WEISS ASSOCIATES
Geologic and Environmental Services
Fax: 415-547-5043 Phone: 415-547-5420
5500 Shellmound Street, Emeryville, CA 94608

March 12, 1990

Mr. Hugh Murphy
Hazardous Materials Division
City of Hayward
22300 Foothill Blvd.
Hayward, CA 94541

Re: Chevron Service Station #90260
21995 Foothill Boulevard
Hayward, CA
WA Job #4-310-08

Dear Mr. Murphy:

Thank you for the time you spent on March 5 briefly discussing the permitting requirements for our proposed ground water remediation project at Chevron Service Station #90260, located at 21995 Foothill Boulevard, Fremont, CA. This letter is to summarize Weiss Associates' (WA) proposed remediation at this site, for your review and advice concerning permitting requirements.

WA would like to proceed with the preliminary work for this project, while final decisions concerning the treatment method are being made. This preparatory work includes the construction of a fenced equipment pad, the installation of pumps and piping from the wells to the pad, discharge piping, electrical conduit, wires and controls to the pumps, and the modification of the well heads.

WA is proposing the installation of a ground water extraction system to pump and treat the groundwater from the site, with discharge to the sanitary sewer according to the local sewer district's requirements. WA proposes to pump water from wells MW-4, MW-11, and MW-12. Please refer to the attached site map. (Figures 1 and 2). Ground water from these wells contains dissolved benzene, toluene, and xylene above the Department of Health Services recommended action levels for drinking water. A copy of the analytic results and methods performed by a certified laboratory is presented in Table 1.

We propose extracting ground water from these wells using submersible electric pumps operating at flow rates ranging from 1-5 gpm. The existing well heads will be modified to accommodate the connection fittings, sampling ports, valves and flow meters. The existing vaults will be replaced with larger traffic rated vaults with bolt-down lid in traffic areas. In non-traffic areas, vaults will be replaced with concrete vaults with concrete bolt-down lids. Please refer to the attached drawings. (Figures 3 and 5).

The pump discharge will be piped to the treatment enclosure by 1" reinforced PVC tubing. The tubing would be contained within 2" PVC pipe from the well head up to the treatment enclosure. Below ground piping will be installed in a trench, and above ground piping will be attached to the concrete block wall using strut supports.

The treatment enclosure will consist of a 10 ft by 15 ft concrete pad, with 6" high berm to contain any possible leaks from the treatment system. The berm will have a capped drain pipe for release of accumulated rainwater. The pad will be surrounded by an 8 ft high slatted chain link security fence, with a locking gate. (Figure 4).

I would appreciate your review of and comments on this proposal, especially concerning any special permitting requirements that your department may have concerning this type of system. Your suggestions concerning other City permits or requirements would also be greatly appreciated.

Thank you very much for your assistance in this matter. Please do not hesitate to contact me if you have any questions.

Sincerely,
Weiss Associates

Matthew W. Derby
Senior Environmental Technician

attachments: Table 1, Analytic Results
Figure 1, Site Location Map
Figure 2, Monitor Well Location Map
Figure 3, Proposed System Plan
Figure 4, Equipment Pad Detail
Figure 5, Well Vault Detail

TABLE 1 Analytic Results for Ground Water, Chevron Service Station #90260, 21995 Foothill Boulevard, Hayward, California

| Sample ID | Sample Date | Analytic Method | Analytic Lab | TPPH/TFHC | B | E | T | X | EDC | EDB | VOCs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | <----------parts per billion----------> | | | | | | | |
| MW-4 | 2/05/88 | 8015/602 | B&C | 88,000 | 24,000 | 1,700 | 19,000 | 10,000 | --- | --- | --- |
| | 6/15/88 | 8015/602 | B&C | 95,000 | 45,000 | 2,100 | 30,000 | 17,000 | --- | --- | --- |
| | 9/27/88 | 524.2/8240 | CCAS | 500,000 | 41,000 | <5,000 | 27,000 | 16,000 | <5,000 | <5,000 | --- |
| | 9/27/88* | 524.2/8240 | CCAS | 88,000 | 1,200 | 1,600 | 4,100 | 12,000 | 270 | 230 | --- |
| | 1/05/89 | 8015/8020 | SAL | 64,000 | 41,000 | 2,700 | 29,000 | 14,000 | --- | --- | --- |
| | 6/28/89 | 8015/8020 | SAL | 110,000 | 34,000 | 2,400 | 24,000 | 13,000 | --- | --- | --- |
| | 10/03/89 | 8015/8020 | SAL | 240,000 | 36,000 | 3,200 | 31,000 | 19,000 | --- | --- | --- |
| MW-5 | 2/05/88 | 8015/602 | B&C | 80,000 | 16,000 | 2,600 | 15,000 | 17,000 | --- | --- | --- |
| | 6/15/88 | 8015/602 | B&C | 77,000 | 42,000 | 2,500 | 38,000 | 16,000 | --- | --- | --- |
| | 9/27/88 | 524.2/8240 | CCAS | 470,000 | 39,000 | <5,000 | 32,000 | 16,000 | <5,000 | <5,000 | --- |
| | 9/27/88* | 524.2/8240 | CCAS | 48,000 | 1,800 | 1,600 | 3,500 | 10,000 | 410 | 420 | --- |
| | 1/05/89 | 8015/8020 | SAL | 82,000 | 44,000 | 2,400 | 37,000 | 14,000 | --- | --- | --- |
| | 6/28/89 | 8015/8020 | SAL | 80,000 | 36,000 | 2,400 | 24,000 | 13,000 | --- | --- | --- |
| | 10/03/89 | 8015/8020 | SAL | 240,000 | 40,000 | 2,600 | 35,000 | 15,000 | --- | --- | --- |
| MW-6 | 2/05/88 | 8015/602 | B&C | 53,000 | 5,100 | 2,100 | 4,400 | 14,000 | --- | --- | --- |
| | 6/15/88 | 8015/602 | B&C | 33,000 | 9,200 | 520 | 5,500 | 20,000 | --- | --- | --- |
| | 9/27/88 | 524.2/8240 | CCAS | 17,000 | 2,200 | 1,700 | 2,800 | 5,100 | 130 | <10 | --- |
| | 1/05/89 | 8015/8020 | SAL | 37,000 | 5,000 | 2,200 | 3,400 | 10,000 | --- | --- | --- |
| | 6/28/89 | 8015/8020 | SAL | 80,000 | 7,000 | 2,000 | 4,100 | 9,700 | --- | --- | --- |
| | 10/03/89 | 8015/8020 | SAL | 110,000 | 8,500 | 2,600 | 5,100 | 14,000 | --- | --- | --- |
| MW-7 | 2/05/88 | 8015/602 | B&C | 81,000 | 34,000 | 2,400 | 36,000 | 16,000 | --- | --- | --- |
| | 6/15/88 | 8015/602 | B&C | 77,000 | 40,000 | 1,400 | 41,000 | 24,000 | --- | --- | --- |
| | 9/27/88 | 524.2/8240 | CCAS | 30,000 | 9,700 | 400 | 8,900 | 4,100 | 2,600 | <10 | --- |
| | 1/05/89 | 8015/8020 | SAL | 96,000 | 36,000 | 2,800 | 38,000 | 16,000 | --- | --- | --- |
| | 6/28/89 | 8015/8020 | SAL | 110,000 | 31,000 | 2,600 | 30,000 | 16,000 | --- | --- | --- |
| | 10/03/89 | 8015/8020 | SAL | 230,000 | 34,000 | 2,400 | 34,000 | 15,000 | --- | --- | --- |
| MW-8 | 10/27/88 | 524.2/8240 | CCAS | 190,000 | 27,000 | 2,200 | 43,000 | 15,000 | <500 | <500 | --- |
| | 1/05/89 | 8015/8020 | SAL | 87,000 | 24,000 | 3,000 | 39,000 | 15,000 | --- | --- | --- |
| | 6/28/89 | 8015/8020 | SAL | 120,000 | 22,000 | 2,900 | 35,000 | 16,000 | --- | --- | --- |
| | 10/03/89[b] | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MW-9 | 10/27/88 | 524.2/8240 | CCAS | 50,000 | 2,000 | 2,000 | 9,900 | 14,000 | <500 | <500 | --- |
| | 1/05/89 | 8015/8020 | SAL | 55,000 | 670 | 3,400 | 8,900 | 16,000 | --- | --- | --- |
| | 6/28/90 | 8015/8020 | SAL | 100,000 | 510 | 2,600 | 4,500 | 13,000 | --- | --- | --- |
| | 10/03/89 | 8015/8020 | SAL | 130,000 | 540 | 3,200 | 8,000 | 17,000 | --- | --- | --- |

--Table 2 continues on next page--

TABLE 1. Analytic Results for Ground Water, Chevron Service Station #90260, 21995 Foothill Boulevard, Hayward, California

| Sample ID | Sample Date | Analytic Method | Analytic Lab | TPPH/TFHC | B | E | T | X | EDC | EDB | VOCs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | <----------parts per billion----------> | | | | | | | |
| MW-10 | 10/27/88 | 524.2/8240 | CCAS | <500 | 26 | <5 | 13 | <5 | <5 | <5 | --- |
| | 1/05/89 | 8015/8020 | SAL | <1,000 | <0.3 | <0.3 | <0.3 | <0.3 | --- | --- | --- |
| | 6/28/89 | 8015/8020 | SAL | <500 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| | 10/03/89 | 8015/8020 | SAL | <500 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| MW-11 | 6/28/89 | 8015/8240 | SAL | 60,000 | 36,000 | 2,500 | 13,000 | 12,000 | --- | --- | ND |
| | 10/03/89 | 8015/8020 | SAL | 14,000 | 4,200 | 240 | 1,400 | 1,300 | --- | --- | --- |
| MW-12 | 6/28/89 | 8015/8240 | SAL | 55,000 | 30,000 | 2,900 | 21,000 | 19,000 | --- | --- | ND |
| | 10/03/89 | 8015/8020 | SAL | 170,000 | 30,000 | 2,700 | 23,000 | 15,000 | --- | --- | --- |
| MW-13 | 6/28/89 | 8015/8240 | SAL | 54,000 | 12,000 | 1,900 | 10,000 | 15,000 | --- | --- | ND |
| | 10/03/89 | 8015/8020 | SAL | 120,000 | 10,000 | 2,300 | 10,000 | 15,000 | --- | --- | --- |
| Bailer Blank | 1/05/89 | 8015/8020 | SAL | <1,000 | <0.3 | <0.3 | <0.3 | <0.3 | --- | --- | --- |
| Trip Blank | 1/05/89 | 8015/8020 | SAL | <1,000 | <0.3 | <0.3 | <0.3 | <0.3 | --- | --- | --- |
| | 10/03/89 | 8015/8020 | SAL | <500 | <0.5 | <0.5 | <0.5 | <0.5 | --- | --- | --- |
| DHS MCLs | - | - | - | NE | 1 | 620 | 100[B] | 1,750 | 0.5 | 0.02 | V |

--Table 2 continues on next page--

TABLE 4 Analytic Results for Ground Water, Chevron Service Station #90260, 21995 Foothill Boulevard, Hayward, California (continued)

Abbreviations:

TPPH = Total Purgeable Petroleum Hydrocarbons
TFHC = Total fuel hydrocarbons
B = Benzene
E = Ethylbenzene
T = Toluene
X = Xylenes
EDC = 1,2-dichloroethane
EDB = Ethylene dibromide
VOCs = Volatile Organic Compounds
--- = Not analyzed
DHS MCLs = Department of Health Services Maximum Contaminant Level
[a] = DHS Recommended Action Level for Drinking Water
NE = DHS action level not established
V = DHS action levels vary, depends on compound
ND = Not detected at detection limits of 500 to 2,000 ppb
* = Samples from MW-4 and MW-5 were analyzed a second time after the holding time expired to confirm the anomalously high TFHC reported in the original analysis. Although the samples were preserved with $NaHSO_4$ and refrigerated, the second analysis was not conducted until 52 days after sample collection.
[b] = Not sampled due to the presence of free-floating product in the well

Analytic Method:

8015 = Modified EPA Method 8015, Total Fuel Hydrocarbons (GC)
8020 = EPA Method 8020, Aromatic Volatile Hydrocarbons (GC)
602 = EPA Method 602, Aromatic Volatile Hydrocarbons (GC)
524.2/8240 = Fuel Fingerprint Analysis - EPA Method 524.2/8240, Total Fuel and Aromatic Volatile Hydrocarbons (GC/MS)

Analytic Laboratory:

B&C = Brown and Caldwell Laboratories of Emeryville, California
CCAS = Central Coast Analytical Services of San Luis Obispo, California
SAL = Superior Analytical Laboratory of San Francisco, California

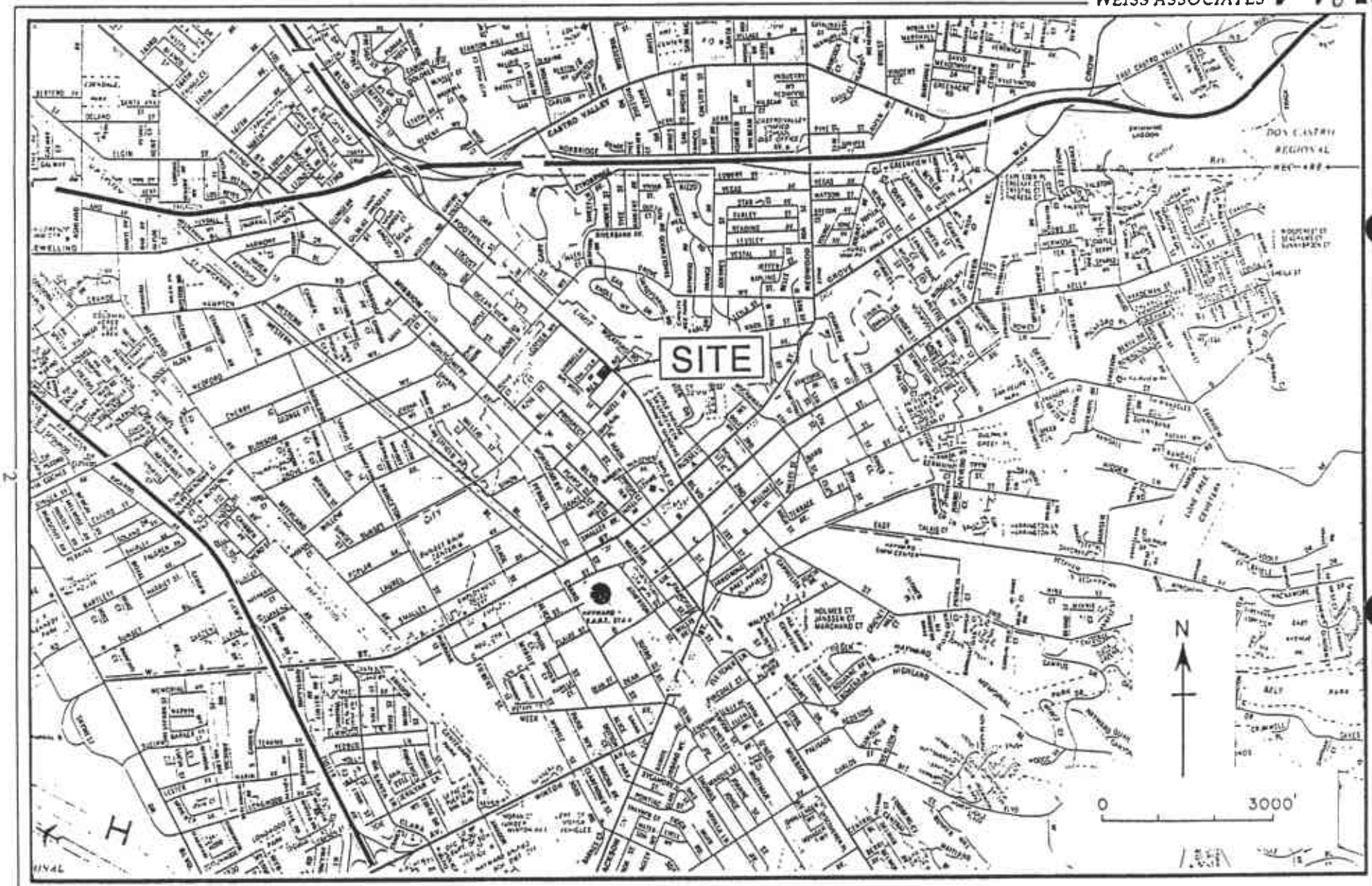


Figure 1. Site Location Map - Chevron Service Station #90260, Hayward, California

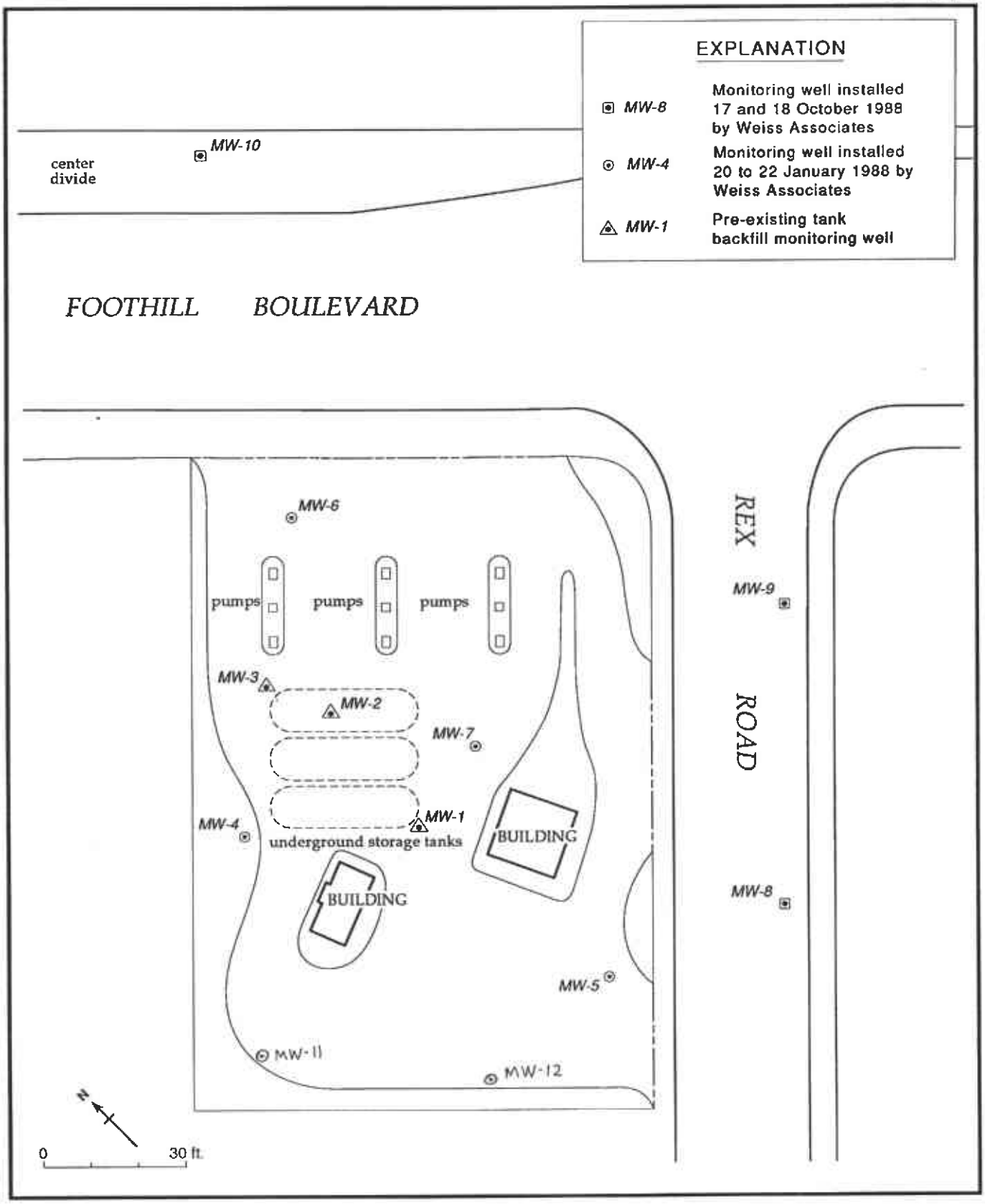


Figure 2. Monitoring Well Locations - Chevron Service Station #90260, Hayward, California

3/12/90

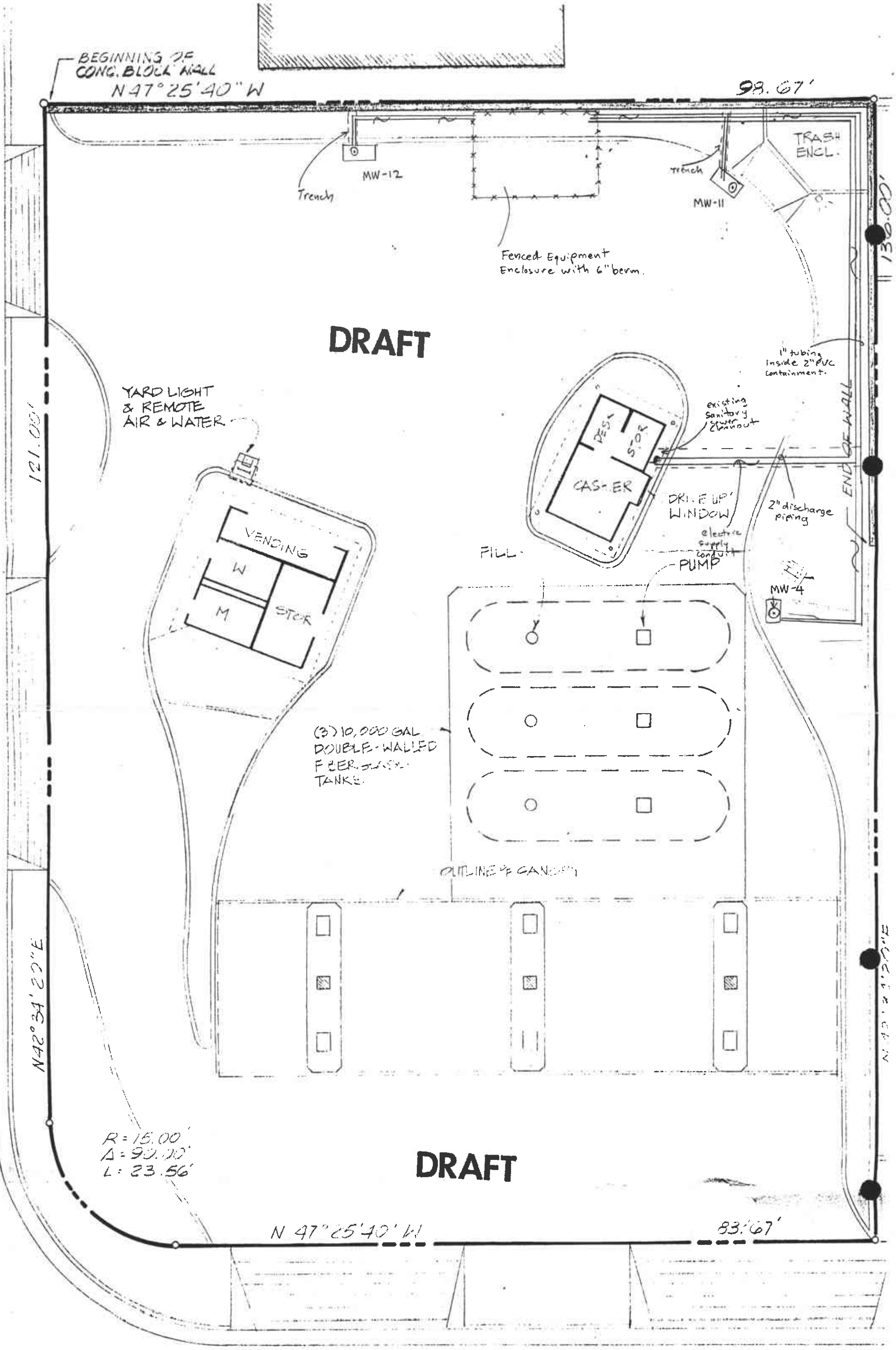


Figure 3 Proposed System Plan
Chevron Service Station # 90260
Hayward, CA

Figure 4.

# EQUIPMENT PAD DETAIL
CHEVRON SS# 90260
Hayward, CA

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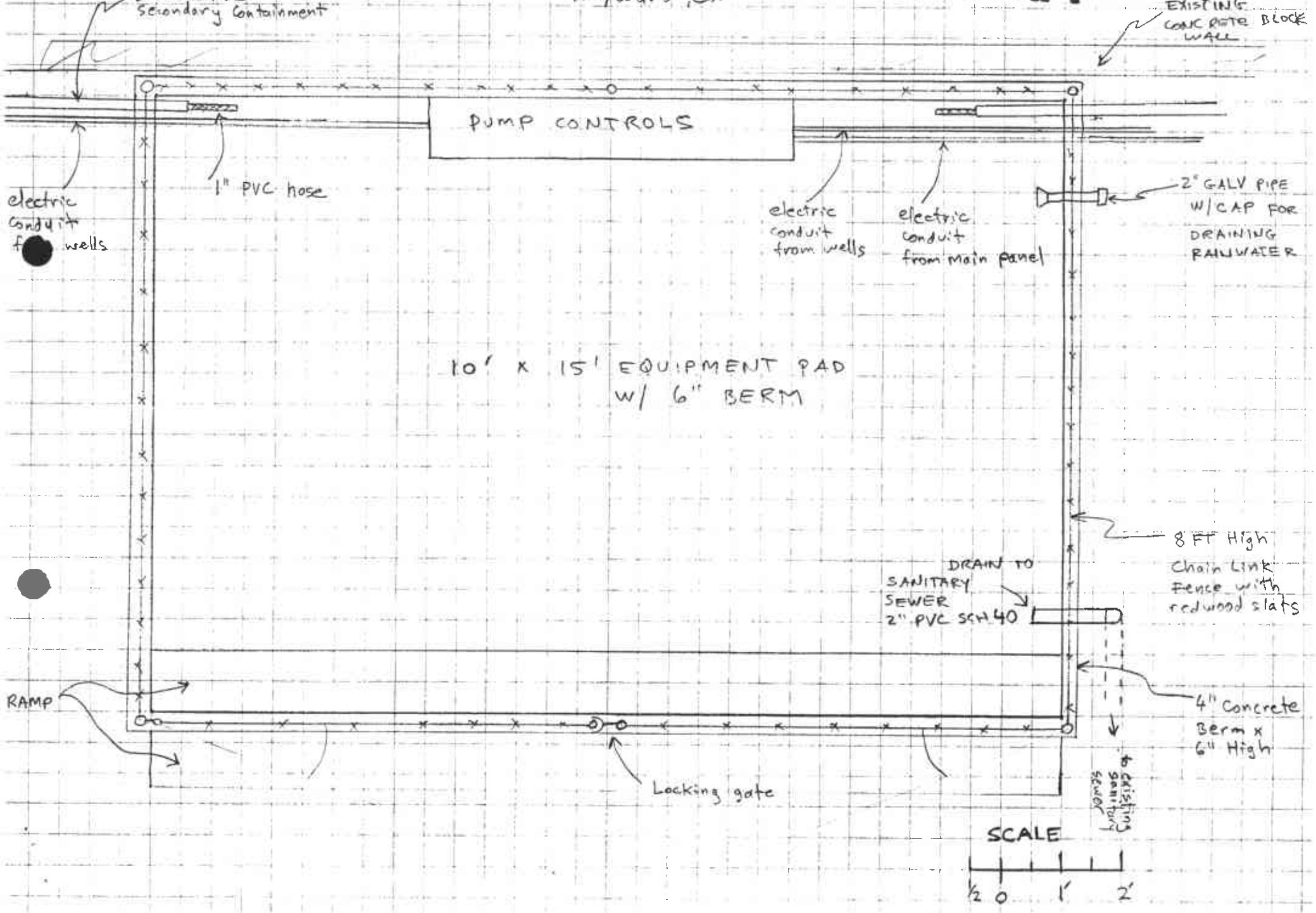

Figure 5. Well Vault Detail
Chevron Service Station #90260
Hayward, CA

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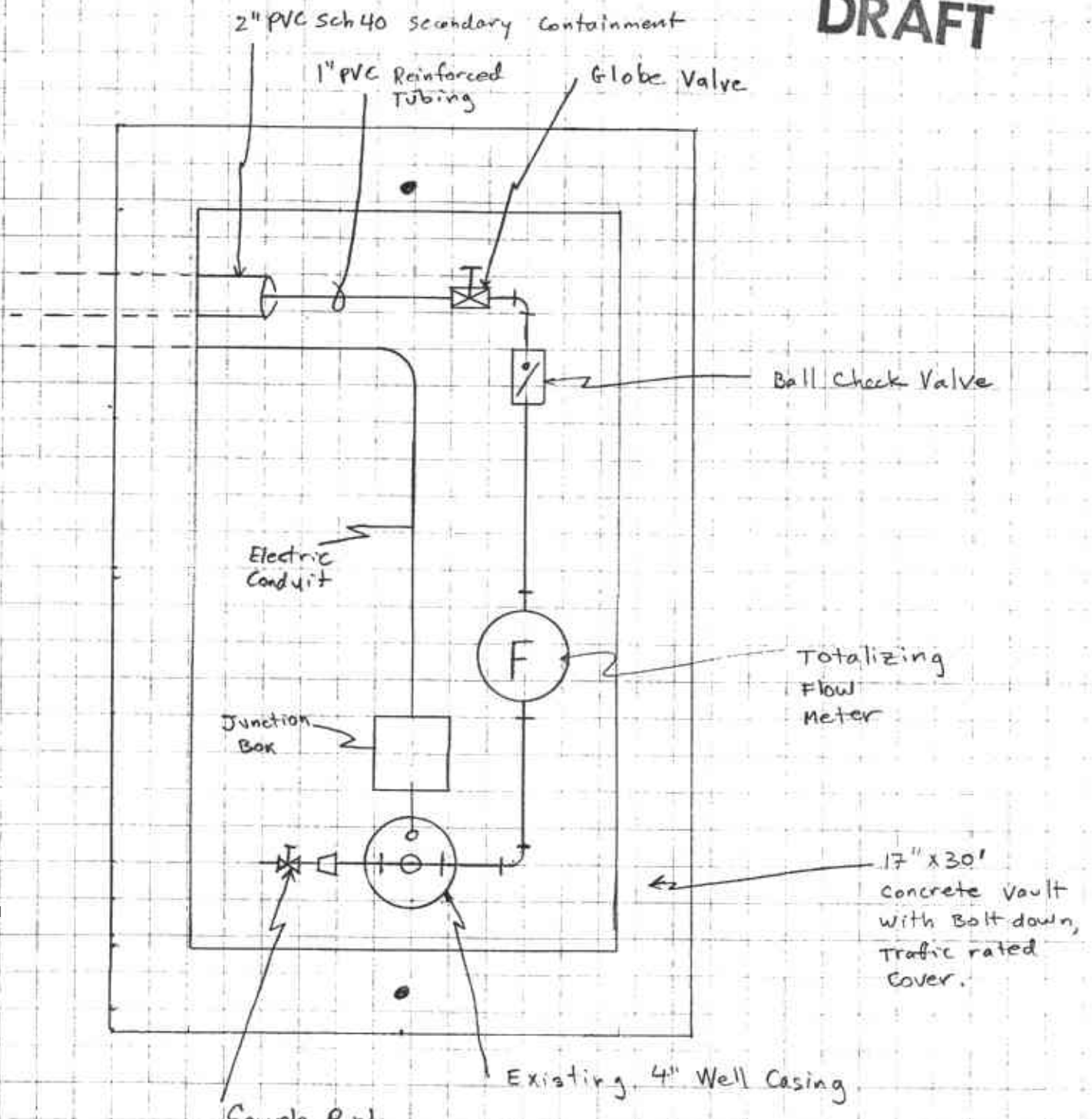


NOT TO SCALE