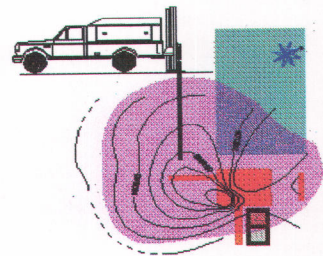


GeoSolv, LLC

Environmental and Hydrogeological Consulting
643 Oregon Street, Sonoma, CA 95476
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E-Mail: GeoSolv@VOM.COM



H 4031

November 15, 1999

Barney M. Chan
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-9335

Phone: (510) 567-6765
FAX: (510) 337-9335

SUBJECT: Workplan for a Subsurface Investigation to Identify MTBE and other gasoline constituents associated with the former Underground Storage Tanks (USTs) located @ 7000 Coliseum Way, Oakland, CA

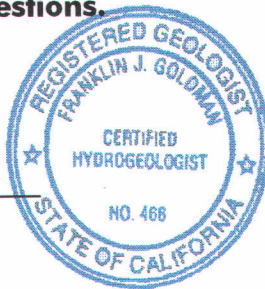
Dear Mr. Chan:

The following workplan is a technical report proposing a subsurface investigation of the former UST location at the above designated address. This technical report has been submitted in response to a March 17, 1999 Alameda County Health correspondence which required a subsurface investigation of the area associated with the former underground gasoline storage tank removed January 22, 1999. Initial soil sampling of the former UST pit excavation revealed that some contaminated soil still remained in the bottom of the UST pit. On February 26, 1999, additional contaminated soil was removed from the sidewalls of the excavation. In addition, the bottom of the pit was excavated to a depth of 9 feet bgs. The highest levels of benzene and MTBE were identified in soil at 0.79ppm and 4.2 ppm respectively. Groundwater was observed in the excavation and analyses of water samples identified the highest levels of benzene and MTBE at 1,000ppb and 65,000ppb, respectively.

Please call me if you have any questions.

Sincerely,

Franklin J. Goldman
Registered Geologist No. 5557
Certified Hydrogeologist No. 466



ENVIRONMENTAL
PROTECTION
99 NOV 29 PM 4: 53

The following sections provide a detailed summary of the activities which have been proposed to attain the goals of this investigation.

1.0 WORKPLAN SUMMARY

1.1 Site Location, Description, and Summary

The subject site is located at 7000 Coliseum Way, Oakland, CA (See Figure 1 for Site Location Map). The site is relatively flat and drains to the north. The property is primarily utilized for entertainment and sporting events (See Attachment 1 for Map of UST Location).

1.2 Local Geology

The site is underlain by Quaternary fill and Damon Slough (See Figure 1 for Site Location Map & Attachment 1 for Map of UST Location) is located to the east and north of the former UST location. The UST Closure Report dated March 26, 1999 by Decon, does not document the soil types encountered in the UST pit. Since the site is underlain by fill material, it is not known what soil types are beneath the site. Typically, however, fill soils in this portion of Oakland are usually composed of mottled and plastic clays with thin lenses and beds of unconsolidated sand under significant tidal water pressure indicative of shallow and confined perched groundwater.

2.0 PROPOSED WORK ACTIVITIES

2.1 Schedule of Activities

The following activities will proceed according to the following schedule:

- 1. Submit this Workplan to the Alameda County Health for concurrence.**
- 2. Obtain borehole/well permits from the Alameda County**
- 3. Physically mark the proposed borehole locations in the field with white paint.**
- 4. Notify Underground Service Alert at (800) 227-2600, 48 hours prior to initiation of site work to have the site marked for underground utility obstructions to drilling. Meet on site with utility representatives, if necessary.**
- 5. Schedule an appointment with the Alameda County Health inspector prior to initiation of site work.**
- 6. Arrive onsite and have a safety meeting. Pre-drill 5 borehole locations to a depth of five (5) feet below ground surface to minimize the potential of damaging subsurface utilities. Drill 4 hollow-stem auger boreholes to a depth of approximately 20 feet bgs and 1 hollow-stem auger borehole to a depth of approximately 30 feet and convert them to temporary wells by installing PVC slotted casings in the open boreholes. A minimum of four (4) soil samples will be collected and analyzed from each soil boring.**
- 7. The boreholes will then be measured for water levels with an electronic water level sounder and one (1) groundwater grab sample will be collected from each open borehole within screened PVC casing.**

8. All open soil borings will be filled with an approved grout to the surface.
9. The soil and groundwater sampling will produce approximately five fifty-five gallon DOT approved drums of drill cuttings. Approximately 50 gallons of rinse water will be stored on-site in a DOT approved 55-gallon drum. The waste soil and water will be left onsite pending laboratory analysis to be manifested to a legal point of disposal.
10. A report will be prepared and submitted to the Alameda County Health which will present data obtained (e.g. original laboratory data sheets with QA/QC, laboratory summary tables, boring logs), summaries and interpretations of all findings, and will provide conclusions and recommendations based on a risk assessment perspective.

2.2 Rationale for Proposed Soil Borehole Locations

The 20 foot deep soil borings are designed to encircle the former UST pit and define the lateral extent of contamination and the feet bgs are step-out borings necessary to establish the lateral extent of contamination and the 30 foot deep soil boring is necessary to establish the vertical extent of contamination ([Attachment 1 for Proposed Borehole Locations](#)).

3.0 Drilling and Sampling Procedures

All soil borings will be drilled using an appropriate drill rig utilizing a drilling contractor who possesses a C-57 drilling license. All borehole logging will be performed under the supervision of a State Certified Hydrogeologist who will keep a detailed hydrostratigraphic log of each borehole, noting lithologic changes, hydrogeological characteristics, sample locations, and temporary well construction. Soil sampling will be performed on the day of the subsurface investigation and groundwater "grab" sampling will be performed on the same day. A minimum of one soil sample will be collected with a split spoon sampler every five (5) vertical feet. Continuous coring of soil samples will be performed wherever appropriate in order to identify significant changes in soil hydrostratigraphy. All soil samples collected will be screened with a photo ionization detector (PID) prior by placing a disturbed soil sample in a closed plastic bag to trap freshly volatilized constituents for detection by the PID. Soil and groundwater "grab" samples will be collected, sealed, labeled, and placed in an ice chest at a temperature of four (4) degrees Centigrade, and submitted to a State-Certified laboratory, under a proper Chain-of-Custody, to be analyzed. The minimum number of soil and groundwater samples obtained during the day of drilling and during the groundwater monitoring well sampling to ensure ¹will be analyzed according to the following list:

Not necessary to analyze all soils to

Laboratory analytical for soil samples collected from 4 soil boring excavations:

- Four 20 foot deep soil borings; soil samples will be analyzed from 5 foot depth intervals (Total of 16 soil samples)
- One, 30 foot deep temporary well; soil samples will be analyzed from 5 foot depth intervals (Total of 6 soil samples)

Will this characterize "deep" soil?

Corresponding soil sampling analysis schedule

- soil TPH(g)/BTEX/MTBE (22 samples)

- soil parameters for bulk density, porosity, & organic carbon content (2 samples)

Corresponding groundwater sampling analysis schedule

where/what depth?

- water TPH(g)/BTEX/MTBE (5 samples)

4.0 Method of Drilling and Sampling of Soil

The borings will be excavated with an eight (8) inch hollow-stem auger drill, with 5-foot long sections and soil samples will be collected with a two (2) inch inner diameter, five (5) foot long, split spoon sampler at approximate five (5) foot vertical intervals depending upon the soil stratigraphy and contaminants encountered. The samples will be obtained by the compressive force of a 140 lb hammer dropped from a height of 18 inches. The soil samples will be extruded into six (6)-inch long steel or brass sample liners.

Soil within sample liners, collected from depths where there is obvious olfactory and/or visual evidence of hydrocarbon contamination, will be extruded and placed inside a plastic Zip-Loc bag so that a small volume of disturbed soil can release hydrocarbon volatiles into the bag for approximately two to five minutes. A properly calibrated photo ionization detector (PID) will be used to screen the soil samples, inside each bag, for the presence of gasoline constituents. Corresponding soil samples immediately adjacent to the disturbed samples with the highest PID readings, which are undisturbed in their sample liners will be selected for further laboratory analysis.

Each collected soil sample will be covered at each end of the metal cylinder with Teflon tape, plastic end caps, and sealed with "duct tape" to adhere the caps to the liners at each end, to hermetically seal the samples. The soil samples will be labeled with an ink field marker as to the depth and location the sample was collected, the sample number, and the project name and inserted into a plastic Zip-Lock bag and then placed into an ice chest for transport back to the laboratory. The chain-of-custody will be similarly designated and will include date and time the sample was collected as well as the depth interval. The soil samples will be selected at specific vertical intervals based on the location of the capillary fringe, at significant changes in lithology, and/or at contact with noticeable (e.g. obvious olfactory and visual evidence) hydrocarbon contamination. The sampler will be decontaminated before and after each use by rinsing with an Alconox solution wash and fresh tap water rinse. All rinseate water will be stored in a 55 gallon DOT approved drum. The drum will be properly labeled and stored onsite until sampling is authorized to establish a legal point of disposal.

5.0 Method of Water Level Measurement and Groundwater "Grab" Sampling

The water level in each open borehole will be recorded with an electronic water level sounder to a known reference point at each open borehole so that a certified land survey can be used to estimate groundwater elevations to aid in determination of the groundwater gradient flow and direction. Groundwater grab samples will then be collected from each open borehole, within a PVC casing placed within the hollow stem auger, with a steel or plastic disposable check valve bailer and will be stored in 40 ml VOAs for gasoline analyses. The water samples will be labeled with an ink field marker as to the location the sample was collected, the sample number, and the project name

and inserted into an ice chest at 4 degrees centigrade for transport back to the laboratory. The chain-of-custody will be similarly designated and will include date and time the sample was collected.

6.0 Borehole Abandonment

After soil and groundwater samples are collected, the temporary PVC casings will be removed and the open boreholes will be backfilled using a Type II Portland cement/bentonite grout mixture to the surface, from the bottom, up, in the presence of an ACWD field inspector.

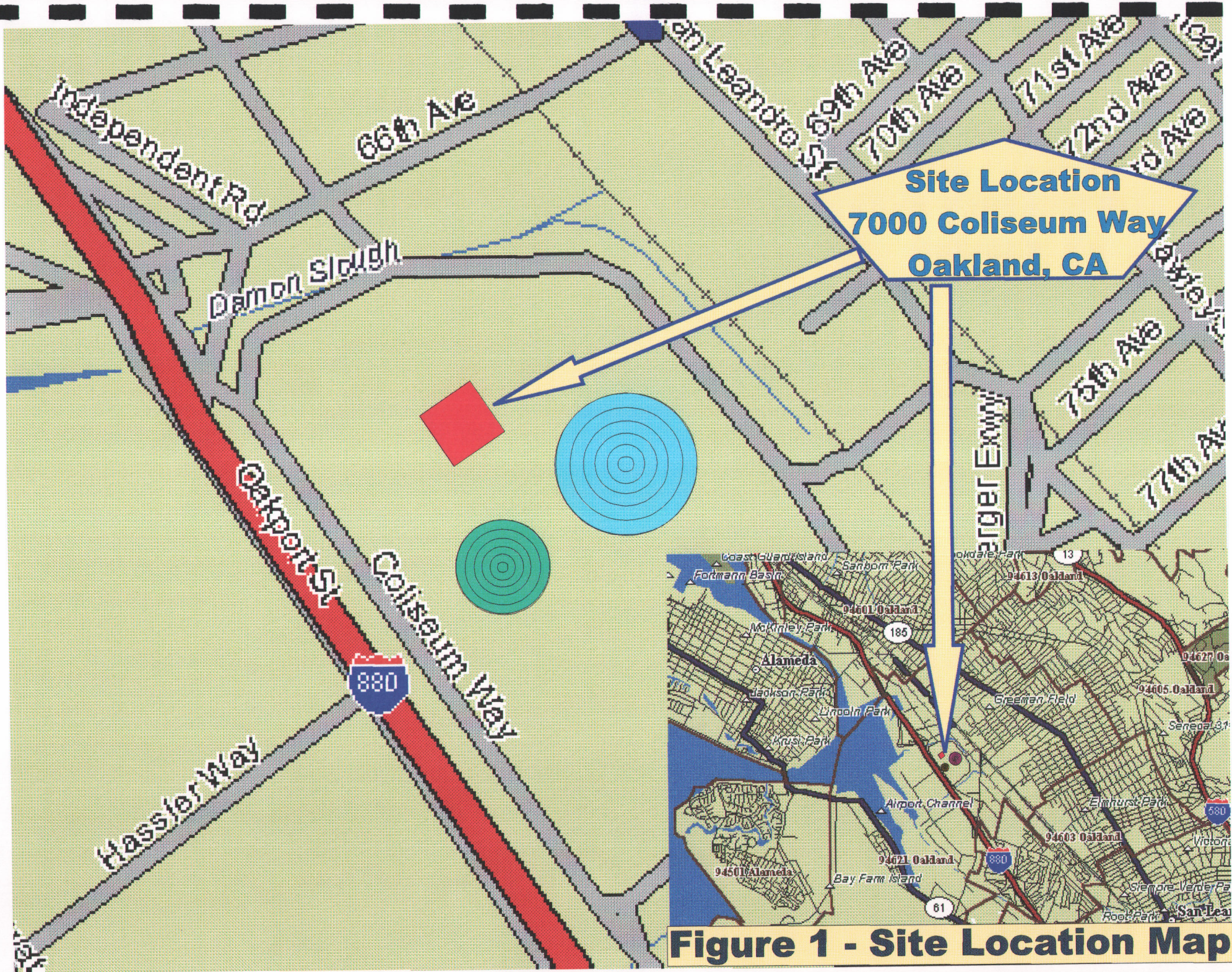


Figure 1 - Site Location Map

**SITE SPECIFIC
HEALTH AND SAFETY PLAN**

I. **Site:** Oakland Alameda Coliseum (Currently, an outdoor entertainment center)
LOCATED @ 7000 Coliseum Way, Oakland, CA

II. **Key Personnel and Project Assignments**

<u>PROJECT ASSIGNMENT</u>	<u>NAME/AGENCY</u>	<u>PHONE</u>
Project Manager	Frank Goldman	(707) 996-4227
Site Safety Officer	Frank Goldman	(707) 996-4227
Owner:	Bob Saunders /Oakland Coliseum	(510) 383-4854

III. **Scope of Work**

The project includes drilling of 4 soil borings to approximately 20 feet below ground surface (bgs) and one to 30 feet bgs. All the borings will be converted into temporary groundwater monitoring wells. The wells will be used to determine the extent of the underlying soil and groundwater contamination.

IV. **Emergency Procedures**

The following emergency response plan will be implemented to handle unanticipated on-site emergencies prior to start up of hazardous waste operations. All emergency incidents will be dealt with in a manner that minimizes adverse health risks to workers.

A. **Emergency first aid procedures:**

Employee injury: When possible, remove the employee from the contaminated zone and conduct decontamination procedures, first aid, and preparation for transport at a safe distance from the work site.

Eye exposure: Wash eyes with large amounts of potable water for at least 15 minutes; lift the upper and lower lids occasionally. Obtain medical attention.

Skin Exposure: Flush the contaminated skin with water for at least 15 minutes. Remove contaminated clothing. Obtain medical attention immediately when exposed to concentrated solids or liquids.

If paramedic/rescue services are required, they will provide transportation to the hospital. For less serious circumstances, the *GeoSolv, LLC's* representative will provide transportation.

B. **Emergency telephone numbers are given in the Site Specific Health and Safety Plan.**

C. ***GeoSolv, LLC* will document the emergency situation. It will include:**

- o A description of the incident (including the date and time) that necessitated emergency response procedures, and complete an accident/incident investigation or critique of the incident.
- o The date, time, and names of all persons/agencies that were notified and their responses.
- o The resolution of the incident (including its duration) and the method/corrective action involved.

On-Site Safety Items

All GeoSolv, LLC personnel engaged in field activities will have available at the job site the necessary health and safety items. Depending upon the job requirements, these may include the following:

- o First aid Kit
- o Half Mask respirator
- o Organic vapor analyzer
- o Hard Hat
- o Safety Glasses
- o Hearing protection devices
- o Protective gloves and boots
- o Chemical resistant coveralls (coated Tyvek)

V. Level of Protection

Level D - Level D is the basic work uniform.

VI. Site Security

Only authorized personnel will be permitted within 20 feet of drilling equipment.

VII. Emergency Response Information

- A. Decontamination procedures for personnel injured or exposed in the work zone Assist the injured or exposed worker out of the sampling area when possible. If possible, carefully remove his PPE, and remove your own, according to standard decontamination procedures administer CPR/first aid as needed. Call for medical help immediately.
- B. Emergency Response Plan
Personnel roles, lines of authority, communications The on-site **GeoSolv, LLC** representative will have final authority on site health and safety methods concerning sampling.
- C. Telephone numbers of emergency agencies, key contractor and responsible party.

	<u>NAME/AGENCY</u>	<u>TELEPHONE</u>
Ambulance	City of Oakland	911
Hospital	Alameda Hospital 2070 Clinton Ave Alameda, CA 94501	(510) 522-3700
Police Department	City of Oakland	911
Fire Department	City of Oakland	911
Project Manager	Frank Goldman	(707) 996-4227
Health/Safety Coordinator	Frank Goldman	(707) 996-4227
CA Dept. Health Services	DHS	(800) 554-0349
US EPA	Emergency Spills in California	(415) 974-8131
Federal OSHA	OSHA	(800) 648-1003
CHEMTREC	CHEMTREC	(800) 424-9300
Underground Service Alert	USA	(800) 227-2600

Directions to hospital (See Figure 2 for route to hospital.)

VIII. Job Hazard Analysis

SUBSTANCE	OSHA PER ^L	ACGIH TVL ^{LW}	NIOSH REL
Benzene	1 ppm	10 ppm	0.1 ppm
Toluene	100 ppm	50 ppm	100 ppm
Ethyl Benzene	25 ppm	10 ppm	100 ppm
Xylene	100 ppm	100 ppm	100 ppm

Toxicological hazards of BTEX, (including local and systemic health effects) in general:

- Benzene:** Breathing of high concentrations of benzene may cause acute poisoning, and death. Repeated inhalation of low concentrations often result in severe or fatal anemia. Also, an eye irritant.
- Toluene:** Eye and respiratory irritant. Extreme inhalation of vapors may cause death by paralysis of the respiratory center.
- Ethyl Benzene:** Severely irritating to eyes in strong concentrations. As tolerance to irritation increases, dizziness becomes apparent. Also, highly irritating to mucous membranes of the nose.
- Xylene:** Toxic; vapors in high concentration are anesthetic. Irritant to the skin and upper respiratory system.
- MTBE:** Health advisory of 17 ppb in drinking water. Has been observed to cause headaches in humans through inhalation of vapors.

Physical hazards associated with site activities: Slips, trips, and falls hazards; safety hazards associated with construction equipment; excessive noise.

IX. Site Access and Physical Features

A. Site Information

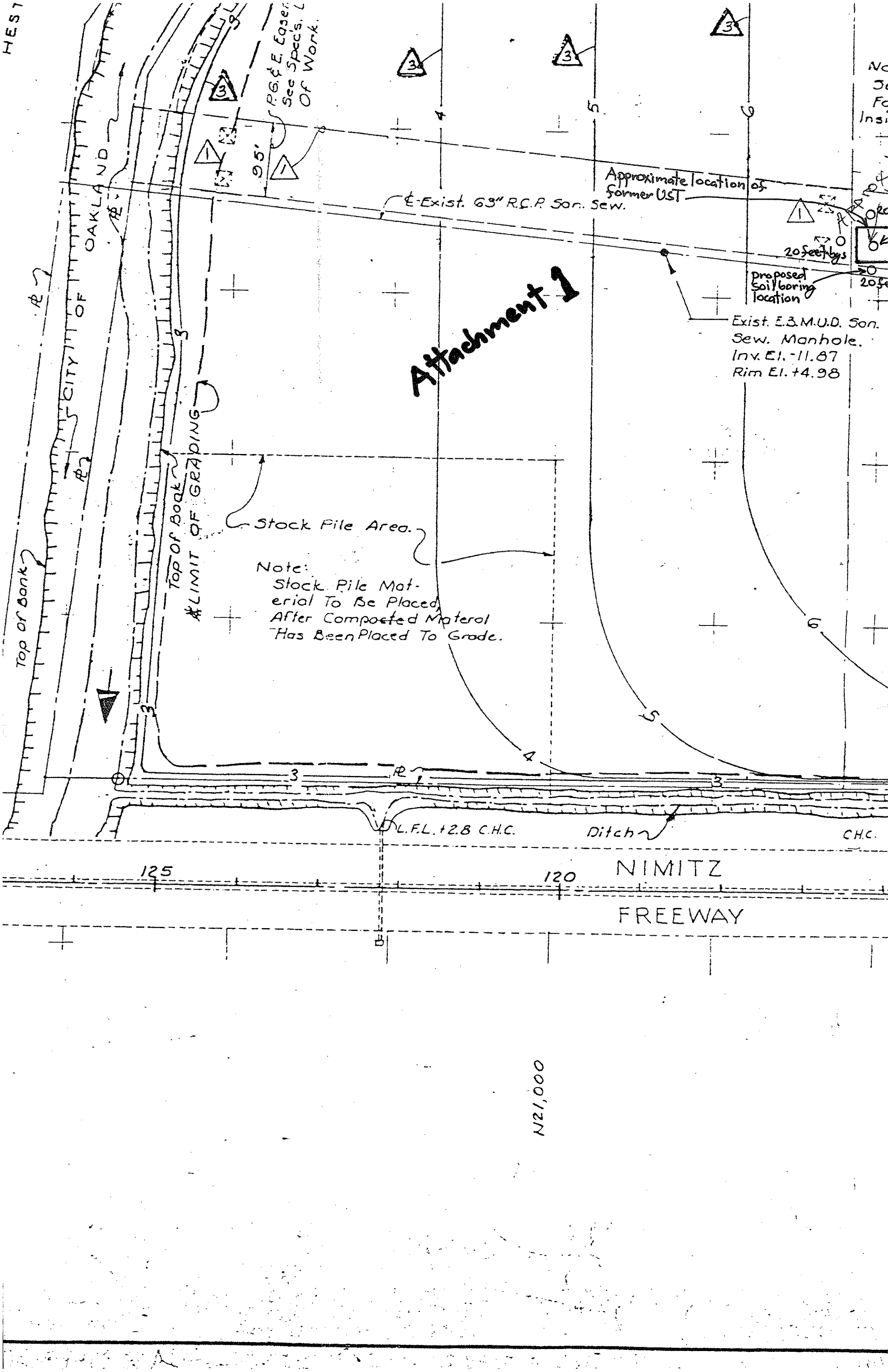
- 1) **Location of site:** 7000 Coliseum Way, Oakland, CA
- 2) **Approximate size of site:** 25+ acres
- 3) **Site topography:** Flat; concrete pavement and asphaltic concrete.
- 4) **Site Accessibility:** Front accessible from Nimitz FWY
- 5) **Pathways for hazardous substance dispersion:** The hazardous substance is a high volatile product which is likely to dissipate into the air. The primary path for dispersion is through the air, soil and groundwater.
- 6) **Anticipated weather conditions and potential for heat/cold stress:** If work is performed during the summer conditions it could create heat prostration.
- 7) **Past use of site:** Outdoor entertainment stadium with fuel dispensing area.
- 8) **Current use of site:** Outdoor entertainment stadium

B. Description of on-site wastes, (based on preliminary site evaluation)

- 1) **Location:** Soil and groundwater are possibly contaminated with gasoline.
- 2) **Physical state of gasoline:** Soil and water.
- 3) **Chemical characteristics of wastes:** Gasoline

~~Attachment 1~~

H.E.S.T.



Attachment 1

Note:
 Stock Pile Mat-
 erial To Be Placed
 After Composted Material
 Has Been Placed To Grade.

Approximate location of
 former UST

Proposed
 Soil boring
 location

Exist. E.S.M.U.D. Son.
 Sew. Manhole.
 Inv. El. -11.87
 Rim El. +4.98

P.B. & E. Easer.
 See Specs. 1
 Of Work.

N 21,000

NIMITZ
 FREEWAY

125

120

TOP OF BANK
 # LIMIT OF GRADING

Stock Pile Area.

E-Exist. 63" R.C.P. Son. Sew.

20 feet by 30

No
 30
 For
 Insi

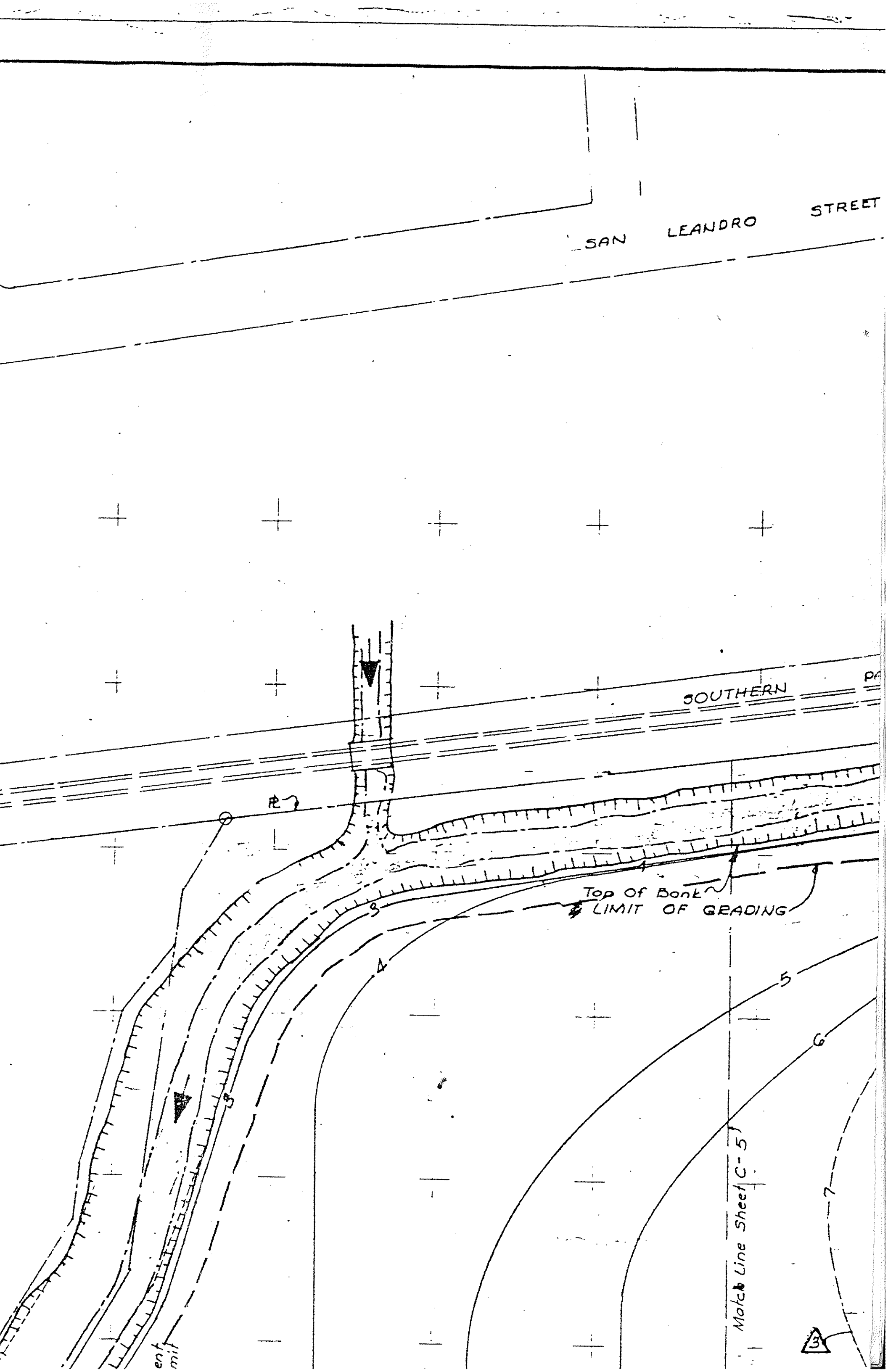
SAN LEANDRO STREET

SOUTHERN PA

Top of Bank
LIMIT OF GRADING

Match Line Sheet C-5

3



R7

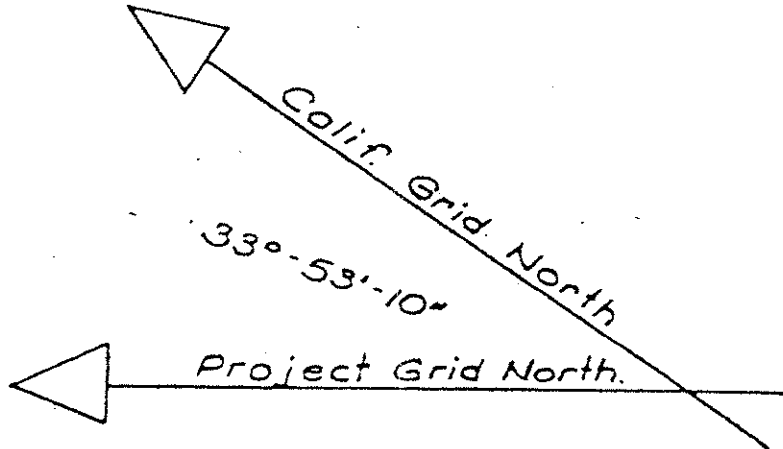
R2

R7

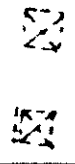
R2

R7
ROAD
R2

66 TH.



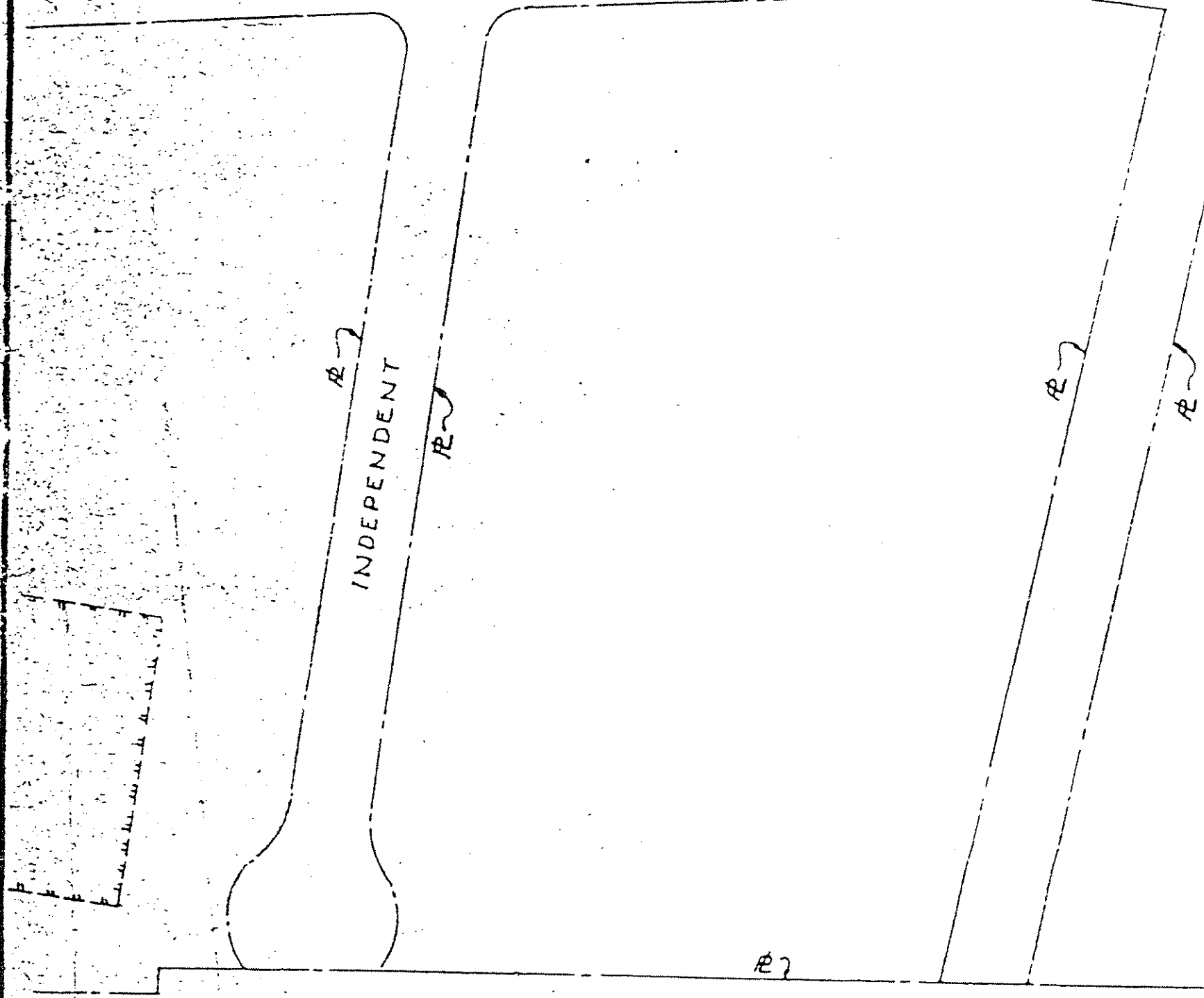
BEARING EQUATION



INDUSTRIAL

WAY

INDEPENDENT



135



NORTHBOUND LANE

130

N 34°-54'-16" W

NOTE:

All Coord's. Are Project Grid. See Sheet C-6 For Detail Information. Elevations Are Based On City of Oakland Datum. See Topographic Survey Sheet C1, C2 & C3 For Existing Condition. Grade To Contours In Building Areas. Grade 8" Below Contours In Areas.

71 AVE.

73RD AVE.

75TH AVE.

RAILROAD (2 Tracks)

ACCESS

LIMIT OF

E.B.M.U.D.
HEGEN
PIPE

Open par

Exist.
7' Chain Link
(Do Not Disturb)

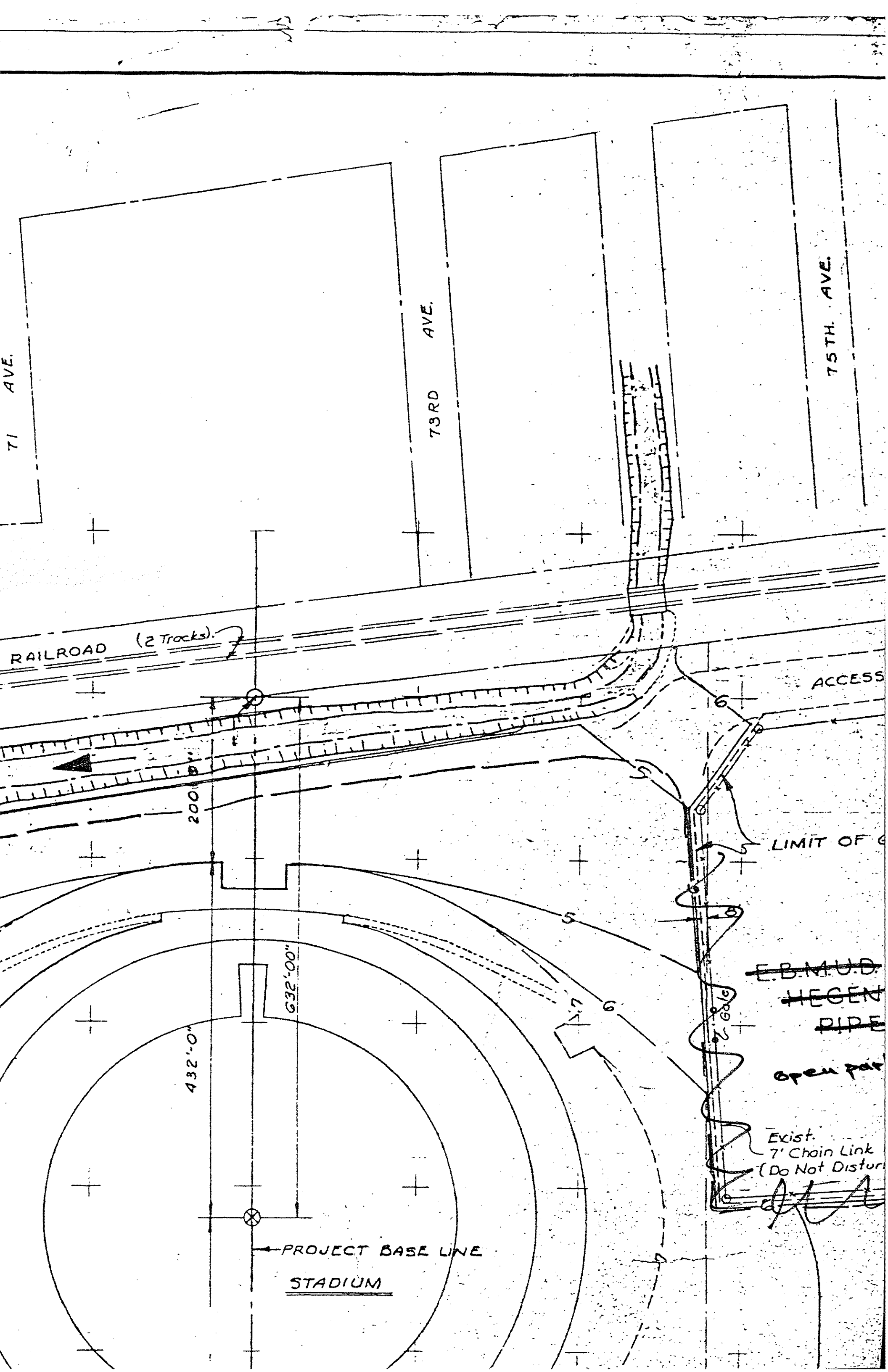
200'

432'-0"

632'-00"

PROJECT BASE LINE

STADIUM



OAKLAND-ALAMEDA COUNTY COLISEUM

SKIDMORE, OWINGS & MERRILL

ARCHITECTS
ONE BUSH STREET
SAN FRANCISCO

APPROVED FOR THE OWNER

BY: *[Signature]*

APPROVED FOR THE ARCHITECTS

BY: *John O. Merrill*

DRAWN BY: Bob Harryman JOB NO. 12517

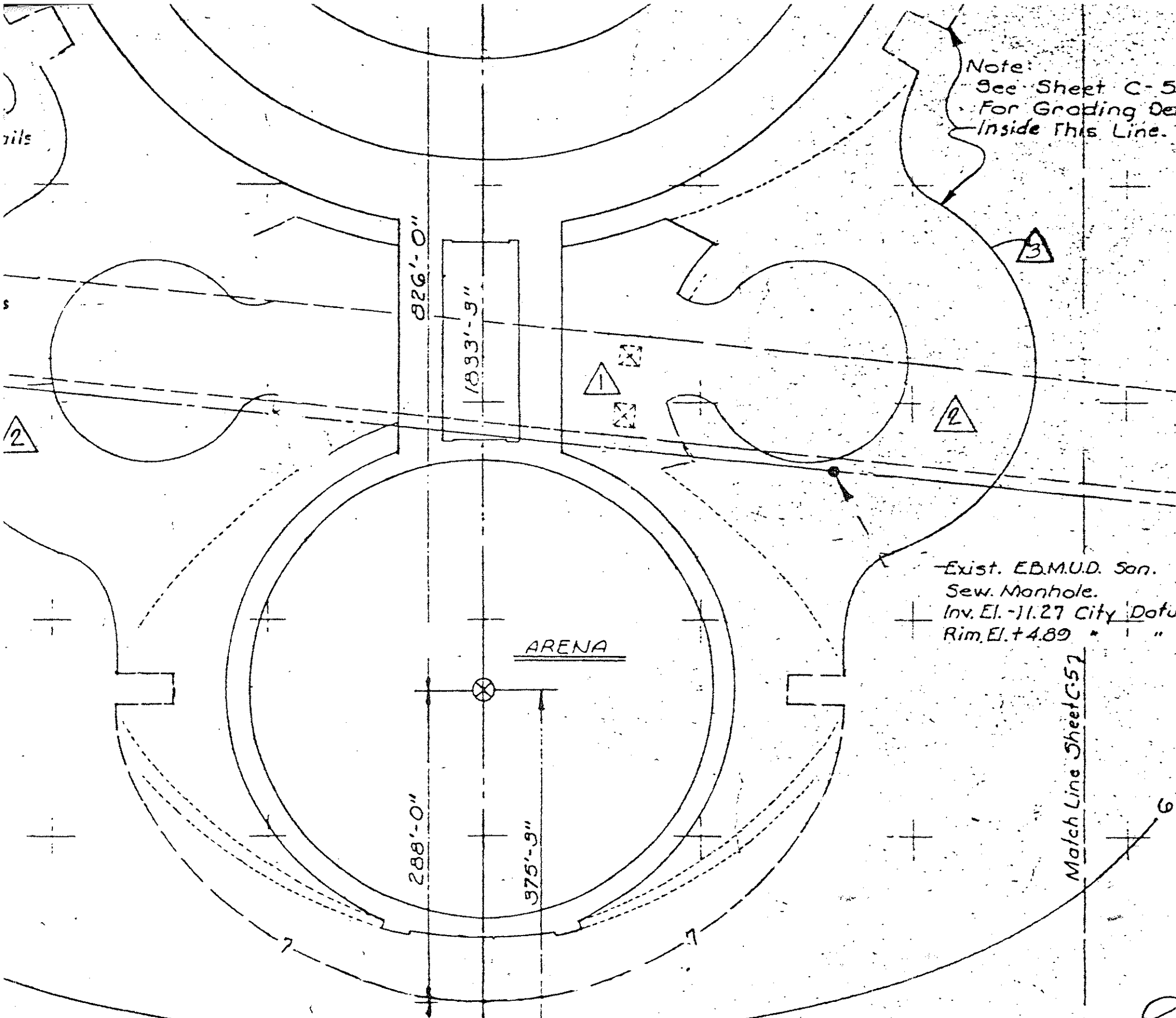
CHECKED BY: Bob Harryman DATE: *[Date]*

REVISIONS

NO.	REVISION INDICATED THERE AS	BY	DATE
1	Notice to Bidders # 1	BH	1/16/19
2	Notice to Bidders # 2	BH	1/16/19
3	Addendum # 3	BH	1/16/19
4	Change Order # 1	BH	1/16/19
5	Issued For General Contract Information		1/16/19

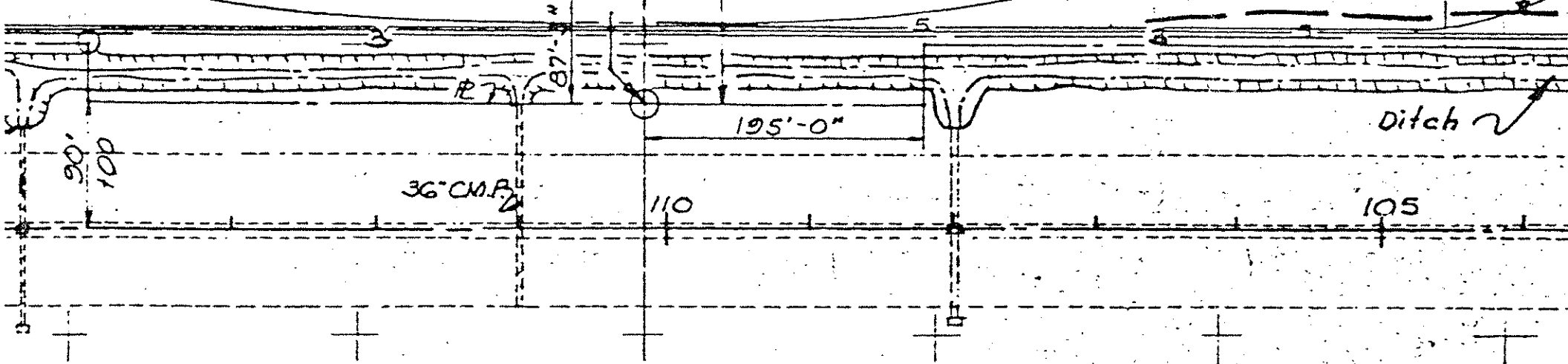


Note:
See Sheet C-5
For Grading Details
Inside This Line.

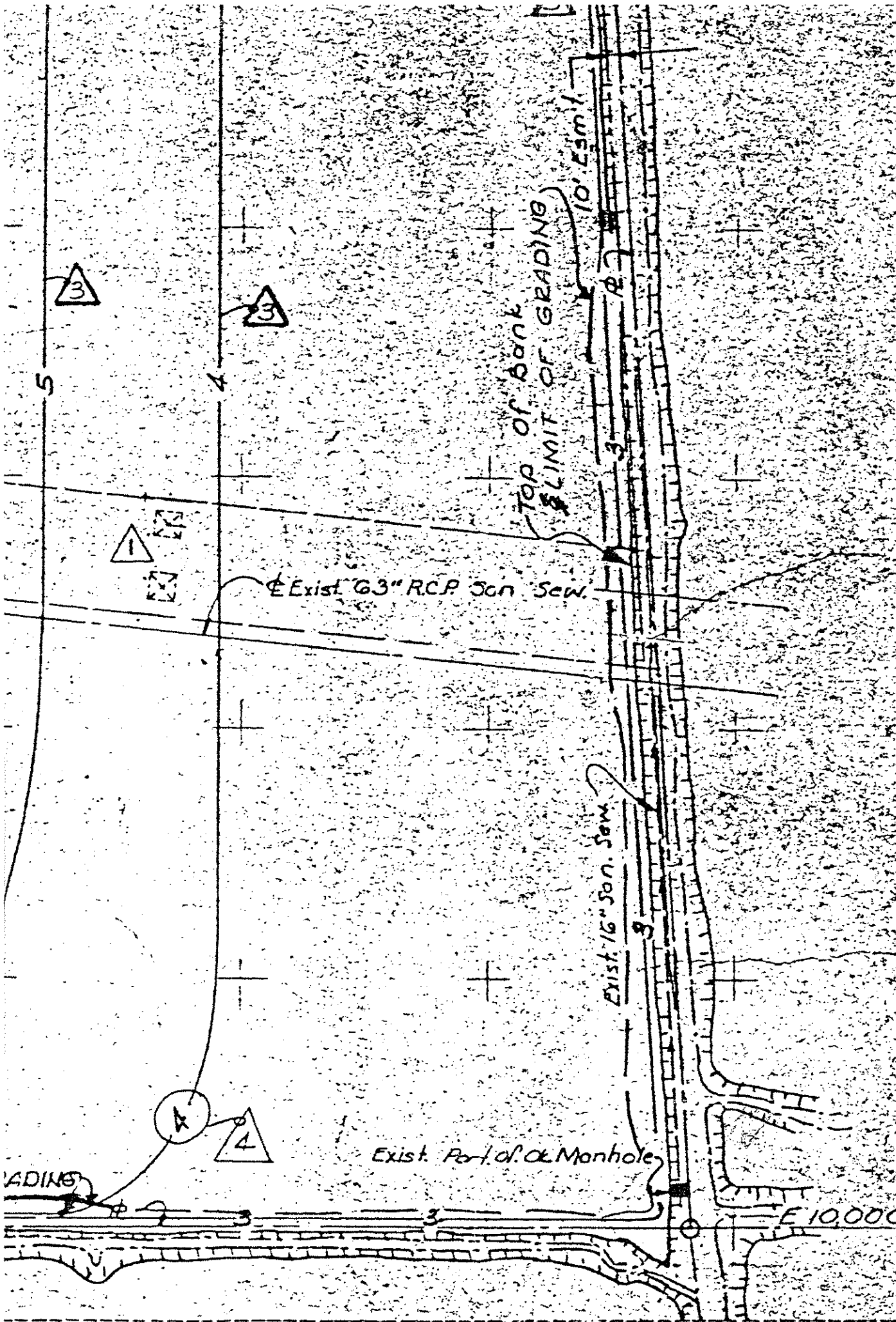


Exist. E.B.M.U.D. San.
Sew. Manhole.
Inv. El. -11.27 City Data
Rim, El. +4.89 " " "

Match Line Sheet C-57



N20000



Exist. 63" RCP San Sew.

TOP OF BANK & LIMIT OF GRADING

Exist. 16" San Sew.

10' ESM

Exist. Part of Old Manhole

E 10,000

100

95

BOUND LANE

N 12,000

SITE & GRADING PLAN