst Commercial, on behalf of the City of Sacramento, recently completed a single family residential demand analysis which determined there is a demand in Del Paso Heights for 389 new homes with 76 of those being for families with household income under \$40,000. Based on those figures this project represents anywhere from 5 to 27 percent of the potential new homes needed in the neighborhood. Infill residential development can increase the neighborhood's customer base for neighborhood-serving retail which is currently underserved. Additional economic and community benefits of remediating the site and developing 21 affordable, single-family homes include:

- Over \$2,000,000 of investment in the community for pre-development and remediation related costs
- Over \$3,000,000 expected in affordable single-family home construction
- Up to \$28,000 in tax revenue and \$672,000 in local income annually
- Create or retain 65 short-term jobs and 13 permanent jobs annually

## **5. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE**

### **a. Audit Findings**

SHRA has no adverse audit findings. SHRA recently went through the following federal program audits without any adverse findings:

- 2015 U.S. Department of Housing and Urban Development Programs Single Audit (2 CFR Part 200), Macias Gini & O'Connell LLP
- HUD On-site Monitoring for the years 2013-2015, HUD Community and Planning Department Division
- Neighborhood Stabilization Program-3 Audit: HUD Community Planning and Development Division.

#### **b. Programmatic Capability**

SHRA is a nationally recognized housing and community development leader with significant and on-going experience partnering with governmental, non-profit, for-profit, public sector and philanthropic organizations on neighborhood revitalization and transformation projects. As the administrator of federal community development funds and the Housing Authority for both the City and Counties of Sacramento, SHRA is uniquely structured to bring together the financial resources and staff expertise to manage this project. Furthermore, SHRA has a system of checks and balances in place in order to effectively and efficiently manage grants. The organizational structure and key staff to be utilized for successful management of this grant is as follows:

Project Director (PD), Brad Satterwhite: Mr. Satterwhite, Community Development Analyst II, has been with SHRA for over 10 years and will serve as the lead and main point of contact for this project. He will be responsible for directing support staff, coordinating with SCEMD and EPA, all contract and budget management and all reporting and reimbursement requirements.

He is highly qualified to oversee the management of this grant. He is part of the Development and Federal Programs Department and currently oversees several HUD grant programs. Additionally, he has managed over 60 environmental assessment and remediation projects totaling over \$7.5 million dollars. He has also written and managed three successful State of California brownfield grant applications totaling more than \$1 million dollars.

*Wayne Whitley*, Procurement Services Supervisor, is responsible for ensuring compliance with contract and procurement laws and regulations. He assists with the consultant/contractor solicitation process from start to finish.

*Greg Walter*, Accountant, is the lead accountant for special grant projects. He assists with invoicing and reimbursement requests.

*David Levin*, General Counsel, provides an advisory role on a number of issues including legal, contract and site access related matters.

## EPA Cleanup Grant - Narrative

3605 Rio Linda Boulevard and 810 Roanoke Avenue, Sacramento, CA 95838

*Greg Fasiano*, Principal, NCE, will provide oversight, engineering and reporting assistance to SHRA and oversee the selected remediation contractor and coordinate with SCEMD. NCE has served as the environmental consultant lead on this project since 2008. They have been selected to SHRA's on-call environmental consultant list the last three rounds.

Additional outside assistance will be provided by MAN and SETA as outlined in the *Community Engagement and Partnerships* section. SHRA has procedures in place to procure services consistent with EPA procurement rules should any additional expertise be necessary.

### **c. Measuring Environmental Results: Anticipated Outputs and Outcomes**

SHRA, with assistance from NCE, MAN and SETA will be able to sufficiently track, measure and evaluate progress in achieving outputs and outcomes which include:

#### *Outputs:*

- Execute an MOU with MAN for community-based organization related services
  - SHRA will track and evaluate project success
  - SHRA and MAN will track and evaluate whether local hire goals are being met
- Execute an MOU with SETA to help with our brownfield job trainee effort
  - Outreach efforts to community for job trainee position(s)
  - SHRA and SETA will track and evaluate success of the job trainee effort
- SHRA and NCE will finalize the ABCA
- NCE will prepare and file a closure report from SCEMD
- SHRA will receive a No Further Action Letter (NFA) from SCEMD
- Removal of all contaminated soil in order to reach residential CHHSL goals, as reported in the closure report and NFA
- Progress towards achieving outputs will reported to EPA
- Leverage funds of approximately \$600,000 from the City of Sacramento and various SHRA funding sources

#### *Outcomes:*

- Making a 3.82 acre site suitable for infill development
- Elimination of exposure to lead contaminated soil
- Elimination of a potential dumping location
- Development of 21 affordable, single-family homes
- Leverage of over approximately \$3,000,000 in development costs

### **d. Past Performance and Accomplishments**

#### **d.i. Currently or Has Ever Received an EPA Brownfields Grant: N/A**



**d.ii. Has Not Received an EPA Brownfields Grant but has Received Other Federal or Non-Federal Assistance Agreements**

SHRA has not received an EPA Brownfields grant directly, but works closely with the City of Sacramento, which has received seven EPA brownfield grants since 1995. City staff will be able to provide technical assistance to SHRA, if needed. Below is a list of recent brownfield grants that SHRA was successfully awarded and managed. SHRA has remained compliant with all oversight agency and grant requirements including budget, timeline, reporting and reimbursement requests.

El Monte Triangle: SHRA received a California State Water Resources Control Board (SWRCB) Cleanup and Abatement Account grant in 2010 in the amount of \$794,324 to address groundwater contamination impacting a 23 acre site in the former North Sacramento Redevelopment Area. The grant was a culmination of over twenty years of various studies prepared by SHRA and the City of Sacramento. The grant has been amended twice for time extensions to allow for additional operation and maintenance of the soil vapor extraction (SVE) system. The SVE system has reduced potential vapor intrusion and impacts to groundwater having removed 4,156 pounds of volatile organic compounds (VOCs) to date. The final report for this project has been submitted and project closeout is underway.

La Valentina: Vacant for over 20 years, this 1.23 acre site was contaminated with high levels of lead, mercury and arsenic from previous auto repair businesses. In 2010 SHRA received a California Recycle Underutilization Sites (CALReUSE) grant from the California Pollution Control Financing Authority in the amount of \$631,000. SHRA also contributed \$900,000 in tax increment financing to the project. In total, approximately 4,600 tons of contaminated soil was removed and remediation was completed in less than three months. The site now consists of 81 affordable apartments and commercial space on the ground floor. The project has received numerous awards including:

- Built Projects Winner, 2013 EPA Award for Smart Growth Achievement;
- Best Infill Project, Sacramento Business Journal; and
- Transit Oriented Development of the Year, Sacramento Regional Transit.

3601 Rio Linda Boulevard: SHRA received two grants totaling \$662,000 from the SWRCB Orphan Site Cleanup Fund for assessment and cleanup of a former gas station site located at the Rio Linda Superblock. TPH (Gas) was significantly reduced in the soil and groundwater and 1,432 tons of contaminated soil was removed. The site received closure from SCEMD in 2012.

**d.iii. Has Never Received Any Type of Federal or Non-Federal Assistance Agreements: NA**

**DRAFT Analysis of Brownfields Cleanup Alternatives  
Rio Linda Superblock  
Rio Linda Blvd & Roanoke Avenue  
Del Paso Heights - Sacramento  
Sacramento County, CA**



**Prepared On Behalf Of**  
**Sacramento Housing and  
Redevelopment Agency**

**Date**  
November 2016

**Project  
Number**  
487.24.55

Gregory L. Fasiano  
Principal

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ES-1 Parcel Map

## EXECUTIVE SUMMARY

The Sacramento Housing and Redevelopment Agency (SHRA) has performed Phase I and II assessments and implemented Interim Soil Removal Actions at a vacant infill site known as the Rio Linda Superblock located in Sacramento, Sacramento County, California (Site). The Site is planned for an affordable single-family housing development. The purpose of the Phase I/II and III efforts was to assess environmental concerns in order to facilitate acquisition and redevelopment opportunities at the Site. This Analysis of Brownfields Cleanup Alternatives (ABCA) report identifies and compares different cleanup scenarios to address contaminants identified (mainly lead and cadmium in near surface soils) during the Phase I/II investigations and as identified during Interim Soil Removal Actions performed in 2011. The cleanup scenarios are ranked on effectiveness, implementability, and cost.

The Rio Linda Superblock Project area is currently a vacant, roughly rectangular lot approximately 300 feet wide by 600 feet long, and approximately 3.82 acres in size. Within the Superblock Project area, SHRA currently owns the specific parcels where heavy metals are present in near surface soils requiring mitigation (the Site). That area encompasses approximately 3 acres (Figure ES-1). The proposed Site reuse is for the construction of affordable single- or multi-family dwelling unit(s). Cleanup of the Site to a residential standard will be required before planned reuse/redevelopment can begin.

The Site is located in an urban area with a mix of residential homes, apartment buildings, and commercial businesses. The area is zoned as "Multi-Unit Dwelling Zone (R-3A)" to accommodate higher density development. The following environmental concerns were identified during the Phase I/II investigations and interim removal efforts:

- Elevated levels of lead and cadmium are present above the human health screening level in surface and subsurface soil throughout the entire Site with the greatest concentrations in the western portion of the Site. A suspect source for elevated lead at the Site is an historical illegally dumped waste debris material from an unknown source.
- Waste characterization analyses of Site soil found lead exceeding the California hazardous waste criteria, and in some cases federal (RCRA) hazardous waste criteria, indicating that the soil will require disposal at an appropriate hazardous waste landfill if removed from the property.
- Interim soil removal actions in 2011 resulted in the successful removal of approximately 2,500 cubic yards of metals impacted soils. Confirmation sampling in these areas indicate that the residential cleanup standards (Residential California Human Health Screening Levels (CHHSLs)) have been achieved. Stockpiled soils remain on the Site as a result of funding limitations. Additional excavation of impacted soils is required to meet cleanup objectives. Subsequently excavated soils, and existing stockpiled soils, will likely require off-site disposal.

Table ES-1 summarizes three cleanup options identified to address these concerns in order to protect human health. The cost estimates presented in this ABCA are rough order-of-magnitude estimates prepared solely for the comparison of the identified alternatives and should not be used as design-level estimates.

Three options were evaluated for the Site based on effectiveness, implementability, and cost:

EXECUTIVE SUMMARY

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- No action
- Soil excavation, confirmation sampling, and off-site disposal as roughly 60% RCRA Hazardous Waste and 40% California Hazardous Waste. Remedial Units and current status are shown on Figure ES-2 (Figure ES-2).
- Excavation, confirmation sampling, lead stabilization and off-site disposal as 100% California Hazardous Waste.

**Table ES-1  
Summary and Comparison of Cleanup Alternatives**

Alternative	Actions	Effectiveness	Implementability	Approximate Cost 1	Considerations
1: No Action	None	Low	Easy	None	Unable to reuse Site for planned use.
2: Soil excavation, confirmation sampling, and off-site disposal	Excavate to a depth of 2 feet in areas where soil in excess of the ABCA screening level (80 milligrams per kilogram for lead). Perform confirmation soil sampling and analysis to confirm that the cleanup goals are achieved; characterize excavated soil for disposal in accordance with the receiving facility requirements, and transport excavated soil for disposal at the appropriate facility in accordance with applicable regulations.	High	Moderately Easy	\$1.41 million	Based on preliminary soil waste profile sampling, excavated soil is considered a mix of California and RCRA hazardous waste. The soil would be transported to an appropriate landfill. Limited space to stockpile soil may hinder implementation.

EXECUTIVE SUMMARY

<p><b>3: Lead stabilization excavation, confirmation sampling, and off-site disposal</b></p>	<p>Lead stabilization by the mechanical mixing of lime/phosphate with excavated soil that exceeds RCRA hazardous waste criteria. Excavate remaining portions of site where soil exceeds ABCA cleanup objectives (80 milligrams per kilogram for lead 1.7 mg/kg for cadmium) and perform confirmation soil sampling and analysis to confirm that the cleanup goals are achieved; characterize excavated soil for disposal in accordance with the receiving facility requirements, and transport excavated soil for disposal at the appropriate facility in accordance with applicable regulations.</p>	<p>Moderate to High</p>	<p>Difficult</p>	<p>\$1.28 million</p>	<p>Bench scale testing of the treatment of soil would need to be conducted to ensure the lead stabilization is effective (may potentially not be effective) in reducing the leachability of lead to levels below hazardous waste criteria for disposal as a non-hazardous waste at an appropriate landfill. Lead stabilization activities in a residential area would require aggressive dust control of lime to control fugitive emission of the caustic material to the neighborhood.</p>
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1.0 INTRODUCTION AND BACKGROUND

**1.0 INTRODUCTION AND BACKGROUND**

The Sacramento Housing and Redevelopment Agency (SHRA) tasked Nichols Consulting Engineers (NCE) to conduct an Analysis of Brownfields Cleanup Alternatives (ABCA) for the property located on Rio Linda Blvd between Roanoke and South Avenue in Sacramento, Sacramento County, California (see Plate ES-1). The project area is referred to by SHRA as the Rio Linda Superblock Project.

This ABCA has been prepared to provide a project status and to evaluate applicable remedial alternatives to mitigate the presence of elevated levels of cadmium and lead in surface and near surface soils on several parcels. Impacted Site parcel numbers and street addresses are provided below:

PARCEL	STREET NUMBER	STREET	OWNER
<b>EPA Cleanup Grant 1</b>			
251-0131-005	3605	Rio Linda Boulevard	SHRA
251-0131-016	810	Roanoke Avenue	SHRA
<b>EPA Cleanup Grant 2</b>			
251-0131-004	3633	Rio Linda Boulevard	SHRA
251-0131-009	3609/3611 (0)	Rio Linda Boulevard	SHRA
<b>EPA Cleanup Grant 3</b>			
251-0131-003	3637	Rio Linda Boulevard	SHRA
<b>Rest of Site</b>			
251-0131-008	3617	Rio Linda Boulevard	SHRA
251-0131-010	3629	Rio Linda Boulevard	SHRA
251-0131-011	3601*	Rio Linda Boulevard	SHRA
251-0131-015	3621	Rio Linda Boulevard	SHRA
251-0131-017*	N/A	South Avenue	SHRA
251-0131-018	801	South Avenue	SHRA

\*Former gas station site previously remediated by SHRA.

The Rio Linda Superblock Project area is currently a vacant, roughly rectangular lot approximately 300 feet wide by 600 feet long, and approximately 3.82 acres in size.

Remediation and development of this site with affordable housing has been a priority for the community since at least 1989 when the Del Paso Heights Redevelopment Advisory Committee (RAC), Sacramento Housing and Redevelopment Commission (SHRC) and Redevelopment Agency sought to remove blighting and incompatible uses including a gas station, liquor store and pool hall. Several of the goals in the Redevelopment Plan and Implementation Strategy (Redevelopment Plan) from that time were to a) improve the neighborhood environment and image, b) eliminate blighted and blighting conditions and c) increase and develop affordable housing in the area.



## 1.0 INTRODUCTION AND BACKGROUND

The 2009-2014 Redevelopment Plan called out this project as a top priority noting that completion of this project would result in reversing depreciated property values and eliminating factors hindering viable use.

Several setbacks stalled the project over the last 20 years, including lengthy acquisition processes, elimination of redevelopment in California and serious environmental contamination from illegal dumping and previous uses such as a gas station, auto body shop and a trucking company. The main contributor to the heavy metals contamination is associated with an on-Site waste debris field from an unknown source.

This ABCA was requested by SHRA and prepared based on the results of several Phase I/II assessments conducted for the Site, an approved Soil Removal Corrective Action Plan (CAP), and Interim Soil Removal Actions. Corrective actions were initiated at the Site in 2011 under the oversight of the Sacramento County Environmental Management Department (SCEMD) who approved the CAP. Site cleanup efforts were curtailed in 2012 as a result of a lack of funding as described in more detail in Section 1.3. The purpose of this ABCA is to evaluate possible remedial alternatives to complete the remedial efforts based on Site conditions and the anticipated reuse of the Site. This evaluation will be expanded, modified if necessary, and incorporated into a revised final Site Cleanup Plan for review by the community, project partners and the local the regulatory oversight agency.

### 1.1 Site Location

The Site is located in an urban area with a mix of residential homes, apartment buildings, and commercial businesses. The area is zoned as "Multi-Unit Dwelling Zone (R-2A)" to accommodate higher density development. The Site is located between 3605 and 3627, Rio Linda Blvd in Del Paso Heights, a suburb in northern Sacramento, California. Assessor's Parcel Numbers associated with the Site are shown above and provided on Plate ES-1. The geographic coordinates for the approximate center of the Site are 38° 38' 02.44" North latitude and 121° 26' 49.01" West longitude.

The Site is approximately 41 feet above mean sea level and is flat with regional topography sloping gently to the west. The Sacramento River is located approximately 6.3 miles to the west and the American River is located approximately 3.0 miles to the south.

The Site is currently a vacant and is vegetated with grasses and has one lone tree roughly in the center of the Site and some smaller trees in the northeast corner. The Site is bordered to the west by the Sacramento Northern Bike Trail and associated public use areas. The Site is fenced on the north, south and east by a tall chain link fence and is open to the west. Located roughly in the middle of the Superblock Project area, and fronting Rio Linda Blvd, is a small multi-family housing unit that consists of four buildings, each a single-family housing unit (see Plate ES-1).

### 1.2 Ownership and Previous Use

The Redevelopment Agency of the City of Sacramento (Redevelopment Agency), a constituent entity of SHRA began assembling vacant parcels on a block collectively known as the Rio Linda Superblock in the Del Paso Heights neighborhood of Sacramento since the late 1980's for the development of affordable single family homes. To date, the Agency has acquired 11 of the 12 site parcels including 3601 Rio Linda Boulevard (corner of Rio Linda

## 1.0 INTRODUCTION AND BACKGROUND

Blvd and South Ave which was a former gas station that SHRA previously remediated). The remaining parcel (corner of Rio Linda Blvd and Roanoke Ave) is privately owned and SHRA has had amenable discussions with the owner in the past.

### 1.3 Previous Investigations

Phase I Environmental Site Assessments (ESAs) were performed on the site in 1992. Additional Phase I and II ESAs were performed between 2004 and 2006. Follow-up Phase II investigations consisting of soil sampling and testing were performed in 2008 and 2009. In 2010, after considerable environmental testing, a Soil Removal Corrective Action Plan (CAP) was prepared and approved by the Sacramento County Environmental Management Department (SCEMD). A follow-up Phase I ESA was performed in November 2016 for 810 Roanoke Avenue (251-0131-016) as part of SHRA's site acquisition due diligence.

#### List of Previous Environmental Investigations Performed and Reports Prepared

1. Phase I ESA performed by Geocon in 2005
2. Phase II ESA performed by Geocon in 2005
3. Phase II follow-up performed by NCE in 2008 and 2009
4. Soil Removal Corrective action Plan by NCE in 2010
5. Soil Removal Completion Report by AECOM in 2012
6. Phase I ESA performed by PM Environmental in 2016

#### Geocon Phase I Site Investigation

A Phase I ESA (ESA) was performed by Geocon Consultants Inc. (Geocon) on a total of eleven vacant parcels including the nine Subject Parcels noted previously. The Geocon investigation was conducted in July 2005. The ESA identified a debris field on the western most parcel. The debris consists of a conglomeration of rubber hoses, gaskets and other rubber fragments, ceramic fragments, metal debris and a white to tan-colored woven fibrous material that was mixed into the upper foot of soil. Geocon indicated that soil had a gray color and an ash-like texture and appeared to have been exposed by tilling of the soil. The source of the debris was unknown. The ESA recommended that two soil samples be collected in the vicinity of the debris material to assess the potential for metals, PAHs and asbestos. Analytical results showed that the samples contained lead and cadmium at concentrations that exceed the California Human Health Screening Levels (CHHSLs [Cal/EPA 1995]) for residential use. Based on the results of the analyses, Geocon conducted a follow-on investigation consisting of the collection of additional soil samples from throughout the Site which confirmed the presence of lead and cadmium in soil throughout the debris field area at level exceeding CHHSLs.

#### NCE Phase II Investigations

The 2008 NCE investigation consisted of excavating a total of 38 test pits. Backhoe test pits were excavated to a maximum depth of 2-feet below ground surface (bgs). Soil samples were collected from each test pit at the ground surface and approximately 1-and 2-feet bgs.

## 1.0 INTRODUCTION AND BACKGROUND

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The Phase II ESA sampling identified lead and cadmium in surface and subsurface soil at concentrations exceeding screening levels throughout the Site. Findings from the Phase I/II investigations identified the following contaminants of concern at the Site:

- Lead and cadmium was reported above the screening level in surface and subsurface soil throughout the Site (Figure 3). Lead concentrations in soil were higher in the western portion of the Site. A suspect source for elevated lead at the Site is what appears to be an mixed burn ash and industrial debris material that was previously dumped on the parcel by an unknown entity and at an unknown time. Lead and cadmium results in soil samples were compared to the California Department of Toxic Substances Control (DTSC) Screening Level (DTSC-SL) of 80 mg/kg for lead and 1.7 mg/kg for cadmium (Office of Environmental Health Hazard Assessment [OEHHA], 2010).
- Waste characterization analyses of Site soil found lead exceeding the California hazardous waste (Cal-Haz) criteria and in some cases federal hazardous waste (RCRA) criteria, indicating that the soil would require disposal at an appropriated hazardous waste landfill if removed from the property.

### **NCE Follow-up Phase II Investigation**

Subsequent to 2008 sampling efforts, the California Office of Environmental Health Hazard Assessment's (OEHHA) reduced the residential CHHSL for lead from 150 mg/Kg to 80 mg/Kg. Consequently, a number surface samples exceed the new CHHSL and additional definition was needed at the Site to prepare and evaluate cleanup options. The DTSC mandated reductions the residential CHHSL for lead resulted in an increase in the amount of impacted soil that required mitigation.

### **NCE Soil Removal Corrective Action Plan**

NCE prepared a Soil Removal Corrective Action Plan (CAP) for submittal and approval of the SCEMD on behalf of SHRA. The CAP provided specific procedures and details associated with soil removal efforts and confirmation sampling activities for the Site. The CAP and associated remediation was to address the presence of elevated levels of cadmium and lead in surface and near surface soils on the subject parcels. The SCEMD approved the CAP and SHRA retained a remedial contractor to perform the work. NCE provided the engineering oversight and confirmation sampling and coordinated the analytical testing.

### **AECOM Soil Removal Report**

On behalf of the Sacramento Municipal Utility District (SMUD), AECOM conducted soil removal activities on 810 Roanoke Avenue in 2011 that were consistent with the CAP prepared by NCE in 2010. Approximately 200 tons of soil was removed. However, some soil, with concentrations above residential CHHSLs, was left in place and the site was backfilled. Closure was not received from SCEMD.

### **PM Environmental Phase I Investigation**

PM Environmental, on behalf of SHRA, performed a Phase I Investigation as part of its due diligence for acquisition of the SMUD Parcel (810 Roanoke Ave). The Phase I summarized the soil removal activities and the remaining contaminated soil.

## 1.0 INTRODUCTION AND BACKGROUND

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### Interim Soil Removal Actions

In 2011, a significant amount of soil contaminated with metals was removed and stockpiled on-site. Further confirmation sampling determined that the contamination was more extensive than originally thought and that much of the waste materials had characteristics that would classify the waste as a RCRA Hazardous Waste. The project was halted due to funding shortfalls. The site has remained that way since with covered soil stockpiles at the Site. It is estimated that there is up to 2,300 tons of soil stockpiled on site and an additional 4,320 tons of contaminated soil that needs to be excavated and disposed.

Waste characterization sampling of the stockpiled soils was performed to evaluate potential disposal options if soil were removed from the Site. Total lead was reported at total concentrations requiring STLC and or Toxicity Characteristic Leaching Procedure (TCLP) analysis. Chemical profiling of stockpiled soils resulted in roughly 40% of the material being classified as a California Hazardous Waste and roughly 60% of the materials as a RCRA Hazardous Waste.

### 1.4 Project Goal

The project goal is to mitigate the identified contaminants to levels appropriate for the planned reuse as affordable single- or multi-family dwelling unit(s).

## 2.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

### 2.1 Cleanup Oversight Responsibility

The Sacramento County Environmental Management Department (SCEMD), Local Remediation Program is a voluntary site cleanup program which provides technical regulatory oversight for corrective actions at hazardous materials release sites involving non-petroleum products. The SCEMD regulators work closely with other State Agencies to agree on the scope of work necessary to assess site contamination and the degree of cleanup required to reach a finding of no further action.

### 2.2 Cleanup Standards for Major Contaminants

Cleanup standards for metals detected at the Site are based on the Regional Screening Levels (RSLs) (EPA, 2016) and DTSC-SLs for Residential Soil (OEHHA, 2010). The RSLs and DTSC-SLs will be used as guidance or cleanup endpoints for the Site. The EPA RSL for lead in residential soil is 400 mg/kg and the DTSC-SL for lead in residential soil is 80 mg/kg. For the purpose of the ABCA, the DTSC-SL for lead in soil of 80 mg/kg was assumed to be the cleanup standard that would allow the SCEMD to issue a No Further Action (NFA) determination for the Site which would allow for the residential development as planned.

### 2.3 Laws and Regulations Applicable to the Cleanup

This section is for informational purposes only and the responsible party (or the party undertaking the cleanup) is responsible for ensuring compliance with all applicable laws and regulations.

Cleanup activities at the Site should be conducted by contractors operating in accordance with the U.S. Department of Labor Occupational Safety & Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) standard codified at 29 Code of Federal Regulations 1910.120. The HAZWOPER standard applies to cleanup operations required by federal, state, local, or other governmental body involving hazardous substances. Additionally, the California OSHA "Lead in Construction Standard" codified in Title 8 California Code of Regulations Section 1532.1, is applicable to construction work where an employee may be exposed to lead.

Federal laws and regulations applicable to this cleanup include the Small Business Liability Relief and Brownfields Revitalization Act and the Davis-Bacon Act. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup are also applicable.

In addition, excavation and grading permits and underground service alert notifications are potentially required prior to cleanup activities. The SCEMD would be contacted for potential input regarding work plan preparation and permitting.

### 3.0 EVALUATION OF BROWNFIELDS CLEANUP ALTERNATIVES

#### 3.1 Clean up Action Objectives

The cleanup action objective is to mitigate the identified contaminants to levels appropriate for the planned reuse as affordable single- or multi-family dwelling unit(s).

Results of the Phase II investigation efforts identified lead and cadmium at concentrations exceeding the screening levels for this analyte. Lead was reported above the screening level in surface and subsurface soil throughout the Site. Lead and cadmium concentrations in soil were higher in the western portion of the Site.

A preliminary waste characterization evaluation of the elevated lead soil sample results indicates that lead and cadmium contaminated soil at the Site would be classified as roughly 40% California hazardous waste and 60% RCRA Hazardous Waste.

#### 3.2 Identification and Evaluation of Cleanup Alternatives

Based on the planned reuse, three options were evaluated: (1) No action; (2) Soil excavation, confirmation sampling, and off-site disposal as partially RCRA hazardous waste and partially California hazardous waste; and (3) Soil excavation, confirmation sampling, lead stabilization and off-site disposal as a California hazardous waste.

Each cleanup alternative was first evaluated to determine whether it would achieve the overall project goal to mitigate the identified contaminants to levels appropriate for the planned reuse, an affordable single- or multi-family dwelling unit(s). Those alternatives deemed capable of achieving the overall project goal were further evaluated for effectiveness, implementability, and cost. The cost estimates presented in this document are rough order-of-magnitude estimates that were prepared solely for the comparison of the identified alternatives and should not be used as design-level estimates. A description of each alternative and the results of the comparative analysis are presented below.

##### **Alternative 1 – No Action**

The No Action Alternative is included as a baseline for comparison to the other proposed alternatives. The No-Action Alternative assumes that the impacted media would remain in place without treatment.

*Effectiveness:* This alternative would not provide for mitigation of the actual or potential risks posed by the impacted media. If no corrective action is taken, the Site cannot be reused as affordable single- or multi-family dwelling unit(s).

*Implementability:* This alternative is easily implemented.

*Cost:* No costs would be incurred during the implementation of this alternative.

### **Alternative 2 –Soil Excavation, Confirmation Sampling, and Off-Site Disposal as Part RCRA Hazardous Waste and Part California Hazardous Waste**

The soil excavation, confirmation sampling, and off-site disposal as part RCRA and part California hazardous waste alternative would remove the impacted soils from the Site that exceed the lead screening level of 80 mg/kg and the cadmium screening level of 1.7 mg/kg. Four-point composite samples, one per 40-foot by 40-foot remedial unit will be collected for lead and cadmium analysis following soil excavation. An estimated total (existing plus future excavation) of California Hazardous Waste would amount to 2,160 tons and RCRA Hazardous Waste would equal approximately 4,460 tons. The impacted soil is anticipated to require off-site disposal accordingly as California hazardous waste and RCRA Hazardous Waste at appropriate disposal facilities and at different unit rates.

The newly excavated soil would be stockpiled on-site, pending laboratory analysis for waste characterization. The initial waste characterization performed indicates that the existing stockpiled soil would be roughly 40% a California hazardous waste and 60% RCRA hazardous waste. The excavated soil would be transported off-site for disposal at an appropriately licensed treatment/disposal facility. The excavation would be backfilled and/or re-graded and compacted with clean material appropriate for the planned use.

*Effectiveness:* Excavation will completely remove contaminated soil from the surface and shallow subsurface areas, eliminating the threat of accidental ingestion and/or dermal contact to current and future Site users.

*Implementability:* This alternative includes collection of confirmation samples and disposal profile sampling of excavated soil, off-site soil disposal, and backfilling with clean soil. The Site is currently vacant. Access to streets and freeways would be unaffected, with minimal disruption to the local residents. This alternative is moderately easy to implement.

*Cost:* A rough order-of-magnitude estimate of costs for the additional characterization, excavation, and disposal alternative is \$1,410,060. The costs also include preparation of work plans and completion reports, an allowance for agency oversight costs (price to be requested during project implementation), and an allowance for permits.

### **Alternative 3 – Soil Excavation, Confirmation Sampling, Lead Stabilization and Off-Site Disposal as a California Hazardous Waste**

The soil excavation, confirmation sampling, lead stabilization and off-site disposal as a California hazardous waste alternative would remove all soil from the Site that exceeded the lead and cadmium screening levels of 80 and 1.7 mg/kg, respectively. This alternative is similar to Alternative 2, but includes mechanically mixing lime (a caustic material to raise pH) with the excavated soil that is considered a RCRA waste to stabilize lead and reduce its leachability thus allowing for a less expensive disposal as a California hazardous waste. Bench scale testing would be required to determine the amount of lime to add to the soil and leachability testing to ensure the lead stabilization is an effective measure to allow the soil to be classified as a California hazardous waste.

After excavation, 4-point composite samples per 40-foot by 40-foot remedial unit will be collected for lead analysis. An estimated total (existing stockpiles plus future excavation) of California Hazardous Waste would amount to 2,160 tons and RCRA Hazardous Waste would equal approximately 4,460 tons and these materials would be stockpiled. The 4,460



**3.0 EVALUATION OF BROWNFIELD CLEANUP ALTERNATIVES SUPERBLOCK PS&E & RA OVERSIGHT**

tons of RCRA hazardous waste would be treated on-Site to immobilize soluble lead compounds to a level that would classify the waste as a California hazardous waste.

The excavated soil would be stockpiled on-site, pending laboratory analysis for waste characterization. The excavated soil would be treated on-site and transported off-site for disposal at an appropriately licensed treatment/disposal facility. The excavation would be backfilled and compacted with clean material appropriate for the planned use.

*Effectiveness:* Excavation will completely remove contaminated soil from the surface and shallow subsurface areas, eliminating the threat of accidental ingestion and/or dermal contact to current and future Site users. However, there is a chance that the lime stabilization effort will not be effective in reducing the leachability of lead and the soil would need to be disposed as a RCRA hazardous waste at a higher cost.

*Implementability:* This alternative includes the mechanical mixing of lime with soil using heavy equipment to treat excavated soils. Bench scale testing would determine the amount of lime to add to the soil to effectively stabilize the lead. The alternative also includes collection of confirmation samples and disposal profile sampling of excavated soil, off-site soil disposal, and backfilling with clean soil. The Site is currently vacant. Some disruption to the local residents from a period of heavy equipment operating in a confined area would occur. This alternative is moderately easy to implement. This alternative is a deviation from the originally approved CAP. However, the main goal of the CAP is to remediate the site to residential CHHSLs which this alternative would still accomplish. Any deviations from the original CAP would be coordinated with SCEMD.

*Cost:* A rough order-of-magnitude estimate of costs for the additional excavation, treatment, and disposal alternative is \$1,277,660. The costs also include preparation of work plans and completion reports, an allowance for agency oversight costs (price to be requested during project implementation), and an allowance for permits.

The following table identifies other cleanup alternatives that were considered for the Site that were dismissed and not analyzed as not meeting the goals of the project.

**Table 3-1: Alternatives that were Considered and Dismissed**

Alternative	Actions	Considerations
Capping	Installing an impermeable cover (pavement, concrete, etc.) to mitigate exposure to lead impacted soil.	Effective to reduce exposure but not meeting the project goals for residential redevelopment.
In situ soil treatment	Mechanical mixing of phosphate from fish bones with soil. Fish bones are made of the phosphate mineral apatite, which readily combines with lead to form pyromorphite, a stable crystalline mineral that can't be absorbed by the human digestive system. The application of fish bones is followed by the application of clean soil and vegetation to reduce fish odors.	Can reduce the bioavailability of lead up to 50%; however, a potential of leaving bioavailable lead in soil at the Site remains. Regulatory approval and further bioavailability testing would be required to leave lead impacted soil at the Site. Typical in situ soil treatment applications are conducted at Sites with existing structures where excavation of soil is not practical.



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<p>Soil disposal as a special waste.</p>	<p>The excavated soil could be potentially designated as a special waste. A special waste is a subset category of non-RCRA hazardous wastes pending a request to the DTSC for a special waste classification in order for the soil to be disposed as a nonhazardous waste.</p>	<p>Effective to reduce disposal costs for Sites with large volumes of soil. Considerable administrative effort and time is required for DTSC special waste application process. Would only apply to that portion of waste that is classified as a non-RCRA waste.</p>
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**3.3 Comparison of Alternatives**

Alternative 1: *No Action* does not meet the project goal and is therefore dismissed without additional evaluation.

Alternative 2: *Soil Excavation, Confirmation Sampling, and Off-Site Disposal as a California Hazardous Waste or Special Waste* is protective in the short-and long-term for the planned reuse as affordable single- or multi-family dwelling unit(s) because contaminated soil is removed from the Site. This alternative proposes conventional sampling and excavation methods. Similar actions are routinely performed to remediate these types of contaminants in California, and thus it is considered moderately easy to implement both technically and administratively. It is more expensive to implement than Alternative 1, but is considered the most effective and easiest to implement option if unrestricted use of the property is desirable and/or required.

Alternative 3: *Soil Excavation, Confirmation Sampling, Lead Stabilization and Off-Site Disposal as a California Hazardous Waste* is protective in the short- and long-term for the planned reuse as affordable single- or multi-family dwelling unit(s) because contaminated soil is removed from the Site. This alternative proposes soil stabilization by mechanical mixing with lime to reduce the leachability of lead followed by conventional sampling and excavation methods. Bench scale testing would need to be conducted to demonstrate the effectiveness of the lead stabilization for excavation and disposal of the soil as a non-hazardous waste. There is a potential the stabilization effort will not be effective in reducing the solubility of lead to below regulatory levels. Similar lead stabilization actions are typically conducted at large remediation sites where disposal costs are significant and have room for the operation of heavy equipment. The mechanical mixing of lime in the soil in a confined residential area is difficult to implement and aggressive dust control will need to be implemented to control fugitive emissions of the caustic material. The alternative is less expensive to implement than Alternative 2 (assuming California Hazardous Waste disposal) with the same effectiveness but more difficult to implement.

**3.4 Remediation Technologies**

EPA provides guidance for specific technologies which may be used for the remediation of hazardous wastes and other contaminants. Detailed links for EPA's remediation technology guidance, as well as case studies and demonstrations, can be found online at <http://www2.epa.gov/remedytech> (EPA, 2015a). Solidification (lead stabilization) is listed among other technologies.

**3.5 Consideration of Climate Change Impacts**

Scientific evidence demonstrates that the climate is changing at an increasingly rapid rate, outside the range to which society has adapted in the past. These changes can pose significant challenges to EPA's ability to fulfill its mission. EPA must adapt to climate change if it is to continue fulfilling its statutory, regulatory, and programmatic requirements. EPA is

therefore anticipating and planning for future climate changes to ensure it continues to fulfill its mission of protecting human health and the environment even as the climate changes. In February 2013, EPA released its draft Climate Change Adaptation Plan to the public for review and comment. The plan relies on peer-reviewed scientific information and expert judgment to identify vulnerabilities to EPA's mission and goals from climate change. The Region 9 Plan identifies vulnerabilities in Region 9, including lack of rainfall and the prospect of future droughts, reduction in groundwater supply, sea level rise, projected temperature increase and its impact on urban areas, wildfire prevalence, agricultural and ocean productivity, and habitat loss and ecosystem shift. Priority is being placed on mainstreaming climate adaptation within EPA and encouraging adaptation planning across the entire federal government.

The Site is located at an elevation of approximately 41 feet above mean sea level and is not vulnerable to sea-level rise. An increase in the intensity and frequency of rainfall would increase the likelihood of nearby rivers flooding. Alternatives 2 or 3, which include offsite disposal, would be advantageous cleanup alternative in accordance with the goals of the EPA's Climate Change Adaptation Plan.

### 3.6 Green and Sustainable Remediation Guidance

When implemented effectively, green and sustainable remediation practices enhance the environmental benefits offered by federal cleanup and redevelopment programs such as the EPA Brownfields Program. The principles governing green and sustainable remediation for EPA cleanup programs have been outlined in greater detail in EPA's *Principles for Greener Cleanups* (EPA, 2009), but generally seek to "optimize environmental performance and implement protective cleanups that are *greener* by increasing our understanding of the environmental footprint and, when appropriate, taking steps to minimize that footprint."

The following benefits can be reached through preferential use of green remediation approaches:

- Waste production and use of materials can be minimized
- Impacts to water quality and water resources can be avoided
- Air emissions and greenhouse gas production can be reduced
- Natural resources and energy can be conserved

#### 3.6.1 Administrative Suggestions

Emphasis should be placed on selecting contractors, including laboratories, which follow green remediation best management practices. Use of contractors that place priority on clean fuel and emission technologies should be encouraged. Redevelopment plans and future use of the Site should guide the type of sampling and remediation, ensuring efficient and sustainable methods. Additionally, renewable energy production facilities should be encouraged as future development possibilities. Reporting efforts, both draft and final documents, should be submitted in digital format, rather than as hard copies. Outreach to local communities should optimize the use of electronic and centralized communication.

#### 3.6.2 Operations Suggestions

The following suggestions should be considered to help achieve green and sustainable remediation at the Site:

- Whenever possible, non-renewable energy consumption should be minimized through energy efficient equipment, use of renewable energy supply, and renewable energy generation systems on-site.
- Sustainable practices, such as utilizing existing structures, native vegetation, and natural attributes on-site, should be encouraged.
- Environmentally preferable products, such as those outlined in EPA's Sustainable Marketplace: Greener Products and Services website (EPA, 2015b), (<http://www2.epa.gov/greenerproducts>), should be utilized where feasible, including environmentally friendly electronics, recycled products, and energy-efficient lighting.
- Mobilization during field efforts should use fuel-efficient and/or alternative fuel vehicles when feasible, encourage carpooling, and should avoid environmentally sensitive areas when placing operations centers and command posts.
- Waste should be minimized through conservation efforts, recycling, and reuse of items.

The following procedures can be followed to minimize waste:

- Field contamination screening should use non-invasive technologies where feasible.
- Quantity of field samples should be minimized, and mobile laboratories should be prioritized when appropriate.
- Drilling and excavation activities should incorporate clean fuel and emissions controls, including idle reduction devices, use of ultra-low sulfur diesel and/or fuel-grade biodiesel, advanced emission controls, EPA- or California Air Resources Board-verified emission control technology, and the performance of routine engine maintenance.
- Demolition should be minimized; instead, value should be placed on utilizing existing structures. Efficiency during transport and disposal operations should be maximized, and practices such as back-loading should be used whenever possible.

### 3.6.3 Bioremediation Considerations

Bioremediation potential of the Site should be examined and considered as a viable cleanup alternative. Bioremediation is a natural process which relies on bacteria, fungi, and plants to degrade, break down, transform, or essentially remove contaminants from soil and water. Bioremediation options potentially provide a low cost, non-intrusive, natural method of addressing soil contamination at a site. More information about bioremediation alternatives can be found at <http://www2.epa.gov/remedytech> (EPA, 2015a).

#### 4.0 LIMITATIONS AND ADDITIONAL ASSESSMENT NEEDS

The Phase I/II investigations and the Interim Soil Removal Actions completed to date have provided a valuable characterization of current and historical conditions of the subject property, including a summary of historical site use, previous investigations and regulatory involvement, site reconnaissance and photo documentation, and an evaluation of hazardous wastes.

The extent of the lead and cadmium contamination was not fully defined during Phase II activities; however, the data obtained from those studies and the data obtained from the Interim Soil Removal Actions completed were used to estimate the costs for Cleanup Alternatives 2 and 3. Lead and cadmium contamination is present at varying levels throughout the Site. Post on-site treatment (Alternative 3) this soil is expected to be classified as California hazardous waste. The assumptions provide a conservative, likely overestimation, of the amount of soil that would require excavation and disposal. Samples will be collected to determine the ultimate appropriate off-site disposal option. The Phase I/II reports, the CAP, and this associated ABCA can provide mitigation guidance but are not to be used as full characterization or risk assessment reports. The information presented therein represents only the Site-specific, recognized environmental conditions and opinions of the environmental professional.

## 5.0 REFERENCES

- EPA. 2015a. Technologies for Cleaning Up Contaminated Sites. <http://www2.epa.gov/remedytech>. Last updated October 19. Website accessed November 2015.
- EPA. 2015b. Sustainable Marketplace: Greener Products and Services <http://www2.epa.gov/greenerproducts>. Last updated November 2. Website accessed November 2015.
- EPA. 2016. Regional Screening Levels for Chemical Contaminants at Superfund Sites. <http://www2.epa.gov/risk/risk-based-screening-table-generic-tables>. May.
- Geocon, 2005a. Phase I Environmental Site Assessment, Parcels at Rio Linda Boulevard and Roanoke Avenue, APNs 251-013-1003, 1011 and 1016, Sacramento, California. July.
- Geocon, 2005b. Geophysical Survey and Soil Sample Collection and Analysis Report, Parcels at Rio Linda Boulevard and Roanoke Avenue, APNs 251-013-1003, 1011 and 1016, Sacramento, California, October.
- NCE, 2008. Phase II Environmental Site Assessment, Summary Report, Rio Linda Superblock, Rio Linda Boulevard and Roanoke Avenue, Sacramento, California. November.
- NCE, 2009. Phase II Environmental Site Assessment, Summary Report (Revised), Rio Linda Superblock, Rio Linda Boulevard and Roanoke Avenue, Sacramento, California. June.
- NCE, 2010. Soil Removal Corrective Action Plan, Rio Linda Superblock (Rio Linda & Roanoke), Del Paso Heights - Sacramento, California. June.
- AECOM, 2012, Soil Removal Completion Report, SMUD Parcel 251-0131-016, 810 Roanoke Avenue, Sacramento, California
- PM Environmental, 2016, Phase I Environmental Site Assessment Report, 810 Roanoke Avenue, Sacramento, California
- Office of Environmental Health Hazard Assessment (OEHHA). 2010. California Human Health Screening Level for Residential Soil. <http://oehha.ca.gov/risk/chhsltable.html>. Soil- Screening Numbers - Updated Table.
- U.S. Environmental Protection Agency (EPA). 2009. Office of Solid Waste and Emergency Response. *Principles for Greener Cleanups*. August 27.

## DISTRIBUTION

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Rio Linda Superblock  
Rio Linda Blvd & Roanoke Avenue  
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Sacramento County, CA**

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### Quality Control Reviewer

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## FIGURES





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Parcel Map  
Final Analysis of Brownfields Cleanup Alternatives  
Rio Linda Superblock  
Rio Linda Boulevard and Roanoke Avenue  
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PLATE

**ES-1**

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