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16 June 2017
Project 750635603

Mr. Keith Nowell, PG
Alameda County Health Care Services Agency
Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Supplemental Environmental Information Memorandum
Cleanup Case No. RO03236
3000 Broadway SPE LLC
3000 and 3020 Broadway, 3007 and 3009 Brook Street,
250, 260 and 288 30th Street
Oakland, California
Langan Project: 731635603

Dear Mr. Nowell:

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

Sincerely yours,

Alan Chamorro
3000 Broadway SPE LLC

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Memorandum

501 14th Street, 3rd Floor Oakland, CA 94612 T: 510.874.7000 F: 510.874.7001

To: Ms. Dilan Roe and Mr. Keith Nowell
Alameda County Environmental Health (ACEH)

CC: Alan Chamorro, Paul Gryfakis, and Tom Clyman – 3000 Broadway SPE LLC

From: Dorinda Shipman, Principal
Joshua Graber, Associate
Karianne Staehlin, Senior Staff Scientist

Date: 16 June 2017

Re: Supplemental Environmental Information
3000 Broadway Redevelopment
Oakland, California
Langan Project No.: 750635603

On behalf of 3000 Broadway SPE LLC, Langan Engineering and Environmental Services, Inc. (Langan) has prepared this memorandum presenting supplemental environmental information associated with the proposed 3000 Broadway Redevelopment project, as requested by the Alameda County Environmental Health (ACEH). The 3000 Broadway Redevelopment project includes Assessor Parcel Numbers (APN) 09-0704-011-01, 09-0704-012, 09-0704-010, and 09-0704-009 and the associated property addresses of 3000 and 3020 Broadway; 250, 260, and 288 30th Street; and 3007 and 3009 Brook Street (site) in Oakland, California (Figure 1).

Our recent *Soil and Groundwater Management Plan* (SGMP) dated 17 May 2017 was submitted to ACEH for review and approval. The SGMP describes site conditions associated with past property use and specifically proposed excavation activities to mitigate soil and groundwater impacts currently present in the subsurface at the site. The SGMP also describes measures that will be implemented during development activities to mitigate potential risks to the environment and to protect on-site construction workers, pedestrians, site visitors, and off-site receptors from potential exposure to hazardous substances present at the site.

Subsequent to the submission of our SGMP, three of the five proposed groundwater monitoring wells (GW-3, GW-4, and GW-5) were installed, surveyed, developed, and sampled in accordance with our *Work Plan for Additional Environmental Sampling and Monitoring* (Work Plan) dated 17 March 2017. Additionally, as per our 19 May 2017 meeting with the ACEH, additional information was requested regarding the current use of the properties surrounding the site, the proposed placement of utility conduits and connections, and an updated table summarizing environmental activities and concerns by parcel, including borings, summarized environmental data, and existing data gaps (if any). This memorandum provides a summary of all supplemental environmental information acquired subsequent to the submission of our SGMP, including groundwater monitoring well data and requests made by ACEH during our 19 May 2017 meeting.

GROUNDWATER MONITORING WELLS

In accordance with our Work Plan, a total of five groundwater monitoring wells (GW-1 through GW-5) were installed on-site and off-site. On 30 March 2017, groundwater monitoring wells GW-1 and GW-2 were installed within the 260 30th Street building, to an approximate depth of 18 feet below current grade (bgs), with screened intervals between 8 and 18 feet bgs. On 19 May 2017, groundwater monitoring wells GW-3, GW-4, and GW-5 were installed outside and downgradient of the site building, along the Brook Street right-of-way, to an approximate depth of 15 feet bgs, with screened intervals between 5 and 15 feet bgs. The approximate locations of the groundwater monitoring wells are shown on Figure 2.

Each of the groundwater monitoring wells was constructed in an 8-inch borehole by installing 10 feet of 2-inch diameter, 0.010-inch slotted PVC well screen at the bottom of each boring, and blank PVC casing to just below the ground surface. Monterey kiln-dried #2/12 sand was placed in the annular borehole space around the screen interval and approximately one foot above the top of screen, a minimum one-foot bentonite seal was placed above the sand filter pack and the remaining borehole was grouted to the surface. Due to the anticipated temporary nature of the wells within the building (GW-1 and GW-2), the wells were completed with a segment of standpipe PVC above the current concrete slab elevation. Groundwater monitoring wells GW-3 through GW-5, located along Brook Street, were completed to the surface with a flush-mounted, traffic-rated well box.

Groundwater Monitoring Well Development and Surveying

Following construction of the groundwater monitoring wells, Langan contracted Blaine Tech Services, Inc. of San Jose, California to develop the wells by bailing and surging using a surge block. Well development activities included purging a minimum of ten well volumes while recording typical water quality parameters (including turbidity, temperature, dissolved oxygen, pH, and oxidation reduction potential), until they stabilized. Following well development, the groundwater monitoring wells were allowed to stand for a minimum of 24 hours prior to any sampling activities.

Langan contracted Kister, Savio & Rei, Inc., a land surveying and civil engineering firm based out of Pinole, California, to survey the newly installed groundwater monitoring wells. The survey data, including precise location and elevations of both top of casing (TOC) and the well surface, are presented in Table 1.

Groundwater Monitoring Well Sampling

Langan sampled the newly installed groundwater monitoring wells GW-1 and GW-2 on 5 April 2017 and GW-3, GW-4, and GW-5 on 25 May 2017. Each well was purged and sampled using low-flow sampling methods, using a low-flow peristaltic pump. The purged groundwater was diverted through a multi-parameter water quality meter fitted with a flow through cell, and water quality parameters were recorded until stabilization. All field parameters recorded during sampling are presented in Table 2, including the depth to water measurements for all five

monitoring wells. Additionally, depth to water measurements, collected on 2 June 2017, and the corresponding groundwater elevations are also presented in Table 2. Based on the 2 June 2017 groundwater elevations, a groundwater elevation contour map was prepared, which is shown on Figure 3. The inferred groundwater direction at the site and adjacent to the site is to the southeast towards Glen Echo Creek.

Groundwater Analytical Results

Groundwater monitoring well analytical results for parameters other than metals are presented in Table 3 and were compared to the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Tier 1 environmental screening levels (ESLs) (RWQCB, February 2016 [Rev. 3]). Total petroleum hydrocarbons (TPH) as gasoline (TPHg) was detected above the laboratory detection limits in two of the five samples analyzed at concentrations of 67 micrograms per liter (µg/L) in sample GW-1 and 130 µg/L in sample GW-2. Sample GW-2 exceeds the Tier 1 ESL of 100 µg/L for TPHg. TPH as diesel (TPHd) was detected above the laboratory detection limits in one of the five samples analyzed (GW-2) at a concentration of 56 µg/L, which does not exceed the Tier 1 ESL of 100 µg/L for TPHd. TPH compounds were only detected in on-site monitoring wells (GW-1 and GW-2) and therefore, it appears TPH impacts are limited to within the site boundary.

Five volatile organic compounds (VOCs), including cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-DCE, trichloroethene (TCE), 1,2,4-trichlorobenzene (1,2,4-TCB), and vinyl chloride were detected above the laboratory detection limits in the samples analyzed. TCE was detected above the laboratory detection limits in four of the five samples analyzed at concentrations ranging from 6.9 µg/L to 2,400 µg/L, all of which exceed the Tier 1 ESL of 5.0 µg/L. Cis-1,2-DCE was detected above the laboratory detection limits in four of the five samples analyzed at concentrations ranging from 12 µg/L to 300 µg/L, all of which exceed the Tier 1 ESL of 6.0 µg/L. 1,2,4-TCB was detected in sample GW-4 at a concentration of 5.5 µg/L, and vinyl chloride was detected in sample GW-5 at a concentration of 3.3 µg/L, both detections exceed their respective Tier 1 ESLs. Sample GW-3 did not detect any VOCs at or above laboratory detection limits.

TCE has been identified as the main contaminant of concern (COC) at the site and therefore, a TCE groundwater concentration contour map was generated, which is shown on Figure 4. The TCE contours generated are primarily based on the analytical concentrations detected in groundwater monitoring wells GW-1 through GW-5. However, previously detected TCE concentrations from grab-groundwater samples in previous environmental borings were also consulted when drawing the contour lines. The grab-groundwater analytical results for non-metals, specifically TCE, from our previous environmental investigations are presented in Table 4.

As illustrated on Figure 4, TCE concentrations are generally highest in the vicinity of GW-1 and GW-2. Analytical results indicate that TCE concentrations significantly decrease in the cross-gradient directions. Furthermore, the lack of significant detections in wells GW-3 and GW-5 (and previous boring B-27) indicate that the TCE plume is relatively narrow.

ACEH-REQUESTED INFORMATION

As per our 19 May 2017 meeting with the ACEH, additional information was requested regarding the current use of the properties surrounding the site, the proposed placement of utility conduits and connections associated with the development, and an updated table summarizing environmental activities and concerns by parcel, including borings, summarized environmental data, and existing data gaps (if any).

As shown on Figure 5, the site is located in a fully developed mixed-use area of Oakland, commonly referred to as Auto Row. The site is currently vacant of tenants. Until recently, the warehouse-like structures at 3020 Broadway and 250, 260, and 288 30th Street were utilized as automobile sales, repair, and service shops and a restaurant (3000 Broadway). Two private residences are located at the 3007 and 3009 Brook Street site properties, but are currently vacant and planned for either relocation or demolition. Figure 5 also illustrates the current use of the various properties surrounding the site and the approximate location of Glen Echo Creek, located east and downgradient of the site. The properties east of the site are primarily residential; the properties south and west of the site are commercial; and the properties north of the site are primarily light industrial or automotive-related.

The proposed development includes podium parking on the lowest level. The parking level will be both naturally and mechanically ventilated. Figure 6 shows a ground floor view of the proposed development, including the proposed locations of the electric rooms and elevators, in which all previous Langan borings have been superimposed over the site. Figure 6 also includes the location of current and proposed underground utilities and proposed trenching locations located off-site, in addition to the points on-site in which the utilities are diverted from the mainlines to the proposed development.

An updated sampling plan overview table, as requested, is presented in Table 5. The table provides an overall summary of the environmental borings completed at the site to date, including parcel numbers, addresses, and historical use information. Additionally, the table summarizes all subsurface work previously conducted at the site by both Langan and others, including soil, groundwater, and soil vapor sampling. Any significant exceedances detected in the laboratory analytical results are noted in a separate "ESL exceedance" column within the table. All analytical results were compared to the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Tier 1 Environmental Screening Levels (ESLs) for groundwater (RWQCB, Tier 1 ESLs, February 2016 [Rev. 3]). A "significant exceedance" is defined as any concentration which exceeds the Tier 1 ESL.

NEXT STEPS

In addition to the recent groundwater information and analytical results presented in this memorandum, all previous subsurface information has been summarized in our previous reports, which have been submitted to ACEH and uploaded to the State of California's GeoTracker database for the site. Based on the cumulative subsurface work and analytical

results associated with the proposed site development, we believe that previously identified data gaps have been addressed.

As detailed in our SGMP, we propose to over-excavate soil containing compounds exceeding their Tier 1 ESLs from the 260 30th Street property, during site development. In order to achieve excavation depths, dewatering and treatment is anticipated. We anticipate that the proposed over-excavation and dewatering activities will remove the source of the site's contamination. Groundwater monitoring wells GW-1 and GW-2 will be removed during excavation and groundwater wells GW-3, GW-4, and GW-5 are expected to remain active throughout site development activities and will be monitored following the excavation and dewatering activities to assess changes to groundwater concentrations off-site.

Please do not hesitate to contact us with any questions, or if we can provide any additional information.

Attachments:

Table 1 – Groundwater Monitoring Well Survey Data
Table 2 – Groundwater Monitoring Well Field Parameters
Table 3 – Groundwater Monitoring Well Analytical Results for Non-Metals
Table 4 – Grab-Groundwater Analytical Results for Non-Metals
Table 5 – Summary of Environmental Borings and Concerns

Figure 1 – Site Location Map
Figure 2 – Site Plan with Sampling Locations
Figure 3 – Site Plan with Approximate Groundwater Contour
Figure 4 – Site Plan with Approximate TCE Concentrations in Groundwater Contour
Figure 5 – Current Use of Site and Surrounding Properties
Figure 6 – Proposed Ground Floor View with Utilities and Previous Borings

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TABLES

Table 1
Groundwater Monitoring Well Survey Data
3000 Broadway Redevelopment
Oakland, California

Well Number and Screened Interval (feet bgs)	Description	NAD 83 Northing	NAD83 Easting	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Elevation (NAVD 88)
GW-1 (8-18)	GW-1 TOC	2125373.99	6052933.38	37.8187478	-122.2613336	44.08
	GW-1 Conc.	2125374.46	6052933.3	37.8187491	-122.2613339	41.92
GW-2 (8-18)	GW-2 TOC	2125360.49	6052950.91	37.8187116	-122.261272	43.96
	GW-2 Conc.	2125360.94	6052950.97	37.8187129	-122.2612718	41.90
GW-3 (5-15)	GW-3 TOC	2125372.86	6052985.83	37.8187474	-122.261152	37.78
	GW-3 RIM	2125372.97	6052986.13	37.8187477	-122.2611509	38.03
GW-4 (5-15)	GW-4 TOC	2125315.68	6052996.07	37.8185909	-122.2611128	34.38
	GW-4 RIM	2125315.67	6052996.07	37.8185909	-122.2611128	34.67
GW-5 (5-15)	GW-5 TOC	2125276.29	6052958.01	37.8184808	-122.2612419	33.85
	GW-5 RIM	2125276.37	6052957.94	37.818481	-122.2612422	34.37

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Table 2
Groundwater Monitoring Well Field Parameters
3000 Broadway Redevelopment
Oakland, California

Well Number and Screened Interval	TOC Elevation	Depth to Water Elevation (2 June 2017)	Date	Time	Depth to Water (from TOC)	Temperature	Conductivity	pH	ORP	DO	Turbidity	Notes
(Feet bgs)	(NAVD 88)	(NAVD 88)			(Feet)	(°C)	(mS/cm)		(mV)	(mg/L)	(NTU)	
GW-1 (8-18)	44.08	31.69	4/5/2017	9:20	11.78	17.12	0.913	6.32	173	28.94	59.9	Clear; no odor
				9:25	--	17.54	0.915	6.14	207	22.04	55.5	
				9:30	12.37	17.66	0.920	6.97	220	19.41	28.7	
				9:35	--	17.75	0.896	6.96	230	18.09	29.3	
				9:40	--	17.85	0.874	6.96	238	17.05	28.4	
				9:45	12.44	18.02	0.871	6.94	245	16.00	26.0	
				9:50	--	18.13	0.868	6.94	248	15.89	30.4	
				9:55	--	18.17	0.860	6.94	252	15.77	23.9	
				10:00	--	18.29	0.857	6.92	255	15.49	24.1	
				10:05	12.57	18.34	0.853	6.92	257	15.28	22.3	
				10:10	--	18.36	0.849	6.91	258	15.12	20.9	
				10:12	12.03	Sample GW-1 Collected						
GW-2 (8-18)	43.96	31.39	4/5/2017	10:50	12.05	18.91	0.881	7.01	243	21.68	8.4	Clear; slight hydrocarbon odor
				10:55	--	18.95	0.879	7.26	245	18.76	8.1	
				11:00	--	18.96	0.886	7.31	249	17.48	8.3	
				11:05	13.55	18.95	0.889	7.3	252	17.00	7.4	
				11:10	--	18.97	0.900	7.27	255	16.5	7.5	
				11:15	--	18.98	0.902	7.25	257	16.35	7.6	
				11:20	--	19.01	0.897	7.23	259	16.15	7.5	
				11:25	--	19.03	0.889	7.18	262	16.10	7.0	
				11:30	--	19.04	0.886	7.16	263	16.02	6.9	
				11:35	14.32	19.06	0.884	7.14	264	15.94	6.9	
				11:40	--	19.05	0.882	7.14	265	15.92	6.6	
				11:42	14.25	Sample GW-2 Collected						
GW-3 (5-15)	37.78	30.67	5/25/2017	9:04	6.98	17.54	0.896	8.04	137	15.17	10.1	Clear; no odor
				9:09	--	17.94	0.890	7.13	166	13.73	14.0	
				9:14	7.54	18.23	0.894	6.92	175	11.12	2.6	
				9:19	--	18.31	0.906	6.88	179	11.00	2.2	
				9:24	7.68	18.38	0.908	6.85	183	10.46	1.9	
				9:29	--	18.36	0.916	6.84	187	10.38	1.6	
				9:34	--	18.38	0.915	6.83	189	10.26	1.1	
				9:35	7.52	Sample GW-3 Collected						
GW-4 (5-15)	34.38	26.39	5/25/2017	10:12	7.80	18.25	0.992	7.04	189	13.48	3.8	Clear; no odor
				10:17	--	18.21	0.797	7.30	187	15.01	3.7	
				10:22	8.94	18.28	0.831	7.35	189	13.17	1.9	
				10:27	--	18.27	0.854	7.35	190	12.64	3.2	
				10:32	9.59	18.26	0.901	7.40	189	12.19	1.9	
				10:37	--	18.25	0.932	7.42	190	11.83	1.5	
				10:38	9.99	Sample GW-4 Collected						
GW-5 (5-15)	33.85	26.56	5/25/2017	11:30	6.68	19.69	0.491	7.77	166	16.17	7.1	Clear; no odor
				11:35	--	19.80	0.508	7.57	176	15.88	1.7	
				11:40	--	19.81	0.530	7.55	183	15.34	1.0	
				11:45	8.34	19.81	0.544	7.57	188	14.83	0.8	
				11:50	--	19.82	0.552	7.58	191	14.44	1.0	
				11:55	8.93	19.85	0.549	7.58	194	14.17	1.7	
				11:56	9.44	Sample GW-5 Collected						

Notes:
TOC - Top of well casing
bgs - below ground surface
°C - degrees celcius
mS/cm - Millisiemens per centimeter
ORP - Oxidation-reduction potential
DO - Dissolved oxygen
mV - Millivolts
mg/L - Milligrams per liter
NTU - Nephelometric turbidity unit
-- - Not measured

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Table 3
Groundwater Monitoring Well Analytical Results for Non-Metals
3000 Broadway Redevelopment
Oakland, Califorina

Sample ID	Date Sampled	HEM; Oil & Grease	TPHg	TPHd	TPHmo	VOCs					PAHs			Phenolics	Total Cyanide
						cis- 1,2 DCE	TCE	PCE	Xylenes	All Other VOCs	2- Methyl-naphthalene	Naphthalene	All Other PAHs		
		(mg/L)	(µg/L)												
GW-1	04/05/17	--	67	< 50	< 250	**170**	**1,200**	< 25	< 25	ND	< 0.0500	< 0.0590	ND	--	--
GW-2	04/05/17	--	**130**	56	< 250	**300**	**2,400**	< 50	< 50	ND	< 0.0500	< 0.0500	ND	--	--
GW-2	06/02/17	< 5.0	--	--	--	--	--	--	--	--	--	--	--	2.1	< 1.0
GW-3	05/25/17	--	< 50	< 50	< 250	< 0.50	< 0.50	< 0.50	< 0.50	ND	< 0.0500	< 0.0500	ND	--	--
GW-4	05/25/17	--	< 50	< 50	< 250	**51**	**320**	< 5.0	< 5.0	**1,2,4- trichlorobenzene = 5.5**	< 0.0500	< 0.0500	ND	--	--
GW-5	05/25/17	--	< 50	< 50	< 250	**12**	**6.9**	< 0.50	< 0.50	trans-1,2-DCE = 2.8 **vinyl chloride = 3.3**	< 0.0500	0.0565	ND	--	--
Tier 1 ESL		--	100	100	50,000	6.0	5.0	3.0	20	Various	36*	20**	Various	--	--

Notes:
mg/L - Milligrams per liter
µg/L - Micrograms per liter
TPHg - Total Petroleum Hydrocarbons as Gasoline, EPA Method 8015B
TPHd - Total Petroleum Hydrocarbons as Diesel Range, EPA Method 8015B
TPHmo - Total Petroleum Hydrocarbons as Motor Oil, EPA Method 8015B
VOCs - Volatile Organics Compounds, EPA Method 8260B
PAHs - Polycyclic aromatic hydrocarbons, EPA Method 8310
Cis-1,2-DCE - Cis-1,2-dichloroethene
TCE - Trichloroethene
PCE - Tetrachloroethene
< 50 - Analyte was not detected above the laboratory reporting limit (50 µg/L)
< 5.0 - Analyte was not detected above the laboratory reporting limit (5.0 mg/L)
ND - Not detected at or above the laboratory reporting limit(s)
ESL - Environmental screening level(s)
Various - ESLs, where established, vary for each of the multiple compounds analyzed
*Direct exposure Human Health Risk Level (Table GW-1) ESL
**Groundwater Vapor Intrusion Human Health Risk Levels (Table GW-3) ESL for Residential Shallow Groundwater
Bold - Detection exceeds Tier 1 ESL
Tier 1 ESLs - San Francisco Bay Regional Water Quality Control Board's Environmental Screening Levels - *Tier 1 Groundwater*. February 2016 [Rev. 3]

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Table 4
Grab-Groundwater Analytical Results for Non-Metals
3000 Broadway Redevelopment
Oakland, California

Sample ID	Date Sampled	TPHg	TPHd	TPHmo	VOCs					PAHs		
					cis- 1,2 DCE	TCE	PCE	Xylenes	All Other VOCs	2- Methyl-naphthalene	Naphthalene	All Other PAHs
		(µg/L)										
B-11-GW	04/02/16	**250**	**460**	6,900	< 0.50	< 0.50	< 0.50	0.88	acetone = 15 benzene = 0.65 bromodichloromethane = 0.61 t-butyl alcohol = 12 sec-butyl benzene = 0.67 tert-butyl benzene = 0.96 chlorobenzene = 0.65 isopropylbenzene = 1.3 n-propyl benzene = 0.93	--	< 0.50	--
B-12-GW	04/09/16	< 50	< 50	< 250	< 0.50	< 0.50	< 0.50	< 0.50	toluene = 0.50	--	< 0.50	--
B-13-GW	11/03/16	< 50	< 50	< 250	< 0.50	1.8	< 0.50	< 0.50	chloroform = 0.62	--	< 0.50	--
B-17-GW	02/03/17	< 50	< 50	< 250	2.7	3.5	0.58	< 0.50	**chloroform = 3.3**	< 0.50	< 0.50	< 0.50
B-18-GW	02/02/17	55	**200**	1,200	**350**	**2,000**	< 100	< 100	ND	0.54	0.62	< 0.50
B-19-GW	02/02/17	< 50	< 100	630	4.5	**41**	< 1.2	< 1.2	ND	< 0.50	< 0.50	< 0.50
B-20-GW	02/02/17	75	**2,400**	8,600	**460**	**4,700**	< 120	< 120	ND	< 0.50	< 0.50	< 0.50
B-21-GW	02/02/17	< 50	< 100	510	**19**	**170**	< 5.0	< 5.0	ND	< 0.50	< 0.50	< 0.50
B-22-GW	02/02/17	**120**	< 100	680	**2,200**	**6,100**	< 120	< 120	ND	< 0.50	< 0.50	< 0.50
B-23-GW	02/03/17	**250**	**40,000**	**110,000**	**210**	**470**	< 12	< 12	chlorobenzene = 19	4.6	3.5	**benzo (a) anthracene = 0.64** fluorene = 0.83 1-methylnaphthalene = 3.0 phenanthrene = 1.2
B-24-GW	02/02/17	**1,400**	**250,000**	**500,000**	**1,600**	**590**	< 50	< 50	ND	3.4	3.5	fluorene = 3.3 1-methylnaphthalene = 2.8 pyrene = 1.4
B-25-GW	02/03/17	66	**5,100**	18,000	**29**	**210**	< 5.0	< 5.0	ND	--	< 5.0	--
B-26-GW	02/03/17	**110**	**770**	1,300	**20**	**63**	< 2.5	< 2.5	1,2,3-trichlorobenzene = 3.7 1,2,4-trimethylbenzene = 3.1	< 0.50	0.64	ND
B-27-GW	02/03/17	59	< 100	540	4.8	**48**	< 1.7	9.4	ND	--	< 1.7	--
B-28-GW	02/03/17	< 50	< 100	960	**37**	**230**	< 10	< 10	ND	--	< 10	--
B-30-GW	02/04/17	< 50	< 50	< 250	< 0.5	1.4	< 0.5	< 0.5	ND	< 0.50	< 0.50	ND
B-31-GW	03/29/17	< 50	**110**	870	**72**	**68**	< 1.7	< 1.7	chloroform = 1.8	< 0.0500	0.0632	ND
B-34-GW	03/29/17	< 50	**140**	700	**26**	**160**	< 2.5	< 2.5	**chloroform = 2.9**	< 0.0500	0.0735	ND
B-35-GW	03/29/17	< 50	**140**	1,100	1.0	4.3	< 0.50	< 0.50	**vinyl chloride = 0.79**	< 0.0500	< 0.0500	ND
B-36-GW	04/11/17	< 50	**120**	580	4.7	**28**	< 0.50	< 0.50	methyl t-butyl ether = 1.6	< 0.500	< 0.500	ND
GGW-2	03/30/17	< 50	**150**	420	< 0.5	**5.2**	< 0.50	< 0.50	ND	< 0.50	< 0.50	< 0.50
Tier 1 ESL		100	100	50,000	6.0	5.0	3.0	20	Various	36*	20**	Various

Notes:
µg/L - Micrograms per liter
TPHg - Total Petroleum Hydrocarbons as Gasoline, EPA Method 8015B
TPHd - Total Petroleum Hydrocarbons as Diesel Range, EPA Method 8015B
TPHmo - Total Petroleum Hydrocarbons as Motor Oil, EPA Method 8015B
VOCs - Volatile Organics Compounds, EPA Method 8260B
PAHs - Polycyclic aromatic hydrocarbons, EPA Method 8310
Cis-1,2-DCE - Cis-1,2-dichloroethene
TCE - Trichloroethene
PCE - Tetrachloroethene
< 0.50 - Analyte was not detected above the laboratory reporting limit (0.50 µg/L)
ND - Not detected at or above the laboratory reporting limit(s)
-- - Sample not analyzed
ESL - Environmental screening level(s)
Various - ESLs, where established, vary for each of the multiple compounds analyzed
*Direct exposure Human Health Risk Level (Table GW-1) ESL
**Groundwater Vapor Intrusion Human Health Risk Levels (Table GW-3) ESL for Residential Shallow Groundwater
Bold - Detection exceeds Tier 1 ESL
Tier 1 ESLs - San Francisco Bay Regional Water Quality Control Board's Environmental Screening Levels - *Tier 1 Groundwater*. February 2016 [Rev. 3]

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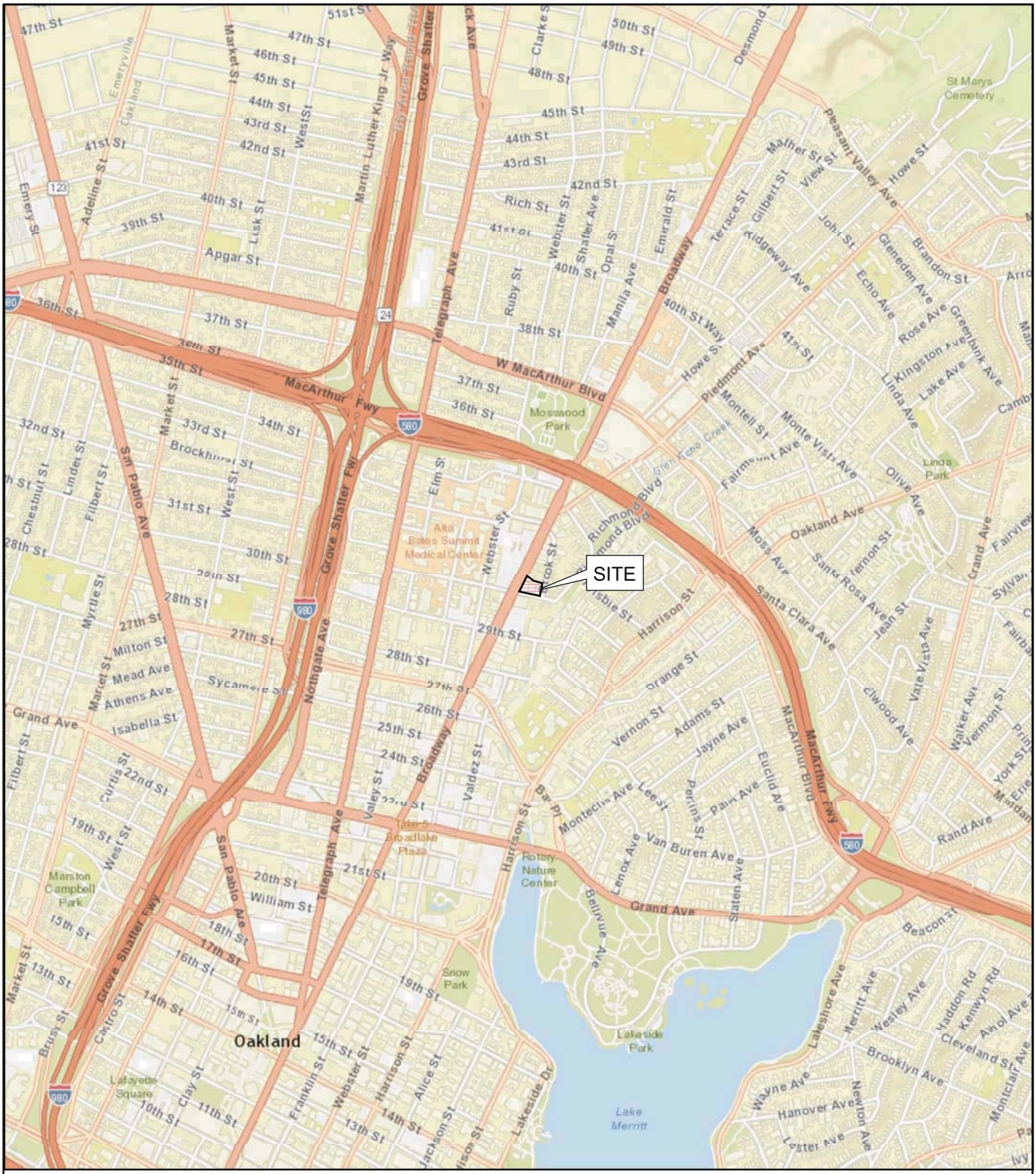
Table 5
Summary of Environmental Borings and Concerns
3000 Broadway Redevelopment
Oakland, California

APN #	Street Address	Historical Use	Scope/Purpose of Sampling	Associated Borings / Sampling Locations	Media Collected	ESL Exceedances
09-0704-011-01	3020 Broadway	Automotive sales	Characterize soil for off-site disposal	B-1 through B-4	Soil	Soil B-3: Lead (top 6.5 feet) B-4: Lead (top 6.5 feet)
			Geotechnical/Environmental borings, groundwater sample collected from B-13 to evaluate upgradient VOC concentrations	B-13 and B-14	Groundwater	No groundwater exceedances B-14 was advanced for geotechnical purposes and did not have enviromental samples collected
			Groundwater elevation evaluation	B-29	No Environmental Sampling	No samples collected
			Characterize soil for off-site disposal	B-37 through B-39	Soil	No exceedances
	250 30th Street	Automotive repair and service facility	Assess potential soil and groundwater impacts related to closed-in-place 1,000-gallon waste oil UST	SB-1 through SB-4 (Faultline Associates, Inc.)	Soil	Soil SB-1-15: TPHg, TPHd, TPHmo, ethylbenzene, and xylenes
				B1 through B4 (P&D Environmental, Inc.)	Soil and Groundwater	Groundwater B1-W: TPHg, TPHd, ethylbenzene, xylenes, and naphthalene B3-W: TPHd B4-W: TPHg
				B-11 and B-12	Groundwater	Groundwater B-11-GW: TPHg and TPHd
			Characterize soil for off-site disposal	B-7 and B-8	Soil	No exceedances
			Geotechnical boring	B-15	No Environmental Sampling	No samples collected
	260 30th Street (including Brook Street)	Automotive repair and service facility	Characterize soil for off-site disposal	B-9 and B-10	Soil	No exceedances
			Geotechnical boring; environmental soil samples collected when TPH-impacted soil was encountered	B-16	Soil	Soil B-16-6.0: TPHg, TPHd, TPHmo, PCE, and 1,1,2,2-tetrachloroethane B-16-10.0: TPHg, TPHd, and cis-1,2-DCE
			To further delineate vertical and historical distribution of VOCs and petroleum hydrocarbons in both soil and groundwater	B-17 through B-26	Soil and Groundwater	Soil B-18-10.0: TCE and cis-1,2-DCE B-21-10.0: TCE B-22-10.0: TCE and cis-1,2-DCE B-26-10.0: TPHg and TPHd Groundwater B-17-GW: Chloroform B-18-GW: TPHd, TCE, and cis-1,2-DCE B-19-GW: TCE B-20-GW: TPHd, TCE, and cis-1,2-DCE B-21-GW: TCE and cis-1,2-DCE B-22-GW:TPHg, TCE, and cis-1,2-DCE B-23-GW: TPHg, TPHd, TPHmo, TCE, cis-1,2-DCE, and benzo (a) anthracene B-24-GW: TPHg, TPHd, TPHmo, TCE, and cis-1,2-DCE B-25-GW: TPHd, TCE, and cis-1,2-DCE B-26-GW: TPHg, TPHd, TCE, and cis-1,2-DCE
				B-27 and B-28 (Brook Street)	Soil and Groundwater	Groundwater B-27-GW: TCE B-28-GW: TCE and cis-1,2-DCE
				MIP-1 through MIP-4	No Sampling	
				B-31 through B-35	Soil and Groundwater	Soil B-32-10.0: TCE and cis-1,2-DCE B-33-13.5: TPHg, TPHd, TCE, and PCE B-33-17.5: TPHg, TPHd, TCE, and PCE Groundwater No groundwater sampled at B-32 and B-33 B-31-GW: TPHd, TCE, and cis-1,2-DCE B-34-GW: TPHd, TCE, cis-1,2-DCE, and chloroform B-35-GW: TPHd and vinyl chloride
				B-36 (Brook Street)	Soil and Groundwater	Groundwater B-36-GW: TPHd and TCE
				GGW-1 and GGW-2	Deeper Groundwater	Groundwater GGW-1 was dry, due to clay (no sample collected) GGW-2: TPHg and TCE
				GW-1 and GW-2	Groundwater well samples	Groundwater GW-1: TCE and cis-1,2-DCE GW-2: TPHg, TCE, and cis-1,2-DCE
				GW-3 through GW-5 (Brook Street)	Groundwater well samples	Groundwater GW-4: TCE, cis-1,2-DCE, and 1,2,4-trichlorobenzene GW-5: TCE, cis-1,2-DCE, and vinyl chloride
			Assess potential for vapor intrusion off-site	SV-1 and SV-2	Soil Vapor	No exceedances
09-0704-012	3000 Broadway	Automotive sales and most recently a restaurant	Characterize soil for off-site disposal	B-40 and B-41	Soil	No exceedances
	288 30th Street	Automotive repair and service facility	Characterize soil for off-site disposal	B-5 and B-6	Soil	No exceedances
			Characterize soil for off-site disposal, and assess potential soil and groundwater impacts related to former USTs	B-30	Soil and Groundwater	No exceedances
09-0704-010	3007 Brook Street	Private residence	Characterize soil for off-site disposal	B-44	Soil	Soil B-44: Lead (top 4 feet)
09-0704-009	3009 Brook Street	Private residence	Characterize soil for off-site disposal	B-42, B-43, and B-45	Soil	Soil B-42: Lead (top 4 feet)

Notes:
APN - Assessor Parcel Number
ESL - Environmental screening limit (Tier 1 ESLs)
Tier 1 ESLs - San Francisco Bay Regional Water Quality Control Board's Environmental Screening Levels - *Tier 1 Soil.* February 2016 [Rev. 3]
UST - Underground storage tank
VOCs - Volatile organic compounds
TPHg - Total petroleum hydrocarbons as gasoline
TPHd - Total petroleum hydrocarbons as diesel
TPHmo - Total petroleum hydrocarbons as motor oil
TCE - Trichloroethylene
PCE - Tetrachloroethylene
cis-1,2-DCE - cis-1,2- dichloroethylene

FIGURES



NOTES:

0 1,000 2,000

Feet

N
W E
S

World street basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online.
Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN.

3000 BROADWAY REDEVELOPMENT
Oakland, California

SITE LOCATION MAP

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Date 06/12/17	Project No. 750635603	Figure 1

Reference: Nearmap aerial imagery 2017.

EXPLANATION

- **GGW-1** — Approximate location of deep grab groundwater sample by Langan, March 2017
- **GW-1** — Approximate location of groundwater monitoring well
- **SV-1** — Approximate location of soil vapor sample by Langan, April 2017
- **MIP-1** — Approximate location of MIP by Langan, March 2017
- **B-31** — Approximate location of soil and/or groundwater boring by Langan, March and April 2017
- **B-37** — Approximate location of soil sampling boring for composite characterization, 20 feet bgs max. by Langan, April 2017
- **B-42** — Approximate location of boring for composite characterization, 8 feet bgs max. by Langan, April 2017
- **B-17** — Approximate location of environmental boring by Langan, February 2017
- **B-13** — Approximate location of geotechnical boring by Langan, November 2016
- **B-1** — Approximate location of 5-foot boring by Langan Treadwell Rollo, April 2016
- **B-3** — Approximate location of 20-foot boring by Langan Treadwell Rollo, April 2016
- **B-5** — Approximate location of 15-foot boring by Langan Treadwell Rollo, April 2016
- **B-7** — Approximate location of 10-foot boring by Langan Treadwell Rollo, April 2016
- **SB-1** — Approximate location of boring by Faultline Associates, Inc., March 1997
- **B1** — Approximate location of boring by P&D Environmental, Inc., March 1997
- Approximate location of abandoned in-place 1,000-gallon waste oil UST, March 1997
- Approximate location of former USTs (350-gallon gasoline and 1,000-gallon diesel), removed in July 1992
- Approximate location of floor drain
- Approximate footprint of proposed 3000 Broadway Redevelopment
- Approximate location of drain line piping

3000 BROADWAY REDEVELOPMENT
Oakland, California

SITE PLAN WITH SAMPLING LOCATIONS

Date 06/12/17	Project No. 750635603	Figure 2

LANGAN

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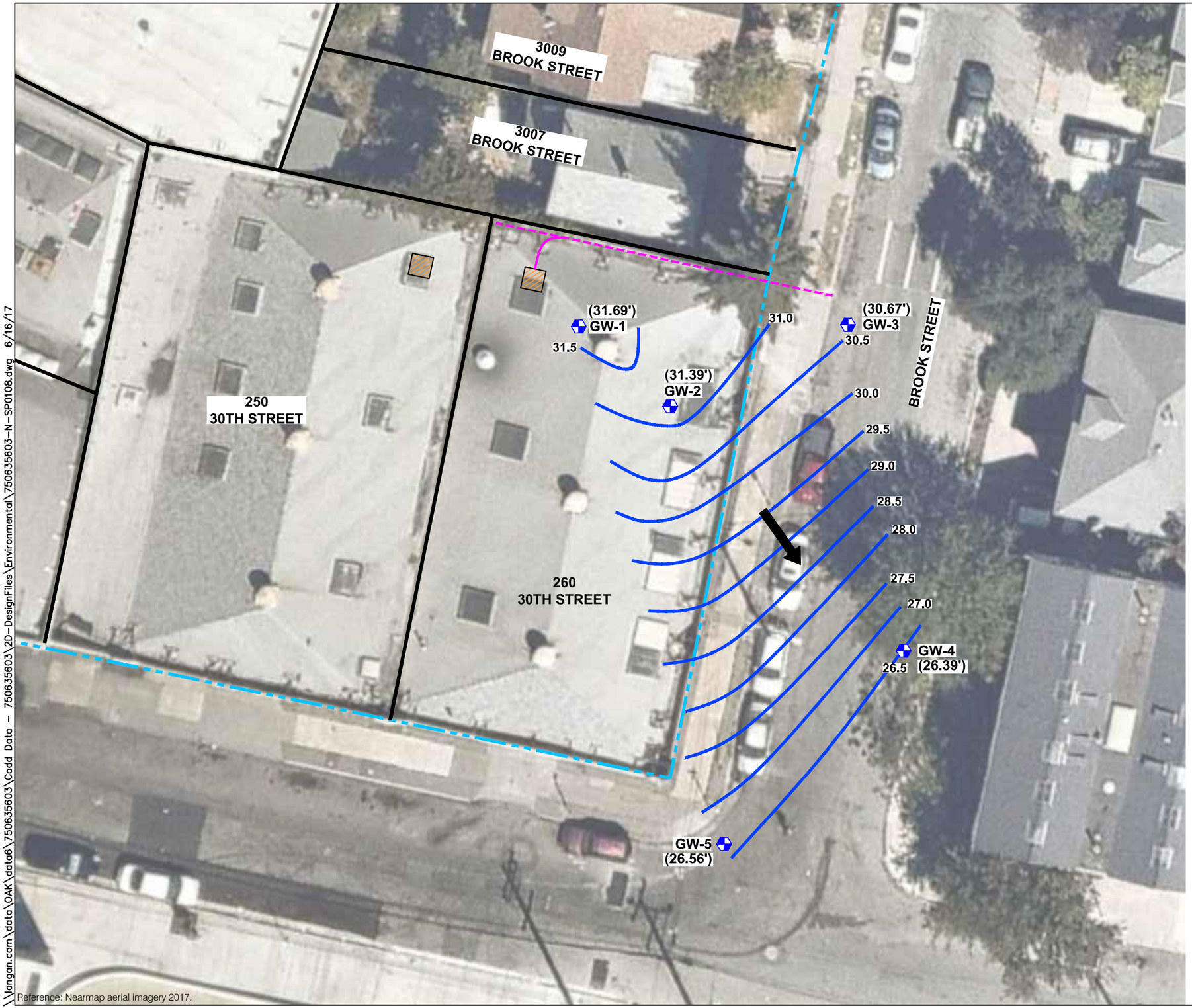

Reference: Nearmap aerial imagery 2017.

EXPLANATION

- GW-1 — Approximate location of groundwater monitoring well
- 26.5 — Groundwater elevation contour (feet, below ground surface)
- (30.67') — Groundwater elevation (feet, below ground surface)
- Approximate location of floor drain
- Approximate footprint of proposed 3000 Broadway Redevelopment
- Approximate location of drain line piping
- Inferred groundwater direction

N

0 20 Feet

Approximate scale

3000 BROADWAY REDEVELOPMENT
Oakland, California

SITE PLAN WITH APPROXIMATE GROUNDWATER CONTOUR

Date 06/12/17	Project No. 750635603	Figure 3

LANGAN

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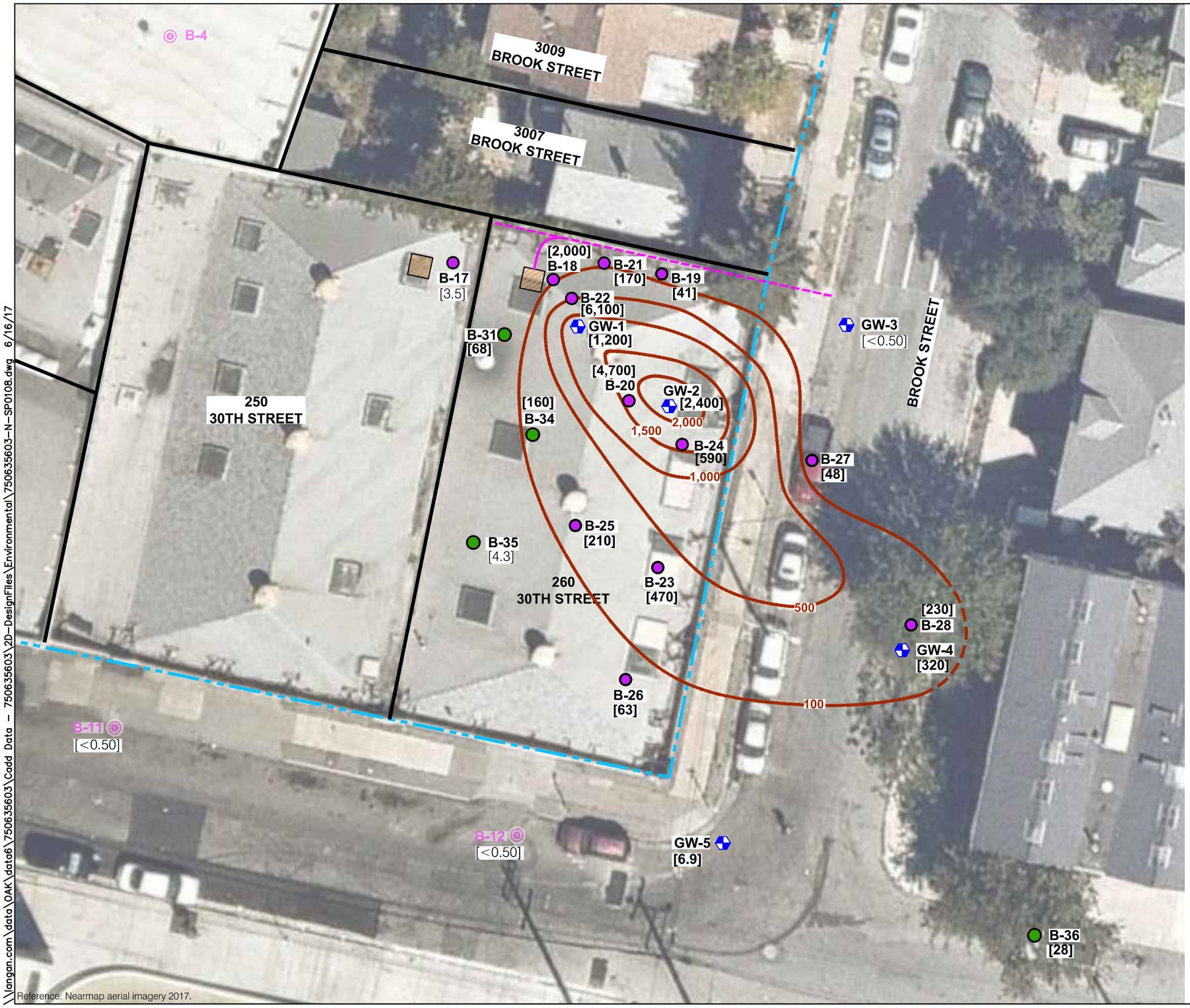

Reference: Nearmap aerial imagery 2017.

EXPLANATION

- GW-1 — Approximate location of groundwater monitoring well
- B-31 — Approximate location of soil and/or groundwater boring by Langan, March and April 2017
- B-17 — Approximate location of environmental boring by Langan, February 2017
- B-4 — Approximate location of 20-foot boring by Langan Treadwell Rollo, April 2016
- 100 — Trichloroethylene (TCE) concentration in groundwater contour in micrograms per liter (µg/L)
- [320] — TCE concentration in micrograms per liter (µg/L), **Bold** concentrations indicate and exceedance of 5.0 µg/L ESL for TCE
- Approximate location of floor drain
- Approximate footprint of proposed 3000 Broadway Redevelopment
- Approximate location of drain line piping

Note: Approximate TCE concentration countour lines are primarily based on the analytical concentrations detected in groundwater monitoring wells GW-1 through GW-5, subsequent to development, purging, and low-flow sampling. Previously detected TCE concentrations, from grab-groundwater samples collected from previous environmental borings, as listed on this Figure, were also consulted when drawing countour lines.

N

0 20 Feet

Approximate scale

3000 BROADWAY REDEVELOPMENT
Oakland, California

SITE PLAN WITH APPROXIMATE TCE CONCENTRATIONS IN GROUNDWATER CONTOUR

Date 06/12/17	Project No. 750635603	Figure 4

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EXPLANATION

- Approximate footprint of proposed 3000 Broadway Redevelopment
- Commercial properties
- Residential properties
- Light industrial/Automotive-related properties
- Active construction property
- Approximate location of Glen Echo Creek (parts located underground via culverts and stormdrains)

N

0 60 Feet

Approximate scale

3000 BROADWAY REDEVELOPMENT
Oakland, California

CURRENT USE OF SITE AND SURROUNDING PROPERTIES

Date 06/12/17	Project No. 750635603	Figure 5

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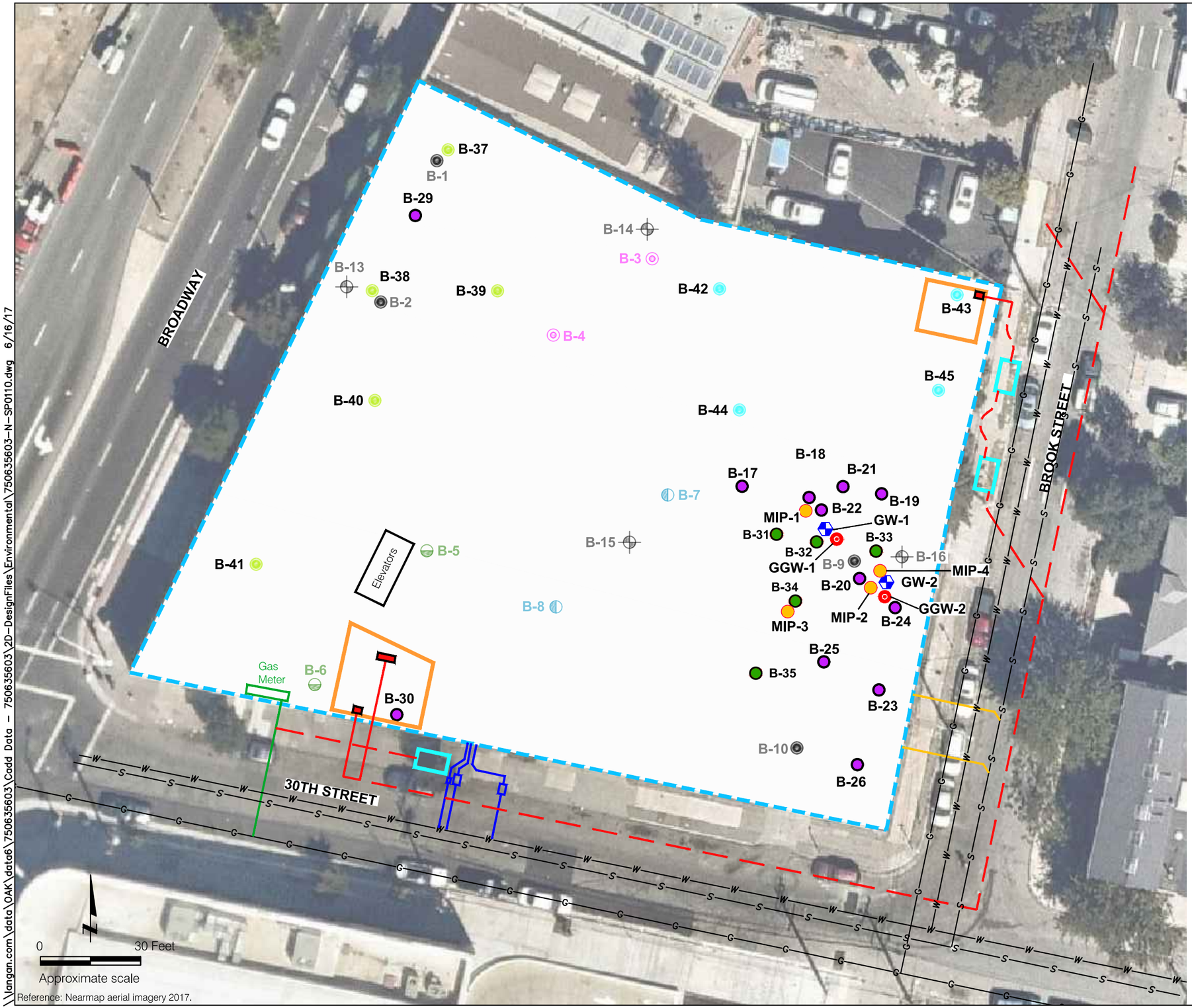

EXPLANATION

- GGW-1 — Approximate location of deep grab groundwater sample by Langan, March 2017
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- B-3 — Approximate location of 20-foot boring by Langan Treadwell Rollo, April 2016
- B-5 — Approximate location of 15-foot boring by Langan Treadwell Rollo, April 2016
- B-7 — Approximate location of 10-foot boring by Langan Treadwell Rollo, April 2016
- Proposed ground level footprint
- Proposed joint utility trench
- Proposed joint utility trench connection
- Existing gas main
- Proposed gas service connection
- Existing water main
- Proposed water service connection
- Existing sanitary sewer main
- Proposed sanitary sewer service connection
- Proposed electrical room
- Proposed PG&E transformer vault

3000 BROADWAY REDEVELOPMENT
Oakland, California

PROPOSED GROUND FLOOR VIEW WITH UTILITIES AND PREVEOUS BORINGS

Date 06/12/17	Project No. 750635603	Figure 6

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