

## SITE CLOSURE SUMMARY

*Closure for  
Nearby site at*

Date: March 7, 2005

*111 E14th St*

### I. AGENCY INFORMATION

Agency Name: <b>City of San Leandro</b>	Address: <b>835 East 14th Street</b>
City/State/Zip: <b>San Leandro, CA</b>	Phone: <b>(510) 577-6031</b>
Responsible Staff Person: <b>Tiffany Treece</b>	Title: <b>Environmental Protection Specialist</b>

### II. SITE INFORMATION

Site Facility Name: <b>Monument Gas &amp; Mart</b>				
Site Facility Address: <b>111 E14th Street, San Leandro CA 94577</b>				
RB LUSTIS Case No.: <b>01-2483</b>	Local or LOP Case No.:	Priority:		
URF Filing Date:	SWEEPS No.:			
Responsible Parties (include addresses and phone numbers)				
<b>Mohammed Mashhoon</b>				
<b>1721 Jefferson Street, Oakland CA 94612</b>				
<b>(510) 891-9988</b>				
Tank No.	Size in Gallons	Contents	Closed In Place/Removed	Date
1	10,000	Gasoline	Removed	10/99
2	10,000	Gasoline	Removed	10/99
3	10,000	Gasoline	Removed	10/99

### III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: <b>Unknown</b>		
Site characterization complete? <b>Yes</b>	Date Approved By Oversight Agency: <b>3/7/05</b>	
Monitoring wells installed? <b>Yes</b>	Number: <b>8</b>	Proper screened interval? <b>Yes</b>
Highest GW Depth RGS (ft): <b>19</b>	Lowest Depth: <b>25</b>	Flow Direction: <b>WNW</b>
Most Sensitive Current Use:		
Most Sensitive Potential Use and Probability of Use		
Are drinking water wells affected? <b>No</b>	Aquifer Name:	
Is surface water affected? <b>No</b>	Nearest/Affected SW Name:	
Off-Site Beneficial Use Impacts (Addresses/Locations):		
Report(s) on file? <b>Yes</b>	Where is report(s) filed? <b>City of San Leandro</b>	

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL			
Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tank	(3) 10,000-gallon	Disposal - Erickson, Inc., 255 Parr Bl, Richmond	10/21/99
Piping			
Free Product			
Soil	1,691 tons	Disposal - B&J Landfill, Vacaville CA	3/00
Groundwater			
Barrels			

MAXIMUM POLLUTANT CONCENTRATIONS-BEFORE AND AFTER CLEANUP									
POLLUTANT	Soil (ppm)		Water (ppb)		POLLUTANT	Soil (ppm)		Water (ppb)	
	Before	After	Before	After		Before	After	Before	After
TPH-g	6,800	300	95,000	4,845	MtBE	81	1.3	7,800	820
Benzene	16	0.31	3,900	61	Lead	50	NT	11	NT
Toluene	220	1.6	9,100	6.0	TPH-d	8.7	NT	12,000	NT
Ethyl benzene	110	3.6	4,300	576					
Xylenes	680	5.6	22,000	417					

14,000

Comments: The site is an operating gas station. Three 10,000-gallon single-wall steel gasoline tanks and associated piping were removed from the site in October 1999. **Between December 1999 and March 2000, 1,691 tons of impacted soil were excavated and disposed offsite.** Impacted soil was excavated to the extent of the property limits and structure foundations. In February 2000, approximately 350 pounds of oxygen release compound slurry was introduced into the bottom of the tank pit area prior to addition of clean imported fill. Three onsite and five offsite wells were installed to define the extent of the plume and monitor concentrations over time.

Well surveys and preferential pathway evaluations were conducted in November 2001 and again in July 2004. No preferential pathways were identified from the site and no surface water bodies or municipal, industrial, or domestic wells were identified within 2000 feet of the site. The entire site is paved with asphalt and concrete. Source removal has been completed to the extent practicable and remedial activities have been effective in reducing plume concentrations. Long-term monitoring demonstrates that the plume is delineated and shrinking and residual concentrations of MtBE exceeding 500 µg/L are limited to an area approximately 25 feet in diameter that is within the subject site. Given these conditions, the concentrations remaining onsite do not pose a significant risk to human health or the environment.

No further investigation or remediation is recommended at 111 E14th Street by the City of San Leandro.

irrigation?

**IV. CLOSURE**

Does completed corrective action protect existing beneficial uses per Regional Board Basin Plan? <b>Yes</b>	
Does completed corrective action protect potential beneficial uses per Basin Plan? <b>Yes</b>	
Does corrective action protect public health for current land use? <b>Yes</b>	
Site Management Requirements:	
Monitoring Wells Decommissioned: <b>0</b>	Number Retained: <b>8 (to be destroyed upon case closure)</b>
List Enforcement Actions Taken: <b>NONE</b>	
List Enforcement Actions Rescinded:	

**V. TECHNICAL REPORTS, CORRESPONDENCE ETC., CLOSURE RECOMMENDATION BASED UPON**

Title:	Date:
The Current Status of Environmental Conditions and Request for Site Closure Monument Gas & Mart	2/05
Fourth Quarter 2004 Groundwater Monitoring Report	1/05
Quarterly Monitoring Report Fourth Quarter 2002	12/02
Final Closure Report for Underground Storage Tank Removal	10/99

**VI. ADDITIONAL COMMENTS, DATA, ETC.**

Based on a review of the data provided to the City of San Leandro, the City recommends that No Further Action be required for 111 E14th Street.
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This document and the related concurrence letter shall be retained by the lead agency as part of the official site file.

## EXECUTIVE SUMMARY

SOMA Environmental Engineering, Inc. has prepared this report on behalf of Mr. Mohammad Mashhoon, the property owner. The property is known as Monument Gas and Mart and is located at 111 East 14<sup>th</sup> Street, San Leandro, California (the "Site"). This report has been prepared to demonstrate that the Site has met the requirements of a "Low Risk" petroleum release site and is eligible for closure.

Figure 1 shows the Site and the surrounding areas. The Site is currently used as a gasoline service station and convenience store, located on the southwest corner of Farrelly Drive and East 14<sup>th</sup> Street (International Boulevard). The surrounding properties are primarily a mixture of commercial and residential properties.

The surface elevation at the Site is approximately 25 feet above mean sea level. The San Francisco Bay is approximately 3 miles west of the Site; the San Leandro Hills are approximately one and one quarter miles to the east. The nearest surface water body is San Leandro Creek, which is approximately 0.6 miles south of the Site. The groundwater gradient is northwesterly to westerly. Native soils are predominantly silts and clays.

Figure 2 shows the location of the main building, fuel tank areas, and on and off-site groundwater monitoring wells. Currently, the groundwater monitoring wells are being monitored on a quarterly basis. The results of the groundwater monitoring program have indicated low levels of petroleum hydrocarbons and Methyl tertiary Butyl Ether (MTBE) in the groundwater beneath the Site. The source of the petroleum hydrocarbons in the groundwater is believed to be the former underground storage tanks (USTs) that were used to store gasoline at the Site.

SOMA's report entitled "Status of Environmental Conditions and Request for Site Closure," dated July 27, 2004, (the "Report") was submitted to the City of San Leandro, Environmental Services Division. The report included:

1. A compilation of the existing soil and groundwater data;
2. An evaluation of the Site's regulatory status (i.e., high risk or low risk) by conducting risk based corrective action (RBCA);
3. An evaluation of the presence of preferential flow pathways by locating utility lines such as storm drains and sewer lines; and
4. The results of a sensitive receptor survey for drinking water, irrigation or domestic wells that are within a half-mile radius of the Site.

Based on the results of our evaluation, according to the San Francisco Bay Region Water Quality Control Board (SFRWQCB) document dated July 2003, and the State Water Resources Control Board's Supplemental Instructions, dated December 8, 1995, the Site could be categorized as a "Low-Risk" Petroleum Release Site.

Upon receiving the Report, SOMA's representative met with Ms. Tiffany Treece of the City of San Leandro and SFRWQCB's representatives Mr. Chuck Headlee and Mr. Roger Brewer. As discussed in the meeting, the only constituent of concern was MtBE, whose concentration is declining asymptotically.

In a letter dated August 9, 2004, the City San Leandro indicated that the extent of the MtBE concentration has not been adequately evaluated. On September 9, 2004, SOMA prepared a workplan for an additional site characterization and submitted it to the City of San Leandro. After making some revisions, the City of San Leandro approved SOMA's workplan. The workplan included the installation of two off-site groundwater monitoring wells in order to evaluate whether or not the MtBE has migrated deep into the residential areas.

In November 2004, SOMA installed two additional groundwater monitoring wells. SOMA's report dated December 30, 2004 includes the procedures for the installation of the groundwater monitoring wells. The results of the Fourth Quarter 2004 groundwater monitoring report did not indicate the presence of petroleum hydrocarbons or MtBE in the newly installed groundwater monitoring wells.

The results of our current investigation indicated that the extent of the MtBE concentration in the groundwater has been completely defined and the remaining MtBE plume is an isolated and shrinking plume, as its concentration is asymptotically declining.

By comparing the Site's related chemical concentration data with that of Tier I screening values set forth by the SFRWQCB, it appears that the current concentration of petroleum hydrocarbons in the soil and groundwater are below the Tier I screening values. Therefore, the Site related chemical concentrations do not pose an unreasonable human health risk to current and future site workers or residents within the Site's vicinity for the following reasons.

1. The source of petroleum hydrocarbons has been completely removed. As the results of the groundwater monitoring reports indicate, no free petroleum hydrocarbons exist beneath the Site. *Existing TPHs in soil off site may be impacting monitoring wells*
2. Petroleum hydrocarbons and fuel additives have not significantly impacted the beneficial use of the groundwater. *Not yet?*
3. The existing plume of chemicals in the groundwater is a shrinking plume, as such, the groundwater monitoring wells show a decreasing trend in chemical concentrations, especially MtBE, over the past several quarters.
4. Based on the RWQCB's document dated July 2003, under the current conditions, the Site does not pose a significant health risk to the on-site

workers or off-site residents via inhalation of indoor air vapors. The results of our evaluation indicate that the current groundwater benzene and MtBE concentrations are lower than the risk based screening levels (RBSLs) set forth by the RWQCB.

5. The results of the recent sensitive receptor survey suggest that the groundwater in the vicinity of the Site is not a drinking water source. There are no municipal, industrial or domestic water supply wells within 2,000 feet downgradient of the Site. The nearest surface water body is San Leandro Creek, which is located 3,500 feet due south of the Site. The migration of the Site related chemicals in the groundwater to San Leandro Creek are highly unlikely. San Leandro Creek discharges into San Francisco Bay.

*irrigation  
well?*

## 1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) on behalf of Mr. Mohammad Mashhoon, the owner of the Monument Gas and Mart, which is located at 111 East 14<sup>th</sup> Street, San Leandro, California (see Figure 1).

On June 30, 2004, SOMA's representative and Mr. Mohammad Mashhoon met with Ms. Tiffany Treece of the City of San Leandro and Mr. Roger Brewer and Mr. Chuck Headlee of the San Francisco Regional Water Quality Control Board (SFRWQCB), to discuss the current environmental conditions of the Site, and to evaluate whether or not the Site's current conditions meet the conditions of a "Low Risk" petroleum release site.

Subsequently, SOMA's report entitled "Status of Environmental Conditions and Request for Site Closure," dated July 27, 2004, (the "Report") was submitted to the City of San Leandro, Environmental Services Division. The report included:

1. A compilation of the existing soil and groundwater data;
2. An evaluation of the Site's regulatory status (i.e., high risk or low risk) by conducting risk based corrective action (RBCA);
3. An evaluation of the presence of preferential flow pathways by locating utility lines such as storm drains and sewer lines; and
4. The results of a sensitive receptor survey for drinking water, irrigation or domestic wells that are within a half-mile radius of the Site. *There is an irrigation well w/in 1/2 mile (w/in 150')*

Since our meeting in June 2004, SOMA has conducted two groundwater monitoring events and installed two additional off-site monitoring wells in order to evaluate whether or not the site-related contaminant plumes have been adequately characterized.



This report includes the results of additional data that has been gathered since June of 2004 and reiterates the results of the July 27 report and requests for no further action (NFA) status to be adopted for this site.

## **1.1 Site Conditions**

Historically, the Site has been used as a gasoline service station. Currently, there are two gasoline underground storage tanks (USTs) at the Site, each with a capacity of 10,000 gallons.

The Site and the surrounding areas are zoned for light commercial and residential purposes. The Site is expected to remain as light commercial use in the future. Figures 3 and 3a present the existing zoning map of the Site and the surrounding areas.

The groundwater beneath the Site is flowing from the east to a west northerly direction, with an approximate gradient of 0.0036 feet/feet. Figure 4 shows the groundwater elevation contour map in December 2004. Based on the most recent groundwater monitoring report (SOMA, January 13, 2005), the electrical conductivity (EC) of the groundwater beneath the Site ranges between 224 and 951  $\mu\text{s}/\text{cm}$ , which is roughly equivalent to 136 and 571 mg/L, respectively.

## **2.0 Site Characterization**

### **2.1 Previous Site Investigations**

On October 21, 1999, three 10,000-gallon gasoline USTs that formerly contained gasoline were excavated and removed from the Site. Following the removal of the USTs, two soil samples were collected from beneath each of the three USTs. Total petroleum hydrocarbons as gasoline (TPH-g) was detected in all six soil samples, at concentrations ranging from 2.8 milligram per kilogram (mg/Kg) to 14,000 mg/Kg. Benzene concentration ranged from 0.052 mg/Kg to 2.8 mg/Kg.

MtBE concentrations ranged from 0.640 mg/Kg to 78 mg/Kg. On October 25, 1999, three soil samples were collected from beneath the pump islands, at approximately three feet below grade. TPH-g, benzene, toluene, ethylbenzene, toluene (BTEX) and fuel oxygenates were not detected in these soil samples.

Between December 28, 1999 and March 6, 2000, W.A. Craig, Incorporated (WAC) excavated approximately 1,691 tons of fuel-impacted soils from the former UST pit and surrounding areas. The contaminated soils were disposed of at B&J Landfill, which is located in Vacaville, California. Soil was excavated to a depth of 29 feet below ground surface (bgs) at the southern end of the USTs pit and to 16 feet bgs in the northern end of the excavation. Soil was excavated based on petroleum odor, staining and photo-ionization detector (PID) readings. A canopy footing bound the excavation to the east and by the convenience store to the south. The excavation was bounded to the north by Farrelly Avenue and to the west by the property boundary.

*below V*

On February 10 and 15, 2000, about 350 pounds of oxygen releasing compounds (ORC) was introduced in a slurry form to the excavation bottom. The ORC was introduced to stimulate in-situ bio-remediation by raising the dissolved oxygen concentration in soil and groundwater. The ORC was mixed with clean water and spread in the excavation bottom with the excavator's bucket. The ORC slurry was also mixed with clean fill material and clean soil from the excavation sidewall. The ORC was introduced and mixed at 24 to 28 feet bgs.

On August 20 and 21, 2001, WAC installed three groundwater monitoring wells (MW-1 through MW-3) as presented in Figure 2. During the well installation, the first groundwater was encountered at 24 feet bgs. On September 10, 2002, three additional groundwater monitoring wells (MW-4 through MW-6) were installed. Since the installation, these wells have been monitored on a quarterly basis. The groundwater beneath the Site is flowing in a northwesterly to westerly direction.

*e.g., towards Farrelly*

On November 19 and 30, 2004, SOMA oversaw the installation of two off-site monitoring wells, MW-7 and MW-8. The wells were installed to delineate the downgradient extent of the groundwater plume. The installation of these off-site wells is presented in SOMA's "Off-site Groundwater Monitoring Well Installation Report, Monument Gasoline Service Station and Convenience Store, 111 East 14<sup>th</sup> Street, San Leandro, California," dated December 30, 2004. The locations of the newly installed wells are shown in Figure 2. The newly installed wells were samples for a first time during Fourth Quarter 2004 groundwater monitoring event. The results of the laboratory analysis on the groundwater samples collected from MW-7 and MW-8 did not indicate the presence of petroleum hydrocarbons or MtBE.

## **2.2 Groundwater Contamination**

The results of the groundwater monitoring events indicate that low levels of petroleum hydrocarbons and MTBE have impacted the groundwater beneath the Site. The maximum BTEX and TPH-g concentrations were reported in MW-3. The reported maximum concentrations of BTEX, MtBE, and TPH-g, during the latest groundwater monitoring event (December 2004) was 61, 6, 576, 417, 820, and 4,845 µg/L, respectively, all of which was reported in MW-3. MW-3 is located at the northwest corner of the USTs. Table 1 shows the most recent water quality data.

Review of the historical groundwater monitoring data suggests that during the past several groundwater monitoring events the concentrations of petroleum hydrocarbons and MtBE has significantly decreased. Figures 5 through 7 show a dramatic decrease in TPH-g, benzene and MtBE concentrations in the groundwater since March 2002. For instance, as shown in Figure 5, the TPH-g concentration in MW-3 decreased from 40,000 µg/L in March 2002 to less than 5,000 µg/L in February 2004. As Figures 6 and 7 show, the concentrations of benzene and MtBE in MW-3 have also significantly decreased since March 2002.

The concentration of MtBE in MW-3 decreased from 7,300 µg/L in July 2002 to less than 1,000 µg/L in February 2004.

To better evaluate the aerial extent of the MtBE plume in the groundwater, historical concentrations of MtBE in all groundwater monitoring wells were used to draw the MtBE plume in the groundwater. Figures 8 through 13 illustrate the aerial extent of the MtBE plume in the groundwater during different groundwater monitoring events. As these figures show, the minimum MtBE concentration within the plume is 50 µg/L. Figures 8 through 13 also show that since the June 2003 groundwater monitoring event the aerial extent of the MtBE plume has significantly decreased.

### **3.0 Conceptual Site Model**

The conceptual model developed for the Site is based on the results of previous and recent site investigations. The conceptual site model (CSM) synthesizes site characterization data (geology, hydrogeology, contaminant distribution, migration pathways and potential human receptors) to provide a framework for selecting exposure pathways. The CSM is shown graphically in Figure 14.

The primary source of chemical contamination is identified at the point of a release of gasoline from the on-site USTs. Secondary sources of contamination include the dissolved groundwater plume, affected subsurface soils and saturated sediments. Potential transport mechanisms from the subsurface soils are by volatilization and atmospheric dispersion. Potential transport mechanisms from a dissolved water plume are by volatilization and entering into closed spaces. The chemicals of concern (COC), such as BTEX and MTBE, detected in the groundwater can volatilize and travel by diffusion toward the land surface and enter into commercial buildings or ambient air. These exposure points may cause adverse health effects to commercial/construction workers via exposure route of inhalation. Presently, the on-site store is the point of exposure (POE).

The full time store workers have been evaluated as the receptors to potential exposure from the Site's contaminants.

Since no soil contamination has been reported, no secondary source of contamination to future construction workers exists. However, due to the groundwater contamination, the future construction workers may be exposed to the COCs present in the groundwater. The chemicals in the freely exposed groundwater will come in contact with the construction workers through the exposure route of volatilization and dermal contact.

### **3.1 Comparison of RBSLs with Current Site Contaminant Levels**

The risk-based screen level (RBSLs) concentrations are the threshold concentrations of chemicals in the soil and groundwater beyond which adverse health effects can be expected in the exposed population. Generally, if the observed soil and groundwater chemical concentrations become less than the calculated RBSLs, no soil or groundwater remediation is required. However, due to the conservative nature of the involved assumptions in calculating the RBSLs, if the observed soil or groundwater chemical concentration exceeds the RBSLs, soil and/or groundwater remediation is not necessarily required. To better define the soil and groundwater cleanup levels, a more refined RBSLs value using the Tier II analysis may be conducted. The RWQCB, San Francisco Bay Region has published Environmental Screening Levels (ESLs) for chemicals commonly found in the soil and groundwater at sites where releases of hazardous chemicals has occurred. The ESLs are considered to be conservative. Under most circumstances, the presence of a chemical in the groundwater at concentrations below the corresponding ESL can be assumed to not pose a significant long-term threat to human health and environment (RWQCB, Interim Final July 2003).

As described in the site conceptual model, the inhalation route is the only exposure pathway that may impact the Site's workers and nearby residents. This

is due to the fact that there is no drinking water well or surface water body within a 2,000-foot radius of the Site. Therefore, the ESL values of the groundwater, for the protection of indoor air, were utilized. Table 2 compares the ESLs with that of current groundwater contaminant levels. As Table 2 shows, the maximum site-wide contaminant levels are between 3 to 4 orders of magnitude less than the ESL values. Table 2 also shows the most contingent ESL values, assuming that the groundwater is in contact with surface water bodies but it is not a drinking water source. Under this scenario, the ESL value for benzene (46 µg/L), which is a carcinogenic component of the petroleum hydrocarbons, is almost identical with the maximum benzene concentration (61 µg/L) detected in MW-3.

#### **4.0 Sensitive Receptor Survey**

The objective of the sensitive receptor survey was to search for groundwater wells in the vicinity of the Site. In conducting this investigation, SOMA's staff reviewed the California Department of Water Resources' files in Sacramento, California.

The results of our file review indicated the presence of two upgradient irrigation wells within a 2,000-foot radius of the Site. Figure 15 shows the locations of Well # 1 and Well # 2. Well # 1 is a 45-foot deep irrigation well and is located at 74 Euclid Avenue, which is located southeast of the Site. Well #2 is a 100-foot deep well and is located at 92 Broadmoor Avenue, which is located east of the Site. Since the groundwater is flowing towards the west and these wells are completed upgradient from the Site, within the deep water-bearing zones, the migration of the Site's related contaminants toward these wells is highly unlikely.

#### **5.0 Evaluation of Preferential Flow Pathways**

In order to evaluate the potential for preferential flow pathways beneath the Site, records were obtained from local authorities documenting the locations of underground utilities at the Site. The information regarding the sewer and storm drain lines were obtained from the City of San Leandro Engineering Department,

while the information regarding the main water lines were obtained from the East Bay Municipal Utility District (EBMUD). Figures 16 through 18 show the locations of the utility lines in close proximity of the Site. Based on the information received, the maximum depths of the utility lines are about 10 feet below the ground's surface.

The results of the quarterly groundwater monitoring events indicate that the depth to groundwater is generally more than 20 feet. By comparing the utility lines burial depth with that of the encountered groundwater depth it becomes clear that the utility lines in close proximity of the Site will not act as preferential flow paths.

## **6.0 RESULTS AND RECOMMENDATIONS**

Comparison of the simulated ESLs of BTEX, as well as MTBE (for inhalation pathway only) for the groundwater, with the present on-site groundwater concentrations, indicates that the present concentrations of BTEX and MtBE in the groundwater are significantly lower than the ESLs. The ESL values are the threshold level concentrations of chemicals beyond which an adverse health effect in the exposed human receptors can be expected. As Table 2 presents the current on-site benzene concentrations in the groundwater is significantly lower than the ESLs. The on-site receptors were assumed to be the convenience store workers that may be exposed to the Site's contaminants through the inhalation of indoor air. Therefore, based on our evaluation, no remediation is warranted.

Based on the California Regional Water Quality Control Board's Interim Guidance Document, dated December 8, 1995, the Site fits into the "Low-Risk" Petroleum Release Site Category for the following reasons:

1. The source of petroleum hydrocarbons has been completely removed. As the results of the groundwater monitoring reports indicate, no free petroleum hydrocarbons exist beneath the Site.

2. Petroleum hydrocarbons and fuel additives have not significantly impacted the beneficial use of the groundwater.
3. The existing plume of chemicals in the groundwater is a shrinking plume, as such, the groundwater monitoring wells show a decreasing trend in chemical concentrations, especially MtBE, over the past several groundwater monitoring events.
4. Based on the results of our evaluation, under the current conditions, the Site does not pose a significant health risk to the on-site workers or off-site residents via inhalation of vapors in indoor air. The results of our evaluation indicate that the current groundwater benzene concentration is lower than the ESLs; therefore, no remediation is warranted.
5. The results of the sensitive receptor study indicated that there is no drinking water well or domestic water well within our search area. However, our investigation revealed two irrigation wells are located within a 2,000-foot radius of the Site. These wells are used for irrigation purposes and based on their depths and locations, the possibility of the Site's related contaminants migrating toward these wells is highly unlikely.
6. The results of our preferential flow path study did not reveal that the utility lines passing in close proximity of the Site would act as preferential flow pathways. This is largely due to the depth of the groundwater, which exceeds the burial depth of utility lines, such as storm, sewer and main drinking water lines.

**We recommend the following:**

Since the Site is a "Low Risk" petroleum release site, we recommend that the City of San Leandro and the SFRWQCB adopt a "no further action" status for this Site.



## 7.0 References

SOMA Environmental Engineering, Inc., June 27, 2004. "Status of Environmental Conditions and Request for Site Closure"

SOMA Environmental Engineering, Inc., April 9, 2004. "First Quarter 2004 Groundwater Monitoring Report."

SOMA Environmental Engineering, Inc., June 14, 2004. "Second Quarter 2004 Groundwater Monitoring Report."

SOMA Environmental Engineering, Inc., September 10, 2004. "Third Quarter 2004 Groundwater Monitoring Report."

SOMA Environmental Engineering, Inc., January 13, 2005. "Fourth Quarter 2004 Groundwater Monitoring Report."

W.A. Craig, Various Groundwater Monitoring Reports Since April 2000.

W. A. Craig, February 12, 2002. "Interim Site Investigation Workplan."

W.A. Craig, March 31, 2000. "Remedial Action Report."

Aqua Science Engineers, Inc., August 9, 1999. "Soil and Groundwater Assessment."

California Regional Water Quality Control Board, San Francisco Bay Region, July 2003, Volume 1: Summary Tier I Lookup Tables, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater

California Regional Water Quality Control Board, December 8, 1995. "Interim Guidance Document."

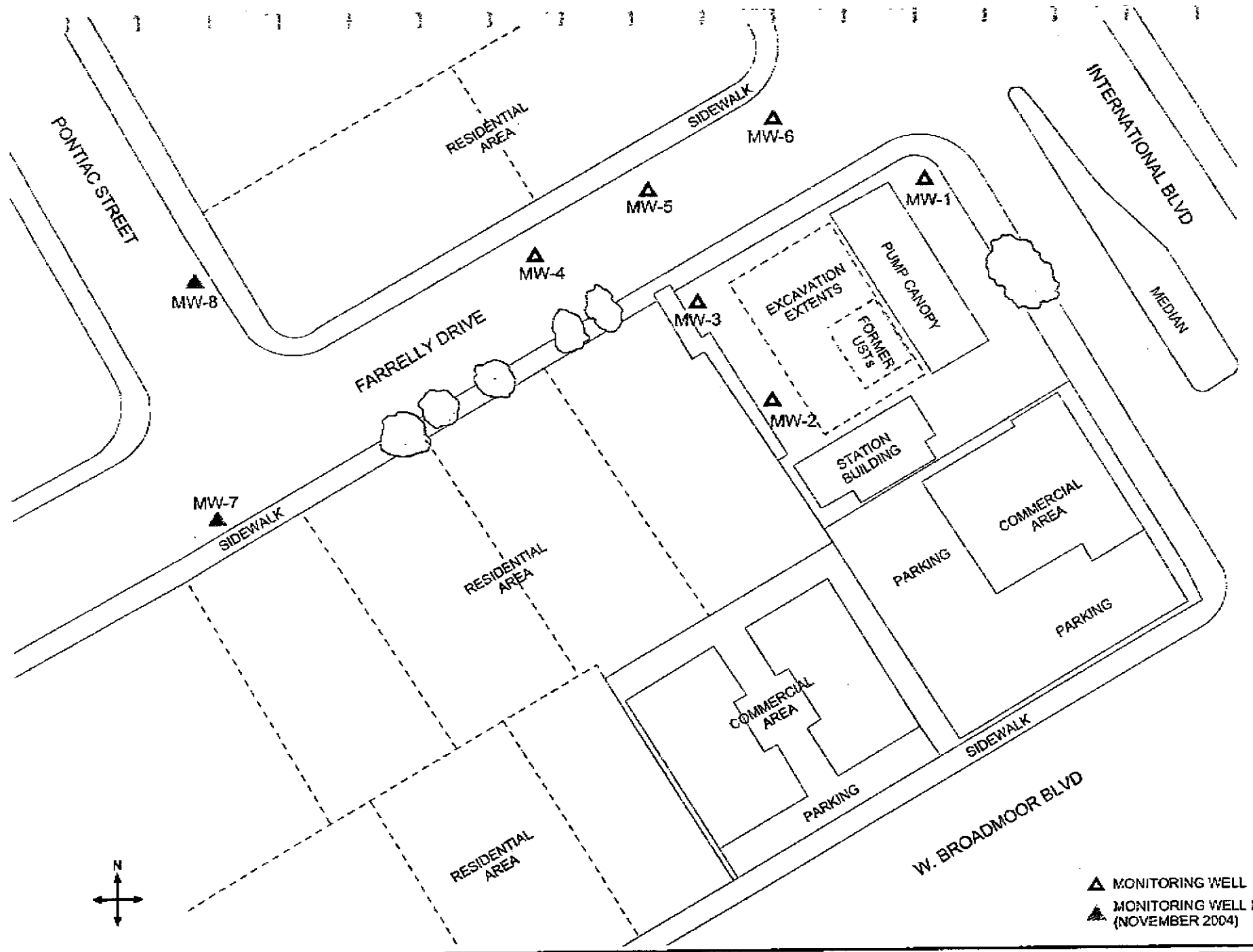
# TABLES

**Table-1**  
**Most Recent Groundwater Chemical Concentrations at Different Monitoring Wells**  
**in December 2004, 111 East 14th Street, San Leandro, California**

Compound	MW-1 ug/L	MW-2 ug/L	MW-3 ug/L	MW-4 ug/L	MW-5 ug/L	MW-6 ug/L	MW-7 ug/L	MW-8 ug/L	Maximum ug/L
Benzene	<5	<5	61.0	0.7	26.0	<5	<5	<5	61.0
Toluene	<5	<5	6.0	<5	1.0	<5	<5	<5	6.0
Ethylbenzene	8.0	6.0	576.0	<5	36.0	1.0	<5	<5	576.0
Xylenes	7.0	<1	417.0	<1	4.0	<1	<1	<1	417.0
MtBE	<5	13.0	820.0	22.0	137.0	0.6	<5	<5	820.0
TPH-g	822.0	791.0	4845.0	<50	519.0	235.0	<50	>50	4845.0

**Table 2**  
**Comparison Between Site Related Contaminant Levels and Look-up Table Values Published by the RWQCB**  
**111 East 14th Street, San Leandro, California**

Chemical	Maximum Groundwater Concentration ug/L	ESLs Published by RWQCB for Potential Air Impacts (ug/L)	ESLs Published by RWQCB for GW is not for Drinking (ug/L)
Benzene	61	1,800	46
Toluene	6	530,000	130
Ethylbenzene	576	47,000	290
Xylenes	417	160,000	13
MIBE	820	80,000	1,800
TPH-g	4,845	NA	500

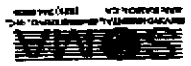


- ▲ MONITORING WELL
- ▲ MONITORING WELL INSTALLED (NOVEMBER 2004)

approximate scale in feet  
 0 25 50

Figure 2: Site Map Showing Existing Well Locations.





December 2004.

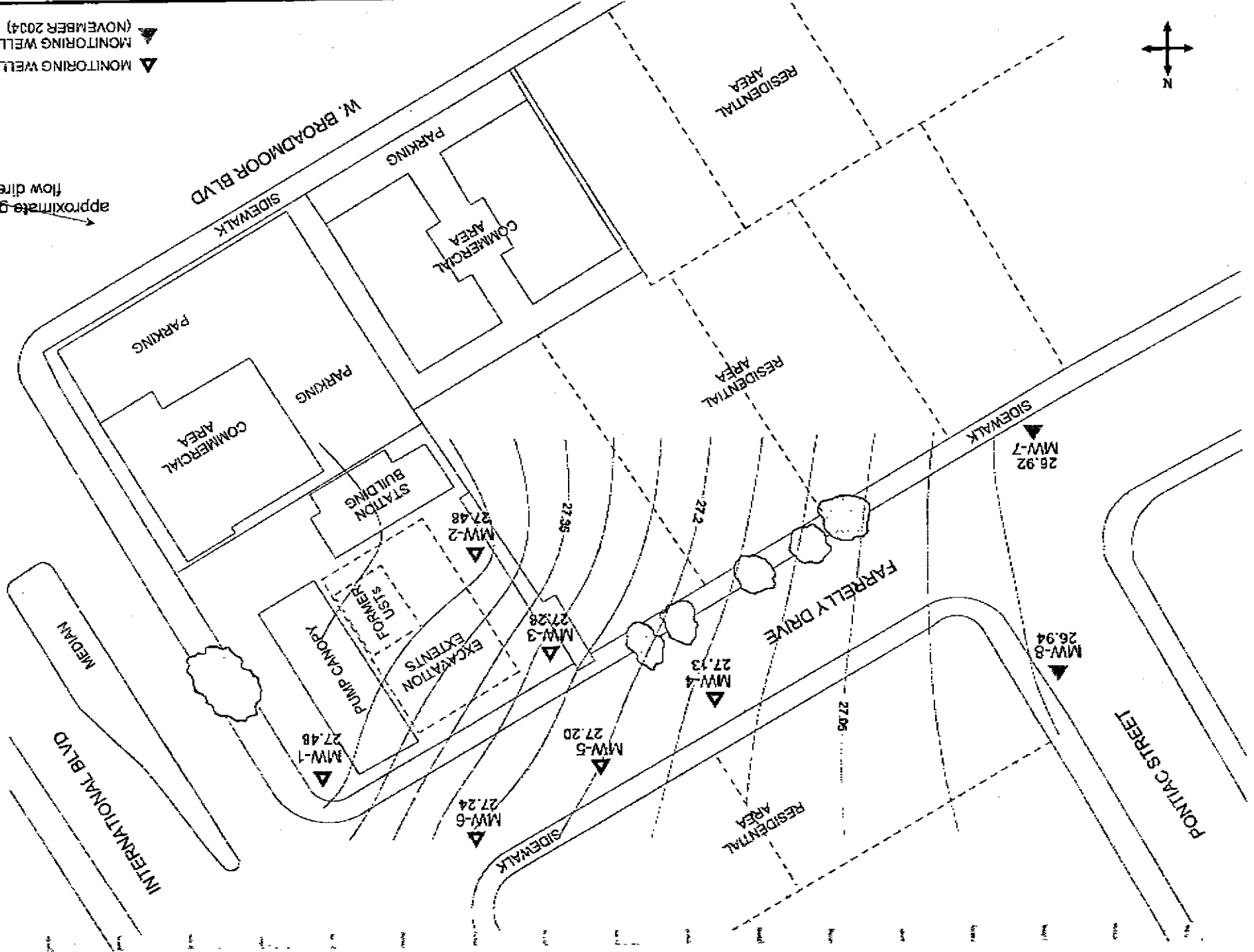
Figure 4: Groundwater Elevation Contour Map in Feet

approximate scale in feet  
0 25 50



▲ MONITORING WELL  
▲ MONITORING WELL INSTALLED (NOVEMBER 2004)

approximate groundwater flow direction



1 2 3 4 5 6 7 8 9 10 11 12

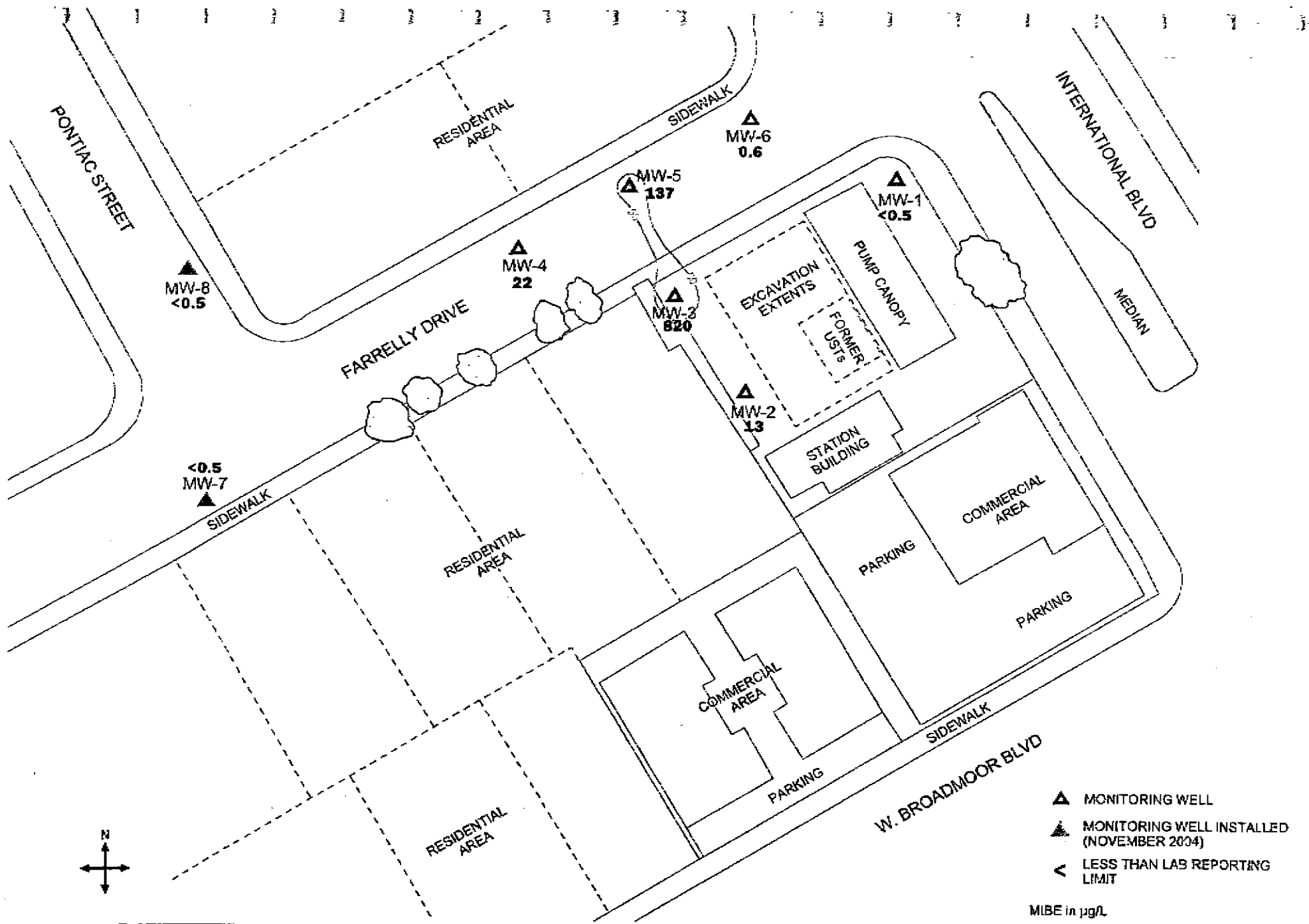


Figure 13: Horizontal Extent of the MIBE plume in the Groundwater, December 2004.



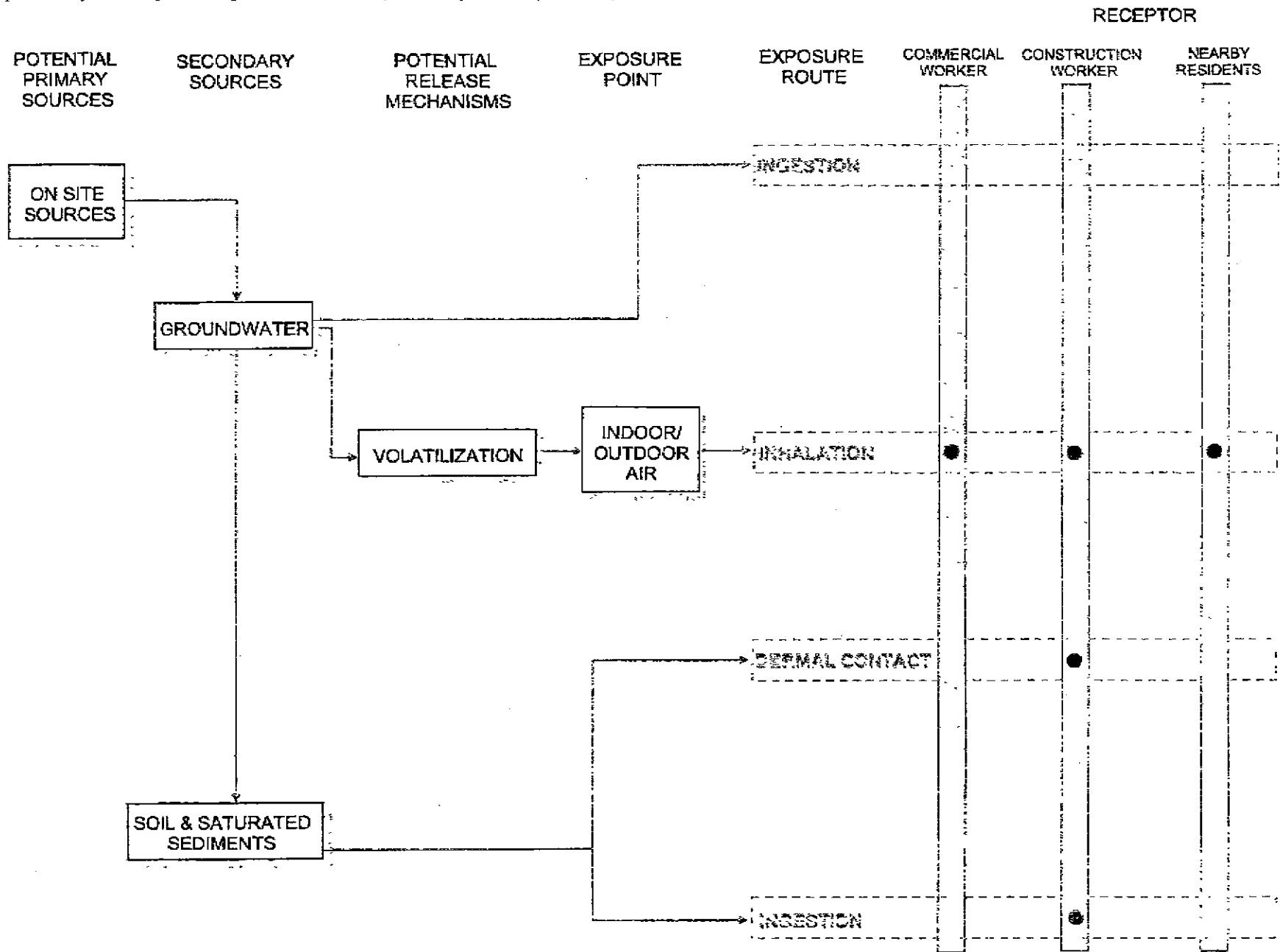


Figure 14: Conceptual Site Model.





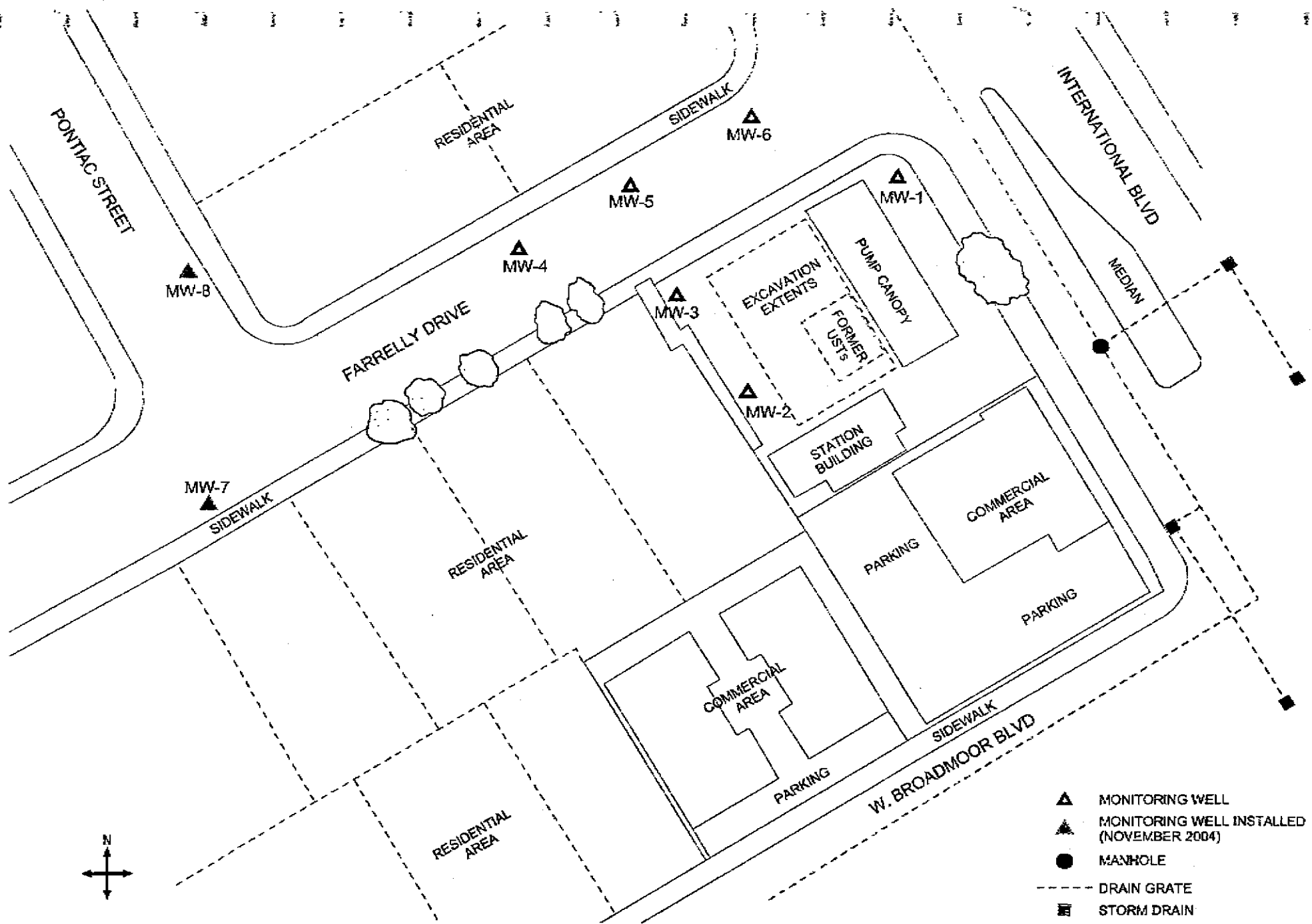


Figure 16: Site Map Showing Approximate Location of the Storm Drains.



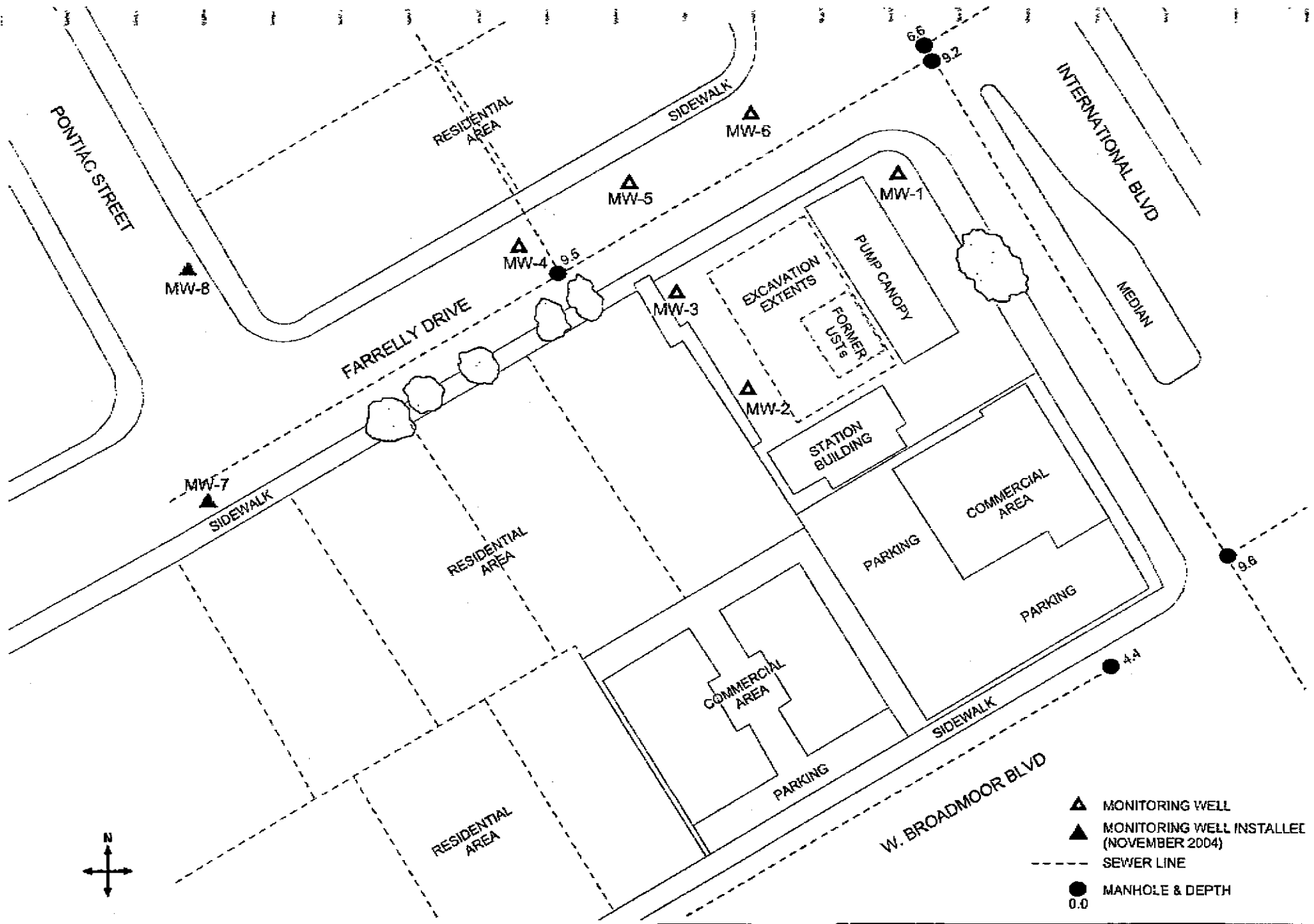
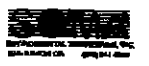
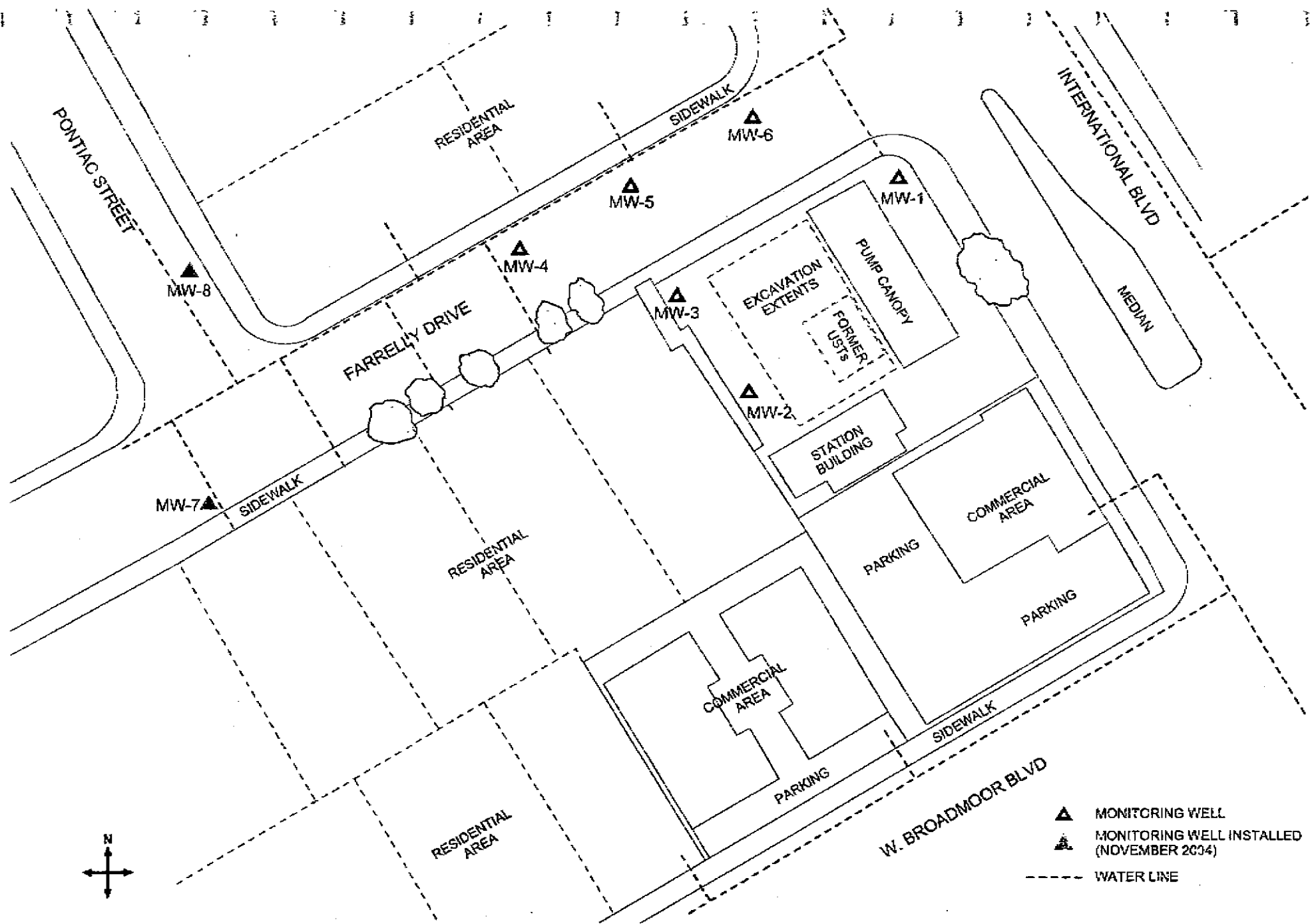


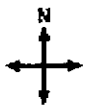
Figure 17: Site Map Showing Approximate Locations of the Sewer Lines.

approximate scale in feet  
 0 25 50





- ▲ MONITORING WELL
- △ MONITORING WELL INSTALLED (NOVEMBER 2004)
- - - WATER LINE



approximate scale in feet  
 0 25 50

Figure 18: Site Map Showing Approximate Locations of the Water Lines.

