

4.9

HAZARDS

INTRODUCTION

The Hazards section of the EIR describes existing and potentially occurring hazards and hazardous materials on the project site. The section discusses potential impacts posed by these hazards to the environment, as well as to workers, visitors, and residents within and adjacent to the project site. More specifically, the section describes potential effects on human health that could result from soil or groundwater contamination stemming from past uses of the site, or from exposure to hazardous materials used during previous agricultural operations on the project site. The Hazards section is based on the *Phase I Environmental Site Assessment, Proposed Target Store, Second Street and Faraday Avenue, Davis, California* (“Phase I Report”) prepared by Kleinfelder, Inc.¹, and the U.S. Environmental Protection Agency (USEPA) Region 9 website entitled *Frontier Fertilizer*².

ENVIRONMENTAL SETTING

The following section includes discussions regarding the current on-site structures and the sources contacted or researched in order to obtain this information.

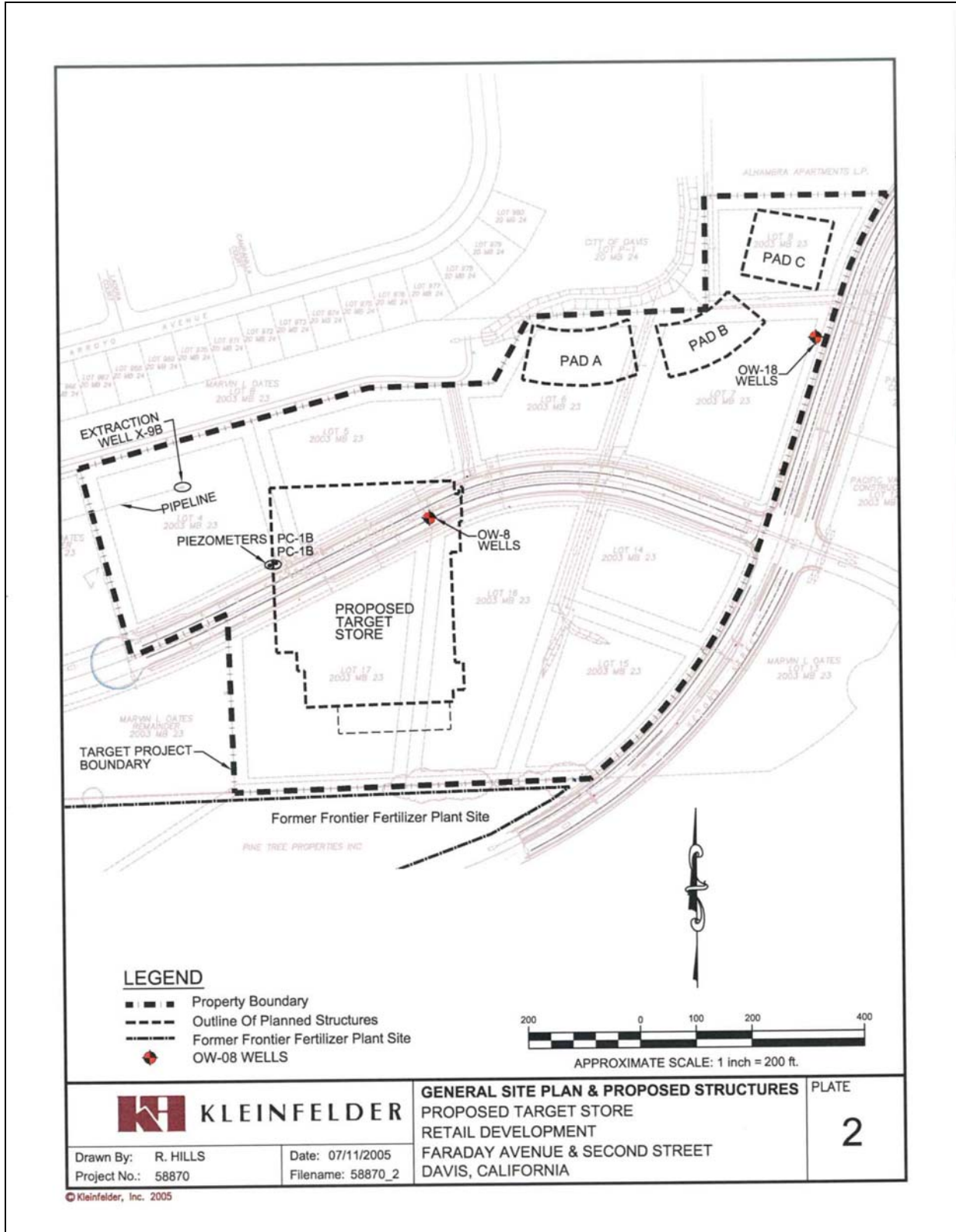
Existing Project Site Land Uses

The August 2005 Phase I assessment performed by Kleinfelder, Inc. notes that at the time of the assessment, the site was vacant and undeveloped. Site improvements include Faraday Avenue, a paved roadway bisecting the site in an east-west direction terminating at the western end of the site, and subgrade infrastructure that includes, but is not necessarily limited to electrical and water lines, storm drains, and other utilities. Additional site improvements include six groundwater monitoring wells (within two well clusters), two groundwater piezometers, and one groundwater extraction well that were installed and are maintained by the USEPA as a part of their on-going work in connection with the adjacent Frontier Fertilizer Superfund investigation and remediation program (See Figure 4.9-1). The Frontier Fertilizer site is discussed in detail later in this section.

Aerial Photographic Review

Aerial photographs for the years 1957, 1974, 1987, 1993, and 1998 available from EDR, Inc. were reviewed to determine past land use on the project site. In 1957 the site was primarily used for irrigated field crops, with several large industrial or agricultural buildings immediately adjacent to the south/southwest of the site.

**Figure 4.9-1
 On-site Structures**



Land use on the project site changes very little in the subsequent photographs, but the surrounding land uses change, primarily as a result of encroaching urban infrastructure and residential development. In the 1998 photograph, Second Street had been re-aligned to the south of the site and residential development was present to the north and northwest of the site.

Historic Topographic Maps

Kleinfelder reviewed U.S. Geological Survey (USGS) topographic maps from 1907, 1915, 1954, 1968, 1975, 1981, and 1992 in order to obtain information relative to the topography, previous development, and uses of the site and properties located in the site vicinity. Both the 7.5-Minute and 15-Minute maps were used.

Review of the 1907 topographic map indicated that the project site and surrounding areas were open, undeveloped lands. A Union Pacific railroad line is depicted to the south of the site. The 1915 and 1954 maps depicted the project site area similarly, with the exception of commercial or industrial structures immediately to the south/southwest of the site, a two-lane freeway to the south of the railroad tracks, and encroaching development in the City of Davis. The 1968, 1975, 1981, and 1992 maps show several additional commercial or industrial buildings to the south/south west of the site, a roadway east of the site, the expansion of the two-lane freeway to six lanes, and increasing development to the south and west of the site.

Interviews

Kleinfelder conducted interviews with several persons familiar with the project site.

Interview with Owner/Manager Representatives

Mr. Dan Ramos of RAMCO indicated that RAMCO purchased the property in 1980 and that no environmental site assessment was performed at the time. Mr. Ramos also indicated that the Light Industrial Park portion of the larger Mace Ranch Development, which is where construction of the Target store is proposed, had been subject to a CEQA review process. Mr. Ramos' understanding was that the USEPA and other regulatory agencies expressed concern that the wells located on the adjacent Frontier Fertilizer Superfund site be maintained and/or appropriately sealed and replaced as necessary as part of any planned development. Mr. Ramos also stated that RAMCO agreed to establish "remainder" parcels that would be excluded from future development until the EPA has completed their cleanup activities associated with the Frontier Fertilizer site. The remainder parcels include lands adjoining the western perimeter of the proposed project. Finally, Mr. Ramos suggested that Kleinfelder contact RAMCO's environmental attorney, Jeffery Scharff, for more detailed information regarding the environmental impacts of the Frontier Fertilizer site on the proposed project.

Interviews with Government Officials

State of California, Department of Water Resources (DWR)

Kleinfelder contacted Ms. Anne Roth by facsimile to obtain information about well logs in the vicinity of the project site. According to Ms. Roth, DWR has a record of 71 total wells in Township 8 North, Range 2 East, and Section 12, including 44 monitoring, 3 domestic, 1 public supply, 6 irrigation, 11 abandoned, and 5 unknown wells.

State of California, Department of Toxic Substances Control (DTSC)

Mr. Steve Ross, Technical Manager for DTSC was contacted and provided a brief overview of DTSC's role in the Frontier Fertilizer project. According to Mr. Ross, the USEPA is the lead agency for the Frontier Fertilizer project, but under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), state agency participation is required for compliance with environmental regulations in California. Mr. Ross provided Kleinfelder with information from the USEPA Fourth Quarter 2004 Groundwater Monitoring report, (included in Appendix D of the Phase I Report, available at the city offices), which included a map showing the location of on-site wells and the most recent available groundwater monitoring results. Finally, Mr. Ross indicated that he, Bonnie Arthur (USEPA), and representatives of the City of Davis met in mid-2005 to discuss the fact that Target had approached the City of Davis with a development proposal. According to Mr. Ross, the common concern expressed at the meeting was that site monitoring wells be respected and retained, or replaced if the wells conflicted with site development plans. Mr. Ross and Ms. Arthur agreed to wait until a formal application was submitted and the CEQA review had begun before providing specific comments regarding the project site development.

State of California, Fire Marshal, Pipeline Safety Office

According to Lisa Dowdy, from the Office of the State Fire Marshal, Kinder Morgan Energy Partners has pipelines in the area of the project site that carry refined products (i.e., gasoline, jet fuel, gas oil). Kleinfelder contacted Kinder Morgan Energy Partners to assess the location of the petroleum pipeline in relation to the project site. According to Kleinfelder, Kinder Morgan indicated that a pipeline alignment exists along the Union Pacific railroad tracks south of the site and not on the subject property.

United States Environmental Protection Agency (USEPA)

Ms. Bonnie Arthur, Technical Lead for the former Frontier Fertilizer site located southwest of the subject site, was contacted regarding conditions associated with the site. Ms. Arthur provided copies of recent maps issued for groundwater contamination conditions associated with the Frontier Fertilizer site, which is under investigation by the USEPA. Copies of relevant documents are included in Appendix D to the Phase I Report, available at the city offices. Ms. Arthur was asked about a potential windfall lien that the USEPA might place on landowners to recover costs associated with the USEPA's

investigation and cleanup of the Frontier Fertilizer site. Ms. Arthur indicated that Sara Goldsmith of the USEPA's legal staff had been communicating with Target personnel about the potential lien. According to Ms. Arthur, the USEPA may be considering some type of prorated allocation of the windfall lien on properties adjacent to the Frontier Fertilizer site, which would be based on the actual area of land under which detectable concentrations of contaminants from the Frontier Fertilizer site could be found.

Interviews with Client/Others

Kleinfelder interviewed Mr. Jeffory Scharff, attorney for Mace Ranch Park developers RAMCO in person on July 5, 2005. During the interview, Mr. Scharff provided much of the information summarized in the discussion of Section 8.2 of the Phase I report, and provided substantial documentation for the project site's background, including selected documents attached in Appendix F of the Phase I report. Mr. Scharff reiterated the comments made by Mr. Ramos that the Light Industrial Park portion of the Mace Ranch development had involved CEQA review at the time of its planning in 2000-2001 and that he had participated in that review. As a part of that CEQA review process, the property was determined to lie within the "Border Zone" of a listed Superfund site, and therefore, was subject to a Border Zone determination. The Border Zone determination primarily consisted of risk assessments. Site investigation and reporting to both the USEPA and DTSC were made a part of the Border Zone determination. The USEPA determined that lands beyond the 2,000-foot limit from the property line of the former Frontier Fertilizer site were not subject to further Border Zone determination; however, lands within the 2,000-foot limit would be required to conduct some evaluation; this includes the entire project site. For the subject property, the evaluation consisted of a risk evaluation that identified ingestion of groundwater as the principal pathway for human exposure, and to a lesser extent, inhalation of vaporized emissions from volatilized chemicals of concern. The latter exposure scenario (vapor inhalation) was subsequently determined not to present a risk in excess of 1 in 10 million due to the conservative values used in the risk calculations.

Mr. Scharff indicated that the City of Davis has exercised caution in making direct findings regarding environmental conditions on the former Frontier Fertilizer site and that the City typically defers specific comments on these issues to both the USEPA and the DTSC.

Mr. Scharff noted that early in his involvement with the project site, carbon tetrachloride, one of the Frontier Fertilizer chemicals of concern, was investigated to determine if other potential sources of this chemical existed in the area besides the Frontier Fertilizer site. Specifically, the USEPA and the DTSC looked closely at land in the Light Industrial Park for possible sources of carbon tetrachloride, but did not find any. Frontier Fertilizer has since been identified as the source for carbon tetrachloride contamination in the project area.

Mr. Scharff was not aware of any historic use of the Frontier Fertilizer site that would give rise to additional recognized environmental conditions associated with the project site.

When asked about the potential for windfall liens that the USEPA might place on landowners in the vicinity of the Frontier Fertilizer site to recover costs associated with the USEPA's investigation and cleanup of the Frontier Fertilizer site, Mr. Scharff indicated that RAMCO had complied with an inquiry from the USEPA several months earlier (possibly January 2005) that included a CERCLA Section 104 submittal dealing with financial disclosure. Other details regarding a potential windfall lien were not discussed.

Potential Onsite Hazards

Pesticides

Based upon review of historical photographs (1987 and before), the site appears to have been used primarily for agricultural purposes, possibly corn and other ground crops (vs orchards). Pesticides, including persistent pesticides, may have been stored and utilized on the subject site. The Agricultural Commissioner's Office does not maintain records of pesticide use for the period that would apply during the timeframe that the site was subject to this use.

Debris

At the time of Kleinfelder's site reconnaissance, a few areas of partially buried debris were observed in the south-central portion of the site. In this area, particularly along the fenceline with the adjoining property, miscellaneous debris was observed including a few tires, metal (eg. wire, small pipe sections) and wood. The determination was not made at the time of the survey as to whether the debris was limited to near surface or whether some of the debris extends subsurface in certain locations. The debris did not appear extensive, and may have been isolated to areas periodically used by transients.

Wells

Six (6) groundwater monitoring wells (two well clusters of three wells each Frontier Fertilizer well sites OW-8 and OW-18), two groundwater piezometers (PC-1B and PC-1C used for groundwater level measurement only), and one groundwater extraction well (X-9B) exist on the project site (See Figure 4.9-1). These wells were installed, and are maintained by the USEPA as part of their on-going work in connection with the adjacent Frontier Fertilizer Superfund investigation/remediation program. According to Figure 4.9-1, a pipeline is located at the northwestern corner of the project site, which ties into groundwater extraction well X-9B.

Surrounding Hazardous Materials/Sites

Sites

The Phase I Site Assessment includes the results of a search performed for the site by Environmental Data Resources Inc. (EDR). EDR searched federal, state, and local databases for the project site and a 0.25 mile radius around the site. The project site was not listed on any of the searched databases. However, the following six sites were identified within the American Society of Testing and Materials (ASTM) search distance:

Former Frontier Fertilizer Site

Background

The former Frontier Fertilizer site was first operated as a farming headquarters in 1950 by the C. Bruce Mace Ranch Company. Grain warehouses and barns for machinery storage were the first buildings erected on the Property. A labor camp was constructed on the site between 1952 and 1954 and was used as such until 1970, when mechanical tomato harvesters reduced the need for labor. In 1970, the site was sold to Anderson Farms, Inc. From 1970 to 1972, the labor camp buildings were used by transient farm labor families. Afterwards, the labor camp buildings housed a wood shop and a machine shop. In 1972, a tomato grading station and wash rack for rinsing tomato trucks was constructed on the site.

The Barber-Rowland Company of Davis entered into an agreement with Anderson Farms in 1972 to set up a fertilizer and pesticide sales business on 4-acres on the western side of the Property. In December 1982, Barber-Rowland Company of Davis and Anderson Farms, Inc. terminated their agreement. Beginning in January 1983, the western 4-acres of the Property was leased to the Frontier Fertilizer Company, which continued the fertilizer and pesticide sales business until March 1987.

Barber-Rowland and Frontier Fertilizer sold fertilizers and pesticides in bulk or mixed in 500 to 1,000-gallon tank trailers for transport and application. Returned tank trailers and other containers containing unused or residual fertilizers or pesticides were rinsed out and the rinsate was poured onto the ground or into an unlined disposal basin located near the northwest corner of the Property. The exterior of the trailers were also washed at a concrete pad located southwest of the pole barn.

In July 1983, a Frontier Fertilizer employee's dog died of pesticide poisoning after coming in contact with liquid in the disposal basin. On August 2, 1983, Yolo County Department of Public Health (YCDPH) personnel conducted a site investigation and discovered a 20-foot by 15-foot by 4-foot basin filled with approximately 1,500 gallons of dark and oily liquid. The Frontier Fertilizer owners were never issued a Resource Conservation and Recovery Act (RCRA) permit to treat, store, or dispose of hazardous wastes. Two days later, the YCDPH personnel returned to collect liquid samples but

discovered that the basin had been pumped out. Soil samples collected at the bottom of the basin and surrounding area were analyzed and found to contain ethylene dibromide (EDB), dibromochloropropane (DBCP), 1,2-dichloropropane (1,2-DCP), and other pesticides. EDB was found at levels up to 1,056 parts EDB per million parts soil (ppm).

Contamination and Clean-up Efforts

The former Frontier Fertilizer site is the principal recognized environmental condition (REC) identified by the Phase I report. The Frontier Fertilizer site is a listed Superfund Site under the USEPA oversight with concurrent involvement of the DTSC. As mentioned previously, the Frontier Fertilizer site borders the southern and western property line of the project site.

Remediation efforts were initiated in 1985 and since that time, extensive investigation and remediation efforts have been conducted and continue today (for a more detailed discussion of previous research and clean-up refer to the USEPA website at: www.epa.gov/Region9/cleanup/index.html). The USEPA listed the site as a Superfund site in 1994 and acted as lead regulatory agency overseeing the work conducted.

Contaminants released at the former Frontier Fertilizer site have infiltrated groundwater underlying the area, including the project site, and migrated northward beyond the former site boundary within three aquifers, including the S-1 shallow aquifer (approx. 30 to 60 feet deep), the S-2 aquifer (approx. 60 to 90 feet deep), and the A-1 aquifer (approx. 90 to 140 feet deep). Groundwater flows north-northeast in the S-1 and S-2 zones and generally southeasterly for the A-1 zone. Each of the four water-bearing zones is separated by layers of clay.

Drinking water supply for the City of Davis comes from a deeper A-2 aquifer that begins approximately 180 feet bgs. Contaminants above drinking water standards have not been detected in the A-2 aquifer.

Contaminants of concern (COCs) include four pesticides: 1,2- dibromoethane (EDB); 1,2-dichloropropane (DCP); 1,2-dibromo-3-chloropropane (DBCP); 1,2,3-trichloropropane (TCP); and the solvent carbon tetrachloride. Contaminated groundwater has migrated north of the Frontier Fertilizer site and is beneath the residential areas of Mace Ranch. The eastern edge of the groundwater contaminant plume extends under the western portion of the planned Target retail center property. The shallow groundwater table beneath the site is encountered at approximately 21 to 23 feet below ground surface (wells OW-18, Lot 17, Dec. 2003).

EPA has been operating a groundwater extraction and treatment system for the site since 1995. Within the last two years, the USEPA implemented system improvements to increase control of contaminated groundwater and allow the system to operate at the maximum available treatment rate (80 gallons per minute). Some of these improvements are located on the Frontier Fertilizer site and others are located on nearby sites, including the Target site. These and other operation and maintenance improvements have also

resulted in reduced operations costs. Improvements made to the system since August 2003 include:

1. Installation of five new wells capable of extracting and monitoring contaminated groundwater and four smaller wells, called piezometers, to increase monitoring capacity of the groundwater system.
2. Completion of four extraction wells and connection to the existing extraction system.
3. Replacement of problematic buried power and control conductors with above-ground wiring to minimize operational and maintenance requirements.
4. Replacement of pressurized treatment system discharge plumbing with a gravity flow line to facilitate increased pumping capacity and reduced energy demand.

A summary of the current conditions associated with the contaminant investigation and cleanup status is provided in a USEPA Bulletin dated June 2005, and is attached as Appendix D to the Phase I report. The USEPA Bulletin of June 2005 depicts the primary contaminant plume extending northward from the Frontier Fertilizer site from identified historical source areas located primarily southwest of the southwest corner of the planned Target site. Although the June 2005 USEPA Bulletin suggests that the groundwater contaminant plume extends northward at the western edge of the proposed Target retail development property, according to recent reports reviewed (USEPA Fourth Quarter 2004 Groundwater Monitoring Report, CH2MHill), the last detection of constituents of concern in wells (S-1, S-2, or A-1 aquifers) that exist on the proposed Target site (OW-8 a,b,c) nearest to the plume source, were reported in samples collected in December 1999.

On-site wells continue to be used as monitoring/sample points in the on-going investigation and to monitor remediation effectiveness. The Fourth Quarter 2004 Groundwater Monitoring report concludes that the existing remediation system, focusing on plume containment using groundwater extraction and treatment, appears to be effectively capturing the area of groundwater contamination. The groundwater extraction and treatment system has continued to evolve over time in size and area of coverage in order to adequately contain, control, and remove the groundwater plume. Currently, EPA is drafting a Feasibility Study, which evaluates different long-term cleanup alternatives, and EPA expects to issue a proposed plan and final record of decision (ROD) documenting the Agency's selected cleanup remedy in 2006. Because of the lack of viable responsible parties, EPA has conducted the work at this site and to date has incurred approximately \$25 million in response costs.

Chevron #9-9148, 4475 Chiles Road

The Chevron station is located less than 0.5 mile south/southeast of the subject site. This facility is listed on the LUST and Cortese databases for a gasoline leak that affected drinking water aquifer. The leak reportedly occurred in 1986 and was discovered in 1991 during tank closure.

Shell SS, 4480 Chiles Road

The Shell station is located less than 0.5 mile south/southeast of the subject site. This facility is listed on the LUST and Cortese databases for a gasoline leak that affected the drinking water aquifer. The leak reportedly occurred in 1997.

Davis Liquor & Food, 4810 Chiles Road

The Davis Liquor & Food is located less than 0.5 mile southeast of the subject site. This facility is listed on the LUST and Cortese databases for a gasoline leak that affected the drinking water aquifer. The leak reportedly occurred in 1999.

A E Harter Inc/Van Wert Motors, 5100 Chiles Road

The A E Harter Inc/Van Wert Motors is located less than 0.5 mile east/southeast of the subject site. This facility is listed on the SLIC database for a release of PET, TPHD, TPHG, and VOC.

Although some of these listed sites are known to have affected groundwater at their respective locations, all of the sites are located south of Interstate 80 on the opposite side of the highway from the proposed Target retail center project. The typically localized dispersion of petroleum hydrocarbons from UST sites, the relative distance of these sites from the subject property, and the absence of petroleum hydrocarbon constituents reported in samples from wells monitored by the USEPA on site, suggest that these potential RECs have not impacted the subject property.

Substances/Materials

As mentioned above, according to Lisa Dowdy from the Office of the State Fire Marshal, Kinder Morgan Energy Partners has pipelines in the area of the project site that carry refined products (i.e., gasoline, jet fuel, gas oil). Kleinfelder contacted Kinder Morgan Energy Partners to assess the location of the petroleum pipeline in relation to the project site. According to Kleinfelder, Kinder Morgan indicated that a pipeline alignment exists along the Union Pacific railroad tracks south of the site and not on property. Furthermore, an 8-inch PG&E gas line is located within the Second Street right-of-way, south of the project site.

REGULATORY CONTEXT

The term hazardous substance refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency or if it has characteristics defined as hazardous by such an agency.

The California Environmental Protection Agency, Department of Toxic Substances Control (CAL-EPA, DTSC) defines hazardous waste, as found in the California Health and Safety Code Section 25141(b), as follows:

[...] its quantity, concentration, or physical, chemical, or infectious characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.

Many agencies regulate hazardous substances. The following discussion contains a summary review of regulatory controls pertaining to hazardous substances, including federal, State, and local laws and ordinances.

Federal Regulations

Federal agencies that regulate hazardous materials include the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), and the National Institute of Health (NIH). The following federal laws and guidelines govern hazardous materials.

- Federal Water Pollution Control
- Clean Air Act
- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substances Control Act

Prior to August 1992, the principal agency at the federal level regulating the generation, transport and disposal of hazardous waste was the EPA under the authority of the

Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the California Department of Toxic Substance Control (DTSC) was authorized to implement the State's hazardous waste management program for the EPA. The federal EPA continues to regulate hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

CERCLA

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Subsection 101(40) of CERCLA defines "bona fide prospective purchaser" (BFPP) as a person, or tenant of that person, who acquires ownership of a facility after the date of enactment of the Brownfields Amendments, January 11, 2002. A BFPP may be subject to a "windfall lien" under the newly added CERCLA Section 107(r), up to the amount of unrecovered response costs incurred by the United States at a facility for which the owner is not liable as a BFPP, and where the response action increases the fair market value of the facility. As to the amount and duration of any windfall lien, the Brownfields Amendments state that the amount is not to exceed the increase in fair market value attributable to the response action at the time of sale or other disposition of the property. The windfall lien arises at the time response costs at the facility are incurred by the United States, and shall continue until the earlier of satisfaction of the lien by sale or other means, or, notwithstanding any statute of limitations under CERCLA Section 113, recovery of all response costs incurred at the facility.

State Regulations

The California Environmental Protection Agency (Cal-EPA) and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the

management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

Assembly Bill 387 and Senate Bill 162

AB 387 and SB 162 provide a comprehensive program to ensure that hazardous material contamination issues are adequately addressed prior to school development. The program involves the preparation of a Phase I Environmental Site Assessment to determine whether a release of a hazardous material has occurred onsite in the past or if there may be a naturally occurring hazardous material present at the site. Based on the information gathered, the Phase I should conclude that either 1) no recognized environmental conditions were identified, or 2) a Preliminary Endangerment Assessment (PEA) is necessary.

Local Regulations

The following are applicable goals and policies from the City of Davis General Plan related to hazards:³

Disaster Planning

Goal HAZ 3. Provide for the safety and protection of citizens from natural and environmental hazards.

Policy HAZ 3.1 Provide for disaster planning.

Toxics

Goal HAZ 4 Reduce the use, storage, and disposal of toxic and hazardous substances in Davis, and promote alternatives to such substances and their clean up.

Policy HAZ 4.1 Reduce and manage toxics within the planning area.

Policy HAZ 4.2 Provide for the proper disposal of hazardous materials in Davis.

Policy HAZ 4.3 Reduce the potential for pesticide exposure for people, wildlife, and the environment.

Policy HAZ 4.4 Increase awareness of agricultural chemical use impacting Davis residents.

Policy HAZ 4.5 Minimize impacts of hazardous materials on wildlife inhabiting or visiting the Davis area.

Policy HAZ 4.6 Increase awareness of asbestos in the community.

Policy HAZ 4.7 Ensure that remediation of hazardous waste sites is conducted in the most timely and environmentally responsible manner possible.

Combined Pollutants

- | | |
|----------------|---|
| Goal HAZ 5 | Reduce the combined load of pollutants generated in the City by 30 percent by the year 2010. |
| Policy HAZ 5.1 | Reduce the combined load of pollutants generated in the City's wastewater, stormwater, and solid waste streams. Such pollutants include, but are not limited to toxic and hazardous substances. |

Yolo County Environmental Health Department

The Yolo County Environmental Health Department provides environmental health services to all residents in the County. Among the environmental health programs of the department are the Hazardous Materials Unit Programs, which address such issues as solid waste, hazardous wastes, and above-ground and underground storage tanks.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria, or standards, used to determine the significance of impacts may vary depending on the nature of the project. For the purposes of this EIR, an impact is considered significant if the proposed project would:

- Increase the potential for accidental release of hazardous substances;
- Create any health or safety hazards or potential health or safety hazards; or
- Expose people to existing sources of potential health or safety hazards.

Method of Analysis

A representative from Kleinfelder, Mark Klaver, conducted a site reconnaissance on July 5, 2005 to assess and photograph present site conditions. Other means of gathering information pertaining to the project site are discussed above and include interviews, aerial photography and topographic map research, and relevant database searches.

Project Impacts and Mitigation Measures

4.9-1 Presence of contaminated groundwater underlying the project site.

Contaminants released at the former Frontier Fertilizer site have infiltrated groundwater underlying the area and migrated northward beyond the former site boundary within three aquifers, including the S-1 shallow aquifer (approx. 30 to 60 feet deep), the S-2 aquifer (approx. 60 to 90 feet deep), and the A-1 aquifer

(approx. 90 to 140 feet deep). Groundwater flows north-northeast in the S-1 and S-2 zones and generally southeasterly for the A-1 zone. Each of the four water-bearing zones is separated by layers of clay.

Drinking water supply for the City of Davis comes from a deeper A-2 aquifer that begins approximately 180 feet bgs. Contaminants above drinking water standards have not been detected in the A-2 aquifer.

Contaminants released at the former Frontier Fertilizer site have infiltrated groundwater underlying the area and migrated northward beyond the former site boundary within the S-1, S-2 and A-1 aquifers. Contaminants of concern include the solvent carbon tetrachloride and the following three pesticides: 1,2-dibromoethane (EDB), 1,2-dichloropropane (DCP), and 1,2-dibromo-3-chloropropane (DBCP). The eastern edge of the groundwater contaminant plume extends under the western portion of the project site.

Existing Groundwater Monitoring/Extraction Wells

Six (6) groundwater monitoring wells (two well clusters of three wells each Frontier Fertilizer well sites OW-8 and OW-18), two groundwater piezometers (PC-1B and PC-1C, used for groundwater level measurement only), and one groundwater extraction well (X-9B) exist on the project site (See Figure 4.9-1). These wells were installed, and are maintained by the USEPA as part of their on-going work in connection with the adjacent Frontier Fertilizer Superfund investigation / remediation program. As indicated in Figure 4.9-1 above, the building envelopes proposed for the project would be located where some of the wells currently exist. As indicated in the Phase I Report, according to Bonnie Arthur, USEPA Region 9, Remediation Project Manager, and Steve Ross, DTSC Project Manager, the project applicant would either need to avoid these wells or replace/reconstruct the wells at a suitable location where they can effectively serve their intended purpose in the on-going monitoring and remediation work by these agencies. Any improvements associated with the Second Street Crossing project that would encroach onto the well locations would require close coordination with USEPA and DTSC, and require workplans to be developed and pre-approved for any activity that could affect these wells. During work that would involve any modification to, or potential impact upon these wells, such activity would likely be directly supervised by the EPA and/or DTSC.

Considering the current Second Street Crossing site plan, the planned Target Store footprint would directly overlie both piezometers (PC-1B and PC-1C), as well as monitoring well cluster OW-8a, 8b, and 8c. Under the present site development scenario, these wells would have to be abandoned and reconstructed somewhere in the immediate proximity of their present location in order to continue to serve their intended purpose.

The area of Lot 4 (as shown on the Final Map, Subdivision 4439, Mace Ranch Light Industrial Park) in the northwest corner of the proposed Target Store (see Figure 4.9-2, Second Street Crossing Tentative Map), where groundwater remedial extraction well X-9B is located, is in a proposed landscape area. Because the landscape area is located in the northwest corner of the project site, the facilities associated with this extraction well would not be impacted. A fenced enclosure could remain around this well and be screened using appropriate vegetation. It should be noted that a subsurface pipeline is connected to well X-9B; this pipeline is routed from extraction well X-9B towards the remediation treatment system on the adjacent Frontier Fertilizer site to the west-southwest. The location of this pipeline is not specifically known, but would need to remain in any future site development plan that includes keeping extraction well X-9B in its current location.

In the northeast portion of Lot 7, are monitoring wells OW-18a, 18b, and 18c. Based on the present site plan, these wells may either lie in future pavement areas or perimeter landscaping adjacent to the southeast corner of Pad C and near Second Street. The tops of these wells are completed inside "meterbox" type vaults that are finished at ground surface near existing grade. The possibility exists that these wells could also remain largely unaffected by possible site development with relatively minor adjustments to the well vault placement to match future finish grade. These wells would need to be adequately protected during construction activity so that they would not be damaged.

Other Regulatory Considerations

Agreement for Mace Ranch Park Development

Aside from the above-described provisions regarding the need for maintaining/accommodating the established wells on the property, other regulatory agency considerations are described. In particular, a Stipulated Agreement for Mace Ranch Park Development (MRP), owner of the subject site, and a Covenant To Restrict Use of Property, was established with the DTSC in March 1992 (see Appendix F of the Phase I Report, available at the City offices for review) and extends to future owners/occupants of the subject site and "runs with the property". In addition to provisions regarding well maintenance, the agreements recognize that a Border Zone Determination process (evaluation of lands adjoining Superfund sites) was being conducted to evaluate the risk of environmental conditions to future developments on MRP lands, and includes (among other items), that DTSC shall have unencumbered access to the site for the purpose of continuing site investigation and cleanup activity as may be deemed necessary. These documents identify various provisions that apply to the site and should be understood by legal counsel for Target as to their potential affect.

The Stipulated Agreement identifies controls on fill material placement within 50 feet of the Frontier Fertilizer site. Under the proposed development scenario, fill placement as part of earthwork activity associated with Target construction would likely include some fill placement within this established setback zone. The possibility exists given the nature of site work that would be anticipated for the new store and perimeter site construction that some accommodation could be made to allow for controlled earthwork, grading, paving, and maintenance within this setback zone by regulatory agencies.

Windfall Lien

USEPA currently has a groundwater extraction well on the Remainder parcel near the border of Lot 17 (X-10B), where the Target Store is proposed. Based upon USEPA's quarterly sampling, this well has detected groundwater contaminated with carbon tetrachloride. Due to the underlying groundwater contamination, USEPA considers Lot 17 to be part of the Frontier Fertilizer Site. As such, the possibility exists that the applicant's acquisition of this parcel would bring the project under the purview of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. Sections 101(40) and 107(r). Should the determination be made by the United States EPA that the project site is under the purview of CERCLA, in order for the applicant to keep their status as a Bone Fide Prospective Purchaser (BFPP) under Section 101(40) of CERCLA and not become a potentially responsible party (PRP) for site response costs under Section 107(a), when the applicant acquires Lot 17 and any other parcel that has site-related contamination, the applicant would need to comply with all the eligibility criteria of Sections 101(40) and 107(r).

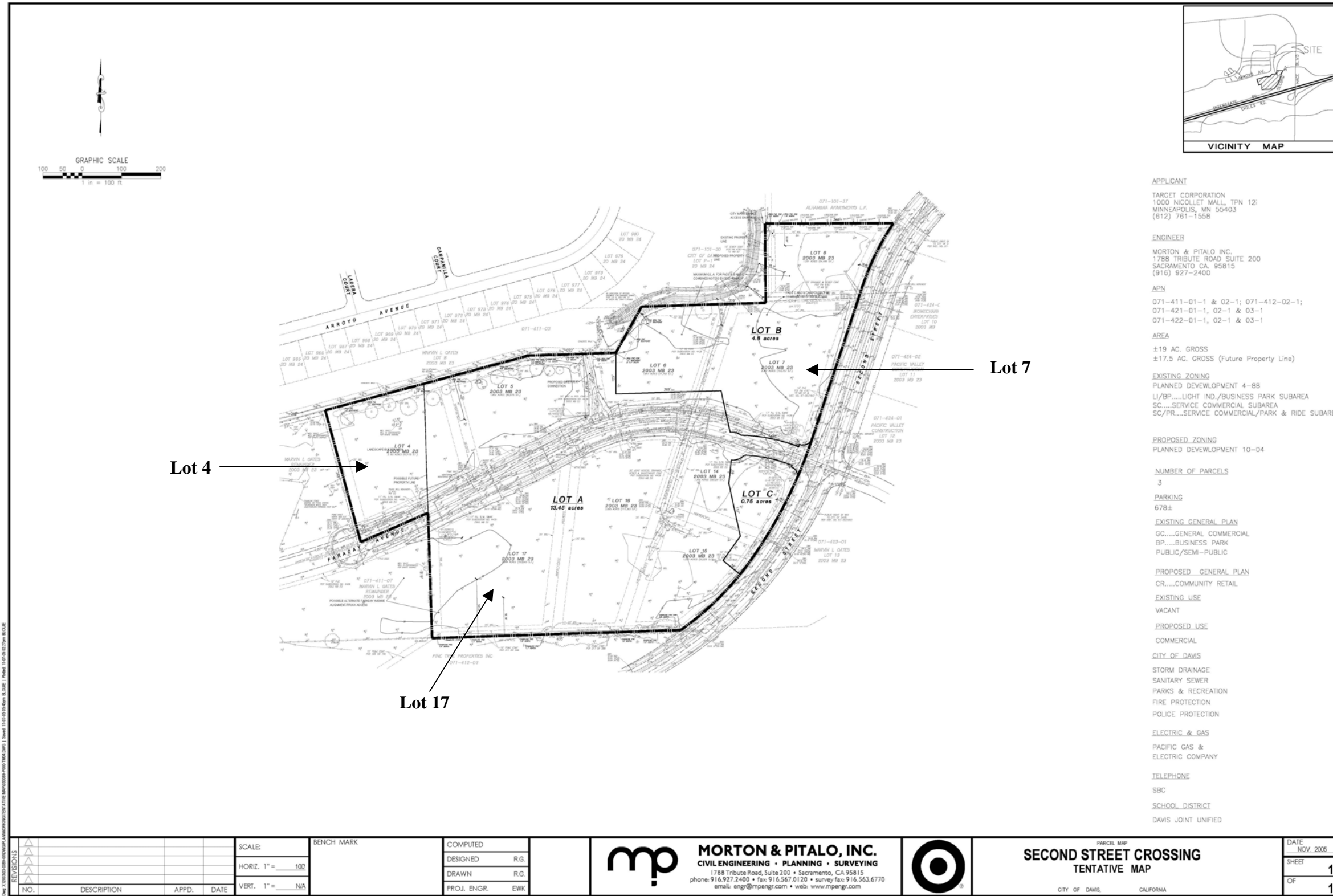
Summary

The project as currently proposed involves relocating an existing groundwater extraction well and two piezometers, as well as other possible minor adjustments to additional EPA wells. If the above structures are not properly relocated, the project could result in reducing the effectiveness of the remediation program currently being carried out by EPA. As a result, the project would have a **significant** impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impacts to a *less-than-significant* level.

**Figure 4.9-2
 Tentative Map Showing Lot 17 at SW Corner of Project Site**



4.9-1(a) *Any improvements associated with the Second Street Crossing project that would encroach onto well locations would require close coordination with USEPA and DTSC; and, prior to obtaining clearance to grade the site or conduct earthwork activities, project workplans shall be developed and pre-approved by USEPA and DTSC for all construction activities occurring adjacent to these wells.*

Prior to obtaining clearance to grade the site or conduct any earthwork activities, the applicant shall consult with the United States Environmental Protection Agency and Department of Toxic Substances Control regarding the relocation/reconstruction of on-site wells and piezometers. The relocation/reconstruction sites for piezometers PC-1B and PC-1C, as well as monitoring well cluster OW-8a, 8b, and 8c shall be determined by the United States Environmental Protection Agency and Department of Toxic Substances Control. During work that would involve any modification to, or potential impact upon these wells, such activity shall be directly supervised by the EPA and/or DTSC.

4.9-1(b) *In accordance with the provisions set forth in the “Stipulated Agreement for Mace Ranch Park Development” (MRP), DTSC shall have unencumbered access to the site for the purpose of continuing site investigation and cleanup activity as may be deemed necessary.*

Furthermore, the agreement states that fill shall not be placed closer than 50 feet adjacent to the Frontier Fertilizer property border. As a result, the project applicant shall prepare and submit to DTSC as-built drawings, showing placement of fill material or excavation of existing soil.

4.9-2 Other on-site debris.

At the time of Kleinfelder’s site reconnaissance, a few areas of partially buried debris were observed in the south-central portion of the site. In this area, particularly along the fenceline with the adjoining property, miscellaneous debris was observed including a few tires, metal (e.g. wire, small pipe sections) and wood. The determination was not made at the time of the survey as to whether the debris was limited to near surface or whether some of the debris extends subsurface in certain locations.

During Kleinfelder’s geotechnical fieldwork, a magnetometer was used to assist in clearing planned boring locations. At that time, and in the immediate vicinity of planned borings, areas were found in which the magnetometer detected localized

metallic objects; however, resolution could not be made as to material depth or size. During drilling, significant areas of debris fragments were not encountered in sampled boreholes. As a result of the onsite debris, the project could result in *significant* impacts to construction workers.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impacts to a *less-than-significant* level.

4.9-2 *If during construction activity, areas of debris or odors are observed that may be associated with a hazardous substance or petroleum product, the project applicant shall contact Kleinfelder (or other similarly qualified firm), the property owner, the City, and the Yolo County Environmental Health Department for further assessment. If these parties determine that the items are not hazardous, they shall be removed and discarded in accordance with City standards at the expense of the applicant. If these parties determine that subsurface hazardous substances are located onsite, these substances shall be removed and the soil remediated to the satisfaction of the Yolo County Environmental Health Department and DTSC at the expense of the applicant.*

4.9-3 Presence of pesticide and/or herbicide residues in project site soils.

Though not currently being farmed, the site has historically been used for farming operations. As a result, pesticides have been applied on the project site over the course of several years, as far back as the 1950s. Based on information reviewed during the Second Street Crossing Phase I site assessment, Kleinfelder understands that a planned school project in the Mace Ranch development area approximately 0.5-mile north of the site was subject to screening for pesticides in soil as a consequence of pending school construction. During that assessment, low concentrations of toxaphene and other persistent pesticides were recorded in shallow soils. In accordance with DTSC protocols for school sites, this level of investigation was required as well as a risk assessment to evaluate potential exposures to low levels of pesticides. The presence of pesticides in the regions' shallow soils is ubiquitous and common in areas formerly used for agricultural purposes. Due to the uncertainty as to the level of pesticides in the project site soils, construction of the project, including grading and excavation activities, could result in *significant* impacts to construction workers through exposure to pesticides.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impacts to a *less-than-significant* level.

- 4.9-3 *Prior to obtaining clearance to grade the site or conduct earthwork activities, the project applicant shall provide to the City of Davis a detailed environmental assessment pertaining to the on-site soils. If no pollutants of concern are detected, further mitigation is not necessary. If the assessment finds concentrations of a pesticide or herbicide, the applicant shall submit a remediation plan to the Yolo County Environmental Health Department and DTSC for approval, and shall remediate the pesticide or herbicide to the satisfaction of Yolo County Environmental Health Department and the DTSC.*

Cumulative Impacts and Mitigation Measures

4.9-4 **Long-term hazards-related impacts from the Proposed Project in combination with existing and future developments in the Davis area.**

Impacts associated with hazardous materials are site-specific and generally do not affect or are not affected by cumulative development. Cumulative effects could be of concern if the project was, for example, part of a larger development in which industrial processes that would use hazardous materials were proposed. However, this is not the case with this project, and project-specific impacts were found to be less-than-significant with the implementation of the recommended mitigation measures. In addition, surrounding development would be subject to the same federal, State, and local hazardous materials management requirements as would the proposed project, which would minimize potential risks associated with increased hazardous materials use in the community, including potential effects, if any, on the proposed project. Therefore, implementation of the proposed project would have a *less-than-significant* impact associated with cumulative hazardous materials use.

Mitigation Measure(s)

None required.

Endnotes

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- ¹ Kleinfelder, Inc., *Phase I Environmental Site Assessment, Proposed Target Store, Second Street and Faraday Avenue, Davis, California*, August 2005.
- ² United States Environmental Protection Agency Region 9 website, <http://yosemite.epa.gov/r9/sfund/overview.nsf/507c94f730e0ebf488256958005cda5f/ff35f35e38b14f8e8825660b007ee650?OpenDocument>, accessed 10/25/2005
- ³ City of Davis, *City of Davis General Plan*, May 2001.
- ⁴ United States Environmental Protection Agency, Frontier Fertilizer Superfund Site, Davis, Yolo County, California (the Site), Proposed Target Store in Davis, September 28, 2005.