ConocoPhillips
76 Broadway
Sacramento, California 95818

October 30, 2008

Barbara Jakub
Alameda County Health Agency
1131 Harbor Bay parkway, Suite250
Alameda, California 94502-577

Re: ***Additional Site Assessment Work Plan—First Phase***
76 Service Station # 1028 RO # 02967
5300 Broadway
Oakland, CA

Dear Ms. Jakub,

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call me at (916) 558-7666.

Sincerely,

Terry L. Grayson
Site Manager
Risk Management & Remediation

October 29, 2008

Ms. Barbara J. Jakub, PG
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

DELTA

RE: Additional Site Assessment Work Plan
First Phase
Fuel Leak Case No. RO00002967
Geotracker Global ID T0619732490
Unocal#1028 / ConocoPhillips # 251028
5300 Broadway
Oakland, CA 94618

Dear Ms. Jakub:

On behalf of Conoco Phillips Company (COP), Delta Consultants (Delta), has prepared this work plan as directed by the Alameda County Environmental Health (ACEH) in the letter dated June 25, 2008.

A *Due Diligence Site Assessment Report* that was submitted by ATC on November 2007. This report discusses the results of the baseline assessment that was performed at the site in 2007. The report indicates that maximum concentrations of 25,000 micrograms per liter (µg/L) total petroleum hydrocarbons as diesel (TPHd) in groundwater from ATC-2 and 5,300 µg/L total petroleum hydrocarbons as gasoline (TPHg) in ATC-5. The maximum TPHd concentration in soil [23 milligrams per kilogram (mg/Kg)] was detected in ATC-2 at a depth of five feet below ground surface (bgs) and the maximum TPHg concentration (5.2 mg/Kg) was detected in ATC-5 from 5 ft bgs.

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ACEH requested that additional investigation be performed at the site to:

1. Define the dissolved contamination plume, and to

2. Evaluate the preferential pathways (Utility Survey and Well Survey)

In this **First Phase**, Delta is proposing the advancement of seven soil borings (Figure 1) to determine the extent of contamination in soil and groundwater.

In a **Second Phase**, the vertical extent and magnitude of soil and groundwater contamination and, if necessary, the lateral extent and magnitude of groundwater in the off-site areas will be defined and consequently, the hydrogeologic conditions will be determined. A Work Plan to install a minimum of three groundwater monitoring wells on site will be submitted for approval to ACEH. Monitoring well locations and (if necessary) the off-site soil boring locations will be determined based on Phase 1 results.

SITE DESCRIPTION

The site's current underground storage tank (UST) system configuration includes three fuel USTs, one waste oil UST and two dispenser islands. During the site visit, on October 17, 2008, the fuel station was inactive (fenced).

PREVIOUS ASSESSMENT

1989 - Soil samples were collected following the removal of two fuel storage tanks, their associated piping, and a waste oil tank at the referenced site. Ground water was encountered in the tank pit at a depth off approximately 7 to 8 feet. Analytical results of the soil samples showed TPH as gasoline ranging from non-detectable to 22 ppm in the fuel tank pit and from non-detectable to 5.7 ppm in the waste oil tank pit. All TPH as diesel levels were less than 10 ppm and all TOG levels in the waste oil tank pit were less than 50 ppm.

On April 6 and 9, **1990**, three two-inch diameter monitoring wells (designated as MW1, MW2 and MW3 on the attached Figure 1) were installed at the site. Analytical results of the soil samples, collected from the borings for monitoring wells (MW1, MW2 and MW3), indicate non-detectable levels of TPH as gasoline in all soil samples. Benzene was detected in the soil samples at concentrations ranging from non-detectable to 0.0066 ppm. In boring MW1 soil samples, TPH as diesel, TOG and EPA 8010 compounds were non-detectable in all samples. Analytical results of the ground water samples collected from monitoring wells MW1and MW2 indicate non-detectable levels of TPH as gasoline and BTX&E. In well MW3, TPH as gasoline was detected at 590 ppb and benzene was detected at 2.5 ppb. In well MW1, TPH as diesel was detected at 5.4 ppb, while TOG and EPA method 8010 constituents were non-detectable.

On April 24, **1998**, product lines and dispensers were removed. Product lines consisted of double-walled fiberglass piping and showed no visible evidence of damage or staining. The piping was removed only in the dispenser area. Laboratory analyses of soil samples collected from adjacent to former dispensers D 1and D2 did not detect concentrations of residual gasoline hydrocarbons at or above the stated laboratory detection limits except for methyl tert-butyl ether (MTBE) detected at 0.46 milligrams per kilogram (mg/kg). Lead was detected in the sample collected adjacent to dispenser D1 (6.4 mg/kg).

2007 - On September 27, 2007, ATC personnel observed the advancement of three soil borings (ATC-2, ATC-4 and ATC-5) in the vicinity of the existing fuel USTs and dispensers.

Laboratory analytical results for the **soil** samples selected for analysis indicate the following:

- Ethylbenzene was detected at a concentration of 0.007 milligrams per kilogram (mg/kg) in the soil sample collected at approximately five feet bgs from boring ATC-5.

- Methylene chloride was detected at a concentration of 0.007 mg/kg in the soil sample collected at approximately 10 feet bgs from boring ATC-4.

- TPH-GRO was detected at concentrations of 1.4 mg/kg and 5.2 mg/kg in the soil samples collected at approximately five feet bgs from borings ATC-2 and ATC-5, respectively.

- TPH-DRO was detected at a concentration of 23 mg/kg in the soil sample collected at approximately five feet bgs from boring ATC-2.

- Lead was detected at concentrations of 11.3 mg/kg, 13.8 mg/kg, 16.7 mg/kg and 9.63 mg/kg in the soil samples collected at approximately five feet bgs from borings ATC-2 and ATC-5 and 10 feet bgs from borings ATC-4 and ATC-5, respectively.

Laboratory analytical results for the **groundwater** samples collected from borings ATC-2 (including duplicate B-2) and ATC-5 indicate the following:

- Ethylbenzene was detected at a concentration of 45 micrograms per liter (ug/L) in the groundwater sample collected from boring ATC-5.

- Total xylenes were detected at a concentration of 6 ug/L in the groundwater sample collected from boring ATC-5.

- TPH-GRO was detected at concentrations of 73 ug/L, 69 ug/L and 5,300 ug/L in the groundwater samples collected from borings ATC-2 (including duplicate B-2) and ATC5, respectively.

- TPH-DRO was detected at concentrations of 15,000 ug/L, 25,000 ug/L and 18,000 ug/L in the groundwater samples collected from borings ATC-2 (including duplicate B-2) and ATC-5, respectively.

GEOLOGY AND HYDROGEOLOGY

In 1990, the water table stabilized in the monitoring wells at depths ranging from 2.30 to 3.75 feet below the surface. The ground water flow direction appeared to be northwest on April 17, 1990. The results of the subsurface study indicated that the depth to the Franciscan Complex bedrock materials at the site varies from about 1/2 foot up to a maximum of 3 feet below grade. The bedrock materials are typically composed by hard, fractured shale.

In 2007, the lithology underlying the site generally is described as consisted of clayey, silty and sandy gravel, shale bedrock and gravelly sand from the ground surface to approximately 13 feet bgs, the maximum extent of exploration. PID readings from screened soil samples collected from borings ATC-2 and ATC-4 were 0.0 parts per million (ppm), while the soil samples collected from boring ATC-5 at five, seven and 10 feet bgs registered 33.8 ppm, 99.1 ppm and 396 ppm, respectively. Geoprobe refusal was encountered at depths of approximately 13 feet bgs and 10 feet bgs in borings ATC-2 and ATC-4, respectively, while boring ATC-5 was advanced to a depth of approximately 10 feet bgs.

FILE REVIEWS

Files regarding the subject site were reviewed on Delta's databases and on ConocoPhillips' databases, "Livelink" and "WebXtender". ACEH, DTSC, and the RWQCB offices have been contacted for file search. Excepting files for the subject site, these agencies indicated there are no files for the other environmental cases in the immediate surrounding areas.

Water Well Survey

The agency receptor survey was completed to identify all water supply wells within a half-mile radius of the site referenced above. The survey entailed a request to the California Department of Water Resources (DWR) office in Sacramento to provide well log records. No water supply wells were listed in DWR database within a half-mile radius of the site.

Preferential Pathways

Evidence from the investigation indicates that a preferential pathway exists to facilitate direct chemical migration. A preferential pathway is a more permeable pathway through the aquifer material. Trench backfill for the buried sanitary sewer, storm sewer, water lines, gas lines, and other underground utilities contain more sand or gravel and may constitute potential pathways for groundwater flow.

Attached please see a map showing the underground utilities at the subject site (Figure 2). The location and direction of underground utilities shown on these maps are based on information/maps provided by Alameda County Public Works, PG&E, and ConocoPhillips.

Based on the data obtained, trench backfill material ranges from native soil to trench sand. The minimum cover above identified utilities in the area was reported to be 2.0- 2.5 feet. Based on the information obtained, the depths of the utility trenches in the immediate surrounding areas do not exceed 5 feet.

Based on the historical depth to groundwater (between 2.30 ft. and 3.75 ft bgs in 1990, but 7 ft bgs in 2007), groundwater flow direction (NW in 1990), depth and assumed slope of the shale bedrock, site area slope (West-Northwest), and underground utilities direction and depth (see Figures 2, attached), it is likely that the sewer line/trench and possibly the water line/trench provide a direct conduit for groundwater migration from the subject site to the neighboring sites, most likely to those located down-slope to the Northwest and West.

It should be mentioned that, based on our professional opinion, due to depths to the shallow aquifer and close proximity, contaminants could have migrated such as affecting the shallow aquifer immediately below the subject site and later, by lateral transport, dispersion, dissolution, etc., the aquifer in the surrounding areas. Therefore, it is likely that the shallow aquifer in the area was affected by both mechanisms described, migration from below the subject site and along a preferential pathway (the sewer line trench).

PROPOSED ACTIVITIES

Permitting, Utility Notification, and Borehole Clearance

Before commencing field activities Delta will prepare a Health and Safety Plan in accordance with state and federal requirements for use during on-site assessment activities. Prior to drilling, Underground Service Alert (USA) and a private utility locator will be notified as required to clear the proposed drilling locations for underground utilities.

Soil Boring and Soil Samples

Delta proposes to advance seven soil borings, designated B1 through B7, using a truck mounted 8-inch hollow stem auger. Each soil boring will be advanced to a maximum depth of approximately 12-15 feet bgs or until refusal is attained. Soil samples will be logged using the Unified Soil Classification System (USCS) for lithologic interpretation and field screened for the presence of volatile organic compounds by headspace analysis using a pre-calibrated photo-ionization detector (PID). Soil samples will be collected at 5-foot intervals and immediately above the soil-groundwater interface (above the capillary fringe) for lithologic interpretation, field screening, and laboratory analysis. However, any other obviously contaminated soils (as determined in the field by an experienced geologist and by using a PID) will be sampled and analyzed. A grab groundwater sample will be acquired using a clean bailer. All soil and grab groundwater samples collected will be properly labeled and placed on ice and submitted for analysis. A chain-of-custody will accompany the samples during transportation to the laboratory.

Groundwater samples and soil samples collected will be analyzed by a California Department of Public Health (CDPH) certified laboratory for: fuel oxygenates and halogenated volatile organic compounds (HVOC) - including benzene, toluene, ethylbenzene and total xylenes [BTEX] and MTBE using Environmental Protection Agency (EPA) Method 8260B, for total petroleum hydrocarbons (TPH) in the gasoline and diesel range (TPH-GRO and TPH-DRO, respectively) and TPH-oil range organics (ORO) using EPA Method 8015B Modified, and for Total: Cadmium, Chromium, Lead, Nickel and Zinc using (TTLC) EPA Method 6010B.

Once the sampling has been completed, the boring will be backfilled the same day to the surface with neat cement.

The sealing material will be a neat cement grout composed of one sack of Portland Type I/II Cement (94 lbs.) to five gallons of clean water or a sand-cement slurry with a minimum of eleven sacks of Portland Type I/II Cement per cubic yard. If standing water is present or if there is more than a 30 foot length

to be sealed, the sealing material will be placed by means of a tremie pipe (maximum diameter of 3 inches) lowered to within 3 feet of the underlying layer of material or bottom of the well. The sealing material will be placed in one continuous operation until the borehole is filled. If a tremie pipe is used, the end of the tremie pipe will remain in place in the sealing material until placement is complete.

Down-hole drilling tools will be decontaminated between borings to avoid cross contamination. The decontamination process will consist of multiple wash and rinse cycles using potable water and a non-phosphate detergent.

Disposal of Drill Cuttings and Wastewater

Drill cuttings and decontamination water generated during the soil boring advancement will be placed into properly labeled 55-gallon Department of Transportation (DOT) approved steel drums and temporarily stored on the property. Samples of the drill cuttings and wastewater will be collected, properly labeled and placed on ice for submittal to a CDPH-certified laboratory and analyzed for TPPH, BTEX, and MTBE by EPA Method 8260B and total lead by EPA Method 6010B. A chain-of-custody will accompany the samples during transportation to the laboratory. Subsequent to receiving the laboratory analytical results, the drummed drill cuttings and wastewater will be profiled, transported, and disposed of at a COP approved facility.

Reporting

Following completion of the field work and receipt of analytical results, a site investigation report will be prepared and submitted within 60 days. The report will present the details of the boring activities and copies of disposal documents. Required electronic submittals will be uploaded to the State Geotracker database.

REMARKS / SIGNATURES

The recommendations contained in this Report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report will be performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions regarding this project, please contact me at (916) 503-1265 or Mr. Terry Grayson of ConocoPhillips at (916) 558-7666.

Sincerely,

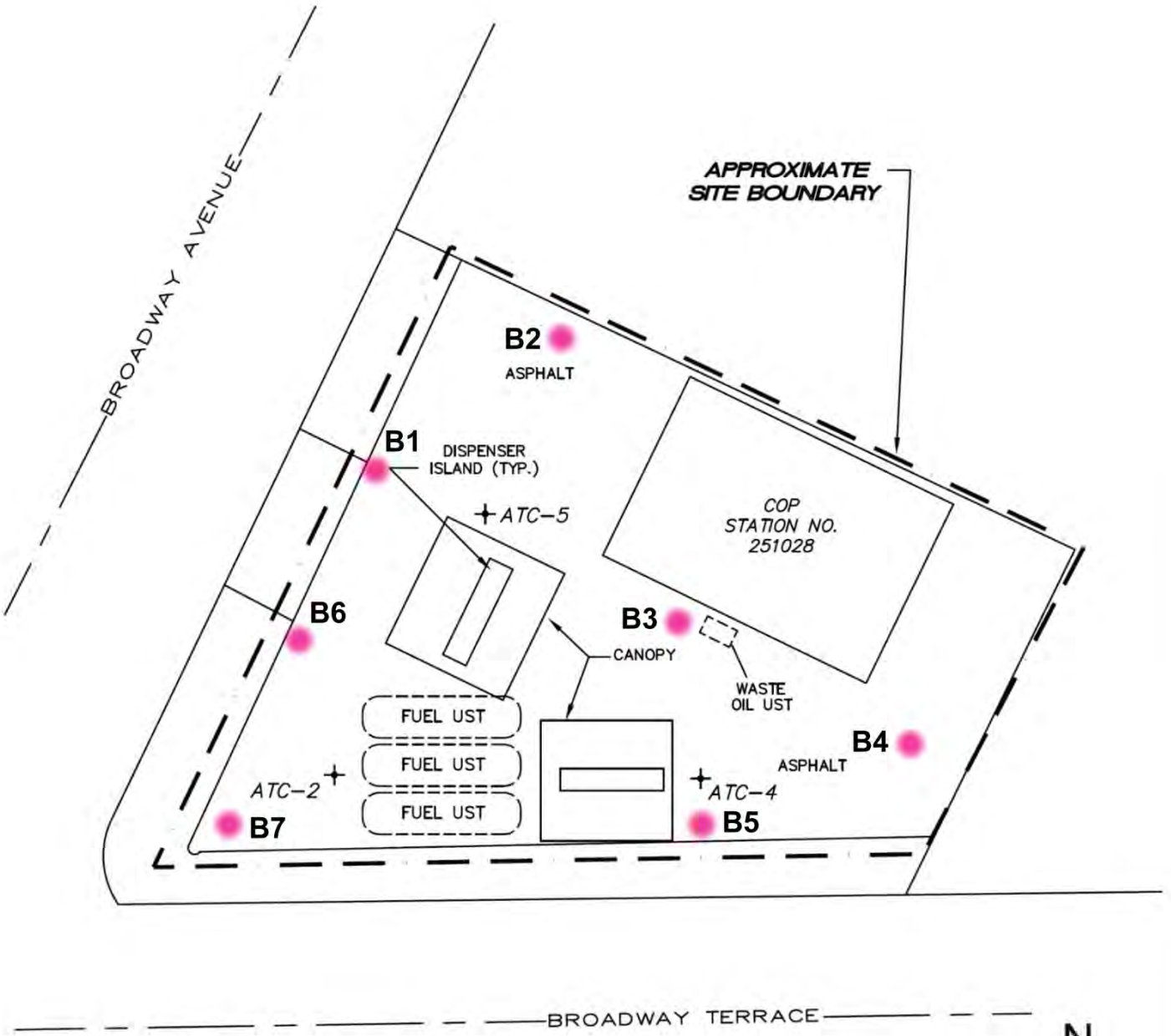
DELTA ENVIRONMENTAL CONSULTANTS, INC.

Valentin Constantinescu, P.G., R.E.A.
Senior Project Manager
California-Registered Professional Geologist No. 7503

Figures:

Figure 1 – Site Map – Proposed Soil Boring Locations
Figure 2 – Preferential Pathway Investigation

cc: Mr. Terry Grayson, ConocoPhillips (electronic copy only)



LEGEND

ATC-2 + SOIL BORING LOCATION (ATC, 2007) AND DESIGNATION

B1 ● PROPOSED SOIL BORING LOCATION AND DESIGNATION

NOTE: LOCATIONS AND SCALE ARE APPROXIMATE

NOTE: BASE MAP ATC ASSOCIATES, INC. - 2007

FIGURE 1

PROPOSED SOIL BORING LOCATIONS
CONOCOPHILLIPS SITE NO. 251028
5300 BROADWAY
OAKLAND, CALIFORNIA

PROJECT NO. 251028	DRAWN BY V.C.
FILE NO. 4979	PREPARED BY V.C.
REVISION NO. 1	REVIEWED BY K.T.

DELTA

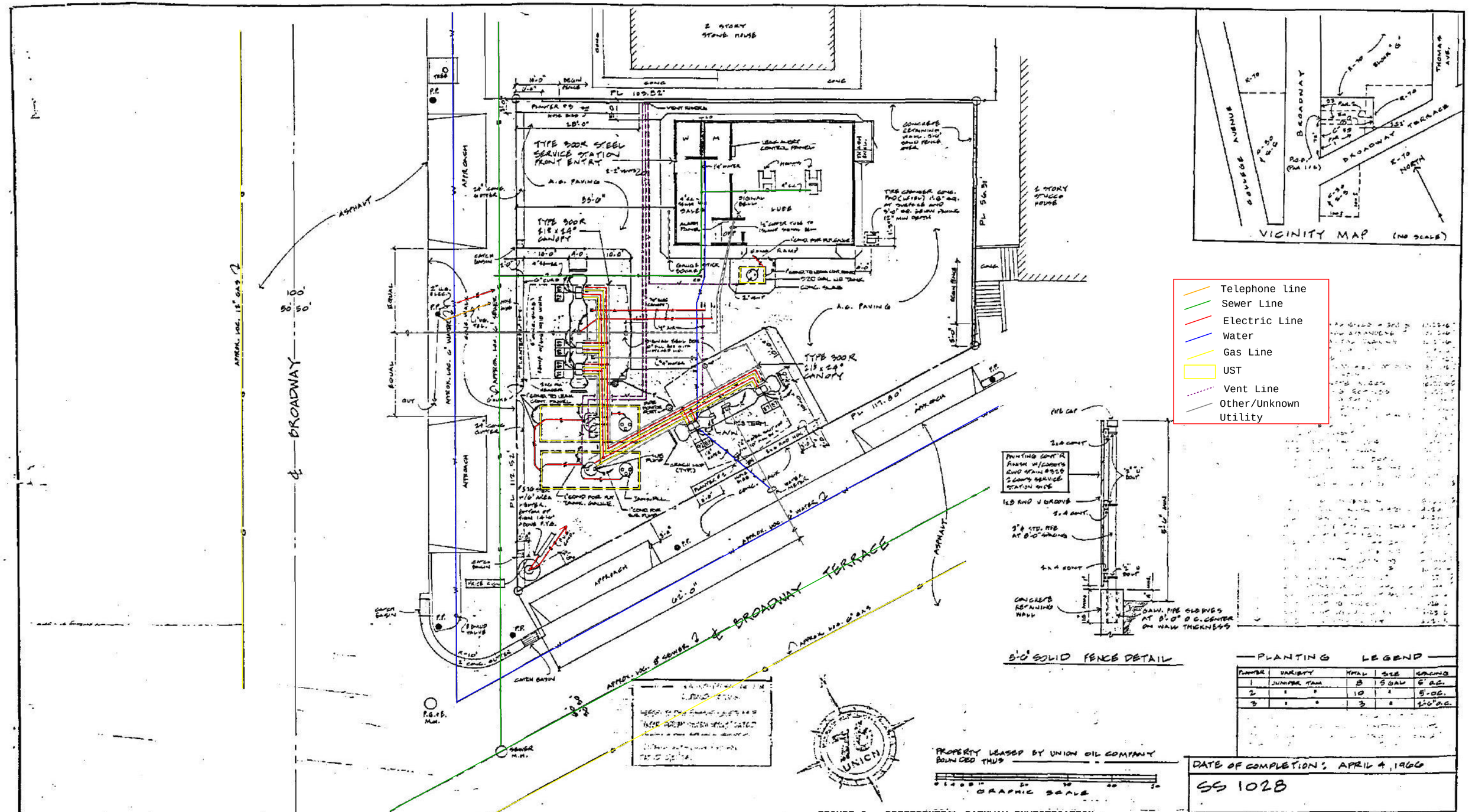


FIGURE 2 - PREFERENTIAL PATHWAY INVESTIGATION

PLANTER	VARIETY	TOTAL	SIZE	SPACING
1	JUNIPER TAM	8	5 GAL	6' o.c.
2	" "	10	"	5'-0c.
3	" "	3	"	4'-0" o.c.

DATE OF COMPLETION: APRIL 4, 1960

SS 1028

CONTRACTOR: AS BUILT DWG 5-4-66

CONTR. JOB NO.

GENERAL ARRANGEMENT
SERVICE STATION NO. 1028
BROADWAY + BROADWAY TERRACE
OAKLAND CALIFORNIA

UNION OIL COMPANY OF CALIFORNIA
LOS ANGELES, CALIF.

F3-1028-1.1

REFERENCE DRAWINGS

Store # 25/028 Date: 8/14/91 ← August 1991

Unit # 1028 Code: GEN Color ☐

Description: GEN ARRANGEMENT

WESTERN REGION BOX: A

#9532

NO.	DATE	REVISED	BY
1	11-30-66	GENERAL YARD MECHANICAL	WF
2	5-24-76	ADDED VF LINES FROM PLANTERS & TANKS	RM
3	2-14-91	TANKS REPLACED 2-5-90	

APPROVED FOR CONSTRUCTION

DRAWN BY: WF
CHECKED BY:
TRACED BY:
TRACED DATE:
APPROVED:
SCALE: 1" = 10'
DATE: 10-12-66