Appendix IS-6

Geotechnical Report

GEOLOGIC AND GEOTECHNICAL HAZARDS REPORT
PROPOSED 8TH & ALAMEDA STUDIOS PROJECT

2000 East 8th Street
Los Angeles, California

Prepared for

ALAMEDA & 8TH OWNER LLC
1318 East 7th Street, Suite 200
Los Angeles, California

Submitted by

GROUP DELTA CONSULTANTS, INC.
370 Amapola Avenue, Suite 212
Torrance, California 90501
GDC Project No. LA-1476

March 15, 2021

GROUP DELTA

Alameda & 8th Owner LLC
1318 East 7th Street, Suite 200
Los Angeles, California

March 15, 2021
Project No. LA-1476

Attention: Mr. Jeffrey A. Goldberger

SUBJECT: Geologic and Geotechnical Hazards Report
Proposed 8th & Alameda Studios Project
2000 East 8th Street
Los Angeles, California

Dear Mr. Goldberger,

Group Delta Consultants (GDC) is pleased to submit the geologic and geotechnical hazards report for the proposed 8th & Alameda Studios Project to be constructed at 2000 East 8th Street in Los Angeles, California. Our scope of work was conducted in general accordance with our proposal dated August 28, 2020, the Altas Statement of Work Purchase Order dated September 1, 2020 and the agreement between your firm and Group Delta Consultants, Inc. included in the Purchase Order.

We appreciate the opportunity to provide geotechnical services for this significant project. Should you have any questions regarding this report, or if we can be of further service, please do not hesitate to contact us.

Sincerely,

GROUP DELTA CONSULTANTS, INC.

REGISTERED PROFESSIONAL ENGINEER
ETHAN TSAI
GE 3004
Exp 12/31/21
GEOTECHNICAL
STATE OF CALIFORNIA

Ethan Tsai, G.E.
Associate Engineer

PROFESSIONAL GEOLOGIST
MICHELLE ALLISON SUTHERLAND
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EXP. 2/29/2022
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Michelle A. Sutherland, C.E.G.
Senior Engineering Geologist

Distribution: Addressee (1 electronic copy)

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2000 EAST 8TH STREET
LOS ANGELES, CALIFORNIA

1.0 INTRODUCTION

This report was prepared to address the feasibility of the proposed 8th & Alameda Studios Project (the Project) from a geotechnical standpoint in preparation for the project Environmental Impact Report (EIR) submittal. This report includes a review of geotechnical related geological/soils CEQA checklist items for project planning.

1.1 Project Description

The Project Site is located near northeast corner of Alameda Street and East 8th Street in Los Angeles, California, as shown on Figure 1.

The proposed development will consist of the following:

- Reuse of the existing Los Angeles Times production plant and vehicular maintenance shop to include approximately 639,840 square feet of studio, production support, and office use.
- A 9-level parking structure.
- The Project would construct three new, three-story buildings, and one new, two-story building in order to provide sound stage, production support, and office uses.

The locations of the proposed development are shown on Figure 2.

1.2 Scope of Work

This report is intended to address the primary geotechnical factors which may impact the planned 8th & Alameda Studios Project. Our scope of work included the following:

- Review of regional geotechnical maps and reports published by the U.S. Geological Survey (USGS), California Geological Survey (CGS), and City of Los Angeles;
- Review of available published geotechnical and geologic reports, maps, and subsurface data for the site and surrounding area.
- Provide geotechnical background and evaluation for pertinent geology/soils CEQA Environmental Checklist items;
- Prepare a report to present our findings.

2.0 BACKGROUND INFORMATION

2.1 General

The previous geologic and soil information at the site were obtained from the Online Building Records from the City of Los Angeles Department of Building and Safety (LADBS). The previous data were summarized in the reports below:

- LeRoy Crandall and Associates, (1987), "Report of Geotechnical Investigation and Contamination Assessment, Proposed Newspaper Printing Plant, Olympic Boulevard and Alameda Street, Los Angeles, California", Report dated July 24, 1987 (LCA Project No. ADE-86161;
- LeRoy Crandall and Associates, (1987), "Addendum Letter: Contaminated Soil Review, Proposed Newspaper Printing Plant, Olympic Boulevard and Alameda Street, Los Angeles, California", Report dated October 21, 1987 (LCA Project No. ADE-86161);
- Los Angeles City Department Building Safety (1987), "LADBS Approval Letter for Report of Geotechnical Investigation" dated October 27, 1987;
- LeRoy Crandall and Associates, (1987), "Interim Report of Compacted Fill, Production and Maintenance Buildings, 2000 East 8th Street, Los Angeles, California", Report dated December 30, 1987 (LCA Project No. B-87254);
- Los Angeles City Department Building Safety (1988), "LADBS Approval Letter for Interim Report of Compacted Fill" dated January 5, 1988;
- LeRoy Crandall and Associates, (1988), "Investigation of Backfill Soils, Existing Storm Drain, Proposed Newspaper Printing Plant, Olympic Boulevard and Alameda Street, Los Angeles, California", Report dated January 14, 1988 (LCA Project No. A-86161-B);
- Los Angeles City Department Building Safety (1988), "LADBS Conditional Approval for Non-Structural Fill", Log No. 3023.
- LeRoy Crandall and Associates, (1989), "Final Report – Soils Inspection and Testing Services, Newspaper Printing Plant, 2000 East 8th Street, Los Angeles, California", Report dated August 2, 1989 (LCA Project No. B-87254);
- Los Angeles City Department Building Safety (1988), "LADBS Approval Letter for Final Report of Compacted Fill" dated August 14, 1989.

More details of prior reports are summarized in the following sections.

2.2 Original Geotechnical Investigation Reports: July 24, 1987 and October 21, 1987

The soil conditions at the Project Site were originally explored by drilling 24 borings to depths between 9 to 31 feet below ground using 20-inch-diameter and 24-inch-diameter bucket auger drilling equipment. The boring locations are designated as "Investigation in 1985" in Figure 2. The

soil conditions at the Project Site were further explored by drilling additional 35 borings at the site which are designated as "Investigation in 1986". Boring 1 through 30 were drilled to depths between 6 to 40 feet below ground using 16-, 18-, 20-, and 24-inch-diameter bucket auger drilling equipment. Boring 31 was drilled to a depth of 76 feet using 5-inch-diameter rotary drilling equipment. Boring C-1 through C-4 which were for environmental purpose were drilled to depths between 20 to 40 feet using 20-inch-daimater bucket auger drilling equipment. The locations of the previous borings are shown on Figure 2.

The existing fill soils, about 5 feet or less, were encountered in the original borings at the time of exploration. Existing fills up to 17 feet in thickness were encountered near the storm drain easement shown on Figure 2. The existing fill soils consist of silty sand and silt.

The natural soils beneath the site consist primarily of silty sand and sand. The upper natural soils, which consist of silty sands and silts, extend to depths of up to about 8 feet. The upper silty soils are generally soft to moderately firm and would be adversely affected by water. The sand deposits encountered at depths of typically 5 to 6 feet below existing grade are dense.

In addition, a former basement near the west side of the site was demolished at the time of original geotechnical investigation. The former basement was backfilled and compacted to at least 90% of maximum dry density and the backfill placement were observed and documented.

Contaminated soils were encountered near Boring 16 of Investigation in 1986 near the southwest corner of the existing LA Times building. The contamination was evaluated under a separate document dated October 21, 1987.

The report stated that groundwater was not encountered within the 76 feet depth explored.

The report recommended that the existing fill soils and the upper natural soils, about 5 to 6 feet, should be excavated and replaced as engineered fills compacted to at least 90% of maximum dry density. The proposed building may be supported on spread footings established on either compacted fill soils or undisturbed natural soils.

The recommended bearing capacities for foundations were summarized below:

- Above Grade Structure on Spread Footings: 3,000 psf
- Underground tank on mat foundation: 5,000 psf
- Above grade tank on mat foundation: 2,000 psf
- Minor structures on spread footings: 1,000 psf (1 foot embedment) and 2,000 psf (1½ feet embedment)

In addition, due to the settlement-sensitive nature of the printing presses, drilled piles were recommended.

The original geotechnical report and its addendum were approved by City of Los Angeles in a letter dated October 27, 1987.

2.3 Existing Storm Drain Easement (January 14, 1988 Report)

An existing storm drain easement is located along the north side of the Project Site. The storm drain is a reinforced concrete arch storm drain that is about 12 feet wide and 11½ feet high. The bottom of the storm drain is about 25 feet below ground surface. The storm drain was constructed in about 1930s. Construction details of the existing storm drain easement is not available.

A geotechnical investigation was performed to the trench backfills above the existing storm drain. 7 borings were drilled to depths of 8 to 14 feet below the existing grade using 18-inch-diameter bucket auger drilling equipment. Three (3) borings were terminated at a depth of about 10 feet.

Based on the results of laboratory tests, the trench backfills placed above the storm drain has degree of compaction of about 85% to 95%. The report recommended that excavation of the undocumented trench backfills would not be necessary prior to placing the 5 to 6 feet of new fills approved by the City to be placed above the undocumented trench backfills. However, the new backfills above the existing undocumented trench backfills were approved only as non-structural fills.

2.4 Final Report for Compacted Fills (December 30, 1987 and August 2, 1989 Reports)

The grading operation of the previous development was performed during the period of December 1987 through June 1989. The grading operation was observed by the previous consultant and documented in the Interim Report dated December 30, 1987 and the Final Report dated August 2, 1989.

According to the reports, the existing fill soils and upper natural soils to a depth of 5 to 6 feet were excavated and backfilled with properly compacted fill soils. Underground obstructions such as existing tanks and abandoned utility lines which were encountered during the excavating were removed. However, the locations of the old existing tanks and abandoned utility lines were not documented in the final reports.

The new fills under foundations and floor slabs were compacted to at least 95%. The new fills in other areas were compacted to 90%. The existing cesspools, septic tanks and other localized existing utilities were generally removed and backfilled with concrete, slurry, or rock base. However, the locations of abandoned remaining cesspools, septic tanks, and other localized utilities were not documented in the final reports.

The locations of the previous borings are shown on Figure 2. The logs of each borings are presented in Appendix A. The City of Los Angeles Approval Letters are presented in Appendix B. All the prior available data will be submitted in separate package.

3.0 SITE CONDITIONS

3.1 Site Conditions

The Project Site is located in an industrial area south east of Los Angeles downtown, as shown in Figure 1. The Project Site is occupied by the existing LA Times printing plant at the east, as shown in Figure 2. An existing underground tank structure is located adjacent to south of the existing printing plant. The rest of the site is paved with at grade parking, sidewalks, and driveways. The Project Site is bordered on the west by Alameda Street, the south by Olympic Boulevard, the east by Lemon Street, and the north by 8th Street.

Numerous utilities may be present across the site. An existing storm drain easement is located along the north side of the Project Site. The storm drain is a reinforced concrete arch storm drain that is about 12 feet wide and 11½ feet high. The bottom of the storm drain is about 25 feet below ground surface. The storm drain was constructed in about 1930s.

Topography at the site and in the surrounding area is generally flat.

3.2 Subsurface Conditions

Compacted fill soils, typically 5 to 6 feet thick, were placed at the site during previous grading operation in 1985 through 1987. Compacted fill soils as deep as about 15 feet were placed near previous Boing 16 of Investigation in 1986. In addition, compacted fills, about 10 feet thick, were placed near the previous basement structure that was demolished during grading operation. The compacted fill soils were compacted to at least 90% of maximum dry density.

The compacted fill soils at the site are underlain by dense to very dense sand with gravels and cobbles. However, the compacted fill soils above the storm drain easement are underlain by undocumented fill soils.

The subsurface conditions at the site are shown on the cross sections at Figures 3.1 through 3.4.

3.3 Groundwater

Groundwater was not encountered within the 76 feet explored in 1987. The Seismic Hazard Zone Report for the Hollywood Quadrangle (CGS, 1998) indicates that the historically highest ground water level in the site area is deeper than 120 feet below ground surface.

4.0 GEOLOGIC AND SEISMIC SETTINGS

4.1 Geologic Setting

Regionally, the site is located within the seismically active Los Angeles Basin area of southern California Peninsula Ranges Geomorphic Province. The Los Angeles Basin began forming over 7

million years ago through transtensional stresses and subsidence between north-west and east-west trending fault systems (Wright, 1991). Today, the basin is undergoing transpresssional stress bound by surrounding faults including the Santa Monica-Hollywood-Raymond fault system locally (Dolan, 1995). Internally, the basin is filled with sedimentation thousands of feet thick, structurally influenced by thrusting fault blocks and strike-slip faults dividing the basin into northwest trending valleys and ridges (Wright, 1991).

Locally, the site is situated on the west alluvial plain of the Los Angeles River on the northern shelf of the Los Angeles Basin. Debris carried and deposited by the Los Angeles river consist largely of eroded granitic and Tertiary sedimentary rock exposed within the surrounding mountains. Today the river is controlled within a lined channel which flows to the south, east of the site about 0.5 miles. The Elysian Park foothills outcrop just north of the site exposing Tertiary sedimentary rock. Tertiary marine- sedimentary rock of the Fernando Formation underlies the site at depth. The location of the site with respect to the geological features described above is presented in the Regional Geology Map, Figure 5.

4.2 Seismic Setting

The site is located within the seismically active area of southern California and there is a high potential for the site to experience strong ground shaking from local and regional faults. These hazards and their potential impact can be mitigated with proper seismic design. The intensity of ground shaking is highly dependent upon the distance of the fault to the site, the magnitude of the earthquake, and the underlying soil conditions. The site in relation to regional seismic faults and significant historical earthquake epicenters is presented in Figure 5, Regional Fault and Seismicity Map. A seismically active fault is one that has ruptured in the last approximate 11,000 years (Holocene). Potentially active faults are faults that have ruptured in the last approximate 130,000 years. A discussion of the significant seismic sources near the site is presented below.

Historical seismicity, recorded by the U.S. Geological Survey (USGS), within a 100-km (approximately 62 miles) radius of the site includes 287 earthquakes of magnitude (M) 4.0 and greater recorded since 1812. Six of these earthquakes are of M6.0 and greater, including the M6.7 Northridge Earthquake in 1994. Thirty-six earthquakes were within the magnitudes of M5.0 to M6.0. The closest recorded earthquake to the site was a M4.8 in 1989, epicentered about 3.2 miles to the east. While not within the search radius, earthquakes of M7.0 and greater have been recorded in southern California. A M7.5 earthquake occurred in 1952 located about 77 miles north of the site and a M7.3 earthquake in 1992 was located about 104 miles east of the site. As recent as 2019 a M7.1 earthquake epicentered about 130 miles northeast of the site. Construction and redevelopment in this area should be designed with accepted engineering practices and in compliance with current building codes that accommodate strong seismic ground motion.

A list of nearby active faults considered capable of producing significant shaking at the site is provided in Table 1 below:

Table 1: List of Known Earthquake Faults Closest to the Subject Site

Abbreviated Fault Name	Fault Type	Max. Magnitude (Mw)	UCERF3** Best Estimate Slip Rate (mm/yr)	Approximate Closest Surface Projeted Distance* (mile)
Hollywood	Strike Slip	6.7	0.9	6.7
Santa Monica Alt 2	Strike Slip	6.8	1	6.2
Newport Inglewood	Strike Slip	7.5	1	7.1
Elysian Park (Lower)	Blind Thrust	6.7	0.01	0.6
Elysian Park (Upper)	Blind Thrust	6.7	1.9	2.5
Puente Hills	Blind Thrust	7.1	0.9	0.5
Puente Hills (LA)	Blind Thrust	7.0	0.9	2.8
Compton	Blind Thrust	7.5	0.9	NA
San Andreas	Strike Slip	7.9	N/A	35

*Notes: * Distance as measured i from USGS/CGS QFault KMl files*
***UCERF-Unified California Earthquake Rupture Forecast Version 3*

5.0 GEOLOGIC/SOILS GEOTECHNICAL EVALUATION

The findings are discussed in the sections below.

5.1 Earthquake Fault Rupture

According to the USGS QFault kml files, the site is situated on top of the northwest trending Elysian Park and Puente Hills blind thrust fault (BTF) up thrown blocks. The Lower Elysian Park fault dips at a low angle, to the northeast shallowly below the site and its surface projection is about 0.6 miles north of the site. Puente Hills BTF underlies the site at depth and the surface projection is located approximately 2.9 miles south of the site, and can generate a M7.0 earthquake. The Puente Hills fault is considered a source for the Whittier Narrows M5.3 and M5.9 earthquakes in 1987.

The closest active surface fault is the Hollywood fault, which is considered capable of generating a M6.7 earthquake. It is mapped about 6.3 miles northwest of the site and trends roughly east-west along the base of the Santa Monica Mountains.

The San Andreas Fault is the most significant seismically active fault in the region. It stretches over 800 miles across the state of California and represents the boundary of the North American Tectonic Plate and the Pacific Tectonic Plate. It is over 35 miles east of the site, and considered capable of M7.9 earthquakes with an estimated slip-rate of 12.8 mm/yr in the southern San Bernardino section. Historical earthquakes of M7.0 and greater have been recorded on the San Andreas Fault, including the estimated M7.9 Fort Tejon Earthquake in 1857.

Based on our review of available published geologic maps there are no mapped active faults that cross through or project toward the site. The site is not within an Alquist-Priolo Special Study Fault Zone and is not within a City of Los Angeles Preliminary Fault Study Area (NavigateLA). Blind thrust faults including Puente Hills and Elysian Park underlie the site at depth and do not reach the surface. The site is considered within the hanging wall of Puente Hills BTF and may be subject to hanging wall effects during an earthquake. Therefore, under the guidelines presented in Special Publication 42, the potential for surface fault rupture hazard at the site is low.

5.2 Seismic Induced Ground Failure

Liquefaction involves the sudden loss in strength of a saturated, cohesionless soil caused by the build-up of pore water pressure during cyclic loading, such as that produced by an earthquake. This increase in pore water pressure can temporarily transform the soil into a fluid mass, resulting in differential settlement, and can also cause ground deformations. Typically, liquefaction occurs in shallow groundwater areas where there are loose, cohesionless, fine grained soils.

The site is not located in a State of California designated Liquefaction Hazard Zone as defined by the California Geological Survey (CGS) Earthquake Zones of Required Investigation Map (Figure 6). The City of Los Angeles does not indicate the site is within a liquefaction zone according to Navigatela. Historical high groundwater at the site is reported to be deeper than 120 feet in depth as illustrated in the CGS Seismic Hazard Report (Figure 7). Subsurface soil conditions beneath the site consist of dense to very dense sand with gravel and cobble and are not susceptible to liquefaction or significant seismic settlements. There are no open slopes or waterways nearby which may present the seismic ground failure of lateral spreading. Therefore, the potential for seismic induced ground failure hazards such as liquefaction, seismic settlement, and lateral spreading onsite is considered low.

5.3 Landslides

Topography of the site and local vicinity is generally flat. There are no mapped landslides or CGS designated Earthquake Zone of Required Investigation for landslide hazard at or adjacent the site. The City website Navigatela does not identify any mapped landslides in the site vicinity. The Project does not propose any significant cuts or excavations which may create slope instability. The potential for landslide hazard at the site is negligible.

5.4 Soil Stability

5.4.1 Erosion

Substantial soil erosion can occur along slopes and gentle gradients where loose and weakly vegetated soils are present and exposed to surface water flow and/or wind. Under the current Project Site conditions there is very minimal space where soil is open to the atmosphere and limited perimeter landscaping. The planned Project will cover the land with buildings and

pavements. With best management practices implemented during construction, erosion of soils would not be significant. The potential hazard of substantial soil erosion is negligible.

5.4.2 Collapse and/or Expansion

The existing fill soils and upper natural soils were excavated and replaced with properly compacted fill soils according to past report referenced above. The properly compacted fill soils are not considered susceptible to collapse due to soil bridging and/or hydro collapse. The onsite soils consist predominantly of non-expansive sandy and silty materials. Therefore, the potential of soil expansion is considered negligible. Nevertheless, expansion potential impacts, if encountered in localized area, can be addressed through proper design.

5.4.3 Subsidence

Subsidence in southern California region is typically associated with groundwater withdraw, oil extraction, and/or peat loss. State and local regulation has allowed for monitor programs and general management to reduce the negative impacts of subsidence due to groundwater and oil withdraw. The site is not mapped in an active subsidence area, as defined by the USGS, online mapped of Areas of Land Subsidence in California. Nor is it within an active oil field as defined by the City of Los Angeles, Navigatela. The potential for subsidence hazard at the project site is considered low.

5.5 Waste Water Disposal

The city provides waste water disposal through the city sewer systems. The Project will be served by the City's existing sewer system, and does not include septic tanks or alternative waste water disposal systems. The potential for waste-water disposal to be a hazard at the project site is low.

5.6 Geologic Feature

The Project Site is situated within a densely developed area of Los Angeles, California. The site is currently developed with commercial structures and pavements. There is no natural landscape remaining at the Project Site or in the Project Site vicinity. Therefore, there is no potential hazard of destroying a natural geological feature of significance.

5.7 Naturally Occurring Methane

Navigatela Oil/Gas field layer indicates the site is outside of major oil drilling areas. The closest oil field is the Union Oil FIeld about 0.7 miles northwest from the site. There are no active wells within a 0.75 mile radius of the Project Site. Therefore, the potential for naturally occurring oil and methane onsite is considered low.

6.0 LIMITATIONS

This geotechnical feasibility report was prepared in accordance with generally accepted Geotechnical Engineering principles and practice. The professional engineering work and judgments presented in this report meet the standard of care of our profession at this time. No other warranty, expressed or implied, is made. This report has been prepared for the Alameda & 8th Owner LLC, and their consultants. It may not contain sufficient information for other parties for other purposes or other projects and should not be used for other projects without review and approval by GDC. This feasibility report will not be sufficient to obtain a building permit from the City. A design-level geotechnical investigation will be required prior to developing final plans for the project.

7.0 REFERENCES

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LeRoy Crandall and Associates, (1987), "Addendum Letter: Contaminated Soil Review, Proposed Newspaper Printing Plant, Olympic Boulevard and Alameda Street, Los Angeles, California", Report dated October 21, 1987 (LCA Project No. ADE-86161);

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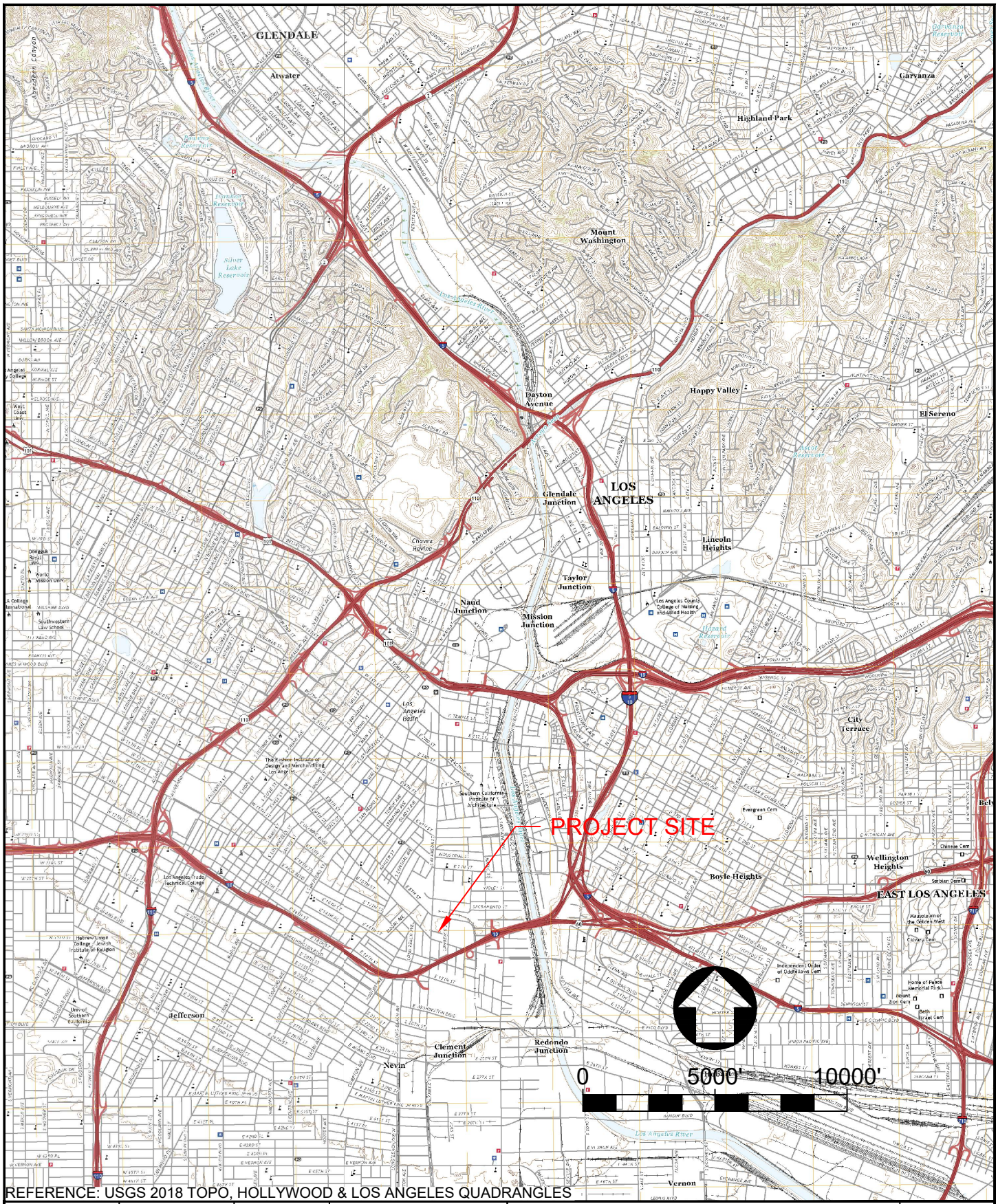
FIGURES



REFERENCE: USGS 2018 TOPO, HOLLYWOOD & LOS ANGELES QUADRANGLES

DATE: 10/20/2020	DRAWN BY: JMT	GROUP DELTA	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	SITE VICINITY MAP	PROJECT NUMBER: LA-1476
REVIEWED BY: -	APPROVED BY: -				SCALE: AS SHOWN
PREPARED BY: -				8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA	FIGURE NUMBER: 1

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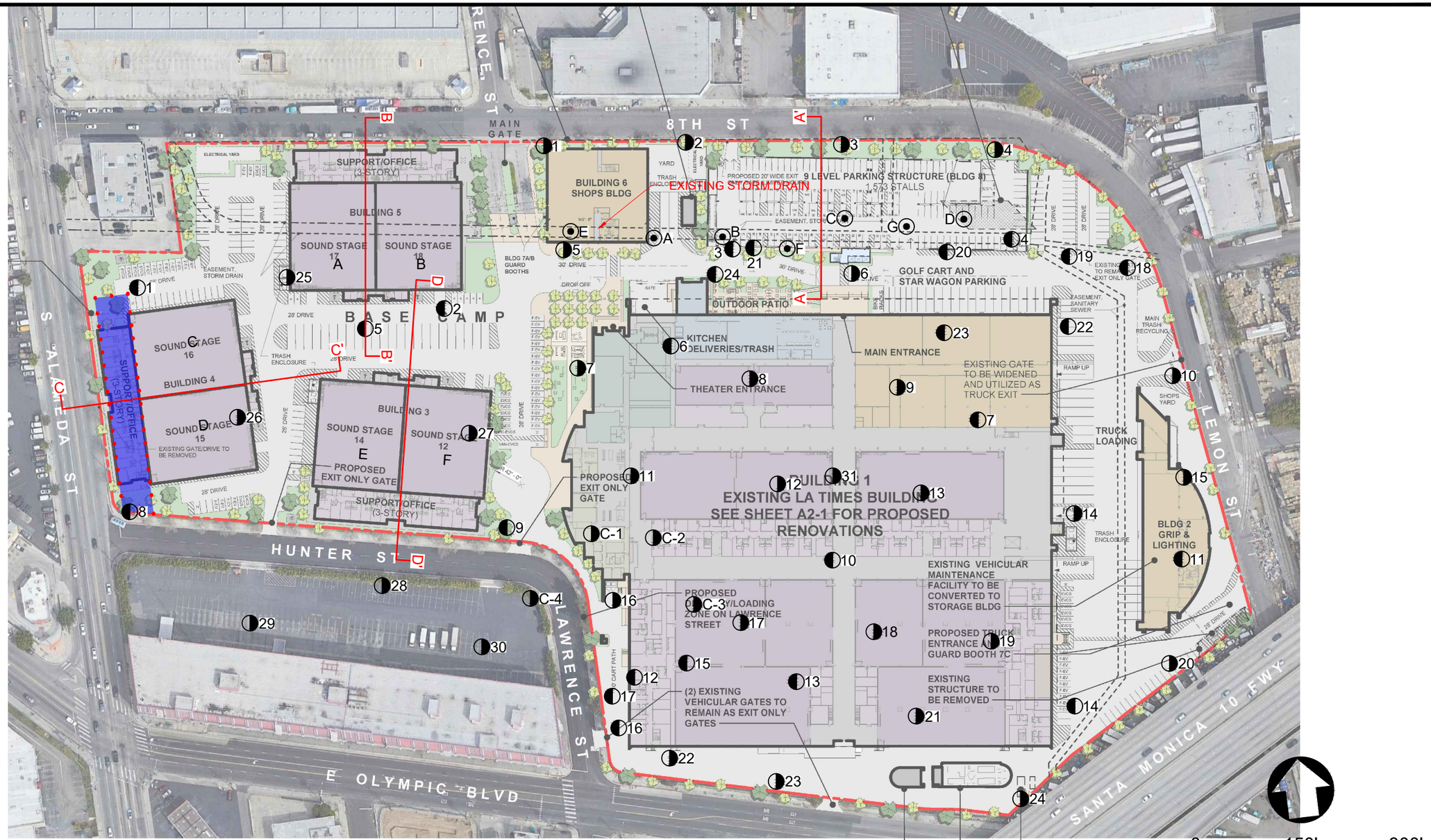

LEGEND:

A-85399	APPROXIMATE PREVIOUS BORINGS LOCATION (INVESTIGATION IN 1985)
AE-86161	APPROXIMATE PREVIOUS BORINGS LOCATION (INVESTIGATION IN 1986)
A	APPROXIMATE PREVIOUS STORM DRAIN BORINGS LOCATION (INVESTIGATION IN 1987)
	APPROXIMATE OLD BASEMENT LOCATION

DATE: 03/08/2021	DRAWN BY: JMT	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	EXPLORATION LOCATION PLAN
REVIEWED BY: -	APPROVED BY: -		8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA
REVISED: -			PROJECT NUMBER: LA-1476 SCALE: AS SHOWN FIGURE NUMBER: 2

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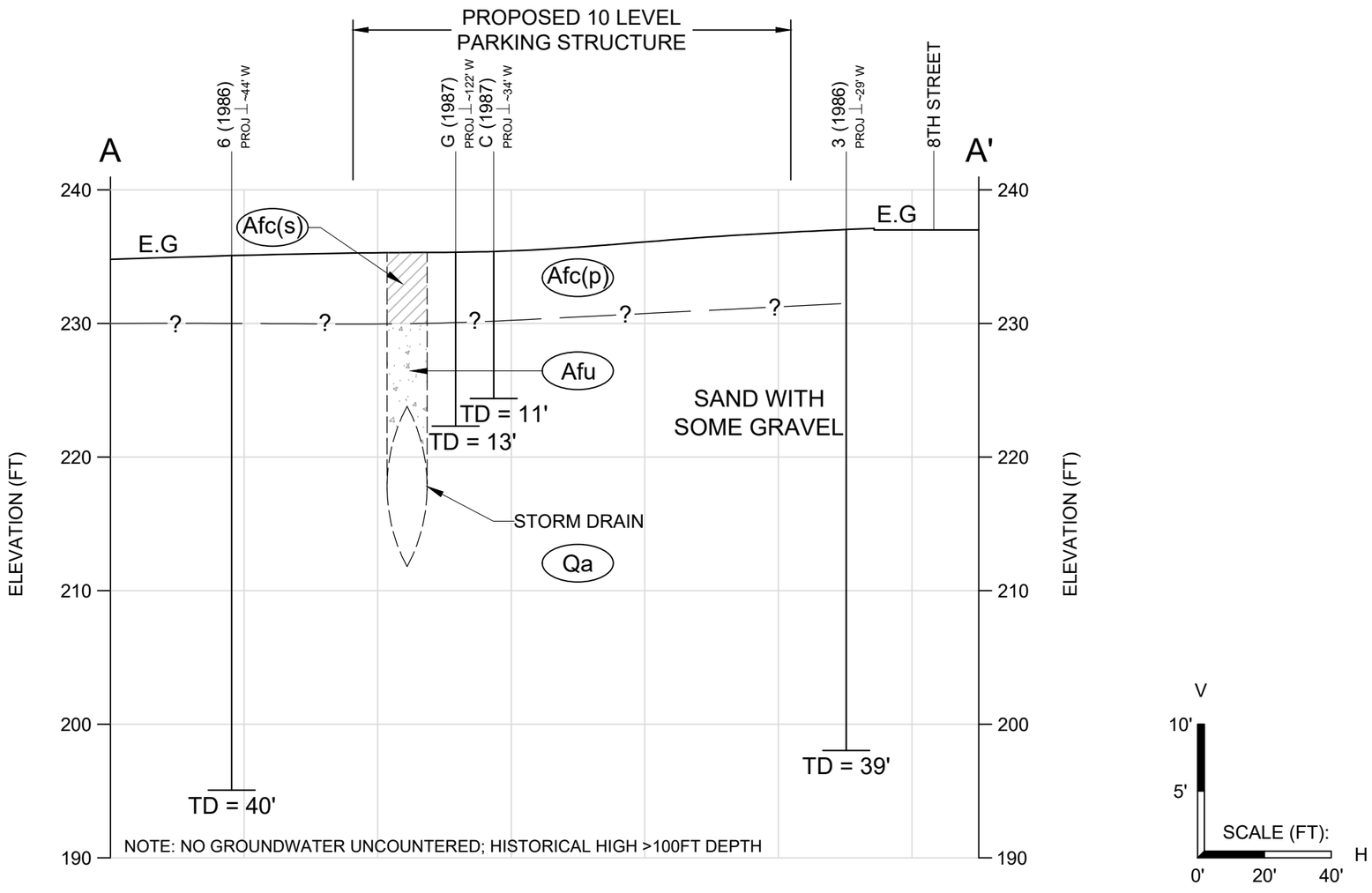
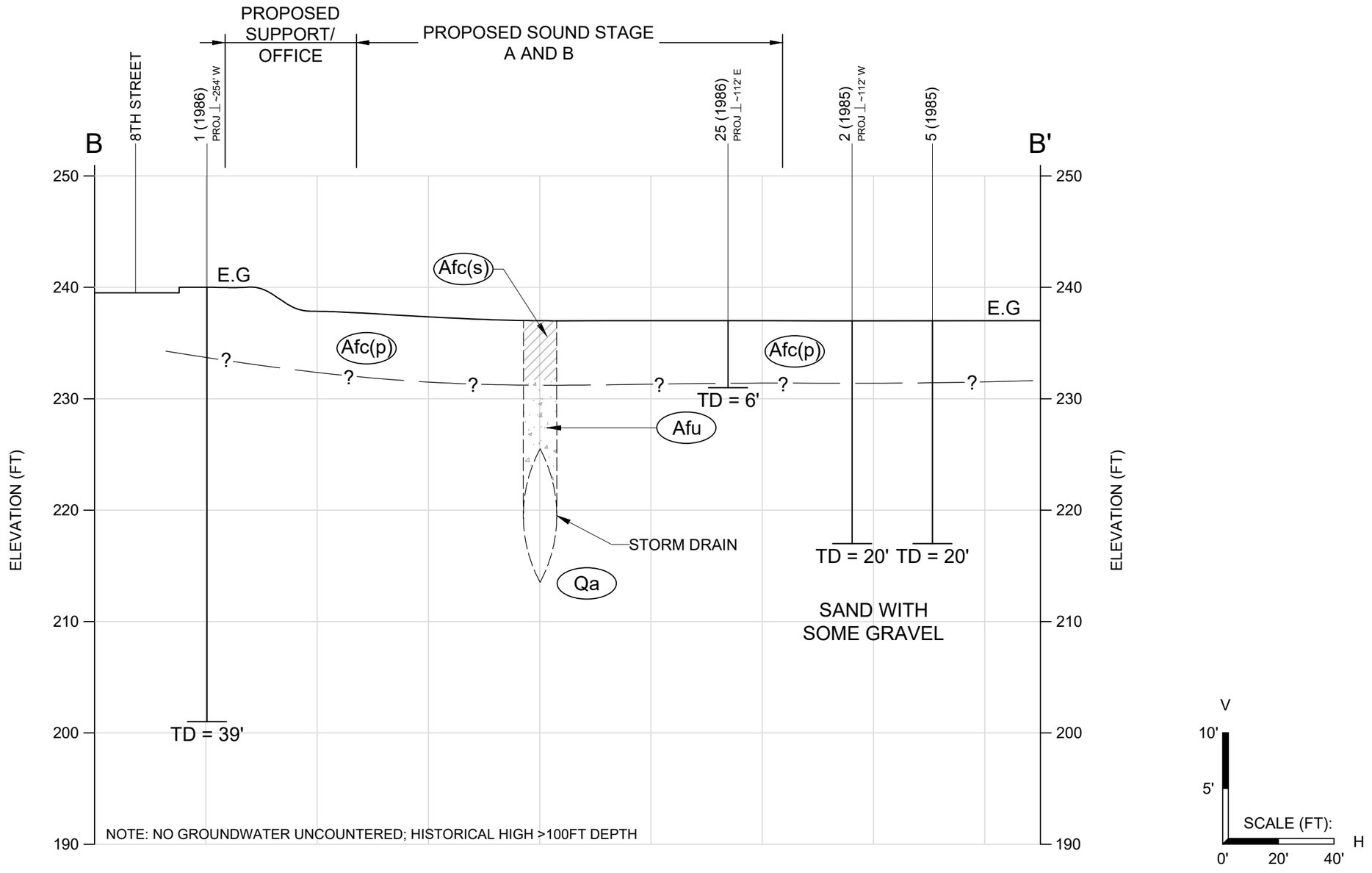


LEGEND:

Afc(p)	CERTIFIED ARTIFICIAL FILL (PRIMARY)
Afc(s)	CERTIFIED ARTIFICIAL FILL (SECONDARY)
Afu	UNCERTIFIED ARTIFICIAL FILL
Qa	ALLUVIAL DEPOSIT

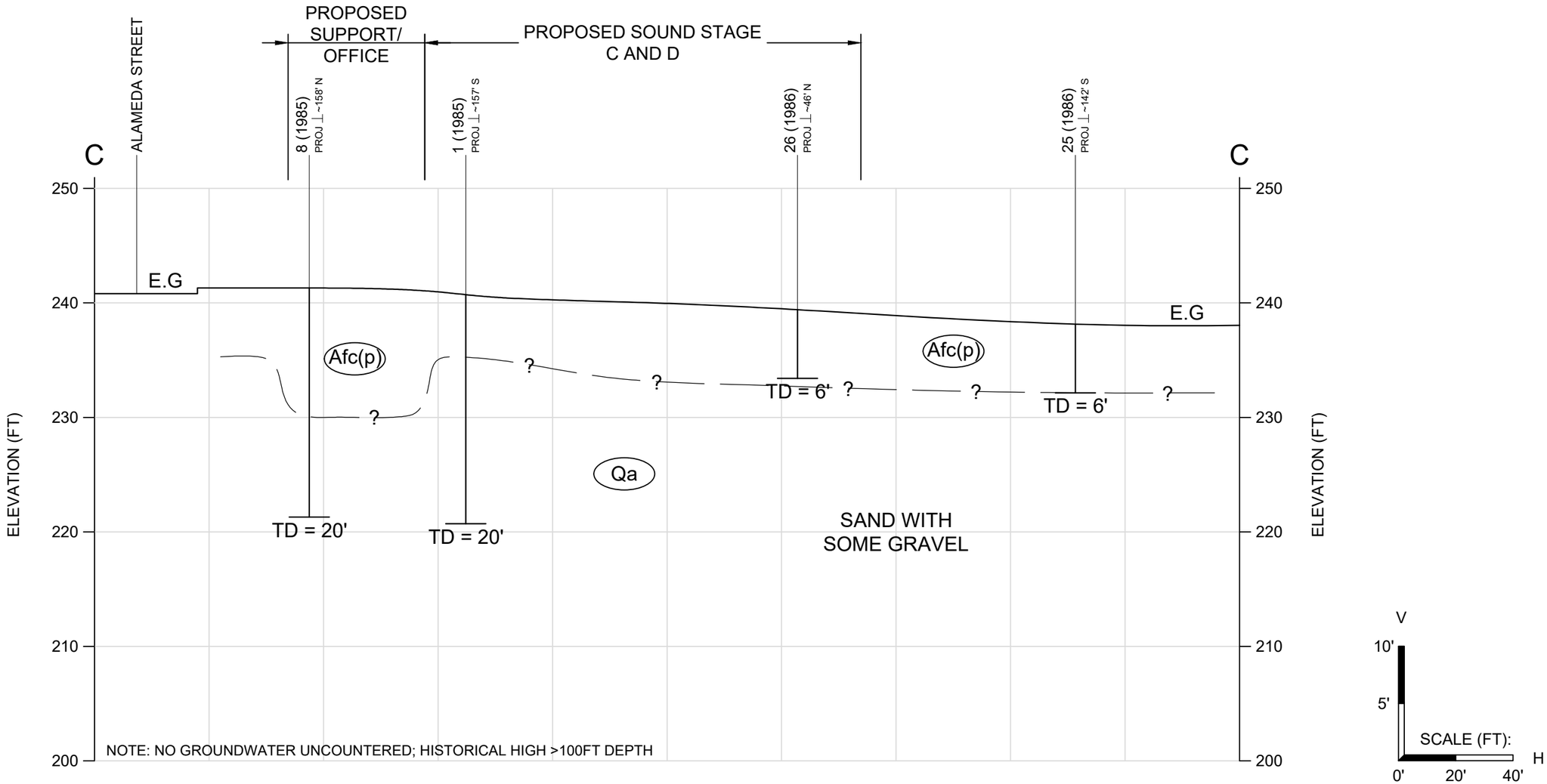
DATE: 10/27/2020	DRAWN BY: JMT	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	CROSS SECTION A-A'
REVIEWED BY: -	APPROVED BY: -		8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA
REVISED: -			PROJECT NUMBER: LA-1476 SCALE: AS SHOWN FIGURE NUMBER: 3.1



LEGEND:

Afc(p)	CERTIFIED ARTIFICIAL FILL (PRIMARY)
Afc(s)	CERTIFIED ARTIFICIAL FILL (SECONDARY)
Afu	UNCERTIFIED ARTIFICIAL FILL
Qa	ALLUVIAL DEPOSIT

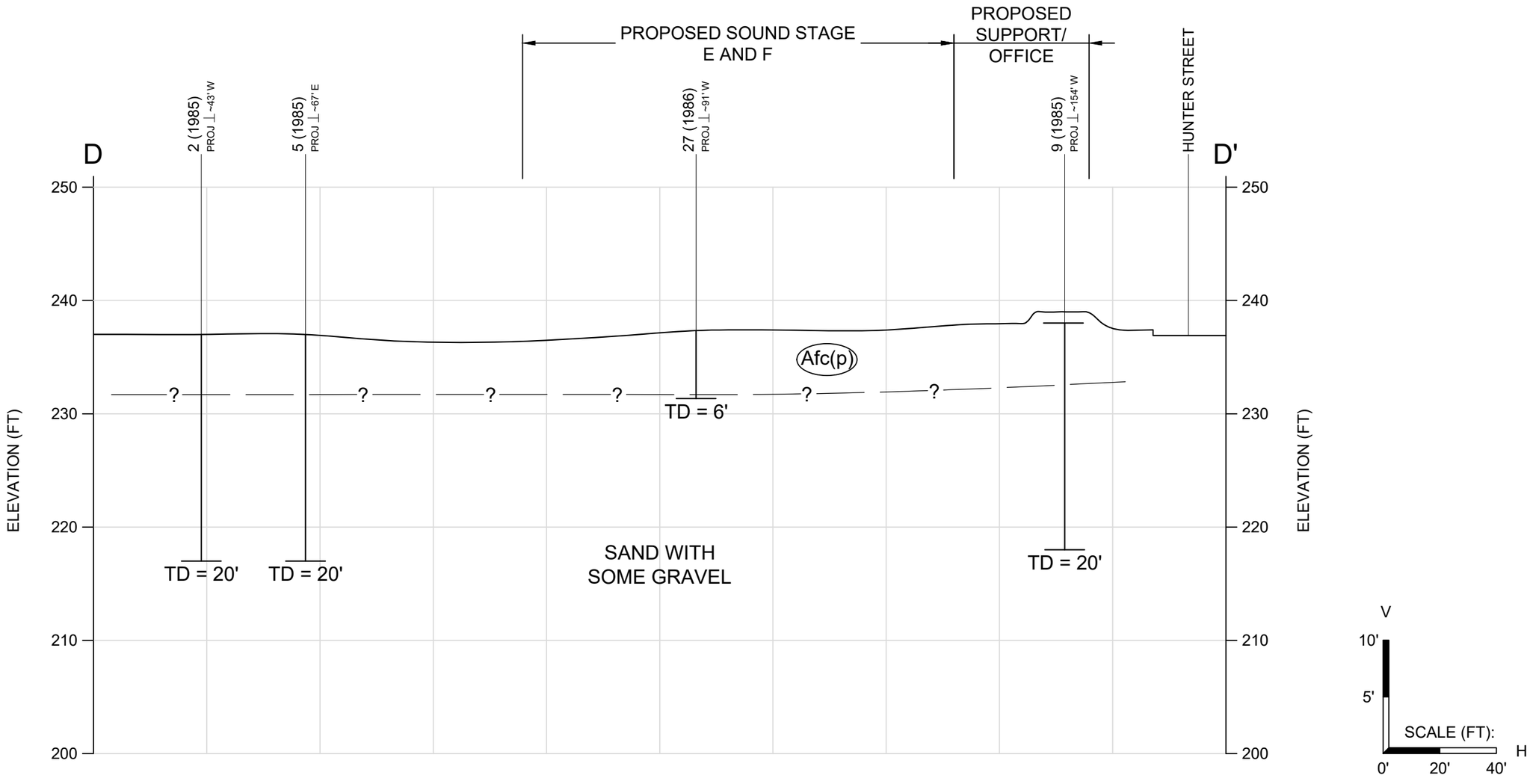
DATE: 10/27/2020	DRAWN BY: JMT	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	CROSS SECTION B-B'
REVIEWED BY: -	APPROVED BY: -		8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA
REVISED: -			PROJECT NUMBER: LA-1476 SCALE: AS SHOWN FIGURE NUMBER: 3.2



LEGEND:

Afc(p)	CERTIFIED ARTIFICIAL FILL (PRIMARY)
Afc(s)	CERTIFIED ARTIFICIAL FILL (SECONDARY)
Afu	UNCERTIFIED ARTIFICIAL FILL
Qa	ALLUVIAL DEPOSIT

DATE: 10/27/2020	DRAWN BY: JMT	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	CROSS SECTION C-C'
REVIEWED BY: -	APPROVED BY: -		8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA
REVISED: -			PROJECT NUMBER: LA-1476 SCALE: AS SHOWN FIGURE NUMBER: 3.3



LEGEND:

Afc(p)	CERTIFIED ARTIFICIAL FILL (PRIMARY)
Afc(s)	CERTIFIED ARTIFICIAL FILL (SECONDARY)
Afu	UNCERTIFIED ARTIFICIAL FILL
Qa	ALLUVIAL DEPOSIT

DATE: 10/27/2020	DRAWN BY: JMT
REVIEWED BY: -	APPROVED BY: -
REVISED: -	

GROUP DELTA CONSULTANTS, INC
370 Amapola Ave.
Suite 212
Torrance, CA. 90501

CROSS SECTION D-D'

8TH AND ALAMEDA STUDIOS PROJECT
2000 E. ALAMEDA ST., LOS ANGELES, CA

PROJECT NUMBER: LA-1476
SCALE: AS SHOWN
FIGURE NUMBER: 3.4

MAP UNITS AND SYMBOL EXPLORATION

Late Holocene (Surficial Deposits)

af — **Artificial Fill** - deposits of fill resulting from human construction, mining, or quarrying activities; includes engineered fill for buildings, roads, dams, airport runways, harbor facilities, and waste landfills

Qsu — **Undifferentiated Surficial Deposits** - includes colluvium, slope wash, talus deposits, and other surface deposits of all ages; generally unconsolidated but locally may contain consolidated layers

Qls — **Landslide Deposits** - may include debris flows and older landslides of various earth material and movement types; unconsolidated to moderately well-consolidated

Qb — **Beach Deposits** - unconsolidated marine beach sediments consisting mostly of fine- and medium-grained, well-sorted sand

Qw — **Alluvial Wash Deposits** - unconsolidated sandy and gravelly sediment deposited in recently active channels of streams and rivers; may contain loose to moderately loose sand and silty sand

Qf — **Alluvial Fan Deposits** - unconsolidated boulders, cobbles, gravel, sand, and silt recently deposited where a river or stream issues from a confined valley or canyon; sediment typically deposited in a fan-shaped cone; gravelly sediment generally more dominant than sandy sediment

Qa — **Alluvial Valley Deposits** - unconsolidated clay, silt, sand, and gravel recently deposited parallel to localized stream valleys and/or spread more regionally onto alluvial flats of larger river valleys; sandy sediment generally more dominant than gravelly sediment

Qt — **Terrace Deposits** - includes marine and stream terrace deposits; marine deposits include slightly to moderately consolidated and bedded gravel and conglomerate, sand and sandstone, and silt and siltstone; river terrace deposits consist of unconsolidated thin- to thick-bedded gravel

Ql — **Lacustrine, Playa, and Estuarine (Paralic) Deposits** - mostly unconsolidated fine-grained sand, silt, mud, and clay from fresh water (lacustrine) lakes, saline (playa) dry lakes that are periodically flooded, and estuaries; deposits may contain salt and other evaporites

Qe — **Eolian and Dune Deposits** - unconsolidated, generally well-sorted wind-blown sand; may occur as dune forms or sheet sand

Holocene to Late Pleistocene (Surficial Deposits)

Qyf — **Young Alluvial Fan Deposits** - unconsolidated to slightly consolidated, undissected to slightly dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon

Qya — **Young Alluvial Valley Deposits** - unconsolidated to slightly consolidated, undissected to slightly dissected clay, silt, sand, and gravel along stream valleys and alluvial flats of larger rivers

Late to Middle Pleistocene (Surficial Deposits)

Qof — **Old Alluvial Fan Deposits** - slightly to moderately consolidated, moderately dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon

Qoa — **Old Alluvial Valley Deposits** - slightly to moderately consolidated, moderately dissected clay, silt, sand, and gravel along stream valleys and alluvial flats of larger rivers

Qot — **Old Terrace Deposits** - slightly to moderately consolidated, moderately dissected marine and stream terrace deposits

Qol — **Old Lacustrine, Playa, and Estuarine (Paralic) Deposits** - slightly to moderately consolidated, moderately dissected fine-grained sand, silt, mud, and clay from lake, playa, and estuarine deposits of various types

Middle to Early Pleistocene (Surficial Deposits)

Qvof — **Very Old Alluvial Fan Deposits** - moderately to well-consolidated, highly dissected boulder, cobble, gravel, sand, and silt deposits issued from a confined valley or canyon

Qvoa — **Very Old Alluvial Valley Deposits** - moderately to well-consolidated, highly dissected clay, silt, sand, and gravel along stream valleys and alluvial flats of larger rivers; generally uplifted and deformed

Quaternary (Bedrock)

Qss — **Coarse-grained formations of Pleistocene age and younger** - primarily sandstone and conglomerate

Qsh — **Fine-grained formations of Pleistocene age and younger** - includes fine-grained sandstone, siltstone, mudstone, shale, siliceous and calcareous sediments

Tertiary (Bedrock)

Tss — **Coarse-grained Tertiary age formations** - primarily sandstone and conglomerate

Tsh — **Fine-grained Tertiary age formations** - includes fine-grained sandstone, siltstone, mudstone, shale, siliceous and calcareous sediments

Tv — **Tertiary age formations of volcanic origin**

Mesozoic and Older (Bedrock)

Kss — **Coarse-grained Cretaceous age formations of sedimentary origin**

Ksh — **Fine-grained Cretaceous age formations of sedimentary origin**

pKm — **Cretaceous and pre-Cretaceous metamorphic formations of sedimentary and volcanic origin**

sp — **Serpentinite of all ages**

gr — **Granitic and other intrusive crystalline rocks of all ages**

Contact

Gradational contact

Reference contact -- Used to delineate geologic units that were mapped as separate units on the original source map, but are consolidated on this map.

Fault -- Includes strike-slip, normal, reverse, oblique, and unspecified slip

Lineament

Folds -- Showing direction of plunge where appropriate

Anticline

Overturned anticline

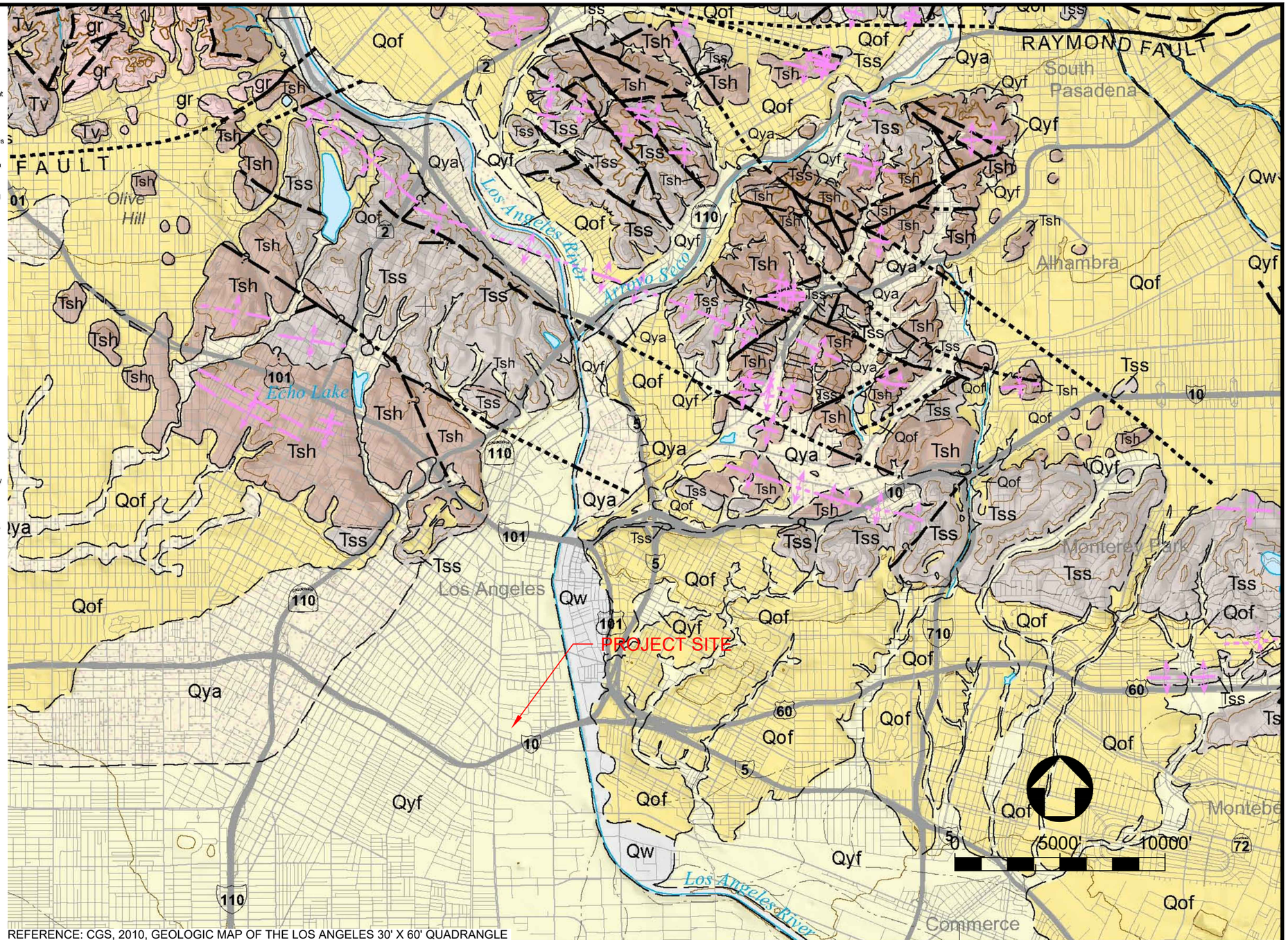
Syncline

Dike

Stream

Spring

Road



REFERENCE: CGS, 2010, GEOLOGIC MAP OF THE LOS ANGELES 30' X 60' QUADRANGLE

DATE: 10/20/2020	DRAWN BY: JMT	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	REGIONAL GEOLOGIC MAP 8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA
REVIEWED BY: -	APPROVED BY: -		PROJECT NUMBER: LA-1476 SCALE: AS SHOWN FIGURE NUMBER: 4
REVISED: -			

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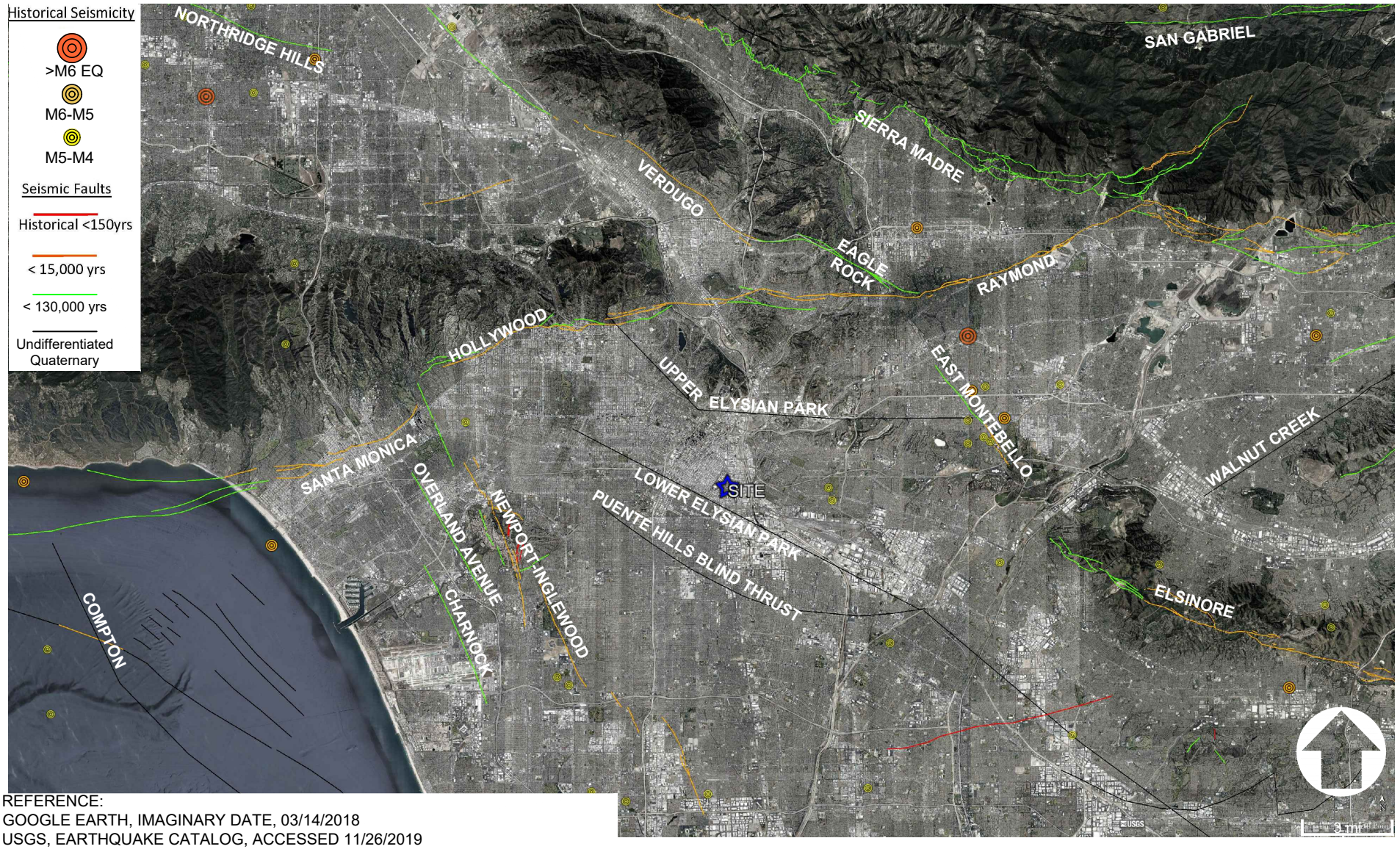

REFERENCE:
GOOGLE EARTH, IMAGINARY DATE, 03/14/2018
USGS, EARTHQUAKE CATALOG, ACCESSED 11/26/2019
USGS & CGS, QUATERNARY FAULT AND FOLD DATABASE, ACCESSED 3/4/2020

DATE: -	DRAWN BY: -	GROUP DELTA	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	PROJECT NUMBER: LA-1476
REVIEWED BY: -	APPROVED BY: -		REGIONAL FAULT AND SEISMICITY MAP	SCALE: AS SHOWN
PREPARED BY: -			8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA	FIGURE NUMBER: 5

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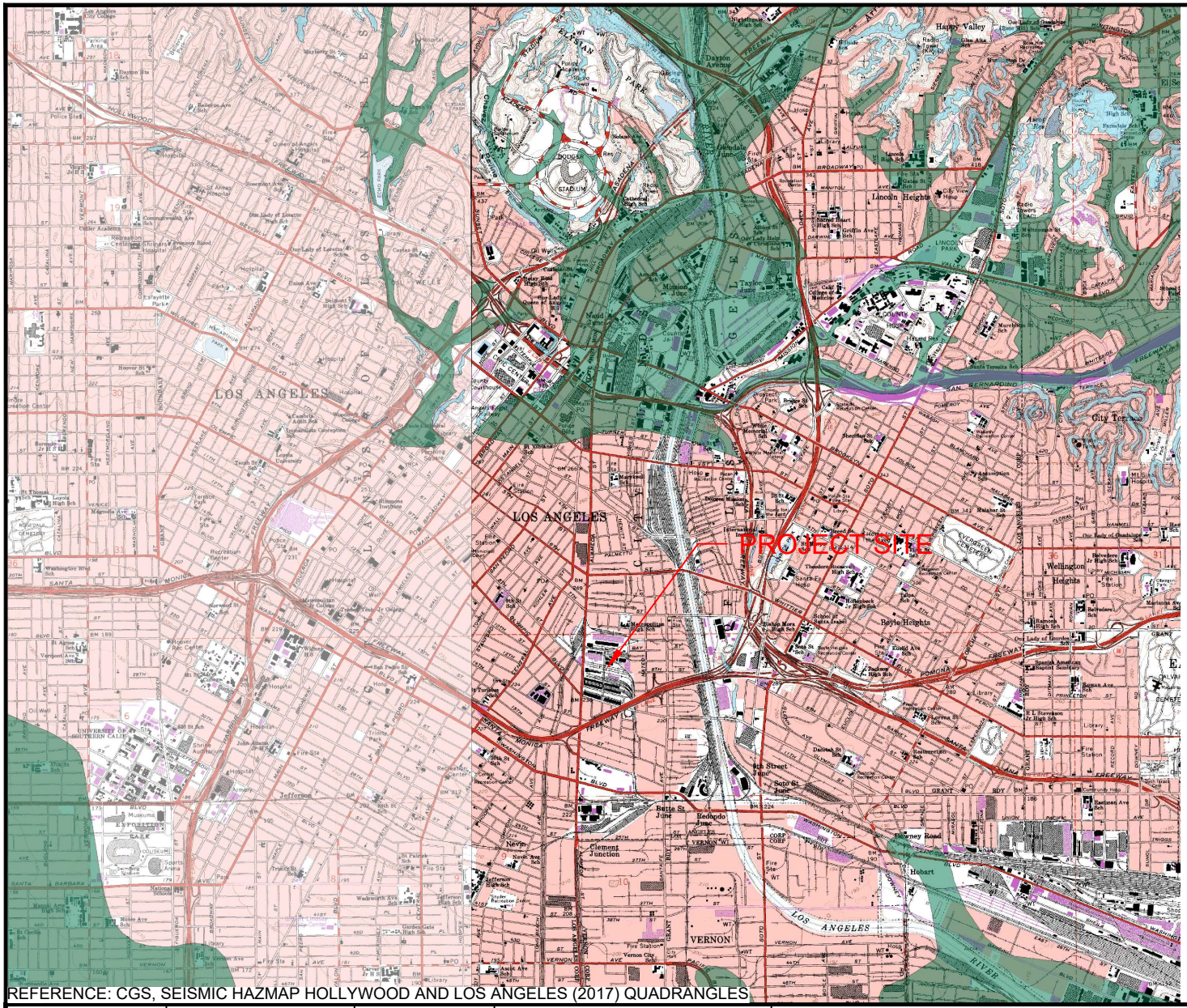

REFERENCE: CGS, SEISMIC HAZMAP HOLLYWOOD AND LOS ANGELES (2017) QUADRANGLES

MAP EXPLANATION

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONES

Earthquake Fault Zones
Zone boundaries are delineated by straight-line segments; the boundaries define the zone encompassing active faults that constitute a potential hazard to structures from surface faulting or fault creep such that avoidance as described in Public Resources Code Section 2621.5(a) would be required.

Active Fault Traces
Faults considered to have been active during Holocene time and to have potential for surface rupture: Solid Line in Black or Red where Accurately Located; Long Dash in Black or Solid Line in Purple where Approximately Located; Short Dash in Black or Solid Line in Orange where Inferred; Dotted Line in Black or Solid Line in Rose where Concealed; Query (?) indicates additional uncertainty. Evidence of historic offset indicated by year of earthquake-associated event or C for displacement caused by fault creep.

SEISMIC HAZARD ZONES

Liquefaction Zones
Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslide Zones
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

OVERLAPPING ALQUIST-PRIOLO AND SEISMIC HAZARD ZONES

Overlap of Earthquake Fault Zone and Liquefaction Zone
Areas that are covered by both Earthquake Fault Zone and Liquefaction Zone.

Overlap of Earthquake Fault Zone and Earthquake-Induced Landslide Zone
Areas that are covered by both Earthquake Fault Zone and Earthquake-Induced Landslide Zone.

Note: Mitigation methods differ for each zone – AP Act only allows avoidance; Seismic Hazard Mapping Act allows mitigation by engineering/geotechnical design as well as avoidance.

DATE: 10/20/2020	DRAWN BY: JMT	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	EARTHQUAKE ZONES OF REQUIRED INVESTIGATION MAP 8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA	PROJECT NUMBER: LA-1476
REVIEWED BY: -	APPROVED BY: -			SCALE: AS SHOWN
PREPARED BY: -				FIGURE NUMBER: 6

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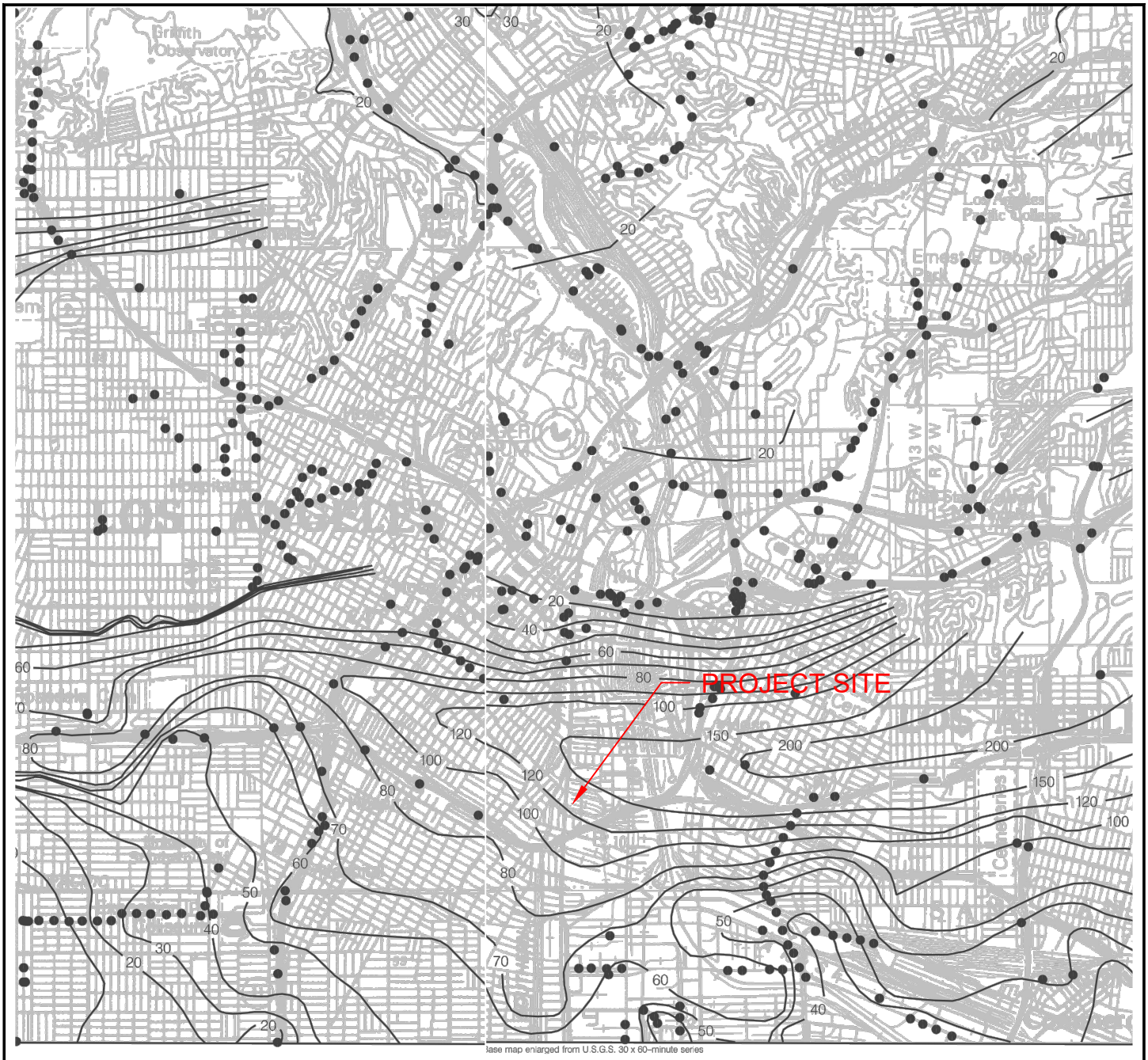

Plate 1.2 Historically Highest Ground Water Contours and Borehole Log Data Locations, Los Angeles Quadrangle.

● Borehole Site

30 Depth to ground water in feet

ONE MILE
SCALE

REFERENCE: CGS, 1998, SEISMIC HAZARD ZONE REPORT, PLATE 1.2 GROUND WATER, FOR HOLLYWOOD (SHZR 026) AND LOS ANGELES (SHZR 029) 7.5-MINUTE QUADRANGLE, LOS ANGELES, CALIFORNIA.

DATE: 10/20/2020	DRAWN BY: JMT	GROUP DELTA	GROUP DELTA CONSULTANTS, INC 370 Amapola Ave. Suite 212 Torrance, CA. 90501	HISTORICAL GROUND WATER MAP	PROJECT NUMBER: LA-1476
REVIEWED BY: -	APPROVED BY: -				SCALE: AS SHOWN
PREPARED BY: -				8TH AND ALAMEDA STUDIOS PROJECT 2000 E. ALAMEDA ST., LOS ANGELES, CA	FIGURE NUMBER: 7

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APPENDIX A – PREVIOUS FIELD INVESTIGATION

INVESTIGATION IN 1985
(LEROY CRANDALL PROJECT NO. A-85399)

BORING 1

DATE DRILLED: December 10, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 103.3*

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
								2" Asphaltic Paving - 8" Concrete Slab
							SM	FILL - SILTY SAND - fine, some debris including pieces of brick, greyish-brown
100			4.7	101	< 1			
	5		3.4	97	< 1		SM	SILTY SAND - fine, greyish-brown
95			7.5	104	3		ML	SANDY SILT - some Clay, greyish-brown with white
	10		14.9	103	2		SW	SAND - well graded, few gravel, light brown
90			2.4	103	8			
	15							
85								
	20		3.5	111	11		SP	SAND - fine, light brown

NOTE: Water not encountered. Slight raveling below 10'.

*Elevations refer to assumed datum; see Plate 1 for location and elevation of bench mark.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.1

BORING 2

DATE DRILLED: December 10, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 100.5

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
100							SM	2" Asphaltic Paving - 2" Concrete Slab FILL - SILTY SAND - fine, some debris, dark grey and brown
			9.1	107	< 1			
			22.0	96	< 1		SM	SILTY SAND - fine, some Clay, greyish-brown
95	5							
			2.9	95	2		SP	SAND - fine, few gravel, light brown
			2.1	107	3		SW	SAND - well graded, about 5% gravel, light brown
90	10		2.3	106	3			About 20% gravel
			2.3	105	6			About 20% gravel with cobbles (to 4" in size)
85	15							
			1.8	-	6			About 30% gravel
	20							

NOTE: Water not encountered. Caving below 8' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN E.D. W.P. dmh CHKD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.2

BORING 3

DATE DRILLED: December 10, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 100.7

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
100							SM	2" Asphaltic Paving - 6" Concrete Slab FILL - SILTY SAND - fine, some Clay, brown
			5.6	105	< 1		SM	SILTY SAND - fine, some Clay, brown
	5		4.5	108	< 1			
95			5.6	110	< 1			
			6.6	106	< 1			
	10							
90			5.8	107	< 1			Cobbles (to 6" in size)
	15		6.3	108	< 1			
85								
	20		8.0	110	< 1			Pieces of brick
80								
	25		4.4	107	5		SW	SAND - well graded, few gravel, light brown

NOTE: Water not encountered. Caving below 3' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.3

BORING 4

DATE DRILLED: December 10, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 101.5

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
100	0		7.5	112	3	SM	FILL - SILTY SAND - fine, some debris including pieces of brick, concrete and metal, reddish-brown
			2.1	103	2		
95	5		2.2	104	2		
			2.4	105	<1		Large pieces of concrete
90	10		13.9	107	<1		Some Clay and Silt
			11.5	113	<1		
85	15		10.0	103	<1		(BORING TERMINATED DUE TO CONCRETE OBSTRUCTION)
	20						

NOTE: Water not encountered. Caving below 3' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOEN MD W.P. dmh CHKD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.4

BORING 5

DATE DRILLED: December 10, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 100.5

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
100			11.2	117	8	SM
			4.8	95	2	
95	5		24.8	93	2	SW
			3.9	96	3	
90	10		1.3	107	8	
			2.6	106	11	
85	15					
	20		3.8	116	18	

2" Asphaltic Paving
FILL - SILTY SAND - fine, some debris including pieces of wood, dark brown

Some Clay

SAND - well graded, about 5% gravel, light brown

About 50% gravel

About 20% gravel

Thin layers of Clayey Sand

NOTE: Water not encountered. Caving below 6' (to 4' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN CHKD dmh W.P. MD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.5

BORING 6

DATE DRILLED: December 10, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 99.1

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			13.7	103	<1		SM	FILL - SILTY SAND - fine, some debris, greyish-brown
			31.7	85	<1		ML	SANDY SILT - some Clay, grey to dark grey
95	5		3.5	105	<1		SC	CLAYEY SAND - fine, some gravel, reddish-brown
			8.6	99	3			
90	10						SM	SILTY SAND - fine, about 10% gravel, light brown
			2.3	109	2		SW	SAND - well graded, some gravel and cobbles, light brown
85	15		3.4	118	18			About 20% gravel and cobbles (to 6" in size)
								Some gravel
80	20		2.1	106	11			

NOTE: Water not encountered. Caving below 12' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN CHKD W.P. MD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.6

BORING 7

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 98.4

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			12.2	116	< 1		SM	FILL - SILTY SAND - fine, some Clay, gravel, greyish-brown
95	5		10.0	96	3		SP	SAND - fine, about 10% gravel, light brown
			8.9	100	5		SW	SAND - well graded, some gravel, light brown
90	10		5.9	105	10			About 30% gravel
			3.3	110	2		SP	SAND - fine, light brown
85	15		6.3	98	5			
80	20		2.9	111	10		SW	SAND - well graded, about 20% gravel, light brown

NOTE: Water not encountered. Caving from 5' to 9' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.7

BORING 8

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 102.3

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
100	0		7.6	102	8	SM	12" Asphaltic Paving SILTY SAND - fine, light brown
			5.5	98	6		
95	5		7.6	97	5		
			4.2	91	< 1		
90	10		3.4	104	3	SW	SAND - well graded, about 10% gravel, light brown Layer of Clayey Silt
85	15		2.9	116	16		Cobbles (to 4" in size)
	20		3.8	119	11		About 5% gravel

NOTE: Water not encountered. Raveling below 3'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN CHKD dmh W.P. MD MD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.8

BORING 9

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 99.4

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			3.9	100	<1		SM	2" Asphaltic Paving - 6" Concrete Slab FILL - SILTY SAND - fine, reddish-brown
95	5		6.1	94	1			
			4.6	100	1			Layer of Clay
90	10		3.1	108	3		SP	SAND - fine, few gravel, light brown
			3.4	109	11		SW	SAND - well graded, about 20% gravel, light brown
85	15		3.0	123	19			
80	20		2.7	116	29			

NOTE: Water not encountered. Raveling below 8'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.9

BORING 10

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 98.3

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
								6" Asphaltic Paving - 8" Base Course
			11.1	118	3		SM	FILL - SILTY SAND - fine, brown
95			22.4	95	< 1		CL	SILTY CLAY - greyish-brown
	5		4.5	102	2		SP	SAND - fine, few gravel, light brown
90			3.9	108	3			
	10		19.8	96	5			Silty Sand lenses
85								About 20% gravel
	15		6.0	105	6			
80							SW	SAND - well graded, light brown
	20		6.1	119	16			

NOTE: Water not encountered. Caving below 15' (to 2' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN CHKD

MD W.P. dmh

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.10

BORING 11

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 98.9

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
95	5		6.3	93	<1		SM	FILL - SILTY SAND - fine, greyish-brown
			12.3	88	<1			Pieces of concrete
			22.1	95	<1		ML	CLAYEY SILT - greyish-brown
90	10		14.6	110	<1		SM	SILTY SAND - fine, greyish-brown
			5.2	99	5		SP	SAND - fine, few gravel, light brown
85	15		3.0	117	11		SW	SAND - well graded, about 20% gravel, light brown
							CL	SANDY CLAY - greyish-brown
80	20		6.1	108	10		SP	SAND - fine, light brown and reddish-brown

NOTE: Water not encountered. Raveling from 12 to 16'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.11

BORING 12

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
ELEVATION 98.0						
						SC
						ML
95			14.8	104	2	
	5		2.2	103	5	SP
			1.7	113	6	SW
90			2.7	106	6	SP
	10		4.0	107	6	
85						
	15		4.3	113	6	
80						SW
	20		6.9	117	10	

4" Asphaltic Paving

FILL - CLAYEY SAND - some Silt, greyish-brown

CLAYEY SILT - some roots, reddish-brown

SAND - fine and medium, light brown

SAND - well graded, about 20% gravel, light brown

SAND - fine, light brown

Lenses of Silty Sand

SAND - well graded, about 30% gravel, few cobbles (to 4" in size), oil-soaked, bluish-grey

Less oil below 19'

NOTE: Water not encountered. Caving below 5'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR JOHN MD WP CHKD dmh

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.12

BORING 13

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 97.8

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
95	0		5.7	107	2		SM	FILL - SILTY SAND - fine, some debris, dark brown
			15.3	95	< 1		SM	SILTY SAND (POSSIBLY FILL) - fine, few gravel, brown and greyish-brown
	5		12.4	113	2			Mottled greyish-brown with reddish-brown
90			3.5	101	6		SW	SAND - well graded, few gravel, light reddish-brown
	10		4.1	110	6			Silty Sand lenses
85			5.0	116	10			About 20% gravel
	15							
80								Few cobbles (to 4" in size)
	20		5.9	114	14			

NOTE: Water not encountered. Caving below 8' (to 2' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.13

BORING 14

DATE DRILLED: December 9, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 97.2

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
95			8.8	96	<1		SM	FILL - SILTY SAND - fine and medium, debris including pieces of brick, greyish-brown
	5		6.9	94	<1			
90			4.9	105	<1		SW	SAND - well graded, few gravel, light brown
			3.7	108	8			About 10% gravel
	10		3.2	111	5			Few cobbles (to 4" in size)
85								
	15		5.1	109	6			
80							SP	SAND - fine, light brown
	20		5.2	115	14			

NOTE: Water not encountered. Heavy caving from 5' to 10' (to 4' in diameter). Raveling below 10'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dm CHKD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.14

BORING 15

DATE DRILLED: December 11, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 98.2

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
95	0							8" Asphaltic Paving
							SM	FILL - SILTY SAND - fine, greyish-brown Pieces of brick
	5		3.2	115	2		SP	SAND - fine, few gravel, brown
90							CL	SILTY CLAY - reddish-brown
	10		2.3	110	5		SW	SAND - well graded, about 20% gravel, light brown
85								
	15		2.2	118	8			Few cobbles (to 6" in size)
80								
	20		3.7	127	5			
75							ML	CLAYEY SILT - traces of organic matter, greyish-brown with reddish-brown
	25		2.7	101	4			Lenses of Silty Sand and Sand
70							SW	SAND - well graded, about 20% gravel, few cobbles (to 4" in size), light brown
	30							
65								
	35							

NOTE: Water not encountered. Caving below 8' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.15

BORING 16

DATE DRILLED: December 11, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 98.3

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
95	5		11.2	103	<1		ML	4" Asphaltic Paving SANDY SILT - greyish-brown
							SM	SILTY SAND - fine, few gravel, light reddish-brown
90	10		2.8	106	6		SP	SAND - fine, few gravel, light brown Few cobbles (to 4" in size)
85	15							(BORING TERMINATED AT 13' DUE TO HEAVY CAVING)

NOTE: Water not encountered. Heavy caving below 5'(to 4' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN CHKD W.P. dmh MD MD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.16

BORING 17

DATE DRILLED: December 11, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 98.3

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
95	5						ML	FILL - SANDY SILT - debris including pieces of brick, dark greyish-brown
							SM	FILL - SILTY SAND - fine, greyish-brown
							SP	SAND - fine, few gravel, light reddish-brown
90	10							About 20% gravel, lenses of well graded Sand with few cobbles (to 4" in size)
85	15		5.0	110	8		SW	SAND - well graded, about 20% gravel, few cobbles, light brown
								Thin layers of Sandy Silt
80	20							Cobbles (to 8" in size)
75	25		5.5	97	10			Layer of Clayey Silt, some Sand, few gravel, greyish-brown
70	30		3.5	120	11			
65	35							

NOTE: Water not encountered. Caving from 4' to 10' (to 3' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/16/85 DR. JOHN MD W.P. dmh CHKD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.17

BORING 18

DATE DRILLED: December 20, 1985

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 101.5

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
100	0		6.8	98	<1		SM	4" Asphaltic Paving - 4" Concrete Slab SILTY SAND - fine, light brown
			13.2	98	<1			Thin layers of Sand
95	5		3.7	105	5		SP	SAND - fine, light brown
			2.2	103	6			Few gravel
90	10							
			6.2	114	5			Layer of Silty Sand
85	15						SW	SAND - well graded, about 10% gravel, few cobbles, light brown
								Layer of fine Sand
	20		2.7	106	11			

NOTE: Water not encountered. Patchy raveling below 7' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/23/85 DR. JOHN dmh CHKD

MD W.P.

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

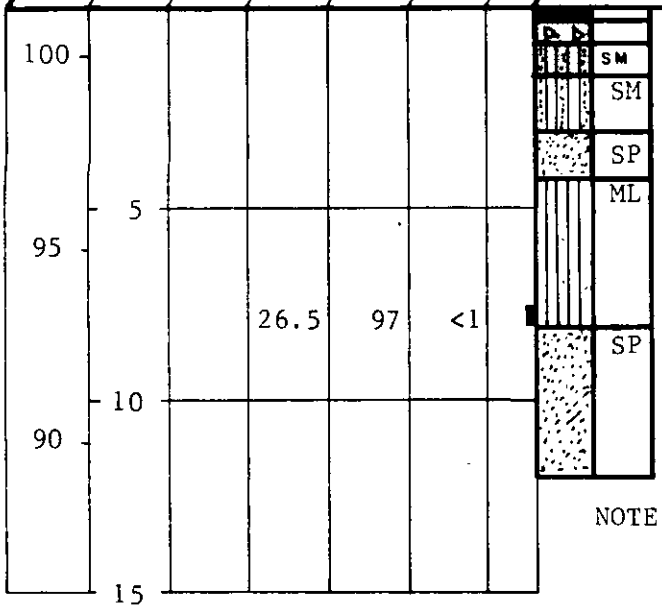
PLATE A-1.18

BORING 19

DATE DRILLED: December 20, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 101.1



4" Asphaltic Paving - 4" Concrete Slab

FILL - SILTY SAND - fine, mottled brown

SILTY SAND - fine, light brown

SAND - fine, lenses of Silt, light brown

SANDY SILT - some Clay, light brown

SAND - fine, light brown

Coarse Sand with some gravel

NOTE: Water not encountered. Patchy caving below 8' (to 2' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/23/85 DR. JOHN MD W.P. MD CHKD dmh

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.19

BORING 20

DATE DRILLED: December 20, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 101.0

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
100	0					
						SM
						SM
	5					SP
95						
						SW
	10	3.3	94	<1		
90						SP
		2.5	107	6		
	15					
85		3.4	112	3		
	20					

3" Asphaltic Paving - 8" Concrete Slab

FILL - SILTY SAND - fine, pieces of metal, brown

SILTY SAND - fine, few gravel, light brown

SAND - fine, lenses of Silty Sand, few gravel, light brown

Layer of Silt

SAND - well graded, thin layers of Silt, few gravel and cobbles, light brown

SAND - fine, some gravel, light brown

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/23/85 DR. JOHN CK MD W.P. dmh CHKD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.20

BORING 21

DATE DRILLED: December 20, 1985

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 100.7

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
100								2" Asphaltic Paving - 6" Concrete Slab
							SM	FILL - SILTY SAND - fine, pieces of brick and metal, brown
							SM	SILTY SAND - fine and medium, lenses of Silt, light brown
	5		17.8	92	<1			
95							SW	SAND - well graded, lenses of Silt, light brown
			8.4	95	<1			
	10							About 10% gravel.
90			4.1	104	<1			
	15							(BORING TERMINATED AT 14' DUE TO HEAVY CAVING)

NOTE: Water not encountered. Heavy caving below 10' (to 4' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/23/85 DR. JOHN CHKD W.P. dmh MD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.21

BORING 22

DATE DRILLED: December 24, 1985

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 99.9

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
								3" Asphaltic Paving - 4" Concrete Slab
			9.5	106	< 1		SM	SILTY SAND - fine, light brown
95	5		20.0	96	< 1		ML	SANDY SILT - light brown
			14.3	104	2		SM	SILTY SAND - fine, light brown
90	10							
85	15							

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/27/85 DR. JOHN lmh CHKD W.P. MD MD

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LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.22

BORING 23

DATE DRILLED: December 24, 1985

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 99.2

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
95	5		16.0	112	< 1	SM
			5.8	96	2	SW
90	10					SM
85	15					SP

3" Asphaltic Paving - 6" Concrete Slab

FILL - SILTY SAND - fine, light brown

SAND - well graded, lenses of Silty Sand, light brown

SILTY SAND - fine, few gravel, light brown

SAND - fine, few gravel, light brown

Patches of Silty Sand

NOTE: Water not encountered. Caving below 6' (to 3' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/27/85 DR. JOHN O.E. MD W.P. MD CHKD dmh

Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.23

BORING 24

DATE DRILLED: December 24, 1985

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 100.2

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
100			22.2	85	< 1	SM
95	5		32.0	86	< 1	
			9.5	91	3	SP
90	10		6.3	110	10	
	15					

2" Asphaltic Paving - 4" Concrete Slab
SILTY SAND - fine, light brown

Layers of Sandy Silt

SAND - fine, some gravel, few cobbles (to 6" in size), light brown
Patches of Silty Sand

NOTE: Water not encountered. Caving from 7' to 9' (to 3' in diameter) and below 10' (to 4' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

JOB A-85399 DATE 12/27/85 DR. JOHN O.E. W.P. CHKD

dmh

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Form 123

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.24

INVESTIGATION IN 1986
(LEROY CRANDALL PROJECT NO. ADE-86161)

BORING 1

DATE DRILLED: September 4, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 237*

Elevation (ft.)	Depth (ft.)	"N" Value Std. Pen. Test	Moisture (% of dry wt.)	Dry Density (lbs./cu. ft.)	Drive Energy (ft.-kips/ft.)	Sample Loc.		
235			19.9	85	2		SM	FILL - SILTY SAND - fine, few Gravel, pieces of asphaltic paving and brick, brownish grey
							SM	SILTY SAND - fine, few Gravel, brownish grey
	5		16.9	102	3		ML	CLAYEY SILT - brownish grey
230			2.9	106	3		SP	SAND - fine, few Gravel, light greyish brown
	10		2.3	118	8			Fine to coarse
225			19.3	98	8			Fine, lenses of Clayey Silt
	15							
220			4.2	117	8			
	20							Lenses of Sandy Silt
215			5.0	116	10			
	25							
210			3.9	117	20			
	30							
205			4.0	119	34			Fine to coarse, about 10% Gravel and Cobbles
	35							
200			3.4	107	8			
	40							

*Elevations refer to datum of reference composite topographic and utilities plan; see Plate 1.

NOTE: Water not encountered. Slight caving below 6' (to 3' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 2

DATE DRILLED: September 4, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 236

ELEVATION (ft)	DEPTH (ft)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-lbs/ft.)	SAMPLE LOC.		
235			4.9	99	5		SM	FILL - SILTY SAND - fine, some Gravel, pieces of concrete, brownish grey
			19.6	79	<1		SM	SILTY SAND - fine, lenses of Sand and Sandy Silt, brownish grey
	5							
230			24.3	89	<1			Slightly Clayey
			2.3	111	5		SP	SAND - fine to medium, few Gravel, light greyish brown
	10							
225			2.2	110	5			Fine
								Layer of Clayey Silt
	15		2.7	115	11			Some Cobbles
220								
	20		3.6	112	11			

NOTE: Water not encountered. Caving below 6' (to 3' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 3

DATE DRILLED: September 4, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 236

Elevation (ft.)	Depth (ft.)	"N" Value Std. Pen. Test	Moisture (% of dry wt.)	Dry Density (lbs./cu. ft.)	Drive Energy (ft.-lbs./ft.)	Sample Loc.		
235							SM	FILL - SILTY SAND - fine, some Gravel, brownish grey
			28.7	86	2		SM	SILTY SAND - fine, lenses of Sandy Silt and Sand, light greyish brown
			14.2	90	<1			Thin layer of Clayey Silt
230	5		12.4	106	2			
			6.9	96	5		SP	SAND - fine, few Gravel, light brownish grey
225	10		6.4	108	10			
								Fine to coarse, some Cobbles
220	15		2.8	118	13			
215	20		3.9	110	6			
	25		3.1	108	8			
210								Lenses of Silty Sand
205	30		2.4	110	11			
	35		4.4	103	4			
200								Fine
			2.6	-	10			
	40							

NOTE: Water not encountered. Caving below 14' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 4

DATE DRILLED: September 4, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 237

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
235			8.0	100	3		SM	FILL - SILTY SAND - fine, some Gravel, pieces of concrete, metal and brick, greyish brown
	5		51.6	71	<1		SM	SILTY SAND - fine, lenses of Sand, brownish grey Thin layers of Clayey Silt
230			43.4	74	<1			
	10		2.6	104	1		SP	SAND - fine, light greyish brown Few Gravel and Cobbles
225			3.5	107	13			
	15							
220			17.4	111	6			Lens of Sandy Silt
	20							

NOTE: Water not encountered. Raveling below 3' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 5

DATE DRILLED: May 27, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 236

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
235			9.5	109	2		SM	2" Asphaltic Paving FILL - SILTY SAND - fine, pieces of asphaltic paving and brick, greyish brown
			20.0	89	<1		SM	SILTY SAND - fine, brownish grey
	5							
230			3.5	99	<1		SP	SAND - fine to medium, light greyish brown
			3.2	102	3		SW	SAND - well graded, about 15% Gravel, light greyish brown
	10							
225			11.5	102	3			Lenses of Silt Some Cobbles
			3.7	110	8			
	15							
220								
			5.0	103	10		SP	SAND - fine, light greyish brown
	20							

NOTE: Water not encountered. Caving below 5' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 6

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			11.1	99	2		SM	1" Asphaltic Paving - 5" Concrete Slab FILL - SILTY SAND - fine, pieces of brick, greyish brown
			41.2	72	<1		ML	CLAYEY SILT - greyish brown
230	5		3.8	106	<1		SP	SAND - fine to medium, some Gravel and Cobbles, light greyish brown
			3.9	98	2		SW	SAND - well graded, some Gravel and Cobbles, light greyish brown
225	10		2.2	109	5			
220	15		5.5	98	8			
215	20		11.0	117	6		SP	SAND - fine, light greyish brown Thin layers of Silty Sand About 10% Gravel and Cobbles
210	25		5.1	96	8			
205	30		7.2	95	4			
200	35		3.8	106	4			Fine to medium
195	40		–	–	4			

NOTE: Water not encountered. Heavy caving from 4' to 12' (to 6' in diameter). Caving below 12' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 7

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			19.1	93	2		SM	2½" Asphaltic Paving – 4" Concrete Slab SILTY SAND – fine, brownish grey
			36.5	75	<1		ML	SANDY SILT – some Clay, traces or organic matter, brownish grey
230	5		5.9	100	2		SP	SAND – fine, few Gravel, light greyish brown
			4.5	106	11			Fine to medium
225	10						SW	SAND – well graded, about 20% Gravel, light greyish brown
			9.2	106	13			
220	15							Layer of Sandy Silt, light brown
			3.5	111	10		SP	SAND – fine, light greyish brown
215	20		2.5	123	10			

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 8

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
			14.4	91	<1	SM	3" Asphaltic Paving FILL - SILTY SAND - fine, pieces of brick, brownish grey
			45.0	74	<1	SM	SILTY SAND - fine, brownish grey Layer of Clayey Silt
230	5		9.2	97	<1	SP	SAND - fine, some Gravel and Cobbles, light greyish brown
			9.1	100	<1		
225	10		4.7	113	3		Some medium and coarse
220	15		2.7	104	6		Layer of Sandy Silt
215	20		2.5	102	8		
210	25						

NOTE: Water not encountered. Caving below 7' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 9

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 234

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
							SM	2" Asphaltic Paving - 4" Concrete Slab FILL - SILTY SAND - fine, light brown
			8.2	97	<1		SM	SILTY SAND - fine, brownish grey
230							ML	SANDY SILT - some Clay, brownish grey
			16.2	110	<1			
	5						SM	SILTY SAND - fine, brownish grey
			6.4	105	6			
							SP	SAND - fine, few Gravel, light greyish brown
225			3.4	106	6			Some medium and coarse
	10							
								Some Gravel and Cobbles
220			6.3	103	11			
	15							
215								
			13.2	110	3		SM	SILTY SAND - fine, light brown
	20							

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 10

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 236

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
235			15.4	82	<1		SM	12" Railroad Gravel SILTY SAND - fine, brownish grey
			17.4	102	<1			Lenses of Sandy Silt
230	5		9.5	107	2			
			1.9	107	8		SP	SAND - fine to medium, some Gravel and Cobbles, light greyish brown About 10% Gravel and Cobbles
225	10							
			2.6	115	14		SW	SAND - well graded, about 10% Gravel and Cobbles, light greyish brown
220	15							Thin layers of Silty Sand
			12.2	118	11			
215	20						ML	CLAYEY SILT - some Sand, light brown
			17.7	110	8		SP	SAND - fine, light greyish brown
210	25							Few Gravel
			2.7	124	12		SW	SAND - well graded, few Gravel, light greyish brown
205	30						SP	SAND - fine, light greyish brown
			6.6	105	12			
200	35						SW	SAND - well graded, about 20% Gravel and Cobbles (to 6" in size), light greyish brown Layer of fine Sand
	40		3.6	122	18			

NOTE: Water not encountered. Slight caving and raveling below 34' to (3' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 11

DATE DRILLED: May 23, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 233

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
230	0		11.8	105	2		SM	FILL - SILTY SAND - fine, pieces of brick, brownish grey
							SM	SILTY SAND - fine, brownish grey
			27.6	90	<1		ML	CLAYEY SILT - brownish grey
	5		2.3	95	2		SP	SAND - fine to medium, light greyish brown
225			6.9	102	5		SW	SAND - well graded, about 10% Gravel and Cobbles, light greyish brown
	10		27.4	93	8			Layer of Clayey Silt
220								
	15		2.8	102	8		SP	SAND - fine, few Gravel and Cobbles, light greyish brown
215								
	20		2.7	104	8			Fine to medium
210								Thin layer of Clayey Silt
	25		6.5	103	10			
205								
	30		3.8	109	5			
200								
	35		3.9	108	8			
195								
	40							

(BORING TERMINATED AT A DEPTH OF 36' DUE TO CAVING)

NOTE: Water not encountered. Heavy caving from 8' to 14' (to 4' in diameter), caving below 14'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 12

DATE DRILLED: May 23, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 233

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-lbs./ft.)	SAMPLE LOC.		
							SM	FILL - SILTY SAND - fine, pieces of brick, brownish grey
230			7.7	96	<1		SM	SILTY SAND - fine, brownish grey
	5		37.1	79	<1			Lenses of Clayey Silt
			10.1	99	<1		SP	SAND - fine to medium, few Gravel, light greyish brown
225			3.2	113	2			
	10							
			4.3	113	6			Few Cobbles
220								
	15							
			6.4	103	8			
215								
	20							Some coarse Sand
			3.3	105	8			
210								
	25							

NOTE: Water not encountered. Raveling below 7'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 13

DATE DRILLED: May 23, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 233

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
230	0		12.8	103	3		SM	FILL - SILTY SAND - fine, pieces of brick, brownish grey
			3.2	87	<1		SP	SAND - fine, light greyish brown
	5		6.0	98	<1			Thin layers of Clayey Silt
225			3.7	103	5			About 10% Gravel and Cobbles
	10		2.0	99	8			
220			5.6	96	8			Lenses of Clayey Silt
	15							Some medium and coarse
215			17.9	112	8			Lenses of Silty Sand
	20							
210								Lenses of Clayey Silt
	25		18.2	112	6			
205								
			5.4	93	6			
	30							
200								
			4.7	97	4			
	35							
195								Some medium and coarse
	40		17.5	107	4			

NOTE: Water not encountered. Caving below 2' (to 3' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

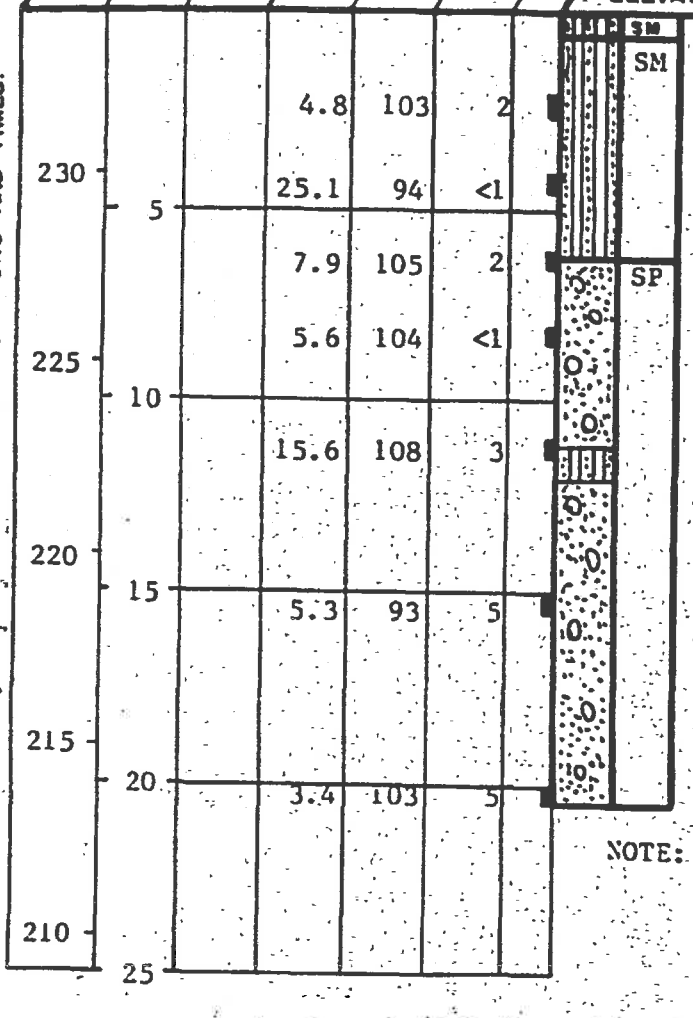
LeROY CRANDALL AND ASSOCIATES

BORING 14

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 234



FILL - SILTY SAND - fine, pieces of paper, brown

SILTY SAND - fine, brownish grey

Thin layers of Clayey Silt

SAND - fine, some Gravel and Cobbles, light greyish brown

Layer of Silty Sand

NOTE: Water not encountered. Caving below 6' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 15

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			11.9	97	2		SM	SILTY SAND - fine, brownish grey
			14.9	109	2		ML	SANDY SILT - some Clay, light brownish grey
230	5		1.9	105	8		SP	SAND - fine to medium, light greyish brown
225	10		5.2	104	8			Some coarse
			1.9	104	8		SW	Layer of Sandy Silt, light brown SAND - well graded, about 10% Gravel and Cobbles, light greyish brown
220	15							
215	20		3.4	104	11			

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 16

DATE DRILLED: May 31, 1986

EQUIPMENT USED: 16"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
		11.7	111	8		SM	FILL - SILTY SAND - fine, some Gravel, pieces of brick and concrete, brownish grey
230	5	9.8	114	10			
		8.2	115	8			Pieces of asphaltic paving
							Some petroleum odor
225	10	8.4	116	6			
		2.6	124	13		SP	SAND - fine, some medium and coarse, few Gravel, petroleum odor, light greyish brown
220	15						Few Cobbles
		3.0	110	6			
215	20						

NOTE: Water not encountered. Slight raveling below 13'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 17

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 234

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			7.1	88	<1		SM	FILL - SILTY SAND - fine, pieces of brick, brownish grey
			7.2	98	<1		SM	SILTY SAND - fine, brownish grey Layer of Clayey Silt
230	5		45.5	72	<1			
			2.4	104	2		SP	SAND - fine, some medium and coarse, few Gravel, light greyish brown Few Cobbles
225	10		1.7	114	5			
220	15		2.1	105	8		SW	SAND - well graded, some Gravel and Cobbles, Light greyish brown
215	20		3.0	111	6		SP	SAND - fine, some Gravel, light greyish brown

NOTE: Water not encountered. Caving below 6' (to 2½' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 18

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			13.4	95	2		SM	3" Asphaltic Paving FILL - SILTY SAND - fine, light brown
							SM	SILTY SAND - fine, brownish grey
230	5		11.0	101	1			
			19.7	102	3		ML	SANDY SILT - brownish grey
							SP	SAND - fine to medium, few Gravel, light greyish brown
225	10		3.7	97	3			
			9.5	115	10			
220	15							
			8.9	116	13		SM	SILTY SAND - fine, light brown
215	20						SW	SAND - well graded, few Gravel, light greyish brown

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 19

DATE DRILLED: September 5, 1986

EQUIPMENT USED: 18"-Diameter Bucket

ELEVATION: 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOG	
			7.1	98	<1	SM	5" Asphaltic Paving FILL - SILTY SAND - fine, few Gravel, pieces of brick, greyish brown
			27.3	82	<1	ML	CLAYEY SILT - some Sand, greyish brown
230	5		21.3	99	1	SP	SAND - fine, few Gravel, light brownish grey
			2.6	103	5		
225	10		1.9	109	5		
220	15		26.5	97	2		Lenses of Silt
215	20		1.9	116	6		Fine to coarse

NOTE: Water not encountered. Slight raveling below 3'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

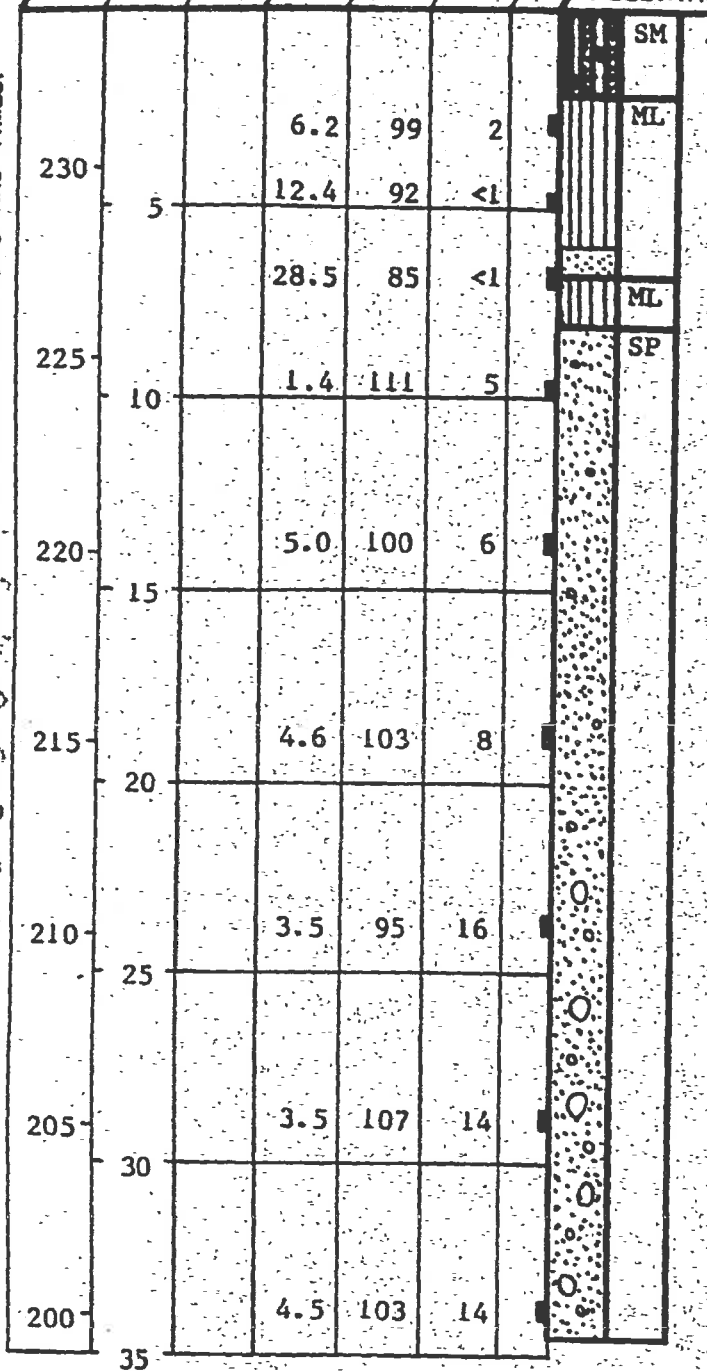
LeROY CRANDALL AND ASSOCIATES

BORING 20

DATE DRILLED: September 5, 1986

EQUIPMENT USED: 18"-Diameter Bucket

ELEVATION 234



FILL - SILTY SAND - fine, few Gravel, pieces of wood and asphaltic paving, greyish brown

SANDY SILT - greyish brown

Some Clay

Layer of Sand

CLAYEY SILT - greyish brown

SAND - fine to coarse, few Gravel and Cobbles, light greyish brown

Fine

Lenses of Clayey Silt

Fine to medium

Lens of Silty Clay

(BORING TERMINATED AT A DEPTH OF 34½' DUE TO HEAVY CAVING BELOW 30')

NOTE: Water not encountered. Slight raveling from 2' to 30'. Heavy caving below 30'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 21

DATE DRILLED: May 24, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 232

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
230			16.2	99	<1		SM
	5		19.4	99	<1		SM
225			4.1	92	3		SP
	10		3.0	108	5		
220			5.3	97	5		
	15		3.3	108	5		
215							
	20		3.5	94	5		
210							
	25						

FILL - SILTY SAND - fine, few Gravel, pieces of wood, brownish grey

SILTY SAND - fine, brownish grey

Thin layer of Clayey Silt

SAND - fine, some medium and coarse, few Gravel, light greyish brown

NOTE: Water not encountered. Caving below 6' (to 2' in diameter).

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 22

DATE DRILLED: September 9, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 232

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
230	0							8" Asphaltic Paving - 4" Silt and Gravel
			14.9	97	<1		ML	SANDY SILT - greyish brown
			9.1	107	<1		SP	SAND - fine, light greyish brown Layers of Clayey Silt
225	5		10.6	91	<1			
	10		2.3	103	6		SW	SAND - well graded, few Gravel and Cobbles, light greyish brown
220								
	15		2.9	118	5		SP	SAND - fine, light greyish brown
215								
	20		21.5	101	8			Layer of Clayey Silt

NOTE: Water not encountered. Slight caving below 6½'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

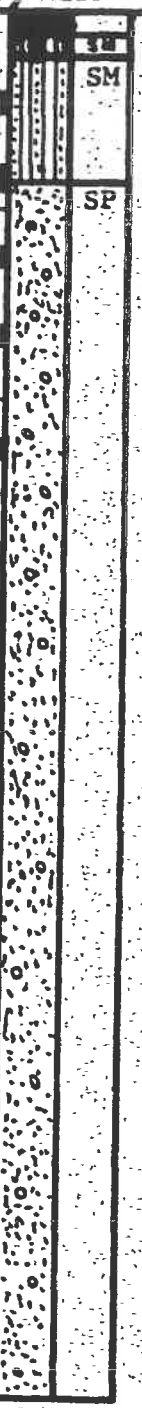
BORING 23

DATE DRILLED: May 31, 1986

EQUIPMENT USED: 16"-Diameter Bucket

ELEVATION 232

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
230			7.1	89	<1	
	5		22.9	73	<1	
225			19.7	101	<1	
			18.4	102	5	
	10					
220			14.2	113	5	
	15		3.6	102	5	
215						
	20		7.9	89	5	
210						
	25		2.8	115	6	
205						
	30		2.7	122	34	
200						
	35		3.0	114	34	
195						
	40					



5" Asphaltic Paving
FILL - SILTY SAND - fine, brownish grey
SILTY SAND - fine, brownish grey
Thin layer of Sand

Thin layer of Clayey Silt
SAND - fine, thin layers of Clayey Silt, light brownish grey

Some medium and coarse

Some Gravel

Lenses of Silt

(BORING TERMINATED AT A DEPTH OF 36' DUE TO HEAVY CAVING BELOW 30')

NOTE: Water not encountered. Raveling from 5' to 30'. Heavy caving below 30'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 24

DATE DRILLED: May 31, 1986

EQUIPMENT USED: 16"-Diameter Bucket

ELEVATION 232

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
230			13.9	107	<1	SM
	5		16.3	100	<1	
225			1.2	103	3	SP
	10		1.8	105	14	
220						ML
			32.2	90	<1	
	15					SP
215						
			5.2	104	6	
	20					

9" Asphaltic Paving

FILL - SILTY SAND - fine, some Clay, pieces of brick, concrete and asphaltic paving, brownish grey

SAND - fine, few Gravel, light greyish brown

Some medium and coarse

CLAYEY SILT - greyish brown

SAND - fine, few Gravel, light greyish brown

Some medium and coarse

NOTE: Water not encountered. Slight raveling below 5'.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE A-1.24

BORING 25

DATE DRILLED: September 9, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 238

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
235	0		8.2	113	5	SM
			6.1	100	2	SM
	5		6.3	98	< 1	
230						
	10					
225						
	15					

8" Asphaltic Paving

FILL - SILTY SAND - fine, pieces of brick, greyish brown

SILTY SAND - fine, few Gravel, greyish brown

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 26

DATE DRILLED: May 27, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
			3.5	99	8	SP
			4.0	93	5	
230	5		2.8	97	5	
225	10					
220	15					

1" Asphaltic Paving
FILL - SILTY SAND - fine, light brown
SAND - fine, light greyish brown

Lenses of Silty Sand

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 27

DATE DRILLED: May 27, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 234

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
			2.3	111	8		SM — 6" Gravel SILTY SAND - fine, brownish grey
							SP — SAND - fine, light greyish brown
230			31.7	80	<1		ML — CLAYEY SILT - some organic matter, brownish grey
	5						SP — SAND - fine, light greyish brown
			2.3	104	6		
225							
	10						
220							
	15						

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 28

DATE DRILLED: May 27, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
			7.8	103	2		SM	SILTY SAND - fine, brownish grey
			22.0	87	<1			
230	5		3.4	105	<1		SP	SAND - fine, light greyish brown
225	10							
220	15							

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 29

DATE DRILLED: May 27, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION: 237

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
235	0		7.2	104	1	SM
			5.8	97	1	
	5		5.5	99	2	
230						
	10					
225						
	15					

2" Asphaltic Paving - 2" Base Course

FILL - SILTY SAND - fine, brownish grey

SILTY SAND - fine, brownish grey

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 30

DATE DRILLED: May 27, 1986

EQUIPMENT USED: 24"-Diameter Bucket

ELEVATION 235

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.
			10.5	117	8	SM
			13.7	85	1	SM
230	5		11.4	99	2	
225	10					
220	15					

FILL - SILTY SAND - fine, lenses of Sandy Silt, pieces of asphaltic paving, brick and concrete, brownish grey

SILTY SAND - fine, brownish grey

Layers of Sand, light greyish brown

NOTE: Water not encountered. No caving.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 31

DATE DRILLED: June 18, 1987

EQUIPMENT USED: 5"-Diameter Rotary Wash

ELEVATION 233

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
230	0		17.5	95	2		SM	FILL - SILTY SAND - fine, some Gravel, brownish grey
			2.7	109	4		ML	CLAYEY SILT - brownish grey
225	5		3.2	106	7		SP	SAND - fine, some Gravel and Cobbles, light greyish brown
			4.0	119	14			
220	10		14.6	113	12		SW	SAND - well graded, some Gravel and Cobbles, light greyish brown
			12.9	119	12			
215	15		8.0	93	13		SP	SAND - fine, some Gravel and Cobbles, light greyish brown
			8.2	123	16			
210	20		5.3	106	17			
			15.3	112	10			Layer of Sandy Silt
205	25		20.4	106	21			Less Gravel
200	30		17.6	108	36			
195	35		12.1	113	19			Fine to medium
	40							

(CONTINUED ON FOLLOWING PLATE)

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING 31 (CONTINUED)

DATE DRILLED: June 18, 1987

EQUIPMENT USED: 5"-Diameter Rotary Wash

ELEVATION (ft.)	DEPTH (ft.)	"N" VALUE STD. PEN. TEST	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
190	45		16.1	115	33			Large amount of Gravel
			14.0	122	60			
185	50		19.2	110	45			
180	55		17.9	114	51			
175	60		12.8	117	60		SW	SAND - well gradded, some Gravel and Cobbles, light greyish brown
170	65		17.3	112	60		SP	SAND - fine, few Gravel, light greyish brown
165	70		18.6	109	54			
160	75		17.1	94	36			
155	80							

NOTE: Drilling mud used in drilling process. Water level not established. Installed 2" diameter PVC pipe to a depth of 75' for downhole seismic survey. Annular space around outside of pipe backfilled with pea gravel.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

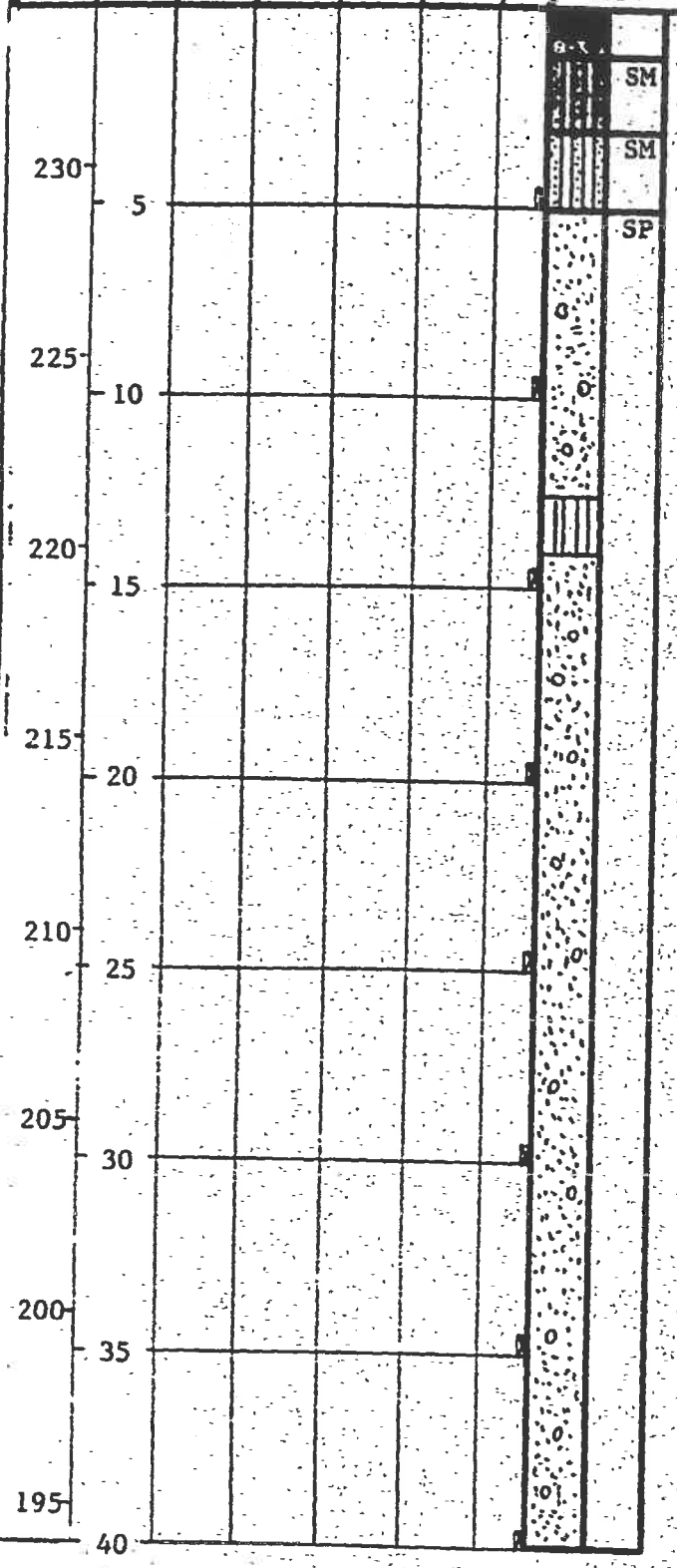
PLATE A-1.31b

BORING C-1

DATE DRILLED: June 4, 1986

EQUIPMENT USED: 20"- Diameter Bucket

ELEVATION 234



6" Asphaltic Paving - 6" Base Course

FILL - SILTY SAND - fine, pieces of brick, brownish grey

SILTY SAND - fine, lenses of Clayey Silt, light greyish brown

SAND - fine to medium, light greyish brown

Some Gravel

Layer of Clayey Silt, dark brown

Fine to coarse

Layer of Sandy Silt, dark brown

NOTE: Water not encountered. Slight caving below 15'. No hydrocarbon odor or staining.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

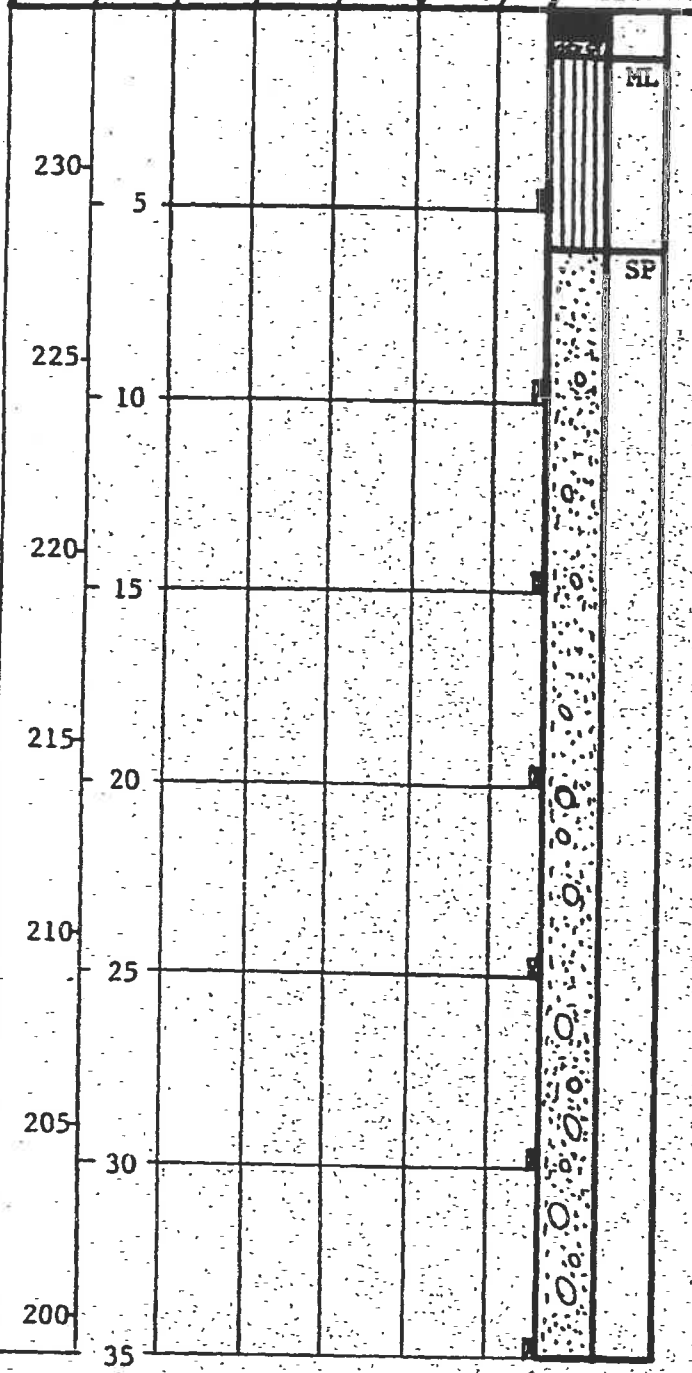
LeROY CRANDALL AND ASSOCIATES

BORING C-2

DATE DRILLED: June 4, 1986

EQUIPMENT USED: 20"-Diameter Bucket

ELEVATION 234



6" Asphaltic Paving - 6" Base Course

SANDY SILT - greyish brown

SAND - fine to course, light greyish brown

Some Gravel

Layer of Clayey Silt

Some Cobbles

NOTE: Water not encountered. Slight raveling from 7' to 12' and 20' to 30'. No hydrocarbon odor or staining.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

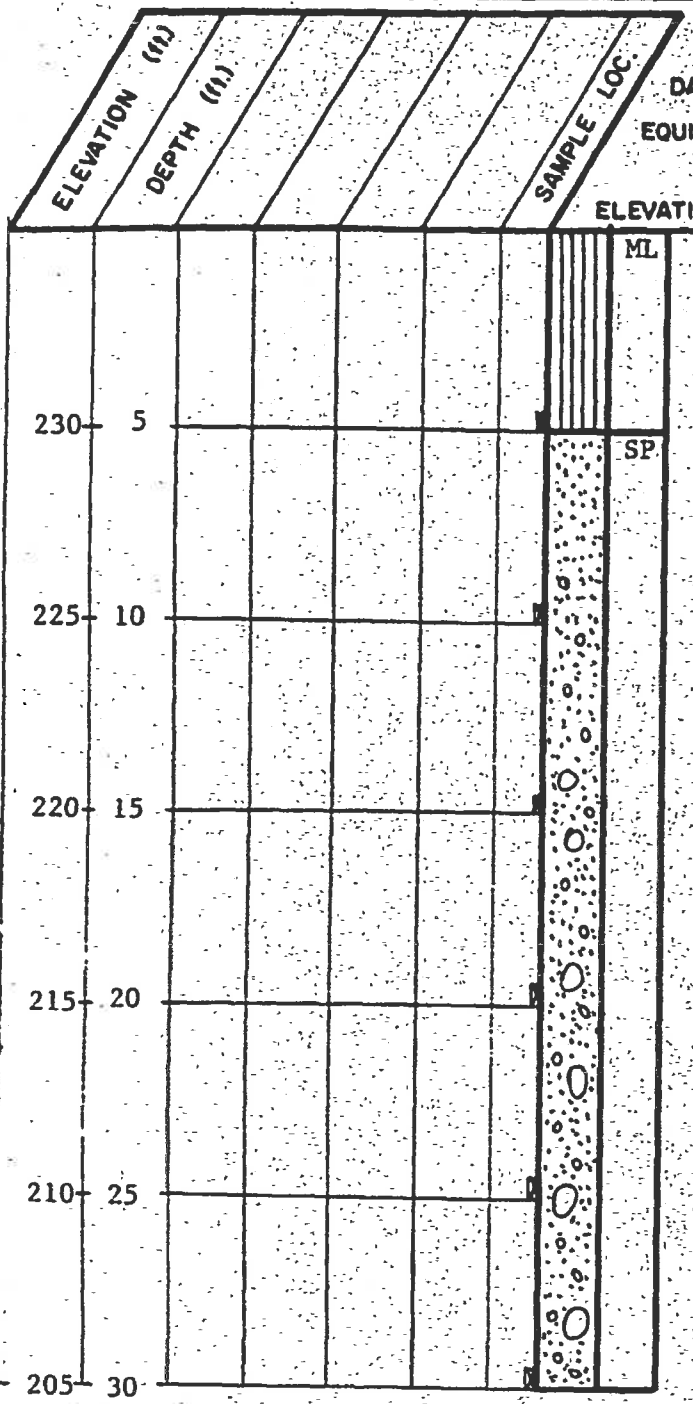
LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING C-3

DATE DRILLED: June 4, 1986

EQUIPMENT USED: 20"-Diameter Bucket



SANDY SILT - greyish brown

SAND - fine to coarse, light greyish brown

Some Gravel

Few Cobbles

Fine to medium

NOTE: Water not encountered. No caving. No hydrocarbon odor or staining.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

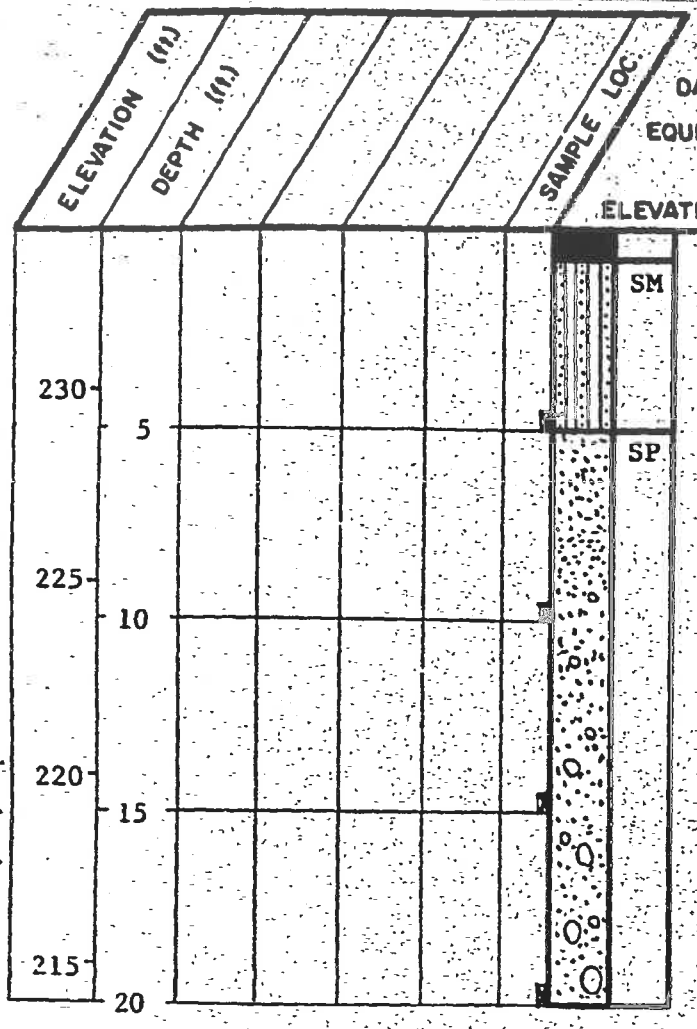
LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

BORING C-4

DATE DRILLED: June 4, 1986

EQUIPMENT USED: 20"-Diameter Bucket



6" Asphaltic Paving

SILTY SAND - fine, to medium, greyish brown

SAND - fine to medium, light greyish brown

Fine to coarse, about 20% Gravel

Few Cobbles

NOTE: Water not encountered. Slight caving from 9' to 13' and below 15'. No hydrocarbon odor or staining.

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

INVESTIGATION IN 1987
(LEROY CRANDALL PROJECT NO. A-86161B)

JOB A-86161-B DATE 1/6/88 F.T. BW DR. lp O.E. BW RW W.P. lp CHKD AS

Note : The log of subsurface conditions shown hereon applies only at the specific boring location and at the date indicated. It is not warranted to be representative of subsurface conditions at other locations and times.

BORING A

DATE DRILLED: December 24, 1987
EQUIPMENT USED: 18" - Diameter Bucket

ELEVATION 230.8

ELEVATION	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
230		5.3	-	10		SM FILL - SILTY SAND - fine, brown
						Fine to medium
	5	5.1	105	1		Few Gravel
225						
		6.5	112	1		
	10					(BORING TERMINATED DUE TO CONCRETE OBSTRUCTION)
220						
	15					

NOTE: Water not encountered. Raveling below 7-1/2'.

BORING B

DATE DRILLED: December 24, 1987
EQUIPMENT USED: 18" - Diameter Bucket

ELEVATION 230.4

ELEVATION	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.	
230		6.2	111	10		SM FILL - SILTY SAND - fine to medium, few Gravel, brown
						Large Cobble (about 12" in size)
						Some Gravel and Cobbles
	5	7.1	116	1		Greyish brown
225						
		5.4	107	1		Fine, brown
		8.7	106	1		Fine to medium
220	10					(BORING TERMINATED DUE TO CONCRETE OBSTRUCTION)
	15					

NOTE: Water not encountered. Raveling below 4'.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE 2 A

JOB A-86161-B DATE 1/6/88 F.T. BW DR. lp O.E. BW W.P. lp CHKD AS

Note : The log of subsurface conditions shown hereon applies only at the specific boring location and at the date indicated. It is not warranted to be representative of subsurface conditions at other locations and times.

BORING C

DATE DRILLED: December 24, 1987
EQUIPMENT USED: 18" - Diameter Bucket to 6'
24" - Diameter Bucket below 6'
ELEVATION 231.3

ELEVATION	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
230	0	31.3	82	1		ML	FILL - SANDY SILT - dark brown
						SM	SILTY SAND - fine, layers of Sandy and Clayey Silt, lenses of Sand, brown
	5	3.9	102	3		SW	SAND - well graded, few Gravel and Cobbles, brown and light brown
225							Large amount of Cobbles
		3.6	105	7		SP	SAND - fine, some Gravel and Cobbles, light greyish brown
	10						About 15% Gravel and Cobbles
220		3.4	106	5			
	15						

NOTE: Water not encountered. Raveling from 3-1/2' to 6-1/2'.

BORING D

DATE DRILLED: December 24, 1987
EQUIPMENT USED: 24" - Diameter Bucket

ELEVATION 233.1

ELEVATION	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
	0	6.4	97	5		CL	SILTY CLAY - dark greyish brown
230						SP	SAND - fine to medium, few Gravel, light brown
	5	3.7	103	2		SW	SAND - well graded, few Gravel, light greyish brown
		3.1	104	5			
225	10						
220							
	15						

NOTE: Water not encountered. Raveling from 2' to 5'.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

PLATE 2B

JOB A-86161-B DATE 1/6/88 F.T. AKH DR. lp O.E. BW RW W.P. lp CHKD

Note : The log of subsurface conditions shown hereon applies only at the specific boring location and at the date indicated. It is not warranted to be representative of subsurface conditions at other locations and times.

BORING E

DATE DRILLED: December 29, 1987
EQUIPMENT USED: 18" - Diameter Bucket

ELEVATION 233.1

ELEVATION	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
230	0	14.6	104	5		SM	FILL - SILTY SAND - fine, dark brown
	5	5.9	109	1			Fine to medium, layers of Sand, brown
225		6.0	108	2			Some Cobbles, pieces of brick
	10						(BORING TERMINATED DUE TO CONCRETE OBSTRUCTION)
220							
	15						

NOTE: Water not encountered. No caving.

BORING F

DATE DRILLED: December 29, 1987
EQUIPMENT USED: 18" - Diameter Bucket

ELEVATION 229.1

ELEVATION	DEPTH (ft.)	MOISTURE (% of dry wt.)	DRY DENSITY (lbs./cu. ft.)	DRIVE ENERGY (ft.-kips/ft.)	SAMPLE LOC.		
225	0	2.2	107	3		SP	SAND (POSSIBLY FILL) - fine, light brown
	5	5.4	110	2			About 10% Gravel and Cobbles
		2.5	104	5		SP	Fine to medium SAND - fine to medium, about 10% Gravel and Cobbles, lenses of Silty Sand, light brown
220							Light grey
	10	3.4	107	5			Fine, few Gravel and Cobbles, light greyish brown
215		2.4	105	10			About 15% Gravel
	15						

NOTE: Water not encountered. Caving and raveling from 2' to 5'.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

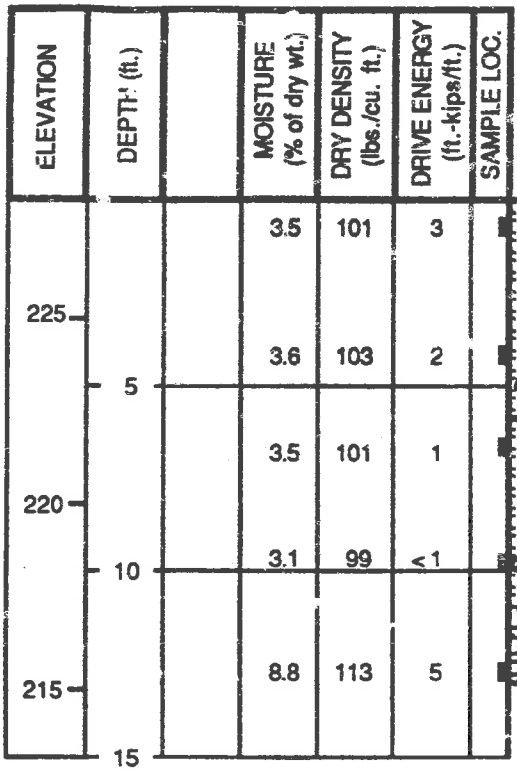
PLATE 2 C

JOB A-86161-B DATE 1/6/88 F.T. AKH DR. lp O.E. BW RW W.P. lp CHKD AS

BORING G

DATE DRILLED: December 29, 1987
EQUIPMENT USED: 18" - Diameter Bucket

ELEVATION 228.4



SAND (POSSIBLY FILL) - fine, few Gravel, light brown

Large amount of Cobbles

SAND - fine to medium, light greyish brown

Fine, few Gravel and Cobbles

Layers of Silty Sand

Brown

NOTE: Water not encountered. Caving and raveling from 1-1/2' to 6'.

Note : The log of subsurface conditions shown hereon applies only at the specific boring location and at the date indicated. It is not warranted to be representative of subsurface conditions at other locations and times.

LOG OF BORING

LeROY CRANDALL AND ASSOCIATES

APPENDIX B – PREVIOUS CITY APPROVAL LETTER

LOS ANGELES CITY DEPARTMENT BUILDING SAFETY (1987),

"LADBS APPROVAL LETTER FOR REPORT OF GEOTECHNICAL INVESTIGATION" DATED OCTOBER 27, 1987

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
411 CITY HALL
LOS ANGELES, CA 90012-4869

FRANK V. KROEGER
GENERAL MANAGER

WARREN V. O'BRIEN
EXECUTIVE OFFICER

DEPUTY GENERAL MANAGERS

K. ROBERT AYERS
ROBERT J. PICOTT
EARL SCHWARTZ
TIMOTHY TAYLOR

October 27, 1987

Los Angeles Times
Times Mirror Square
Los Angeles, CA 90053

TRACT: Thomas Leahys Subdivision of the 8th Street
LOT: 7-18, Block 6
LOCATION: 2000 EAST 8th STREET

Geological and Soil Engineering Reports No. ADE-86161, dated July 24, 1987 and October 21, 1987, prepared by LeRoy Crandall and Associates.

The above report concerning the proposed construction of a newspaper printing plant has been reviewed by the Grading Division of the Department of Building and Safety. According to the report the upper 5 to 6 feet of soil and fill are loose and not suitable for use as foundation support. The presses will be supported on drilled piles. The site is underlain by alluvium consisting primarily of silts and sands. The report states that a basement was recently filled with compacted soil under the observation and testing by the authors. However, no date of compaction report or Department letter of approval have been included.

The existence of petroleum odor was encountered in some borings indicating the presence of hydrocarbons, including referred to borings performed under other investigations.

The report is acceptable, provided the following conditions are complied with during site development:

1. The geologist and soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans which clearly indicates that the geologist and soils engineer have reviewed the plans prepared by the design engineer and that the plans include the recommendations contained in their reports.

2. All graded slopes shall be no steeper than 2:1.

3. All recommendations of the report which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

4. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit.

5. The geologist and soil engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading.

6. All man-made fill shall be compacted to a minimum of 90 percent relative compaction as required by Code Section 91.7006(d).

7. Both the geologist and the soils engineer shall inspect and approve all fill and subdrain placement areas prior to placing fill. Both consultants shall include in their final reports a certification of the adequacy of the foundation material to support the fill without undue settlement and/or consolidation.

8. All roof and pad drainage shall be conducted to the street in an acceptable manner.

9. All loose foundation excavation material shall be removed prior to commencement of framing. Slopes disturbed by construction activities shall be restored.

10. All friction pile or caisson drilling and installation shall be performed under the continuous inspection and approval of the Foundation Engineer.

11. The building design shall incorporate provisions for anticipated differential settlements in excess of one-fourth inch.

12. Special provisions such as flexible or swing joints shall be made for buried utilities and drain lines to allow for differential vertical displacement.

13. The department requires that drilled holes be pumped dry prior to placing concrete for cast-in-place piles in the event that water is present. If drilling mud is used, as recommended for drilling piles, an addendum report shall be submitted to the Department for approval, presenting the procedure for placing the concrete in water, prior to its use in the field. The procedure shall include methods that will lead to the prevention of segregation in the concrete and mixture with the drilling liquid and for a concrete strength that is 1000 p.s.i. above the initial job specification p.s.i.

14. If drilling mud is used in drilling piles no concrete shall be placed prior to notifying the City Building Inspector.

15. Existing fill shall not be used for support of footings, floor slabs or proposed fill.

16. Prior to the placing of compacted fill, a representative of the consulting Soils Engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the City Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the City Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be filed with the Department upon completion of the work. The fill shall be placed under the inspection and approval of the Foundation Engineer. A compaction report shall be submitted to the Department upon completion of the compaction.

17. All soil containing hydrocarbons shall be excavated, hauled and wasted from the site as recommended. The soil engineer shall inspect the excavations to determine and approve that all hydrocarbons have been removed.

18. A supplemental report shall be submitted to the Grading Division containing recommendations for shoring, underpinning, and sequence of construction in the event that any excavation would remove lateral support to the public way or adjacent structures. A plot plan showing the type, number of stories, and location or absence of any structures adjacent to the excavation shall be part of the excavation plans.

JAMES D. KAPRIELIAN
Chief of Grading Division

THEODORE D. NICKERSON
Engineering Geologist

BURR E. PECK
Soils Engineer

TDN/BEP:sav
TGRSGL102787A/3GR
(213) 485-2160

cc: LeRoy Crandall
M. J. Sodini
LA District Office

LOS ANGELES CITY DEPARTMENT BUILDING SAFETY (1988),

"LADBS APPROVAL LETTER FOR INTERIM REPORT OF COMPACTED FILL" DATED JANUARY 5, 1988

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

JANUARY 5, 1988

LOS ANGELES TIMES
TIMES MIRROR SQUARE
LOS ANGELES, CA 90052

INTERIM

TRACT: THOMAS LEAHY'S SUB. OF THE 8TH ST. PERMIT: 87LA79383

LOT(S): 7-18 BLK:6 DM #: 123B213

LOCATION: 2000 E. 8TH ST.

SUBJECT: PRIMARY STRUCTURAL FILL

Fill soil classification, per Table 29-B SILTY SAND/CLAY

Lots having compacted fill: 7-18 (PRODUCTION & MAINTENANCE BLDGS.)

Approval is granted for compacted fill constructed on the above lots as described in the compaction report No. B-87254, prepared by LEROY CRANDALL & ASSOC., dated 12-30-87.

Approval is limited to the area shown in the report and by the following requirements:

(A.) Compacted fill shall extend beyond the footings a minimum distance equal to the depth of fill below the footings.

(B.) Continuous footing bearing pressure for all structures shall not exceed a value of 3000 psf at 24 inches minimum, below approved compacted surface.

~~C. Isolated footing bearing pressure for all structure shall not exceed a value of _____ psf at _____ inches minimum, below approved compacted surface.~~

~~D. Dwelling foundations located partially or wholly upon compacted fill ground shall meet the requirements of Section 91.2907(i).~~

~~E. Building or structure footings shall be located a distance of one fifth (1/5) of the vertical height of the slope with a minimum of 5 feet and a maximum of 15 feet, measured horizontally from the slope surface to the lower edge of the footing per Code Section 91.2907(j).~~

(F.) The soil engineer shall inspect the footing excavations to determine that they are founded in the recommended strata before calling the Department for footing inspection.

~~G. Slope erosion control, planting, and irrigation of fill slopes, and run off control are required as per Code Sections 91.7007 and 91.7008.~~

H. _____

ARTHUR J. JOHNSON, JR.
Chief of Grading Division

cc: CRANDALL & ASSOC.
LA INSP-IMP

Jeffrey A. Moore
Grading Engineer
489-3435 - LA Office
989-8211 - VN Office

3 3 5 0 1 0 0 2 8 1

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY

GRADING INSPECTOR'S COMPACTION RECORD

LA 77383 — Permit Number
133-B-213 — Dist. Map Number
Board File Number

Tract THOMAS LEAHYS SUBD OF THE 8TH ST Lot(s) 7-18

Street Location 2000 E. 8TH ST

Hillside _____ Flat Hillside _____ Flatland X

1. Field Compaction Approved YES

2. Field Compaction Not Approved _____

_____

_____

_____

Fill Lot No.'s 7-18
(All lots not listed above are considered to be cut or natural.)

Buttress Fill Lot No.'s _____

Required retaining wall on Lot No.'s _____

Lot No.'s having fill over 100 ft. deep _____

_____, to be held until _____

Sub-drain termination Lot No.'s _____

Additional Remarks:

INTERIM REPORT, RECOMMEND APPROVAL

Inspector AR IMP Dist. LAG 5

B&S B-163 (R6.79)

Date 1-5-88

LOS ANGELES CITY DEPARTMENT BUILDING SAFETY (1988),
"LADBS CONDITIONAL APPROVAL FOR NON-STRUCTURAL FILL", LOG NO. 3023

B&S B-17 (R6/86)

City of Los Angeles
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District LA | Log No. 3023
ADDRESS APPROVED | Signature/Date

APPLICATION FOR REVIEW OF TECHNICAL REPORTS AND IMPORT-EXPORT ROUTES

INSTRUCTIONS

A. Address all communications to the Grading Division, Department of Building and Safety, Room 460A, City Hall, Los Angeles, California 90012-4869. Phone (Area Code 213) 485-3435.
B. Obtain address approval from the Department of Public Works prior to submittal. TDN-BL
C. Submit 2 copies (4 for fault study zone) of reports and 3 copies of application with items (1) through (10) completed.
D. Check should be made to the Department of Building and Safety. Note: Please Print

(1) LEGAL DESCRIPTION
Tract THOMAS LEAHYS SUBDIVISION of the SE STREET
Blk 6 Lots 6-18

(2) PROJECT ADDRESS 2000 E. 8TH ST.

(3) OWNER The Times Mirror Co.
Address Times Mirror Sq.
City L.A. Zip 90053
Phone (Daytime) 237-5841

(4) APPLICANT MARIA T LOPEZ
Address Los Angeles Times, MS
City L.A, CA
Phone (Daytime) 237-5841 zip 90053

(5) Report(s) Prepared by LEROY CRANDALL

(6) Report(s) Date(s) 1-14-88

(7) Status of project: ☐ Proposed ☒ Under Construction ☐ Storm Damage

(8) Previous site reports? YES If yes, give date(s) of report(s) and name of company(s) who prepared report(s).
7-24-87 & 10-21-87 PREPARED BY LEROY CRANDALL & ASSOC.

(9) Previous Department actions? YES If yes, please give dates and attach a copy to expedite processing.
Dates 10-27-87

(10) Signature of applicant Maria T Lopez Position Project & Maintenance Facilities Mgr.

(DEPARTMENT USE ONLY)

REVIEW REQUESTED & PROCESSING	FEES	REVIEW REQUESTED & PROCESSING	FEES
☐ Foundation Investigation		☐ Seismology report per 91.2305(d)	
☐ Soils Engineering		☐ Environmental Assessment	
☐ Geology		☐ Import-Export Route	
☐ Combined Soils Engr. & Geol.		☐ Division of Land	
☑ Supplemental FDN	82.00	Sub-total	82.00
☐ Combined Supplemental		One-Stop Surcharge	3.68
		TOTAL FEE	85.68

THE REPORT IS ☒ APPROVED WITH CONDITIONS ☐ NOT APPROVED

DEPARTMENT ACTION BY: _____ (For Geology) _____ (Date) Bun E Peck (For Soils & Foundation) 1/25/88 (Date)

☒ Conditions of Approval ☐ Reasons for Non-Approval ☐ See Attached letter ☒ Supplemental Sheet 2 Attached

(1) Due to uncertified fill remaining in place above the existing storm drain conduit the proposed fill may be approved only as a non-structural fill.

(2) Approval shall be obtained from the Department of Public Works for any construction or use of, including parking, within the storm drain easement.

(Continued Over)

(Cashier Use Only)

DEPARTMENT USE ONLY 4568 | DISTRIBUTION ☐ Owner ☐ Soil Engineer ☐ Geologist ☐ LA Plan Check ☐ VN ☐ WLA ☐ LA Inspection ☐ VN ☐ WLA ☐ BMI

Log No. 3023

Job Address 2000 E. 8th St.

(3) Conditions Nos. 1, 3, 4 on the attached "Supplemental Conditions for Foundation Investigation reports.

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY

SUPPLEMENTAL CONDITIONS FOR FOUNDATION INVESTIGATION REPORTS

1. A grading permit shall be obtained.

2. Existing uncertified fill shall not be used for support of footings, floor slab, or proposed fill.

3. No fill shall be placed until the City Grading Inspector has inspected and approved the bottom excavations.

4. The fill shall be placed under the inspection and approval of the Foundation Engineer. A compaction report shall be submitted to the Department upon completion of the compaction.

5. If import soils are used, no footings shall be poured until the Foundation Engineer has submitted a compaction report and inplace shear test data and settlement data to the Department and obtained approval.

6. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of the fill below the footings.

7. Prior to the issuance of any permit, the owner shall file a notarized Covenant and Agreement with the Office of the Los Angeles County Recorder and the Department regarding the proposed structure to be constructed on uncertified fill and shall agree to relieve the City of Los Angeles of any liability. (Note: The Agreement must be approved by the Grading Division prior to being recorded)

8. The building design shall incorporated provision for anticipated differential settlements in excess of one-fourth inch.

9. Special provisions such as flexible or swing joints shall be made for buried utilities and drain lines to allow for differential vertical displacement.

10. A supplemental report shall be submitted to the Grading Division containing recommendations for shoring, underpinning and sequence of construction if any excavation would remove the lateral support of the public way or adjacent structures.

11. Prior to isuance of any permit, the owner of the subject site shall record a notarized affidavit with the office of the Los Angeles County Recorder which will inform future owners of the subject site that the lateral support of a portion of the building footings on the adjoining property is provided by the subterranean walls of the building on the subject site.

12. Approval from the Department of Public Works shall be obtained for any excavation that would remove the lateral support of the public way.

13. All roof and pad drainage shall be conducted to the street in an acceptable manner.

14. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device.

15. The design of the subdrainage system required to prevent possible hydrostatic pressure behind retaining/basement walls shall be approved by the Soil Engineer prior to issuance of the building permit. Installation of the subdrainage system shall be inspected and approved by the Soil Engineer.

16. Basement excavations shall be performed under the continuous inspection and approval of the Foundation Engineer.

17. Installation of shoring, underpinning, and/or slot cutting excavations shall be performed under the continuous inspection and approval of the Foundation Engineer.

18. Slot cutting excavations shall be performed using the A,B,C, Method of slot cutting.

19. If the actual foundation design loads do not conform to the foundtion loads assumed in the report, the Foundation Engineer shall submit a supplementary report containing specific design recommendations for the heavier loads to the Department for review and approval prior to issuance of a permit.

20. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety.

21. The applicant is advised that the approval of this report does not waive the requirements of or compliance with Section 832 of the Civil Code of California for Rights of Coterminous Owners as to Excavations.

22. A copy of the foundation report and/or supplements and this approval letter shall be attached to the District Office and field set of plans. Submit one copy of the above foundation report and/or supplements to the Building Department Plan Checker prior to issuance of the permit.

23. All pile driving shall be performed under continuous inspection and approval of the Foundation Engineer. A log of pile driving shall be kept and a copy submitted to the Department along with written certification that the work supervised meets the conditions of the report. Such supervision does not waive the required inspection by the City Building Inspector.

24. All friction pile drilling and installation shall be performed under the continuous inspection and approval of the Foundation Engineer.

25. Driven pile capacities shall be verified by the provisions of Code Section 91.2802.

26. Pile and/or caisson foundation ties are required by Code Section 91.2312(j)3B. Exceptions and modification to this requirement are provided in Rule of General Application 662.

27. The building shall incorporated provision to safely accomodate the estimated lateral deflection of the top of the piles under the lateral design load as specified in the report.

28. Approval from the Research and Technical Services Division of the Building Bureau Department of Building and Safety, shall be obtained for the use of hollow auger piles.

29. Approval of the seismic response used for a dynamic analysis requires a separate review under 91.2312(d). Application should be made with the Grading Division for approval of the soils-geology-seismology report and the appropriate fees paid.

30. The installation and testing of tie-back anchors shall comply with the attached sheets titled "Requirements For Tieback Earth Anchors".

31. Provide a notarized letter from adjoining property owners allowing tie-back anchors on their property.

32. Prior to the pouring of concrete, a representative of the consulting Foundation Engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the City Building Inspector and the contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the City Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Department upon completion of the work.

33. Prior to excavation, an initial inspection shall be called at which time sequence of shoring, protection fences and dust and traffic control will be scheduled.

LOS ANGELES CITY DEPARTMENT BUILDING SAFETY (1988),

"LADBS APPROVAL LETTER FOR FINAL REPORT OF COMPACTED FILL" DATED AUGUST 14, 1989

CITY OF LOS ANGELES
CALIFORNIA

TOM BRADLEY
MAYOR

12693

8-14-89

LOS ANGELES TIMES
TIMES MIRROR SQUARE
LOS ANGELES, CA 90053

TRACT: THOMAS LEAHYS SUBD. OF 8TH ST. PERMIT: 87LA79383

LOT(S): 7-18 BLOCK C DM #: 123B213

LOCATION: 2000 E. 8TH ST.

SUBJECT: PRIMARY STRUCTURAL FILL

Fill soil classification, per Table 29-B SEE REPORT.

Lots having compacted fill: 7-18

Approval is granted for compacted fill constructed on the above lots as described in the compaction report No. B-87251, prepared by LEROY CRANDALL & ASSOC, dated 8-2-89.

Approval is limited to the area shown in the report and by the following requirements:

A. Compacted fill shall extend beyond the footings a minimum distance equal to the depth of fill below the footings.

B. Continuous footing bearing pressure for all structures shall not exceed a value of VARIABLE psf at VARIES inches minimum, below approved compacted surface.

C. Isolated footing bearing pressure for all structures shall not exceed a value of VARIABLE psf at VARIES inches minimum, below approved compacted surface.

D. Dwelling foundations located partially or wholly upon compacted fill ground shall meet the requirements of Section 91.2907(j).

E. Building or structure footings shall be located a distance of one-third (1/3) of the vertical height of the slope with a minimum of 5 feet and a maximum of 40 feet, measured horizontally from the slope surface to the lower edge of the footing per Code Section 91.2907(d).

F. The soil engineer shall inspect the footing excavations to determine that they are founded in the recommended strata before calling the Department for footing inspection.

G. Slope erosion control, planting, and irrigation of fill slopes, and run-off control are required as per Code Sections 91.7007 and 91.7008.

H. SEE REPORTS FOR ALLOWABLE BEARING VALUES FOR PILES, MAT, CONTINUOUS & SPREAD FOOTINGS. PARKING AREAS APPROVED FOR SLAB SUPPORT ONLY

JAMES D. KAPRIELIAN
Chief of Grading Division

cc: LEROY CRANDALL
LA INSP - REYES
FGRPSF

Grading Engineer
485-3435 - LA Office
989-8211 - VN Office

5870093014