Appendix F: Hazardous Materials

F.1 - Supplemental Assessment to Fulton Mall Corridor Phase I Environmental Site Assessment

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: KIMLEY SAWTELL
Associate Environmental Planner
Central Region QA/QC Branch

Date: May 29, 2013
File: Fulton Mall
EFIS: 06-0002-0006

From: JUERGEN VESPERMANN
Chief, Central Region Hazardous Waste and Paleontology Branch

Subject: Fulton Mall Reconstruction Supplemental Assessment to Fulton Corridor Phase I ESA, FRE County, California

The Caltrans Hazardous Waste Branch is providing supplemental assessment and oversight for the Fulton Mall Reconstruction Project as it relates to hazardous waste issues along the project. This supplemental assessment provides a more in depth review of recognized environmental concerns (RECs) identified in the attached City of Fresno's Fulton Corridor Phase I Environmental Site Assessment (ESA) Specific Plan Project Area (SPPA) conducted by Krazan & Associates, Inc. (Krazan) in October 2011 and a more recent database search and file review of sites that have been identified as environmental areas of concern. The original ESA conducted in October by Krazan was too broad.

BACKGROUND

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), in cooperation with the City of Fresno (City) proposes to reconstruct Fulton Mall as a complete street by reintroducing vehicle traffic lanes to the existing pedestrian mall. The Mall consists of six linear blocks that were open to traffic prior to 1964 but now do not allow public vehicle access. The Mall is bounded by Tuolumne Street to the north and Inyo Street to the south, and includes portions of three cross streets. The total length of the new roadways would be 0.74 mile. Figures 1-1 and 1-2 show project vicinity and location maps.

The "Mall" refers specifically to the pedestrian areas between adjoining buildings located on the former City streets of Fulton, Mariposa, Merced and Kern, which function as an integrated pedestrian Mall. Fresno Street and Tulare Street, which do allow vehicle traffic, run through the Mall and divide it into three roughly equal sections. Mall landscaping elements include fountains, planters, benches, sculptures, electrical systems, irrigation systems and two "tot lots." The Mall does not include the adjoining buildings or their facades.

Each Build Alternative proposes to reconstruct the Mall using "Complete Streets" design concepts. Complete streets are those designed to function as shared public space, or as "living streets" – for pedestrians, cyclists, outdoor businesses, and slow-moving, cautiously driven vehicles. Complete streets may include narrow roadways, corner bulb-outs, winding streets, and other traffic calming measures to lower driving speeds; street trees and other landscape elements; wide pedestrian sidewalks and crosswalks; and bicycle accommodations such as dedicated bicycle lanes or wide shoulders. The purpose of incorporating these design concepts into the proposed project is to retain portions of the historic fabric and character of the Mall, maintaining the key elements, feeling and unique experience of a pedestrian mall in downtown Fresno.

The proposed project has three Alternatives, including two Build Alternatives and a No Build Alternative. No additional right-of-way will be required.

The three alternatives are as follows:

1. Alternative #1 consists of reopening the Mall with two-way streets, with one lane of vehicular traffic in each direction alongside bicycle, pedestrian, and potentially other travel modes. On-street vehicle parking spaces would be reintroduced along the length of the Mall (including cross streets), and construction of streetscape improvements will optimize the streets for the new blend of travel modes. One 11-foot vehicle travel lane would run in each direction, with a parallel parking lane of 9 feet included on both sides of the streets. A 20-foot sidewalk included on both sides of the streets would allow for walking and pedestrian-only seating, landscaping, lighting, and public art.

   The existing 20 sculptures present on the Mall today would all remain, though some may be moved so as to be incorporated in sidewalk areas of the new streetscape. Only the three fountains found along the Kern Mall, west of Fulton, would remain. All of the planter beds and raised seating areas found along the Mall would be removed in favor of wide sidewalks that incorporate artwork and seating areas. The two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be relocated and potentially combined into one larger tot lot near the corner of Kern and Home Run Alley, or near the corner of Mariposa and Fulton. Impacts to native earth during project construction are not anticipated.

2. Alternative #2 consists of reconnecting the street grid as in Alternative #1, but would include rebuilding distinctive elements of the Mall in five to six specific locations, known as "vignettes." The vignettes would include many of the existing elements (sculptures, fountains, pavement pattern, trees, etc.). One 11-foot vehicle travel lane would run in each direction and would bend and curl through the vignettes. Outside the vignette areas, the street would straighten, and the

landscape would include a 9 foot parallel parking lane and a pedestrian-only walking, seating, vegetation, and public art area 20 feet in width on one or both sides of the street. Within the vignettes, there would be no parking lane, and the existing Mall landscape elements would be kept maximally intact. The remaining space on each side of the street would be dedicated to pedestrian travel, seating, vegetation and art work.

A total of 12 fountains – nine in vignettes and three on Kern Mall west of Fulton – would remain in place. The 12 fountains would be fully rebuilt or restored to working order. Fourteen of 20 sculptures would remain in their current locations. The other six (along with the various tile mosaics benches on the Mall today) would be reconfigured within the current right-of-way to accommodate the new streetscape. Street lighting outside the vignettes would be contemporary and pedestrian-oriented, but the original Mall fixtures would be retained within each vignette. The two tot lots present, one located near the corner of Merced and Fulton, and the other located near the corner of Kern and Fulton, would be relocated and potentially combined into one larger tot lot near the corner of Kern and Home Run Alley, or near the corner of Mariposa and Fulton. Impacts to native earth during project construction are not anticipated.

3. The third Alternative is the No-Build Alternative. New streets will not be constructed and the Mall will remain, as it now exists.

Krazan's SPPA identifies a portion of the study area related to the Fulton Mall Reconstruction Project parameters as "**Area 1** – *Fulton* Area Mixed-Use Neighborhoods. Evidence of potential hazardous materials use was almost exclusively limited to the aforementioned H Street and Broadway corridors, where some automotive service businesses were noted among numerous older industrial buildings. Former auto dealership buildings which now house commercial businesses were also noted along Tuolumne Street.

Krazan's assessment that "evidence of potential hazardous materials use was almost exclusively limited to the aforementioned H Street and Broadway corridors, where some automotive service businesses were noted among numerous older industrial buildings. Former auto dealership buildings which now house commercial businesses were also noted along Tuolumne Street," still holds true.

In March 2010, Krazan reviewed the RWQCB Leaking Underground Fuel Tank (LUFT) database records available via the Geotracker website for the Fulton Corridor Specific Plan project area subject site. Eleven active LUFT and cleanup sites were revealed. Additionally, no Federal Superfund National Priorities List (NPL) sites were determined to be located within a one-mile radius of the subject site (See Table No. VI and Figures No. 6 and 7). Only two of the sites identified in SPPA are relevant to the Fulton

Reconstruction Project based on project boundaries and scope of work. The properties of concern identified in Table VI of Krazan's SPPA include the Greyhound Bus Depot, 1033 Broadway, an open LUFT case with Petroleum Hydrocarbon Contamination (PHC) and Van Waters and Rodgers, 1152 G Street, cleanup site with tetrachloroethene (PCE) release to soil/groundwater.

In order to provide site specific, accurate, up to date information as it relates to the Fulton Mall Reconstruction project, Caltrans Hazardous Waste searched the following five Cal/EPA Data Resources, commonly referred to as the 'Cortese List', for this supplemental assessment:

- EnviroStor database, List of Hazardous Waste and Substances sites, Department of Toxic Substances Control (DTSC)
- Geotracker database, List of Leaking Underground Storage Tank sites, State Water Resources Control Board
- Sites Identified With Waste Constituents Above Hazardous Waste Levels Outside The Waste Management Unit, State Water Resources Control Board
- CDO/CAO List, List of active Cease and Desist Orders and Cleanup and Abatement Orders, State Water Resources Control Board
- List of hazardous waste facilities subject to corrective action, DTSC

In addition the:

- SWIS database, Solid Waste Information System, Department of Resources Recycling and Recovery (CalRecycle) was reviewed.

DATABASE/ RECORDS SEARCH RESULTS

The database search identified three open case (actively worked on) Leaking Underground Storage Tank (LUST) cleanup sites as well as closed or documented clean-up sites within the Fulton Mall Resconstruction Project boundaries that have the potential to affect this project.

1. BROADWAY FURNITURE PARKING LOT (FORMER SERVICE STATION)
755 BROADWAY FRESNO, CA 93721 ***LUST Cleanup Site*** ***Cleanup Status: Completed - Case Closed*** ***RB Case #: 5T10000837*** ***Loc Case #: FA0277130***

2. GREYHOUND BUS DEPOT
1033 BROADWAY FRESNO, CA 93721 ***LUST Cleanup Site*** ***Cleanup Status: Open - Remediation*** ***RB Case #: 5T10000457***

Loc Case #: FA0169029

3. VAN WATERS & ROGERS INC - FRESNO FACILITY
1152 G ST FRESNO, CA 93706-3319 ***Cleanup Program Site*** ***Cleanup Status: Open - Assessment & Interim Remedial Action*** ***RB Case #: SL185704255***

SUPPLEMENTAL RESULTS/ RECOMMENDATIONS

Of the identified sites, only one, Broadway Furniture Parking Lot (identified as #1 above) was **not** previously noted in the study by Krazan. The Site is a closed case (A closure letter or other formal closure decision document has been issued for the site). A diesel/ gasoline leak was reported on October 7, 2004 and Cleanup Action was completed on October 29, 2004. A Closure/ No Further Action Letter was issued on October 6, 2004. The Site is under the authority of Fresno County Environmental Health.

The two open cases identified within the project boundaries include Greyhound Bus Depot (#2 above) and Van Waters & Rodgers Inc – Fresno Facility, also known as Univar USA (#3 above), included, due to presence of three monitoring wells inside the project boundaries. The Greyhound Bus Depot site is currently seeking closure under the Low-Threat Underground Storage Tank (UST) Case Closure Policy (Low- Threat Policy) issued by the State Water Resources Control Board (State Board) on May 1, 2012. The Central Valley Regional Water Quality Control Board's (CVRWQCB) comments regarding the closure request indicate closure may be appropriate in a letter dated January 24, 2013 (see a*ttachment 1*). In the letter staff states "previous site assessment work at the Site has established that the source of diesel fuel constituents in soil appears to be the former product lines serving the fuel ports located in the bus parking stalls on the southwest side of the terminal building. The evidence also suggests that diesel fuel has migrated into the adjacent sanitary sewer trenches. However, the lateral extent of diesel fuel migration in the subsurface soil does not appear to extend beyond the limits of the bus parking area. While the vertical extent of diesel fuel constituent migration extends to a depth of at least 70 feet bgs, the pattern of attenuation indicates that groundwater has not been impacted by this release. Groundwater is estimated to be approximately 110 feet below ground surface at the Site. The soil vapor assessment work documented in the previous and current submittals demonstrate that the diesel fuel remaining in the subsurface does not present a threat to human health or groundwater. Based on the information in the case file, it appears closure of this case may be appropriate." As such, the Fulton Mall Reconstruction Project may include work that includes handling petroleum-impacted material (soil and groundwater) generated during excavation near the Bus Depot and sanitary sewer lines if affected. Groundwater fluctuates between 90-110 feet below ground surface (bgs).

monitoring wells were installed in 1996 and showed PCE in the underlying groundwater. In 1998, a vapor extraction system was installed and ran until 2004. The extracted soil vapor is treated using two 2500-pound activated carbon vessels to remove the Volatile Organic Compounds (VOCs). Through subsequent testing a series of groundwater monitoring wells have been installed and continue to be monitored quarterly.

Four new offsite Soil Vapor Extraction (SVE) wells were installed during late 2008. A SVE system is currently extracting soil vapors from five vapor extraction wells located near the highest concentrations of PCE in groundwater and soil. This is located just down gradient of the site. Investigation to assess the lateral and vertical extent of impacts to groundwater is ongoing. A remediation action plan and Report of Waste Discharge has been submitted for insitu biodegration of solvents in groundwater. Waste Discharge Requirements are currently being prepared. There are three monitoring wells (T1-3, T2-2, T2-3) related to The Van Waters and Rodgers Site/ Univar USA within the project boundaries. In a report generated by Nichols Consulting Engineers, dated Dec 11, 2008, "groundwater records from as early as 1997 show groundwater in the study area flowing from a northwestern to northeastern direction. An apparent pumping depression created by City Well 22A located approximately 1,900 feet northwest of the Site appears to have an effect on groundwater flow in the vicinity of the Site". The subject report prepared by Nichols Consulting Engineers summarizes the results of an additional groundwater investigation conducted during 2007 and 2008 including installation of shallow monitoring wells at locations T1-1, T1-2, T1-3, T2-1, T2-2, and T2-3, which are located within the project boundaries.

Despite the risk of groundwater contamination migration, construction activities are **not** likely to affect groundwater on the project based on the scope of work. However, construction activities have the potential to affect established monitoring wells. Coordination with CVRWQB for closure and well destruction of the three monitoring wells within the project boundaries based on Site cleanup actions is recommended.

Several other sites, primarily along the H Street and Broadway corridors, with commercial uses were identified in Krazan's SPPA report. However, these sites are outside the project boundary and pose minimal threat from groundwater contamination given the scope of work identified in the Fulton Mall Reconstruction project. Furthermore, depth of excavation for the project is estimated at 3 feet below ground surface (bgs) and no new right-of-way is required by the City. Krazan's SPPA references State of California Department of Water Resources (DWR*) at approximately 90-110 feet bgs with a Regional Groundwater Flow Direction: Northwest to southwest, DWR* in its report.

LEAD AND ASBESTOS CONTAINING MATERIALS

A lead-based paint survey was not within the scope of this assessment conducted by Krazan. Occupational exposure to lead is regulated by both the Federal Occupational

Safety and Health Administration (OSHA) (29 CFR 1926.62) and California OSHA (Title 8, GISO 5198 and CSO 1532.1). Based on Federal and California OSHA, when disturbing paints which contain lead (any amount of detectable lead), the above-noted OSHA and California OSHA regulations should be followed.

In addition, Krazan's SPPA report addresses Asbestos Containing Construction Materials (ACCMs). "In the event of planned renovation or demolition of residential and/or commercial structures on the subject site, asbestos and LBP surveys should be conducted in order to determine the presence or absence of ACCMs and/or LBP. The National Emissions Standards for Hazardous Air Pollutants (NESHAP) defines regulated asbestos-containing materials. When building maintenance, repair, renovation, or other activities disturb or damage ACCMs, asbestos fibers may be released creating a potential hazard. Therefore, removal of friable and non-friable ACCMs that have the potential to become friable during demolition and/or renovation is federally regulated under the NESHAP. The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is the responsible agency on the local level to enforce the NESHAP and must be notified prior to any demolition and/or renovation activities. If asbestos-containing materials are left in place, an Operations and Maintenance Program (O&M Program) could be developed for the management of asbestos-containing materials if left in place."

Krazan's assessment that "asbestos and LBP surveys should be conducted in order to determine the presence or absence of ACCMs and/or LBP," still holds true

Caltrans Hazardous Waste has identified issues as low risk for the project based on project scope.

If there are any questions or you would like to review the collected hazardous waste information, contact Shawn Ogletree at (559) 445-6404.

* State of California, Department of Water Resources, Lines of Equal Elevation of Water in Wells Unconfined Aquifer, San Joaquin Valley, Spring 2007.

Enclosure:

- PHASE I ENVIRONMENTAL SITE ASSESSMENT CITY OF FRESNO FULTON CORRIDOR SPECIFIC PLAN PROJECT AREA FRESNO, CALIFORNIA, Krazan and Associates, Inc., Project No. 014-10022B October 7, 2011
- *Attachment 1* Central Valley Regional Water Quality Control Board's Response to request to closure request.
- Texas Green Star Environmental L.L.C. Environmental Report – Case Closure Request Report
- Nichols Summary Report Groundwater Investigations Former VW&R Inc., Facility
- *Attachment 2* Geotracker and Envirostor Database Search Map
- Figure 1-4 Project Location Map

Need to receive a copy of the following reports:

- ***Attachment 1*** **Central Valley Regional Water Quality Control Board's Response to request to closure request**
- **Texas Green Star Environmental L.L.C. Environmental Report – Case Closure Request Report**
- **Nichols Summary Report Groundwater Investigations Former VW&R Inc., Facility**
- ***Attachment 2*** **Geotracker and Envirostor Database Search Map**
- **Figure 1-4 Project Location Map.**

F.2 - Additional Hazardous Materials Information

LINK TO THIS MAP

GEOTRACKER

LAYERS

- ☒ SIGNIFIES A CLOSED SITE
- ☑ Leaking Underground Tank (LUST) Cleanup Sites
- ☑ Other Cleanup Sites
- ☑ Land Disposal Sites
- ☑ Military Sites
- ☑ WDR Sites
- ☑ Permitted Underground Storage Tank (UST) Facilities
- ☑ Monitoring Wells
- ☑ DTSC Cleanup Sites
- ☑ DTSC Haz Waste Permit

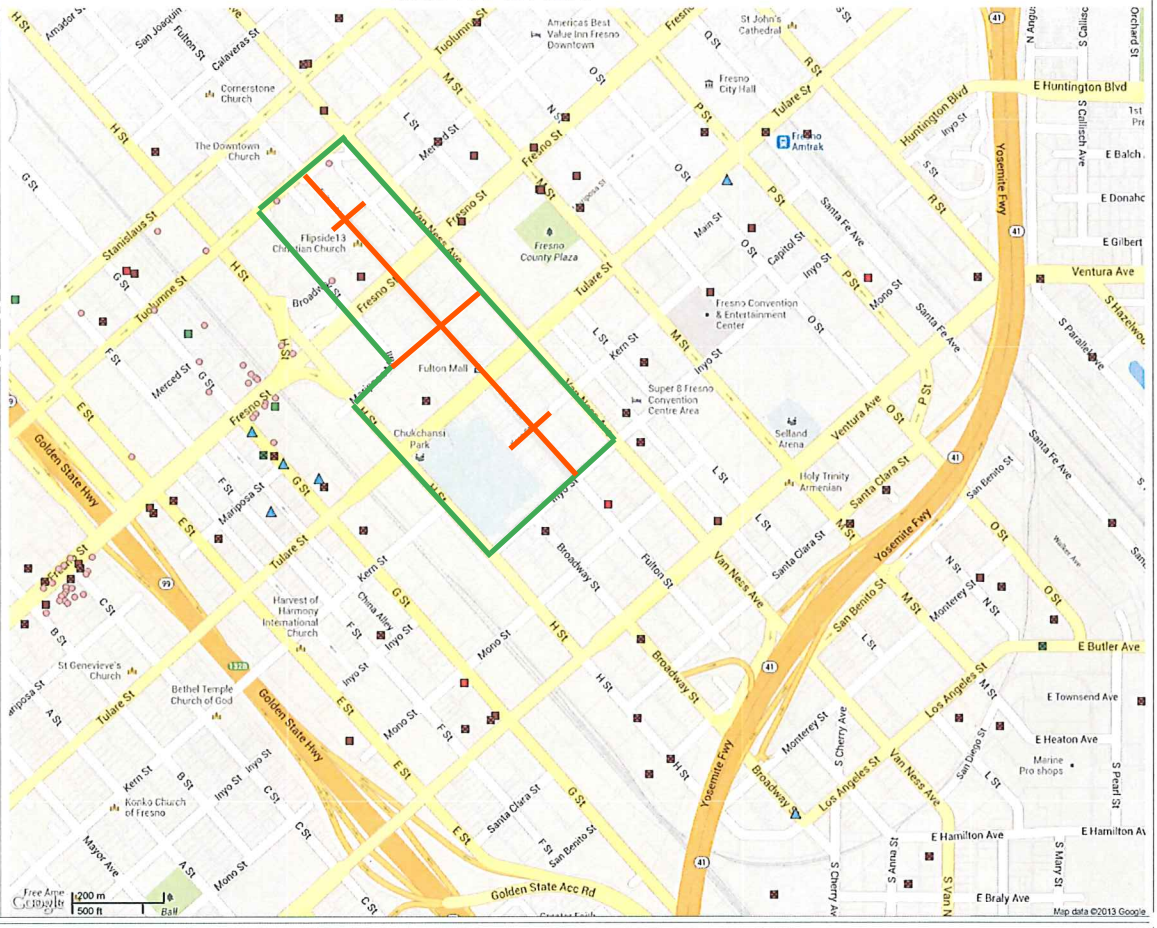
MAP SIZE

1280x1024

OPTIONS

☑ Site List - EXPORT TO EXCEL

83 Sites



☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS: 1152 G St, fresno, ca Go

SITE LIST

SITE NAME	GLOBAL ID	FAC ID	CLEANUP STATUS	ADDRESS	CITY
3M ADVERTISING	T0601900207		COMPLETED - CASE CLOSED	1816 VAN NESS AVE S	FRESNO
7-UP BOTTLING CO	T0601900142		COMPLETED - CASE CLOSED	1865 ANNA S	FRESNO
A PLACE FOR YOU FOUNDATION	T0601900481		COMPLETED - CASE CLOSED	2201 STANISLAUS ST	FRESNO
ABANDONED SERVICE STATION	T0601900122		OPEN - SITE ASSESSMENT	655 G ST	FRESNO
ACE TRANS-STATE TIRES	T0601900030		COMPLETED - CASE CLOSED	565 BROADWAY	FRESNO
ARCHIVES RECORD STORAGE BLDG.	T0601900385		OPEN - SITE ASSESSMENT	742 FULTON ST	FRESNO
AT&T - SB025		FA0266900		1445 VAN NESS AVE #236	FRESNO
BEDROSIAN TRUCK SERVICE		FA0169677		1454 G ST	FRESNO
BEDROSIAN TRUCK SERVICE	T10000002038		OPEN - SITE ASSESSMENT	1454 G STREET	FRESNO
BLUES AUTO	T0601900520		COMPLETED - CASE CLOSED	620 F ST	FRESNO
BNSF/AMTRAK DEPOT	T0601985763		COMPLETED - CASE CLOSED	2650 TULARE ST	FRESNO
BROADWAY FURNITURE PARKING LOT (FORMER SERVICE STATION)	T0601989283		COMPLETED - CASE CLOSED	755 BROADWAY	FRESNO
BEST CASH AND CARRY	T10000004615		OPEN - SITE ASSESSMENT	1550 E STREET	FRESNO

MAP AN ADDRESS Go!

Project Area

Affected Right-of-Way

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

14 May 2013

Mr. Todd Bachand
Environmental Manager
FirstGroup America, Inc.
600 Vine Street, Suite 1400
Cincinnati, OH 45202

CASE CLOSURE, UNDERGROUND STORAGE TANK RELEASE, GREYHOUND BUS DEPOT, 1033 BROADWAY, FRESNO, FRESNO COUNTY, RB CASE 5T10000457

Dear Sir,

This letter confirms the completion of a site investigation and the corrective action for the underground storage tanks release at the above described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground tanks are greatly appreciated.

Based on the information in the case file, and with the provision that the information provided was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25296.10 of the Health and Safety Code, and with corrective action regulations adopted pursuant to Section 25299.3 of the Health and Safety Code. No further action related to the petroleum release(s) at the site is required. A Case Closure Summary is enclosed.

Be aware that claims for reimbursement of corrective action costs submitted to the Underground Storage Tank Cleanup Fund more than 365 days after the date of this letter, or issuance or activation of the Fund's Letter of Commitment, whichever occurs later, will not be reimbursed unless one of the following exceptions applies:

- Claims are submitted pursuant to Section 25299.57, subdivision (k) (reopened UST case); or
- A submission within the timeframe was beyond the claimant's reasonable control, ongoing work is required for closure that will result in the submission of claims beyond that time period, or that under the circumstances of the case, it would be unreasonable or inequitable to impose the 365-day time period.

This notice is issued pursuant to subdivision (g) of Section 25296.10 of the Health and Safety Code. Please contact Ken Jones at (559) 488-4391, or kjones@waterboards.ca.gov if you have any questions regarding this matter.

Clay L. Rodgers

for Pamela C. Creedon
Executive Officer

Enclosure: Case Closure Summary

cc: Lisa Labrado, UST Cleanup Fund, Sacramento
Steve Rhodes, FCDCH, Fresno
Rick Gerhardt, Fresno
Patrick Wiemiller, City of Fresno, Public Works Director
Bob Little, City of Fresno, Water Division
Debra M. Boopsingh, Green Star Environmental, Arlington, TX

Central Valley Regional Water Quality Control Board

TO: Shelton R. Gray
Senior Engineering Geologist

Lonnie M. Wass
Supervising WRC Engineer

Clay L. Rodgers
Assistant Executive Officer

FROM: Jeff W. Hannel, PG No. 5640
Engineering Geologist

K. D. Jones
Engineering Geologist

DATE: 14 May 2013

SUBJECT: CASE CLOSURE SUMMARY - UNDERGROUND STORAGE TANK RELEASE, GREYHOUND BUS DEPOT, 1033 BROADWAY, FRESNO, FRESNO COUNTY, RB CASE 5T10000457

Case History – The subject address (Site) is occupied by the Greyhound bus terminal which maintained a 12,000-gallon and a 10,000-gallon underground diesel fuel storage tank (UST). The USTs and the associated dispensing equipment were removed in January 1993. Analytical results of soil samples, collected adjacent to the USTs' former locations and beneath the dispensers' former locations, detected concentrations of total petroleum hydrocarbons diesel range constituents (TPHd) as high as 9,100 milligrams per kilogram (mg/kg) at depths between four and five feet below ground surface (bgs). Analytical results of soil samples collected from beneath the former USTs' locations at a depth of 15 feet bgs did not detect TPHd that exceeded laboratory reporting limits. Approximately 175 tons of petroleum product contaminated soil were excavated from around the locations of the former USTs' and dispensers and disposed of properly.

An initial site assessment was conducted in November 1993 with the drilling of seven soil borings to depths between 11.5 and 36.5 feet bgs, where elevated concentrations of TPHd had been discovered during the UST removal. Analyses for TPHd did not detect concentrations above 100 mg/kg except for one at 6.5 feet bgs, in boring SB-1 with a TPHd concentration of 4,500 mg/kg. On 11 October 2007, the Fresno County Department of Public Health (FCDPH) transferred regulatory oversight for the case to the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

In September 2008, a follow-up soil assessment was conducted with the drilling of twelve soil borings with a Geoprobe to depths between 20 and 30 feet bgs (B-8 was terminated at five feet bgs due to refusal). Soil samples were analyzed for TPHd, total petroleum hydrocarbons gasoline range constituents (TPHg), and total petroleum hydrocarbons motor oil range

constituents (TPHmo). The soil samples which tested positive for TPHg and/or TPHmo, were also analyzed for VOCs and poly aromatic hydrocarbons (PAHs).

Concentrations of TPHd greater than 100 mg/kg were detected in samples collected from borings B-3 and B-2. Results indicated significant concentrations of TPHd to a depth of 30 feet bgs, whereas results in 1994 did not detect any significant concentrations below seven feet bgs. In addition, significant concentrations of TPHd were detected in samples from borings B-9 and B-10 to a depth of 30 feet bgs, adjacent to two sanitary hoppers, areas not previously investigated. TPHmo was detected in the sample collected from B-2 at five feet bgs at a concentration of 890 mg/kg. Concentrations of TPHmo at or less than 50 mg/kg were detected in the other soil samples.

TPHg was also detected in most of the soil samples which contained significant concentrations of TPHd. However, the concentrations of TPHg did not exceed 10% of the TPHd detected in the samples, and were typically much less. The soil samples analyzed for VOCs included those with the greatest concentrations of TPHd and TPHg. Benzene and toluene were not detected in excess of the laboratory reporting limit in any sample. The greatest concentration of ethylbenzene detected was 0.2 mg/kg in a sample from 20 feet bgs. None of the samples collected at or above 10 feet bgs contained ethylbenzene which exceeded the laboratory reporting limit of 0.005 mg/kg. The soil samples which exceeded the method detection limit for TPHg from borings B-1, B-2, B-3, B-7, and B-9, were also tested for MTBE, which was not detected above 0.005 mg/kg in any sample. Naphthalene was not detected above a concentration of 2.0 mg/kg in soil samples collected from 10 feet bgs or above.

Analytical results for PAHs reported only Benz(a)anthracene and Chrysene. The sum total of the carcinogenic PAHs detected from 10 feet bgs or above did not exceed 0.2 mg/kg. The greatest concentrations of the carcinogenic PAHs were detected in boring B-3 at 15 feet bgs and the sum did not exceed 0.5 mg/kg.

In March 2009, additional soil assessment was conducted to further delineate the lateral and vertical extent of petroleum products. Borings B-2a, B-3a, B-9a, B-13, and B-14 were drilled using a Geoprobe to depths between 40 and 70 feet bgs. Soil samples were collected from below 30 feet bgs in B-2a, B-3a, and B-9a, and from below 20 feet bgs in B-13 and B-14. The samples were analyzed for TPHd and selected samples were analyzed for TPHmo, VOCs, and PAHs.

Concentrations of TPHd which did not exceed 10 mg/kg, were detected in samples from depths below 30 feet bgs in B-2a and B-3a. Concentrations of TPHd above 1,000 mg/kg, were detected in the samples collected from B-9a to a depth of 60 feet bgs. Concentrations of TPHd less than 10 mg/kg, were detected in the samples from 65 and 70 feet bgs in B-9a. Concentrations of TPHd at less than 20 mg/kg, and TPHmo at or less than 10 mg/kg were detected in samples from B-13 and B-14.

The samples from boring B-9a were analyzed for VOCs and benzene and toluene were not detected above the laboratory reporting limit. Ethylbenzene was detected in samples collected from 35 to 55 feet bgs in concentrations less than 2.0 mg/kg, the sample collected at 60 feet bgs was less than the laboratory reporting limit. Xylenes were detected in the 35 to 55-foot samples at concentrations less than six mg/kg, with the sample from 60 feet bgs at less than the laboratory reporting limit. Naphthalene was detected in all samples from B-9a at concentrations ranging from 2.7 to 25 mg/kg. No carcinogenic PAHs were detected in the samples from boring B-9a.

A soil vapor extraction pilot test was conducted at the Site in March 2011 using two extraction points and four observation points. Soil vapor extraction and observation was performed from depth intervals of between 5 and 30 feet bgs, and between 35 and 60 feet bgs. During the test, a total of 0.165 pounds of naphthalene was removed. (No other petroleum constituent was measured in the extracted vapor samples). Because the mass removed was insignificant during the pilot test, it was concluded additional remediation with soil vapor extraction would be ineffective.

A subsurface soil vapor assessment was conducted in December 2011. Soil vapor samples were collected from five sets of paired vapor probes, with sampling depths of 5 and 10 feet bgs. Boring sets VB-1a and b; VB-4a and b; and VB-5a and b, were located where previous work had discovered petroleum hydrocarbon constituents in the subsurface. Boring sets VB-2a and b; and VB-3a and b were located adjacent to the terminal building onsite, directly between the building and the area of contaminated soil. The samples were analyzed for benzene, toluene, ethylbenzene, xylenes, and isopropyl alcohol using the U. S. EPA Method TO-15. Vapor samples were also analyzed for naphthalene using USEPA Method TO-17.

The analyses of the initial set of soil vapor samples, indicated concentrations of benzene less than 100 micrograms per cubic meter ($\mu g/m^3$), ethylbenzene less than 800 $\mu g/m^3$, and naphthalene less than 20 $\mu g/m^3$. However, the laboratory report indicated the detection limits for sample collected from VB-1b exceeded the applicable California Shallow Soil Gas Human Health Screening Levels (Vapor Intrusion) for Commercial/Industrial Land Use (CHHSL Commercial/Industrial). Furthermore, concentrations of the tracer compound detected in VB-3b indicated a significant leak of ambient air into the sample collected from the probe. Additional sampling was conducted in October 2012 from locations VB-1b and VB-3b to resolve the problems. The analyses of the follow-up soil vapor samples (VB-1c and VB-3c) indicated concentrations of benzene less than 15 $\mu g/m^3$, ethylbenzene less than 70 $\mu g/m^3$, and naphthalene less than 20 $\mu g/m^3$.

Copies of soil sample and soil vapor sample analytical results, tables and figures showing the Site Plan; locations of the soil samples, soil borings, soil vapor extraction wells, and soil vapor probes; cross section; and extent of TPHd in soil are enclosed.

Staff Evaluation – The history of the facility, and the analytical results of the soil samples indicate that the release consisted of diesel fuel. The minor concentrations of TPHg and TPHmo detected are likely due to the overlap of diesel constituents within the analytical range of gasoline and motor oil.

The UST removal report documented the excavation and removal of 175 tons of petroleum contaminated soil. Based on the analytical results from the soil samples collected during the UST removal, the average concentration of the excavated soil is estimated to be 550 mg/kg. Therefore, approximately 200 pounds of diesel fuel was removed with the contaminated soil.

The area of the TPHd impacted soil is roughly defined by soil borings B-2, B-3, B-9, and B-10, and is approximately 1,800 square feet. The volume of impacted soil appears to be the deepest in the vicinity of B-9 (at least 70 feet) and shallower beneath B-2 and B-3, at about 30 feet. Based on a worst case estimate, approximately 3,000 cubic yards of TPHd impacted soil remain beneath the Site which contains approximately 11,000 pounds of diesel fuel or approximately 1,600 gallons.

Depth to groundwater in 1993 was at least 86 feet bgs, but more recently groundwater is at approximately 110 feet bgs at the Site. The nearest significant surface water body is Dry Creek Canal, approximately 1.4 miles north of the Site. The nearest active municipal water supply well is the City of Fresno Well #003a at Santa Clara and F Street, approximately 3,000 feet south of the Site.

Low Threat Closure Evaluation – On 1 May 2012 the State Water Resources Control Board adopted the Low-Threat Underground Storage Tank Closure Policy (Policy). The criteria for closure under the Policy and evidence the case meets the criteria are outlined below:

General Criteria:

1. The unauthorized release is within the service area of the City of Fresno's public water system.
2. The unauthorized release consists only of petroleum.
3. The unauthorized (primary) release from the UST system has been stopped. All USTs, fuel delivery piping, dispensers, and associated equipment have been removed from the Site.
4. No free product has been discovered at the Site.
5. A conceptual site model (CSM) had been developed. The elements of the CSM are incorporated in the soil assessment reports submitted for this case, listed below in the References.
6. Secondary source has been removed to the extent practicable.
7. Soil has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.16.
8. Nuisance as defined by Water Code section 13050 does not exist at the Site.

Media Specific Criteria:

A. Groundwater Specific Criteria – The TPHd impacted soil does not contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria in the Policy.

B. Petroleum Vapor Intrusion to Indoor Air – Soil vapor assessment at the Site demonstrates that petroleum vapor intrusion to indoor air will have no significant risk of adversely affecting human health. Meets the criterion listed in Appendix 4, Scenario 4 (1 of 2) in the Policy.

C. Direct Contact and Outdoor Air Exposure – Soil assessment at the Site has demonstrated the concentrations of petroleum constituents in near-surface soil will have no significant risk of adversely affecting human health through direct contact with contaminated soil or inhalation of contaminants volatized to outdoor air. The detected concentrations of benzene, ethylbenzene and naphthalene in shallow soil were less than threshold concentrations listed in Table 1 of the Policy for commercial/industrial, or utility worker category.

Public Notice of the pending case closure was posted 24 January 2013, and no comments or inquiries were received. An inspection was conducted by Central Valley Water Board staff on 24 April 2013 following destruction of the soil vapor extraction wells and observation points. No evidence of investigation waste was found.