REPORT FROM

OFFICE OF THE CITY ADMINISTRATIVE OFFICER

Date:	January 27, 2020	CAO File No.	0150-11370-0000
		Council File No.	16-1318-S1 16-1318
		Council District:	3

To: Municipal Facilities Committee

From: Richard H. Llewellyn, Jr., City Administrative Officer

Reference: Transmittal from the Department of General Services dated May 17, 2019

Subject: **PROPOSED DIRECT SALE OF THE PROPERTY LOCATED AT 18825 W. EDLEEN DRIVE, TARZANA, CA 91356 (APN 2176-026-904)**

RECOMMENDATIONS

That the City Council, subject to the approval of the Mayor:

1. DETERMINE that the property located at 18825 W. Edleen Drive, Tarzana, CA 91356 (APN 2176-026-904), in Council District 3, is no longer required for City use and that the public interest is best served by the direct sale of the Property;

2. ADOPT the accompanying Ordinance *(Attachment A)* from the City Attorney authorizing the "As Is and with all faults" sale of the property located at 18825 W. Edleen Drive, Tarzana, CA 91356 (APN 2176-026-904), including all stated Exceptions and Reservations, without notice of sale or advertisement of bids, to the Mountains Recreation and Conservation Authority for the negotiated sale price of $500,000;

3. REQUEST the City Attorney to prepare the purchase and sale agreement based on the terms specified in the Ordinance dated December 20, 2018, for the sale of the property located at 18825 W. Edleen Drive, Tarzana, CA 91356 (APN 2176-026-904);

4. INSTRUCT the Department of General Services, to complete the transactions outlined in the Ordinance dated December 20, 2018, process the necessary documentation to execute the sale, and deposit proceeds of $497,965, inclusive of City administrative fees, into the appropriate accounts, as directed by the Los Angeles Administrative Code and as approved to form by the City Attorney as follows:

Fund Name	Fund No/Dept	Account	Amount
General Fund	100/40	RSRC 514100	$254,068.94*
CD 3 Real Property Trust Fund	685	DRSRC 514100	$243,073.47
Residential Prop Maintenance Fund	553/40	CFD 4931	$822.59
		TOTAL	**$497,965**

**Includes $10,995.48 in City administrative fees*

5. DECLARE that the property located at 18825 W. Edleen Drive, Tarzana, CA 91356 (APN 2176-026-904) constitutes "exempt surplus land" for purposes of California Government Code Section 54221, based on the findings contained in this report.

6. AUTHORIZE the City Administrative Officer and Controller to make any necessary technical corrections to implement the intent of the Council and Mayor.

SUMMARY

The Department of General Services (GSD) requests authority for the direct sale of City-owned property located at 18825 W. Edleen Drive, Tarzana, CA 91356 (Property) in Council District 3 to the Mountains Recreation and Conservation Authority (MRCA) (Buyer) for $500,000. The Property is approximately 19,406 square feet, and was acquired by the City of Los Angeles (City) in 1994 pursuant to the settlement of the case entitled, *Ron Morhar, et al v. City of Los Angeles, et al*.

The Property has been vacant since the mid-1990s and is not being utilized by the City. The Property is located within a residential neighborhood in Tarzana in Council District 3 and abuts existing residential property on the north side of the parcel. A residential structure was located on the property until 1996 when the structure was demolished by the City as a result of earthquake damage sustained during the 1994 Northridge Earthquake. The MRCA intends to maintain this property as open space for the benefit of the neighborhood and to allow natural flora and fauna to thrive.

BACKGROUND

On November 22, 2016, Council District 3 introduced a Motion (Blumenfield – Englander) which declared six vacant parcels located at 18801, 18807, 18813, 18817, 18821 and 18825 W. Edleen Drive, Tarzana, CA 91356 as surplus properties and directed GSD to initiate the Surplus Property Process and to prepare the parcels for sale at public auction (C.F. 16-1318) *(Attachment A)*.

In March 2017, pursuant to Government Code Section 54220, and after City departments declined interest in the parcels, GSD offered the six surplus properties for sale to other governmental agencies, including Los Angeles County, Los Angeles Unified School District, California State Resources Agency, Los Angeles Metropolitan Transportation Authority, and the Santa Monica Mountains Conservancy (SMMC). In a correspondence dated April 4, 2017, SMMC exercised its first right of refusal to purchase the subject Property. In a later correspondence dated July 28, 2017, SMMC withdrew its first right of refusal, with the understanding that the MRCA would be the designated agency to purchase the Property from the City through a direct sale process.

Determining that the City had no immediate or future plans for the Property, the Council later approved a Motion (Blumenfield – Rodriguez) *(Attachment B)* on October 26, 2018 (C.F. 16-1318-S1). The motion declared the Property a surplus asset and directed GSD to initiate the direct sale of the single Property to the MRCA. Beginning with the initial motion in November 2016, GSD and other relevant City departments have worked to review and complete actions to carry out the intent of the Council and towards completion of the sale to MRCA.

Planning Zoning and Determination - In a letter dated January 2, 2018, the Planning Department advised that the sale of the property for use as general open space, would be consistent with the general intent of the City's General Plan, and the Encino-Tarzana Community Plan. In the event that the MRCA purchases the property with the intent of establishing either long-term open space, or a recreation facility, future coordination may be needed with the Department of City Planning to ensure that the most appropriate land use designation and zone are applied to the property.

BOE CEQA - In a letter dated November 2, 2017, the Bureau of Engineering (BOE) reported it had reviewed the City's records and determined that the sale of the Property was exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to City of Los Angeles CEQA Guidelines (Article III, Section 1, Class 12) and State Guidelines (Sec 15312). A copy of the Notice of Exemption serves as a record and is attached to the BOE correspondence as Exhibit V to the report. In an additional correspondence dated November 2, 2017, the BOE also provided a Hazardous Substance Disclosure record based on the City's knowledge and analysis of maps drawn by City, State and Federal agencies. The property is known to be located within a landslide and very high fire hazard severity zone.

BOE Dedication - The subject property has frontage along Edleen Drive, is within the Hillside Ordinance area and will have to comply with the ordinance. The existing curb, gutter, sidewalk and any other public facilities should be repaired as necessary by the buyer as part of the sales agreement. The existing dedication along Edleen Drive (Local Street) is a 44-foot R/W which complies with Hillside Local Street standard (44-foot R/W) per Standard Plan S-470-1. The existing dedication along Brewster Drive (Local Street) is a 50-foot R/W which could have been our Hillside Collector standard (50-foot R/W) per Standard Plan S-470-1.

Appraisal - In 2017, GSD hired Gribin, Kapadia & Associates to determine the value of the Property. The completed appraisal report, dated August 9, 2017, stated that the fair market value of the Property is $900,000. This value assumed the lot to be developable and did not account for geotechnical challenges that exist on the property. Also included in the appraisal report was the value of the property as a bulk sale (including the five adjacent lots that were sold at public auction). Under a bulk sale, the market value for the Property was found to be $475,000. However, the actual sale prices of the five adjacent lots sold at public auction ranged from

$500,000 – $655,000. The final negotiated sale price is $500,000. In addition to falling within the sale price range of the adjacent auctioned lots, the Council Office is in favor of the sale price and the environmental benefits to the community as a result of the MRCA's intent to maintain the lot as open space. Upon the close of escrow, 50 percent of the net proceeds of the sale shall be deposited into the Council District 3 Real Property Trust Fund and the remaining 50 percent into the General Fund. Of the $500,000, GSD reports escrow fees of $2,035.

To the best of our knowledge, the proposed sale is in accordance with Charter Section 385 on Sale of Property, LAAC Section 7.22 Recommendations Required of City Departments; LAAC Section 7.27 Private Sale; and California Government Code Section 54220 Surplus Land, which establish the basic guidelines for the sale of City-owned surplus property. Further, pursuant to LAAC Section 7.22(d), the CAO reviewed the proposed direct sale and recommends approval of the sale and the attached ordinances prepared by GSD, which state the terms and conditions, legal description and recommendations for reservations and/or easements that should be retained by the City, and approved by the City Attorney as to form and legality. Additional discussion is included in the Findings section of this report.

FISCAL IMPACT STATEMENT

The sale of City-owned property located at 18825 W. Edleen Drive in Council District 3 to the Mountains Recreation and Conservation Authority for a total negotiated purchase price of $500,000 will have a positive impact on the General Fund, less $2,035 in escrow fees. A total of $497,965 in unanticipated revenue, inclusive of $11,818.07 in administrative fees ($10,995.48 for GSD real estate expenses and $822.59 for GSD Construction Forces), will be deposited into City accounts. Upon the close of escrow, 50 percent of the net proceeds of the sale, or $486,146.93, shall be deposited into the Council District 3 Real Property Trust Fund, and the remaining 50 percent into General Fund, after payment of administrative fees.

FINANCIAL POLICIES STATEMENT

The actions recommended in this report comply with the City's Financial Policies.

FINDINGS

1. Public Interest

In accordance with LAAC Division 7, Chapter 1, Article 4 Section 7.27, the Council may determine that the sale of City-owned property is in the public interest or necessity. In this event, the Council may, by ordinance with two-thirds vote, authorize the sale of City-owned property, without notice of sale or advertisement for bids, upon review and recommendation by the City Administrative Officer. GSD reports that the sale of the property is in the best interest of the City because it will eliminate costly maintenance of the City parcel and there will be a one-time deposit of $500,000 split equally between the Council District 3 Real Property Trust Fund and the General Fund.

2. Terms of Sale

The following are the terms of sale as described in the Ordinance:

- The total sale price is $500,000, which is the agreed upon price between the City and the Buyer;

- The Buyer is Mountains Recreation and Conservation Authority;

- The Property will be sold in "As Is" condition and without any warranty as to fitness for use, fitness for a particular use, or condition of the Property, and that the City has no obligation to correct any condition of the Property, whether known before or after the date of the sale;

- In accordance with Section 3, the Buyer shall pay escrow and all incidental costs associated with this property purchase transaction including, but not limited to, recording fees, documentary transfer fees, title insurance fees, escrow fees, personal property taxes where applicable, and any other real estate transaction taxes. The Buyer, at their own expense, may obtain any desired survey of the Property;

- The City will reserve all oil, gas, water and mineral rights now vested in the City of Los Angeles without, however, the right to use the surface of said land or any portion thereof to a depth of 500 feet below the surface, for the extraction of such oil, gas, water and minerals.

- Subject to covenants, conditions, restrictions, encroachments, reservations, easements, rights, and rights-of-way of record or which are apparent from a visual inspection of the real property and excepting and reserving to the City any interest in the fee to the adjacent streets which would otherwise pass with the conveyance;

3. Property Description / Legal Description

The Property is located at 18825 West Edleen Drive, Los Angeles CA 91365 with APN 2176-026-904. The Property is zoned RA-1 (Residential Agricultural Zone) and lies within Council District 3 and the Encino – Tarzana Community Plan Area. The legal description is contained in Attachment A to this report.

4. California Government Code Section 54221

Pursuant to California Government Code Section 54221(f)(1)(D), "surplus land that a local agency is transferring to another local, state, or federal agency for the agency's use" constitutes "exempt surplus land" and may be declared as such based on written findings. California Government Code Section 54221(a)(1) defines "local agency" to include "...local and regional park districts of any kind or class, joint powers authority... or other political subdivision of this state and any instrumentality thereof that is empowered to acquire and hold real property."

MRCA is a public agency that is a joint powers authority among the Santa Monica Mountains Conservancy, the Conejo Recreation and Park District, and the Rancho Simi Recreation and Park District. The subject property is being transferred from the City of Los Angeles to MRCA for MRCA's use as open space. Based on the facts above, a declaration of "exempt surplus land" may be made with respect to the contemplated transaction.

RHL:JLVW/MK
DocId 15200015

Attachments
Attachment A: May 17, 2019 Report Package from GSD to CAO (CF 16-1318)
Attachment B: August 7, 2018 Motion (Blumenfield – Rodriguez) (CF 16-1318-S1)

FORM GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

DATE: May 17, 2019

TO: Richard H. Llewellyn Jr., City Administrative Officer
City Administrative Officer

Attention: Terry Sauer, Chief Administrative Analyst

FROM: Tony M. Royster, General Manager
Department of General Services

SUBJECT: REVIEW OF PROPOSED DIRECT SALE OF THE PROPERTY LOCATED AT 18825 W. EDLEEN DRIVE, TARZANA – CD 3 APN: 4261-007-900

The Department of General Services, Real Estate Services Division (RES) is in the process of selling the above-referenced property through a direct sale to the Mountain Recreation and Conservation Authority (MCRA), at the request of Council District 11. The proposed sale is in compliance with Government Code Section 54220, which allows the "local agencies" to have first right to purchase City surplus property.

The proposed sale to MRCA is in compliance specifically with Government Code Section 54222 – "Any local agency disposing of surplus land shall send, prior to disposing of that property, a written offer to sell or lease the property…" and 54222(b) – "A written offer to sell or lease for park and recreational purposes or open-space purposes shall be sent…" The Santa Monica Mountains Conservancy (SMMC) made it known via letter, and the Council Office agreed, to set aside the above property for a direct sale at a purchase price of $500,000 and to designate the MRCA as purchaser. The MRCA's purpose in acquiring the property is to maintain open space for the benefit of the neighborhood and to allow natural flora and fauna to thrive.

The appraisal report being transmitted found the property to be assessed at $900,000, effective 2018. This value assumed the lot to be developable and did not account for geotechnical challenges that exist on the property. Also included in the appraisal report was the value of the property as a bulk sale (including the five adjacent lots that were sold at public auction). Under a bulk sale, the market value for the subject property was found to be $475,000. However, the actual sale prices of the five adjacent, vacant lots sold at public auction ranged from $500,000 - $655,000. In addition to falling within the sale price range of the adjacent auctioned lots, the Council Office is in favor of the sale price and the environmental benefits to the community as a result of the MRCA's intent to maintain the lot as open space.

The RES has followed the Surplus Property Procedure to declare the Property surplus and is hereby submitting the Property's surplus package to the City Administrative Officer's office for review and recommendation to the City Council for direct sale to MRCA.

Attached for your information is the documentation showing the necessary approvals obtained in processing the sale of this property in accordance with LAAC Sections 7.22 and 7.27. Should there be any question or additional information required, please contact Enid Gomez, Senior Management Analyst, at (213) 922-8559, or email enid.gomez@lacity.org.

Attachments

DEPARTMENT OF GENERAL SERVICES
REAL ESTATE SERVICES DIVISION
111 E. FIRST STREET, SUITE 201

NOTICE OF COMPLETION OF SALE OF CITY PROPERTY

Ivy Yan, Chief Accountant
Attn: Quynh Tong
Accounting Division, CHS Room 404
Zoning: RA-1

		Date:	June 21, 2018
		Job Title:	Auction sale of City-owned Property located at 18801 W. Edleen Street (APN: 2176-026-900)
APN No.:	APN: 2176-026-900	CD:	3
Council File No.	16-1318		
Ordinance No.:	185192 & 185473	GSP No.:	181
Date of original Acquisition:	1997	Fund Title:	General Fund & Council Trust Fund
		Sale Price:	$500,000.00
Date sold:	November 14, 2017	10% Deposit from Buyer:	$ 50,000.00
Buyer: Future Investment & Development, LLC (Ofir Grushkovski)		Amt from Escrow*:	$447,965.00
		Total Funds Received:	$497,965.00

All expenses and work relative to the sale of the City property referenced above have been completed. Expenses are as follow:

Reference	Description		Amount
	GSD Standard Administrative Fee		4,500.00
	Auction Brochures	$	396.25
	Auction Posters	$	70.04
	Building & Safety 9A Report	$	70.85
	Kennedy Wilson Auctioneer Contract	$	4,900.00
	First American Title	$	125.00
	Gribin, Kapadia & Assoc. Appraisal	$	666.67
	Integra Realty Resources (Appraisal review)	$	266.67
	TOTAL RES EXPENSES	**$**	**10,995.48**
	Miscellaneous Fees (escrow statement)	$	815.00
First American Title	Construction Forces Division**	$	822.59 = 2,857.59
Escrow No.: LGL-5599624	Escrow *Fee* ($ deducted before funds received)*	$	1,220.00
	TOTAL SALE EXPENSES	**$**	**13,853.07**
	SALE PRICE	**$**	**500,000.00**
	TOTAL REVENUE	**$**	**486,146.93**

Approved by: David Roberts, Asst Director
Prepared by: Enid Gomez
(213) 922-8547

Internal Demand No.

*Escrow Fees + Disclosure Fee withheld from payoff wire from Escrow/Title Company - $2,035 ($1,220+ $750 + $65)

Transfer from GSP #181 to:

General Fund 100, Department 40, RSRC 514100	$ 254,068.94 ($243,073.46 + $10,995.48
CD 3 Real Property Trust Fund 685, DRSRC 514100	$ 243,073.47
**Residential Prop. Maint. Fund 553, Dept 40: Account 4931 (CFD)	$ 822.59

$ 497,965
2,035
$ 500,000

Attachments: *Escrow Closing Statement
Ordinance Nos. 185192 & 185473 (attached) CF 16-1318
Invoices

c.c. CD 3 – Elizabeth Ene, Sr. Planning Deputy MS 204
c.c. CAO – Bernyce Hollins, MS 130

R-1

MOTION

The City currently owns vacant land on Edleen Drive in Tarzana within Council District 3. The vacant land is comprised of several contiguous parcels as follows:

- 18801 Edleen Drive (21,374 sq. ft.);
- 18807 Edleen Drive (18,031 sq. ft.);
- 18813 Edleen Drive (18,472 sq. ft.);
- 18817 Edleen Drive (18,410 sq. ft.);
- 18821 Edleen Drive (18,777 sq. ft.); and
- 18825 Edleen Drive (19,406 sq. ft.).

The parcels have been vacant since the mid-1990s and are located in a residential neighborhood in Tarzana. The City does not currently have a use for the parcels. The City should pursue the sale of the parcels at a public auction in order to utilize the revenues for other community purposes.

I THEREFORE MOVE that City Council direct the Department of General Services (GSD) to take the following actions relative to the City-owned properties located at 18801, 18807, 18813, 18817, 18821 and 18825 Edleen Drive Tarzana, CA 91356:

1. Declare the City-owned parcels at 18801, 18807, 18813, 18817, 18821 and 18825 Edleen Drive Tarzana, CA 91356 as surplus assets;

2. Initiate the Surplus Property Process and conduct a Class "A" appraisal of all the parcels;

3. Prepare the parcels for sale at public auction; and

4. Direct GSD, with the assistance of the City Administrative Officer and the City Attorney, to take all necessary steps and prepare all required documents to effectuate the potential sale of the parcels.

PRESENTED BY: ______________________
BOB BLUMENFIELD
Councilmember, 3rd District

SECONDED BY: ______________________

cbs

SURPLUS PROPERTY (DIRECT SALE) CHECKLIST DOCUMENTS TO BE SUBMITTED TO CAO'S OFFICE WITH OUR REQUEST FOR REVIEW

APN: **2176-026-904**

ADDRESS: **18825 W. Edleen Drive**
Tarzana, CA 91356

1	Assessor Parcel Map Navigate LA Map	Exhibit I
2	54220 Notices	Exhibit II
3	City Title Report	Exhibit III
4	Legal Description	Exhibit IV
5	BOE District Engineer Report BOE Geotechnical Report BOE Environment Report	Exhibit V
6	Planning Approval	Exhibit VI
7	Council District Notification	Exhibit VII
	Mayor's Office Notification	Exhibit VIII
8	Appraisal Report	Exhibit IX
9	Ordinance	Exhibit X
10	Detail on Source of Funds/Account used to purchase Property	Exhibit XI

2176	26 SHEET	P. A. 2176-26	TRA 37	REVISED: 750403 770218	95050807005001-02 95062002005001-02 95090103007001-02	96021604006001-02 96052410003001-02 20180807008007001-02			SEARCH NO		OFFICE OF THE ASSESSOR COUNTY OF LOS ANGELES COPYRIGHT © 2002

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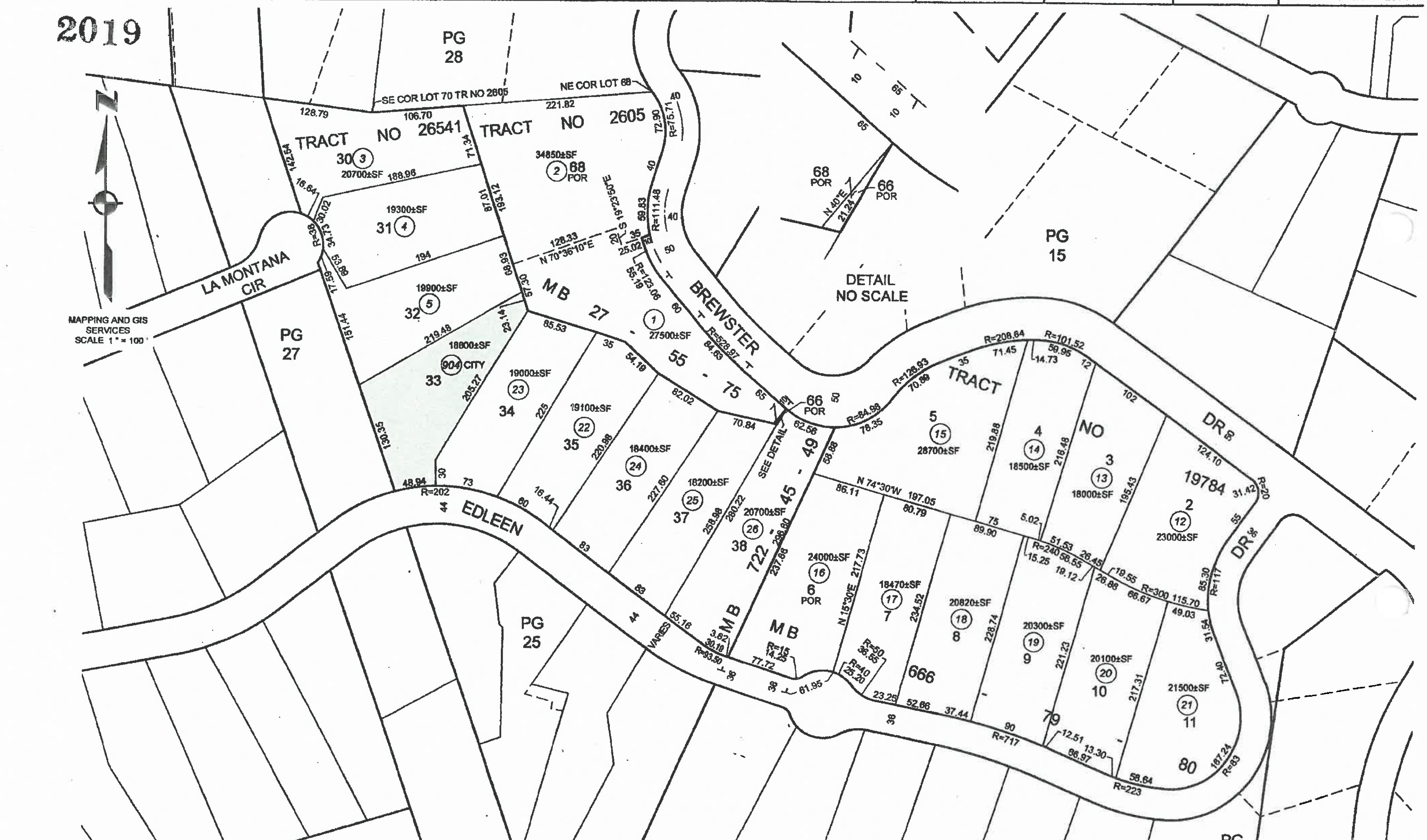

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NavigateLA
Bureau of Engineering
Department of Public Works

2176026904

STATE OF CALIFORNIA–THE NATURAL RESOURCES AGENCY

EDMUND G. BROWN, JR., *Governor*

SANTA MONICA MOUNTAINS CONSERVANCY
RAMIREZ CANYON PARK
5750 RAMIREZ CANYON ROAD
MALIBU, CALIFORNIA 90265
PHONE (310) 589-3200
FAX (310) 589-3207
WWW.SMMC.CA.GOV

July 28, 2017

David Roberts, Assistant Director
Real Estate Services Division
Department of General Services
City of Los Angeles
Room 201, City Hall South
111 East First Street
Los Angeles, California 90012

City Sale of Edleen Drive Parcels in Tarzana

Dear Mr. Roberts:

The Santa Monica Mountains Conservancy (Conservancy) provided a letter dated April 4, 2017 to your attention regarding the City's proposed sale of six surplus parcels on Edleen Drive in Tarzana. The letter exercised the Conservancy's first right of refusal on APNs 2176-026-900, 901, 902, 903, 904, 905 pursuant Public Resources Code Section 33207(b). The City acknowledged receipt of that letter.

Since that time we have worked with the Council office to gain an understanding that the City's original acquisition prices for the lots exceeds the Conservancy's available funding sources. Based on funding available to the Conservancy, the Council office confirmed to us that APN 2176-026-904 will be reserved from the City's proposed sale this coming fall for a direct sale to the Conservancy's designee the Mountains Recreation and Conservation Authority (MRCA). The sale price shall be $500,000.00. If the City's appraised value of APN 2176-026-904 is less than $500,000, then the City will sell the whole of said parcel for the lesser appraised value or include additional square footage from APN 2176-026-902 for the $500,000. Please clarify that the parcel has no encroachments or easements and will be sold free of any an all liens and encumbrances. The existing fence along the sidewalk is great. The MRCA Governing Board has approved the acquisition.

Based on this understanding with the Council office, this letter serves to notify the City that the Conservancy withdraws its exercise of first right of refusal on APNs 2176-026-900, 901, 902, 903, and 905 and has no objections to their sale by the City. We applaud the Council office for brokering this deal. Our understanding is that your office will

David Roberts, Assistant Director
Real Estate Services Division
City of Los Angeles
City Sale of Edleen Drive Parcels in Tarzana
July 28, 2017
Page 2

send a letter to the Conservancy that confirms the deal as described above. Subsequently the City will auction off the five remaining parcels first and then conclude a sale to the MRCA for the whole of APN 2176-026-904.

The MRCA funding is set to go with a maximum of two weeks notice. I look forward to your upcoming letter and concluding the sale of APN 2176-026-904 to the MRCA.

Sincerely

PAUL EDELMAN
Deputy Director
Natural Resources and Planning

cc: Elizabeth Ene, Council District 3

Original to DR
Copy to EG

STATE OF CALIFORNIA–THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., Governor

SANTA MONICA MOUNTAINS CONSERVANCY

RAMIREZ CANYON PARK
5750 RAMIREZ CANYON ROAD
MALIBU, CALIFORNIA 90265
PHONE (310) 589-3200
FAX (310) 589-3207
WWW.SMMC.CA.GOV

RECEIVED
APR 7 2017
CITY OF LOS ANGELES
REAL ESTATE SERVICES

April 4, 2017

Mr. David Roberts, Assistant Director
Real Estate Services Division
Department of General Services
City of Los Angeles
Room 201, City Hall South
111 East First Street
Los Angeles, California 90012

Proposed Sale of Various Surplus City-owned Property at Public Auction - Council District 11

Dear Mr. Roberts:

The Santa Monica Mountains Conservancy (Conservancy) appreciates the City's correspondence dated March 14, 2017 offering the Conservancy its first right of refusal to acquire APNs 2176-026-900, 901, 902, 903, 904, 905. The Conservancy does hereby exercise its first right of refusal pursuant to California Public Resources Code Section 33207 to purchase the properties from the City of Los Angeles.

Initially I will be the Conservancy's point of contact to work out the details of a sale. I can be reached at the above letterhead address, at edelman@smmc.ca.gov, and at 310-589-3200, ext. 128.

Sincerely,

PAUL EDELMAN
Deputy Director
Natural Resources and Planning

RECEIVED

2017 APR -6 PM 2:08

CITY OF LOS ANGELES
GENERAL SERVICES DEPT
REAL ESTATE SERVICES

SUBJECT: **PROPOSED SALE OF CITY-OWNED SURPLUS PROPERTY**

Various Properties: at W. Edleen Drive, Tarzana, CA 91356

- 18801 W. Edleen Dr. APN: 2176-026-900
- 18807 W. Edleen Dr. APN: 2176-026-905
- 18813 W. Edleen Dr. APN: 2176-026-901
- 18817 W. Edleen Dr. APN: 2176-026-903
- 18821 W. Edleen Dr. APN: 2176-026-902
- 18825 W. Edleen Dr. APN: 2176-026-904

Please check one:

1. ___________ I have no objections to the proposed sale.

Comments: ______________________________________

____

2. ____X_____ I object to the proposed sale.

Comments: PROPERTY IS LOCATED IN SANTA MONICA MTS. ZONE - SMMC EXERCISES ITS FIRST RIGHT OF REFUSAL PURSUANT TO PUBLIC RESOURCES CODE SECTION 33207(b).

PAUL EDELMAN
PRINT NAME

SIGNATURE

SANTA MONICA MOUNTAINS CONSERVANCY
NAME OF ORGANIZATION

CITY OF LOS ANGELES
CALIFORNIA

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

ERIC GARCETTI
MAYOR

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX NO. (213) 928-9515

RECEIVED
STATE OF CALIFORNIA
SMMC

MAR 17 2017

MALIBU

March 14, 2017

Santa Monica Mountains Conservancy
5750 Ramirez Canyon Road
Malibu, CA 90265

Attention: Joe Edmiston, Executive Director

PROPOSED SALE OF VARIOUS SURPLUS CITY-OWNED PROPERTY AT PUBLIC AUCTION – COUNCIL DISTRICT 11

The Real Estate Services Division is processing six (6) City-owned properties ("Properties") to be declared surplus for sale at public auction. All Properties, identified on the attached assessor map and listed below, are located on West Edleen Drive, Tarzana, CA 91356.

- 18801 W. Edleen Dr. APN: 2176-026-900
- 18807 W. Edleen Dr. APN: 2176-026-905
- 18813 W. Edleen Dr. APN: 2176-026-901
- 18817 W. Edleen Dr. APN: 2176-026-903
- 18821 W. Edleen Dr. APN: 2176-026-902
- 18825 W. Edleen Dr. APN: 2176-026-904

This information is supplied in advance of the sale in compliance with the provisions of Section 54220 through 54232 of the Government Code.

Section 54220 provides as follows…"that surplus land, prior to disposition should be made available for park and recreation purposes, for open space purposes, or for low and moderate income housing purposes."

Please return a signed copy of this letter to Room 201, City Hall South, Real Estate Services Division. If we do not hear from you within sixty (60) days from the date of this letter, it will be assumed that your organization is not interested in the property and have no objections of the proposed sale.

Should you need additional information, contact Enid Gomez, Senior Management Analyst, at (213) 922-8547 or via e-mail, at Enid.Gomez@lacity.org.

David Roberts, Assistant Director
Real Estate Services Division
Department of General Services

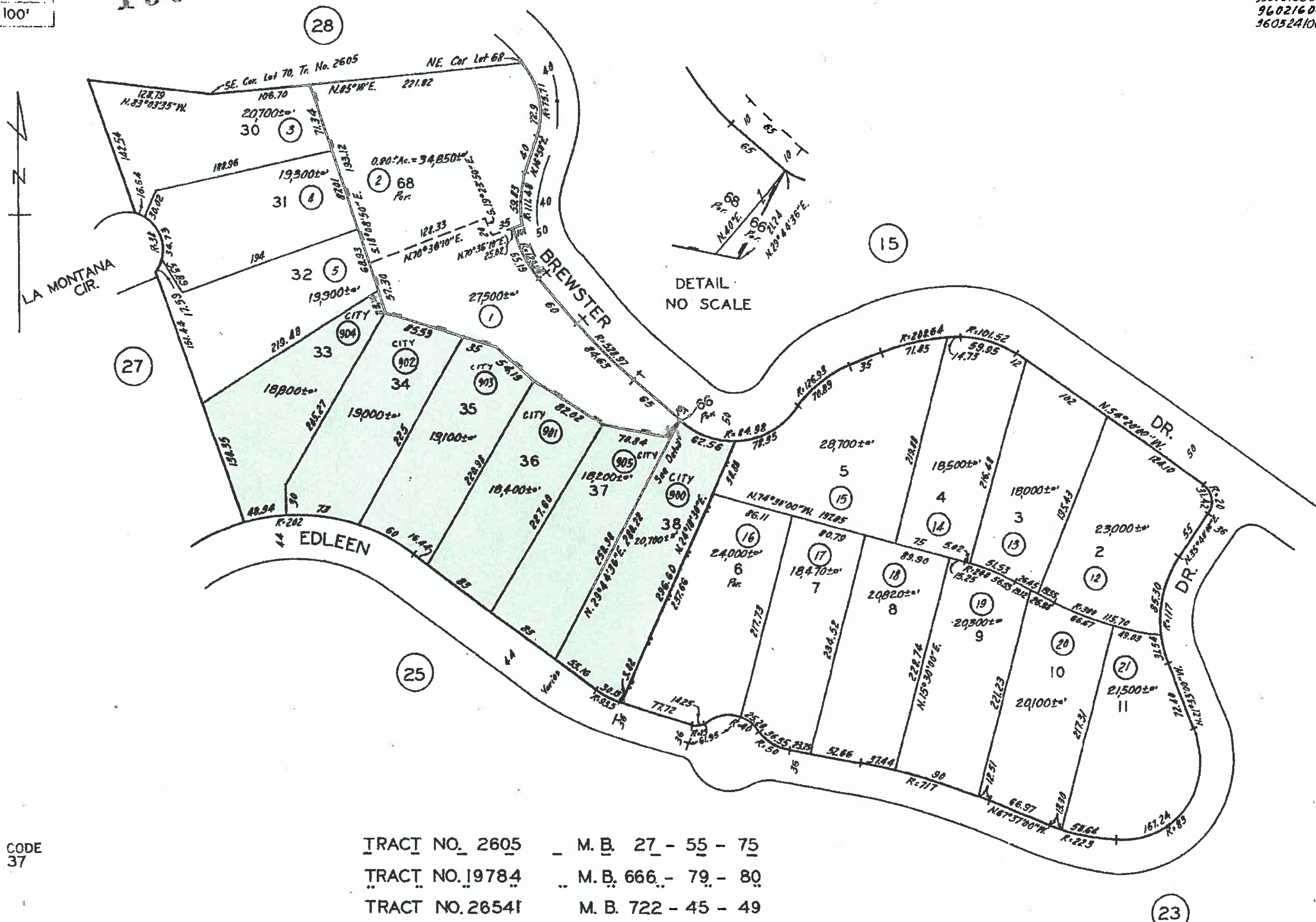
Enclosure

2176 | 26

SCALE 1" = 100'

1997

95050807005001-02
95062002005001-02
95090103007001-02
96021604006001-02
96032410003001-02



TRACT NO. 2605 — M. B. 27 - 55 - 75

TRACT NO. 19784 — M. B. 666 - 79 - 80

TRACT NO. 26541 — M. B. 722 - 45 - 49

CODE
37

FOR PREV. ASSM'T SEE:
2176 - 28

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

CITY OF LOS ANGELES
CALIFORNIA

RECEIVED
2017 MAR 30 AM 9:44
CITY OF LOS ANGELES
GENERAL SERVICES DEPT
REAL ESTATE SERVICES

ERIC GARCETTI
MAYOR

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX NO. (213) 928-9515

March 14, 2017

LACERS
MAR 20 2017
LACERS EXECUTIVE GM

Thomas Moutes, General Manager
LACERS
202 W. 1st St., Ste 500, MS 175
Los Angeles, CA 90012-4207

PROPOSED SALE OF VARIOUS SURPLUS CITY-OWNED PROPERTY AT PUBLIC AUCTION – COUNCIL DISTRICT 11

The Real Estate Services Division is processing six (6) City-owned properties ("Properties") to be declared surplus for sale at public auction. All Properties, identified on the attached assessor map and listed below, are located on West Edleen Drive, Tarzana, CA 91356.

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- 18807 W. Edleen Dr. APN: 2176-026-905
- 18813 W. Edleen Dr. APN: 2176-026-901
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- 18821 W. Edleen Dr. APN: 2176-026-902
- 18825 W. Edleen Dr. APN: 2176-026-904

This information is supplied in advance of the sale in compliance with the provisions of Section 54220 through 54232 of the Government Code.

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Should you need additional information, contact Enid Gomez, Senior Management Analyst, at (213) 922-8547 or via e-mail, at Enid.Gomez@lacity.org.

David Roberts, Assistant Director
Real Estate Services Division
Department of General Services

Enclosure

SUBJECT: **PROPOSED SALE OF CITY-OWNED SURPLUS PROPERTY**

Various Properties: at W. Edleen Drive, Tarzana, CA 91356

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- 18825 W. Edleen Dr. APN: 2176-026-904

Please check one:

1. X I have no objections to the proposed sale.

Comments: ____

2. __________ I object to the proposed sale.

Comments: ____

TOM MOUTES
PRINT NAME

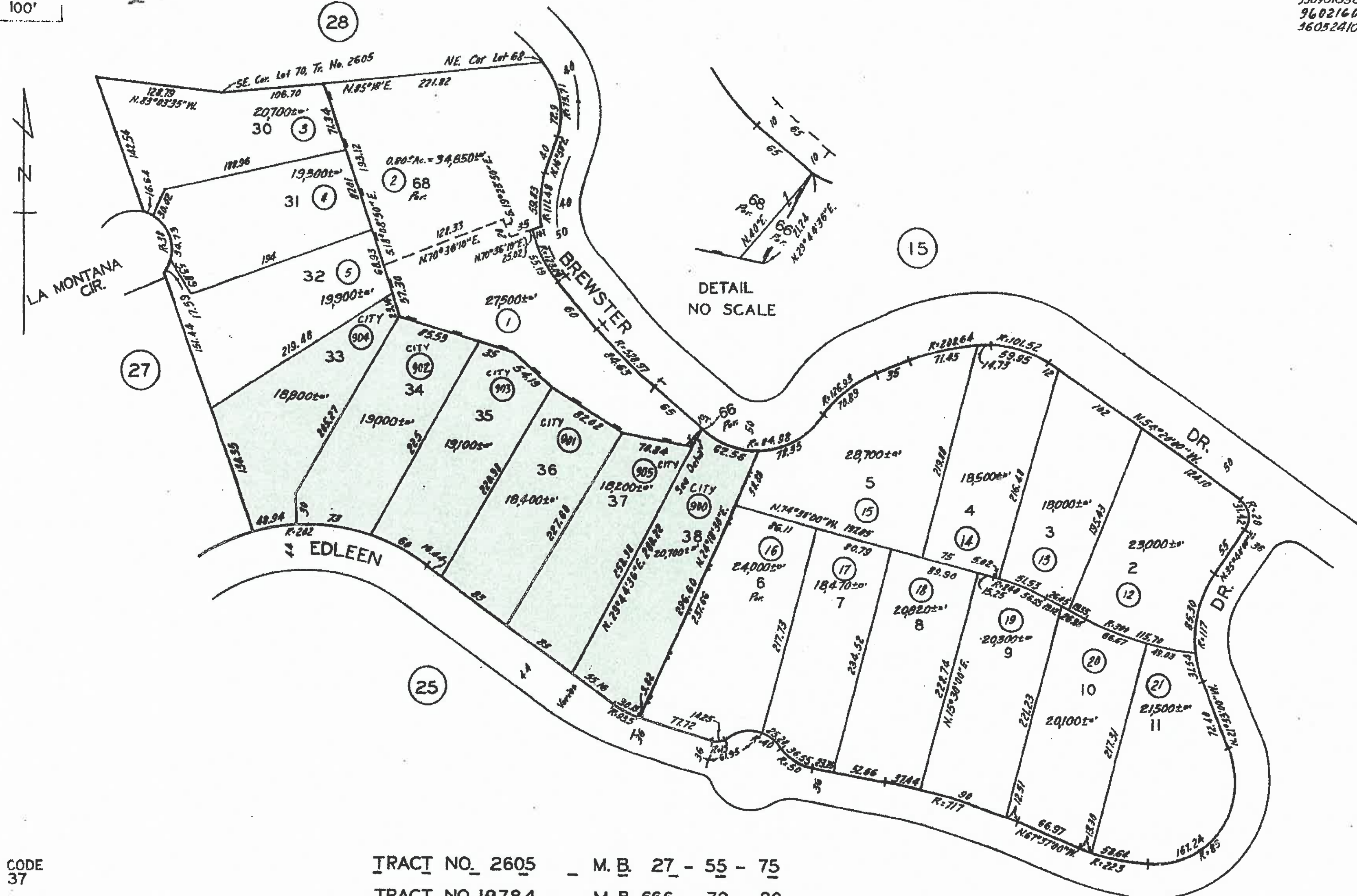
[signature]
SIGNATURE

Los Angeles City Employees' Retirement System (LACERS)
202 West First Street, Suite 500
Los Angeles, CA 90012-4401
NAME OF ORGANIZATION

2176 | 26
SCALE 1" = 100'

1997

770818
95050807005001-02
95062002005001-02
95090103007001-02
96021604006001-02
96052410003001-02



CODE
37

TRACT NO. 2605 — M. B. 27 - 55 - 75
TRACT NO. 19784 — M. B. 666 - 79 - 80
TRACT NO. 26541 — M. B. 722 - 45 - 49

FOR PREV. ASSM'T SEE:
2176 - 26

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

CITY OF LOS ANGELES
CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) [illegible]
FAX NO. (213) [illegible]

RECEIVED
MAR 1 7 2017
LA Housing + Community Investment Dept.
Office of the GM

March 14, 2017

Rushmore Cervantes, General Manager
Los Angeles Housing and Community Investment Department
1200 W. 7th Street, 9th Floor, MS 958
Los Angeles, CA 90017

ATS #-26941
RDC - [illegible]
W/HH - [illegible]
[illegible]
[illegible]

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Please check one:

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Comments: Parcels are vacant single family lots zoned 'RA' suburban. Neighboring parcels estimated to sell for upwards of $1M.

2. ______ I object to the proposed sale.

Comments: ____________________

Mariana Lem
PRINT NAME

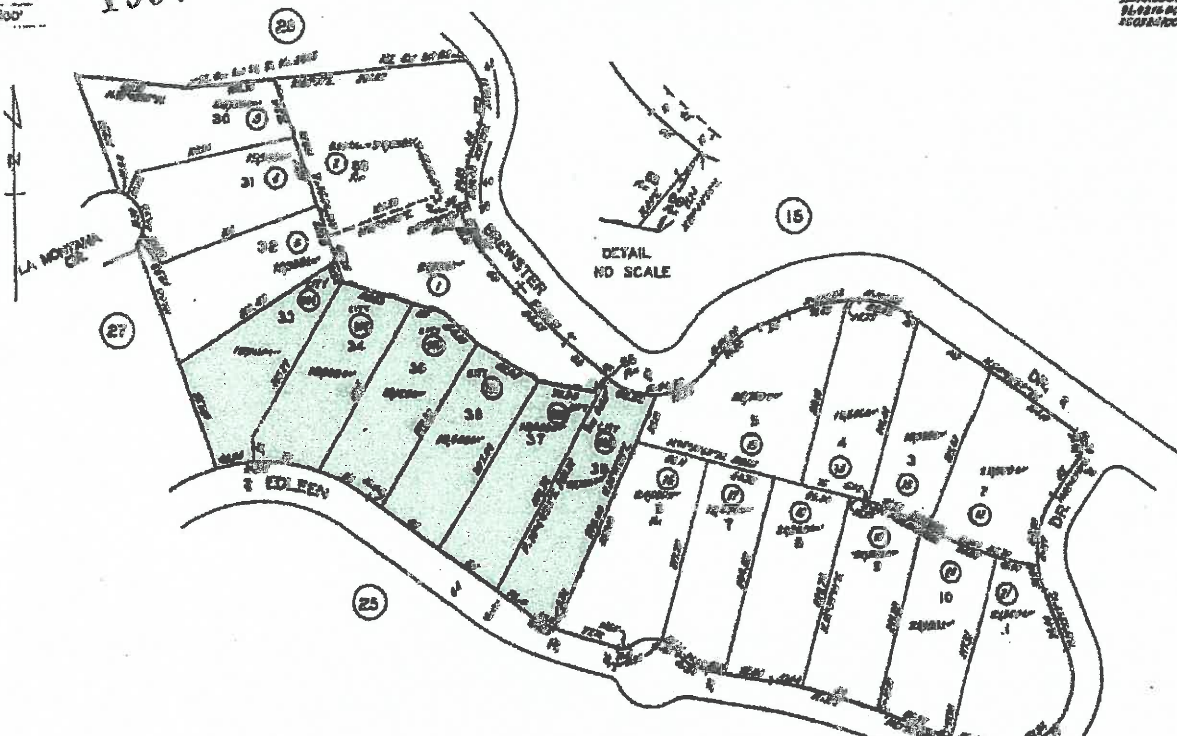
Mariana Lem
SIGNATURE

Los Angeles Housing + Community Investment Dept.
NAME OF ORGANIZATION

2176 26

SCALE 1" = 100'

1997



CODE
37

TRACT NO. 2605 M.B. 27 - 55 - 75

TRACT NO. 19784 M.B. 656 - 76 - 80

TRACT NO. 26541 M.B. 722 - 45 - 49

FOR PREV. ASSM'T SEE: 2176 - 26

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

Enid Gomez <enid.gomez@lacity.org>

Proposed Sale of Various Surplus City-Owned Property at Public Auction

3 messages

Christopher LeMarr <christopher.lemarr@lacity.org> Wed, Mar 22, 2017 at 3:24 PM
To: Enid Gomez <enid.gomez@lacity.org>
Cc: Mariana Lem <mariana.lem@lacity.org>

Enid,

HCIDLA has no objection to the proposed sale of parcels 2176-026-900, 01, 02 ,03, 04, and 05. Please find attached signed form.

Thank you,

Christopher

--

Christopher LeMarr
Management Assistant, Land Development Unit
Housing Strategies & Services Division
Los Angeles Housing + Community Investment Dept. (HCIDLA)
1200 W. 7th Street, 8th Floor, Los Angeles, CA 90017
(: 213.808.8968 | *: christopher.lemarr@lacity.org | web: http://lahd.lacity.org/

Proposed Sale of APN 2176-026-900.pdf
169K

Enid Gomez <enid.gomez@lacity.org> Wed, Mar 22, 2017 at 4:04 PM
To: Christopher LeMarr <christopher.lemarr@lacity.org>
Cc: Mariana Lem <mariana.lem@lacity.org>

HI Christopher,

Thanks for your timely response. Please note, there is a typo in the Letter. The CD the properties are located in is **Council District 3**.

Thanks again,
Enid

Enid Gomez
Senior Management Analyst
Real Estate Services Division
Department of General Services
Main: (213) 922-8500
Direct: (213) 922-8547
[Quoted text hidden]

Christopher LeMarr <christopher.lemarr@lacity.org> Wed, Mar 22, 2017 at 4:50 PM

To: Enid Gomez <enid.gomez@lacity.org>
Cc: Mariana Lem <mariana.lem@lacity.org>

Our pleasure Enid. So noted, thanks for the follow-up.
[Quoted text hidden]

RECEIVED
MAR 22 2017
CITY OF LOS ANGELES
REAL ESTATE SERVICES

SUBJECT: **PROPOSED SALE OF CITY-OWNED SURPLUS PROPERTY**

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- 18825 W. Edleen Dr. APN: 2176-026-904

Please check one:

1. X I have no objections to the proposed sale.

Comments: ______________________________

____

2. ______ I object to the proposed sale.

Comments: ______________________________

____

AL GRAZIOLI
PRINT NAME

[signature]
SIGNATURE
ASSET DEVELOPMENT DIRECTOR

LAUSD
NAME OF ORGANIZATION

Los Angeles Unified School District
Real Estate Department
333 South Beaudry Avenue, ~~22nd~~ 23rd Floor
Los Angeles, CA 90017

FIRST CLASS

U.S. POSTAGE PITNEY BOWES
ZIP 90660 $ 000.46⁰
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0001396070 MAR 21 2017

City of Los Angeles
Dept of General Services
City Hall South
Real Estate Service Division
111 East First Street, Room 201
Los Angeles, CA 90012

900123#4113 C032

CITY OF LOS ANGELES
CALIFORNIA

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

ERIC GARCETTI
MAYOR

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX No. (213) 928-9515

March 14, 2017

Raymond P. Ciranna, General Manager
Department of Fire & Police Pensions
701 E. 3rd Street, Ste. 200, MS 390
Los Angeles, CA 90012

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David Roberts, Assistant Director
Real Estate Services Division
Department of General Services

Enclosure

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Comments: ______________________

____

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Comments: ______________________

____

Raymond Civanna
PRINT NAME

[signature]
SIGNATURE

Pensions
NAME OF ORGANIZATION

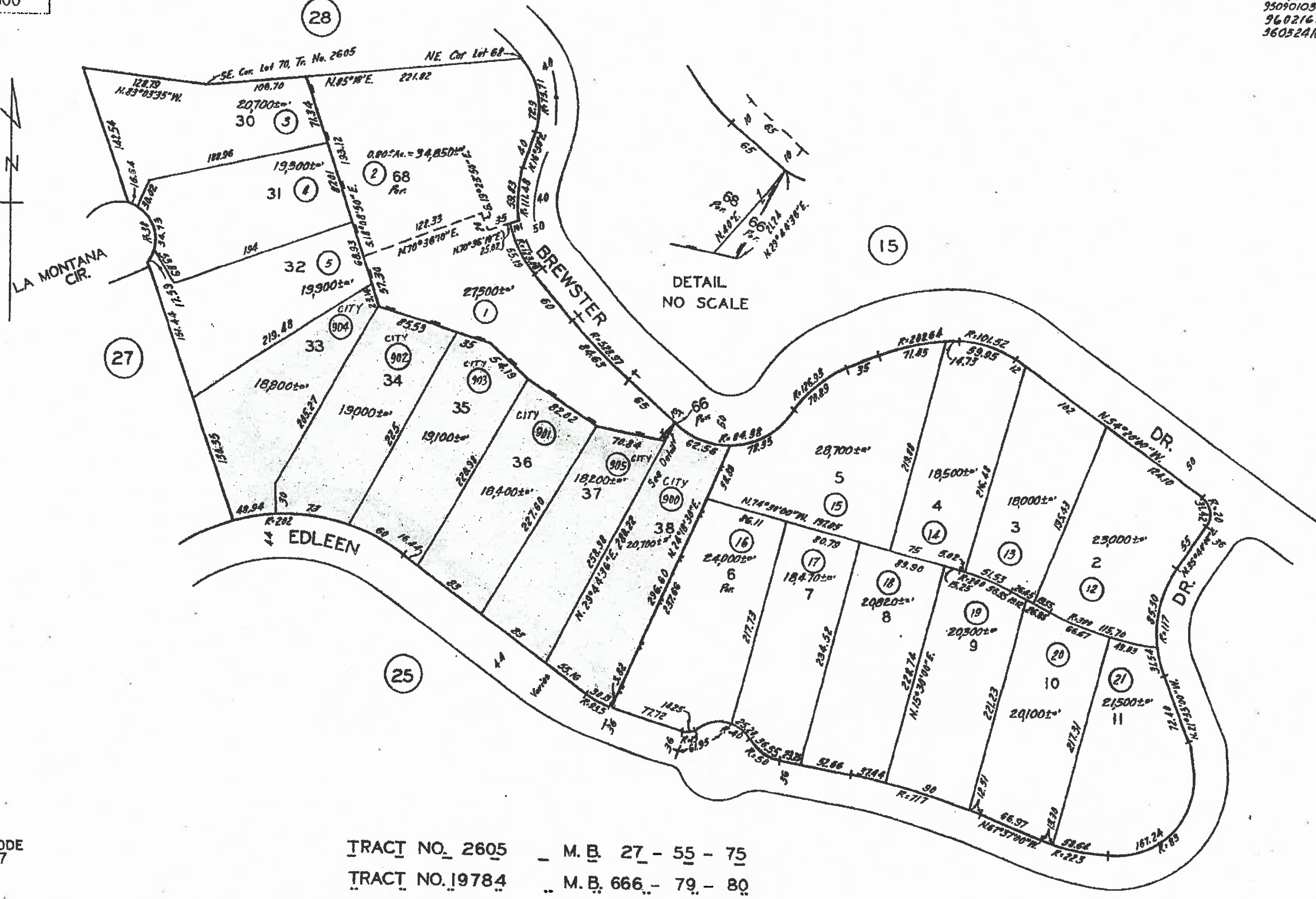
2176 | 26

SCALE 1" = 100'

1997

770818

95050807005001-02
95062002005001-02
95090103007001-02
96021604006001-02
96052410003001-02



CODE 37

TRACT NO. 2605 — M. B. 27 - 55 - 75

TRACT NO. 19784 — M. B. 666 - 79 - 80

TRACT NO. 26541 — M. B. 722 - 45 - 49

FOR PREV. ASSM'T SEE:
2176 - 26

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

..Y OF LOS ANGELE
CALIFORNIA

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX NO. (213) 928-9515

ERIC GARCETTI
MAYOR

March 14, 2017

California Natural Resources Agency
1416 Ninth Street, Ste. 1311
Sacramento, CA 95814-5111

Attention: Patrick Kemp, Assistant Secretary for Administration and Finance

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David Roberts, Assistant Director
Real Estate Services Division
Department of General Services

Enclosure

CITY OF LOS ANGELES
CALIFORNIA

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

DEPARTMENT OF
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ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX NO. (213) 928-9515

ERIC GARCETTI
MAYOR

March 14, 2017

Los Angeles Unified School District (LAUSD)
Facilities Services Division, Leasing & Asset Management Unit
333 South Beaudry Avenue, 23rd Flr.
Los Angeles, CA 90017

Attention: Kristina Tokes, Director of Facilities Planning and Development

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(213) 928-9555
FAX NO. (213) 928-9515

ERIC GARCETTI
MAYOR

March 14, 2017

Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza, MS 99-13-8
Los Angeles, CA 90012

Attention: Velma Marshall, Director of Real Estate

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Department of General Services

Enclosure

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CALIFORNIA

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FAX No. (213) 928-9515

ERIC GARCETTI
MAYOR

March 14, 2017

Housing Authority of the City of Los Angeles
2600 Wilshire Boulevard
Los Angeles, CA 90057

Attention: Douglas Guthrie, President & CEO

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March 14, 2017

Chief Executive Office of Los Angeles County
Real Estate Division
222 S. Hill St., 3rd Floor
Los Angeles, CA 90012

Attention: Christopher Montana, Director of Real Estate

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(213) 928-9555
FAX NO. (213) 928-9515

March 14, 2017

Santa Monica Mountains Conservancy
5750 Ramirez Canyon Road
Malibu, CA 90265

Attention: Joe Edmiston, Executive Director

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ERIC GARCETTI
MAYOR

March 14, 2017

Michael Shull, General Manager
Department of Recreation and Parks
221 N. Figueroa St., 1st Flr., MS 625-13
Los Angeles, CA 90017

Attention: Cid Macaraeg

PROPOSED SALE OF VARIOUS SURPLUS CITY-OWNED PROPERTY AT PUBLIC AUCTION – COUNCIL DISTRICT 11

The Real Estate Services Division is processing six (6) City-owned properties ("Properties") to be declared surplus for sale at public auction. All Properties, identified on the attached assessor map and listed below, are located on West Edleen Drive, Tarzana, CA 91356.

- 18801 W. Edleen Dr. APN: 2176-026-900
- 18807 W. Edleen Dr. APN: 2176-026-905
- 18813 W. Edleen Dr. APN: 2176-026-901
- 18817 W. Edleen Dr. APN: 2176-026-903
- 18821 W. Edleen Dr. APN: 2176-026-902
- 18825 W. Edleen Dr. APN: 2176-026-904

This information is supplied in advance of the sale in compliance with the provisions of Section 54220 through 54232 of the Government Code.

Section 54220 provides as follows..."that surplus land, prior to disposition should be made available for park and recreation purposes, for open space purposes, or for low and moderate income housing purposes."

Please return a signed copy of this letter to Room 201, City Hall South, Real Estate Services Division. If we do not hear from you within sixty (60) days from the date of this letter, it will be assumed that your organization is not interested in the property and have no objections of the proposed sale.

Should you need additional information, contact Enid Gomez, Senior Management Analyst, at (213) 922-8547 or via e-mail at Enid.Gomez@lacity.org.

David Roberts, Assistant Director
Real Estate Services Division
Department of General Services

Enclosure

CITY OF LOS ANGELES
CALIFORNIA

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX No. (213) 928-9515

ERIC GARCETTI
MAYOR

March 14, 2017

Rushmore Cervantes, General Manager
Los Angeles Housing and Community Investment Department
1200 W. 7th Street, 9th Floor, MS 958
Los Angeles, CA 90017

PROPOSED SALE OF VARIOUS SURPLUS CITY-OWNED PROPERTY AT PUBLIC AUCTION – COUNCIL DISTRICT 11

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FAX NO. (213) 928-9515

March 14, 2017

Jan C. Perry, General Manager
Economic & Workforce Development Department
1200 W. 7th Street, 6th Flr., MS 854
Los Angeles, CA 90017

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David Roberts, Assistant Director
Real Estate Services Division
Department of General Services

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CALIFORNIA

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ERIC GARCETTI
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111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX NO. (213) 928-9515

March 14, 2017

Seleta J. Reynolds, General Manager
Department of Transportation
100 S. Main Street, 10th Flr., MS 725
Los Angeles, CA 90012

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David Roberts, Assistant Director
Real Estate Services Division
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(213) 928-9555
FAX NO. (213) 928-9515

March 14, 2017

Thomas Moutes, General Manager
LACERS
202 W. 1st St., Ste 500, MS 175
Los Angeles, CA 90012-4207

PROPOSED SALE OF VARIOUS SURPLUS CITY-OWNED PROPERTY AT PUBLIC AUCTION – COUNCIL DISTRICT 11

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David Roberts, Assistant Director
Real Estate Services Division
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(213) 928-9555
FAX NO. (213) 928-9515

March 14, 2017

Raymond P. Ciranna, General Manager
Department of Fire & Police Pensions
701 E. 3rd Street, Ste. 200, MS 390
Los Angeles, CA 90012

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David Roberts, Assistant Director
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FAX NO. (213) 928-9515

ERIC GARCETTI
MAYOR

March 14, 2017

Omar Brownson, Executive Director
River LA
525 S. Hewitt Street
Los Angeles, CA 90013

Attention: Jennifer Samson, Director of Real Estate Development

PROPOSED SALE OF VARIOUS SURPLUS CITY-OWNED PROPERTY AT PUBLIC AUCTION – COUNCIL DISTRICT 11

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David Roberts, Assistant Director
Real Estate Services Division
Department of General Services

Enclosure

Amended
11/08/2017

First American Title Insurance Company
National Commercial Services

777 South Figueroa Street, Suite 400
Los Angeles, CA 90017

August 08, 2017

Jose L. Ramirez
City of Los Angeles Dept. of General Services
Room 213, City Hall South, 111 East First Street
Los Angeles, CA 90012
Phone: (213)922-8548
Fax: (213)922-8511

Customer Reference: Edleen Drive

Title Officer: Anthony Rivera
Phone: (213)271-1723
Fax No.: (877)461-2081
E-Mail: arivera@firstam.com

Buyer:

Property: 18801 - 18825 Edleen Drive, Los Angeles, CA

PRELIMINARY REPORT

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Exhibit A attached. *The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.* Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of July 24, 2017 at 7:30 A.M.

The form of Policy of title insurance contemplated by this report is:

Prelim

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

The City of Los Angeles, a municipal corporation

The estate or interest in the land hereinafter described or referred to covered by this Report is:

Fee Simple

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2017-2018, a lien not yet due or payable.

2. General and special taxes and assessments for the fiscal year 2016-2017 are exempt. If the exempt status is terminated an additional tax may be levied. A.P. No.: 2176-026-900 and 2176-026-901 and 2176-026-902 and 2176-026-903 and 2176-026-904 and 2176-026-905.

3. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

4. Water rights, claims or title to water, whether or not shown by the public records.

5. An easement for public utilities and incidental purposes in the document recorded as in Book 12603 Page 325 of Official Records.

   An easement as contained in the above document.
   For: public utilities and incidental purposes.

6. The terms, provisions and easement(s) contained in the document entitled "Covenant Affecting Land" recorded July 07, 1960 as Instrument No. 1855, in Book D-902 Page 628 of Official Records.

   Document(s) declaring modifications thereof recorded September 19, 1961 as Instrument No. 4592, in Book M-855 Page 73 of Official Records.

7. Covenants, conditions, restrictions and easements in the document recorded May 22, 1964 as Instrument No. 5426, in Book M-1528 Page 67 of Official Records, which provide that a violation thereof shall not defeat or render invalid the lien of any first mortgage or deed of trust made in good faith and for value, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status, national origin, sexual orientation, marital status, ancestry, source of income or disability, to the extent such covenants, conditions or restrictions violate Title 42, Section 3604(c), of the United States Codes or Section 12955 of the California Government Code. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.

8. An easement for public utilities and incidental purposes, recorded August 25, 1964 as Instrument No. 5061 of Official Records.

In Favor of:	The Pacific Telephone and Telegraph Company
Affects:	as described therein

9. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230147 of Official Records.

10. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230148 of Official Records.

11. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230152 of Official Records.

12. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230153 of Official Records.

13. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230154 of Official Records.

14. The terms, provisions and easement(s) contained in the document entitled "Notice of Building Structures or Premises Classified as Either Hazardous, Substances or a Nuisance – Abatement Proceedings" recorded September 08, 1994 as Instrument No. 94-1645763 of Official Records.

15. This item has been intentionally deleted.

16. This item has been intentionally deleted.

17. This item has been intentionally deleted.

18. This item has been intentionally deleted.

19. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded January 10, 1996 as Instrument No. 96-52777 of Official Records.

20. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded January 10, 1996 as Instrument No. 96-52778 of Official Records.

21. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded January 10, 1996 as Instrument No. 96-52779 of Official Records.

22. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded April 05, 1996 as Instrument No. 96-553452 of Official Records.

23. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded April 05, 1996 as Instrument No. 96-553453 of Official Records.

24. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded April 05, 1996 as Instrument No. 96-553454 of Official Records.

25. The terms, provisions and easement(s) contained in the document entitled "Notice of Special Tax Lien" recorded January 23, 2013 as Instrument No. 20130110801 and recorded January 13, 2017, as Instrument No. 20170055097, both of Official Records.

    Document(s) declaring modifications thereof recorded August 02, 2013 as Instrument No. 20131141559 of Official Records.

26. This item has been intentionally deleted.

27. This item has been intentionally deleted.

28. This item has been intentionally deleted.

29. This item has been intentionally deleted.

30. This item has been intentionally deleted.

31. This item has been intentionally deleted.

32. Rights of parties in possession.

INFORMATIONAL NOTES

33. According to the latest available equalized assessment roll in the office of the county tax assessor, there is located on the land a(n) Commercial Structure known as 18801 - 18825 Edleen Drive, Los Angeles, California.

34. According to the public records, there has been no conveyance of the land within a period of twenty-four months prior to the date of this report, except as follows:

    None

II. If this preliminary report/commitment was prepared based upon an application for a policy of title insurance that identified land by street address or assessor's parcel number only, it is the responsibility of the applicant to determine whether the land referred to herein is in fact the land that is to be described in the policy or policies to be issued.

36. We find no open deeds of trust. Escrow please confirm before closing.

1. Should this report be used to facilitate your transaction, we must be provided with the following prior to the issuance of the policy:

   A. WITH RESPECT TO A CORPORATION:
      1. A certificate of good standing of recent date issued by the Secretary of State of the corporation's state of domicile.
      2. A certificate copy of a resolution of the Board of Directors authorizing the contemplated transaction and designating which corporate officers shall have the power to execute on behalf of the corporation.
      3. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
      4. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

   B. WITH RESPECT TO A CALIFORNIA LIMITED PARTNERSHIP:
      1. A certified copy of the certificate of limited partnership (form LP-1) and any amendments thereto (form LP-2) to be recorded in the public records;
      2. A full copy of the partnership agreement and any amendments;
      3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the contemplated transaction;
      4. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
      5. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

   C. WITH RESPECT TO A FOREIGN LIMITED PARTNERSHIP:
      1. A certified copy of the application for registration, foreign limited partnership (form LP-5) and any amendments thereto (form LP-6) to be recorded in the public records;
      2. A full copy of the partnership agreement and any amendment;
      3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the

contemplated transaction;

4. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
5. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

D. WITH RESPECT TO A GENERAL PARTNERSHIP:

1. A certified copy of a statement of partnership authority pursuant to Section 16303 of the California Corporation Code (form GP-I), executed by at least two partners, and a certified copy of any amendments to such statement (form GP-7), to be recorded in the public records;
2. A full copy of the partnership agreement and any amendments;
3. Requirements which the Company may impose following its review of the above material required herein and other information which the Company may require.

E. WITH RESPECT TO A LIMITED LIABILITY COMPANY:

1. A copy of its operating agreement and any amendments thereto;
2. If it is a California limited liability company, a certified copy of its articles of organization (LLC-1) and any certificate of correction (LLC-11), certificate of amendment (LLC-2), or restatement of articles of organization (LLC-10) to be recorded in the public records;
3. If it is a foreign limited liability company, a certified copy of its application for registration (LLC-5) to be recorded in the public records;
4. With respect to any deed, deed of trust, lease, subordination agreement or other document or instrument executed by such limited liability company and presented for recordation by the Company or upon which the Company is asked to rely, such document or instrument must be executed in accordance with one of the following, as appropriate:
   (i) If the limited liability company properly operates through officers appointed or elected pursuant to the terms of a written operating agreement, such documents must be executed by at least two duly elected or appointed officers, as follows: the chairman of the board, the president or any vice president, and any secretary, assistant secretary, the chief financial officer or any assistant treasurer;
   (ii) If the limited liability company properly operates through a manager or managers identified in the articles of organization and/or duly elected pursuant to the terms of a written operating agreement, such document must be executed by at least two such managers or by one manager if the limited liability company properly operates with the existence of only one manager.
5. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
6. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

F. WITH RESPECT TO A TRUST:

1. A certification pursuant to Section 18100.5 of the California Probate Code in a form satisfactory to the Company.
2. Copies of those excerpts from the original trust documents and amendments thereto which designate the trustee and confer upon the trustee the power to act in the pending transaction.
3. Other requirements which the Company may impose following its review of the material require herein and other information which the Company may require.

G. WITH RESPECT TO INDIVIDUALS:

1. A statement of information.

The map attached, if any, may or may not be a survey of the land depicted hereon. First American Title Insurance Company expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

******To obtain wire instructions for deposit of funds to your escrow file please contact your Escrow Officer.******

LEGAL DESCRIPTION

Real property in the City of Los Angeles, County of Los Angeles, State of California, described as follows:

LOTS 33 THROUGH 38, INCLUSIVE OF TRACT NO. 26541, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 722 PAGES 45 THROUGH 49, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM ONE-HALF OF ALL OIL, GAS, MINERAL AND HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND BELOW A DEPTH OF 500 FEET, WITH NO RIGHT OF SURFACE ENTRY THEREON, TOGETHER WITH ONE-HALF OF ALL RENTS, ISSUES AND PROFITS THEREFROM, AS RESERVED BY WALLACE INVESTMENT, INC., A DELAWARE CORPORATION, IN DEED RECORDED MAY 24, 1963, IN BOOK D-2041 PAGE 88, OF OFFICIAL RECORDS.

APN: 2176-026-900 and 2176-026-901 and 2176-026-902 and 2176-026-903 and 2176-026-904 and 2176-026-905

The First American Corporation
First American Title Company
Privacy Policy

We Are Committed to Safeguarding Customer Information
In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability
This Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its Fair Information Values, a copy of which can be found on our website at www.firstam.com.

Types of Information
Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:
- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

Use of Information
We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies, and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers
Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security
We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's Fair Information Values. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

CLTA/ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   - (a) building;
   - (b) zoning;
   - (c) land use;
   - (d) improvements on the Land;
   - (e) land division; and
   - (f) environmental protection.

   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   (a) that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   (b) that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   (c) that result in no loss to You; or
   (d) that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   (a) to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   (b) in streets, alleys, or waterways that touch the Land.
   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows: For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

Your Deductible Amount	Our Maximum Dollar Limit of Liability
Covered Risk 16: 1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18: 1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19: 1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21: 1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

ALTA RESIDENTIAL TITLE INSURANCE POLICY (6-1-87)
EXCLUSIONS

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   (a) and use
   (b) improvements on the land
   (c) and division
   (d) environmental protection
   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date.
   This exclusion does not limit the zoning coverage described in Items 12 and 13 of Covered Title Risks.
2. The right to take the land by condemning it, unless:
   (a) a notice of exercising the right appears in the public records on the Policy Date
   (b) the taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking

3. Title Risks:
   (a) that are created, allowed, or agreed to by you
   (b) that are known to you, but not to us, on the Policy Date -- unless they appeared in the public records
   (c) that result in no loss to you
   (d) that first affect your title after the Policy Date -- this does not limit the labor and material lien coverage in Item 8 of Covered Title Risks
4. Failure to pay value for your title.
5. Lack of a right:
   (a) to any land outside the area specifically described and referred to in Item 3 of Schedule A OR
   (b) in streets, alleys, or waterways that touch your land

   This exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
      i. the occupancy, use, or enjoyment of the Land;
      ii. the character, dimensions, or location of any improvement erected on the Land;
      iii. the subdivision of land; or
      iv. environmental protection;

      or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   b.Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (07-26-10)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.

   b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters

   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.

EXHIBIT A

LEGAL DESCRIPTION

Real property in the City of LOS ANGELES, County of Los Angeles, State of California, described as follows:

LOT 33 OF TRACT NO. 26541, IN THE CITY OF LOS ANGELES, AS PER MAP RECORDED IN BOOK 722, PAGES 45 TO 49 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM ONE-HALF OF ALL OIL, GAS, MINERAL AND HYDROCARBON SUBSTANCES IN AND UNDER THAT PORTION OF LOT 1 NOT WITHIN THE LINES OF LOT 72 OF TRACT NO. 2605, BELOW A DEPTH OF 500 FEET, WITH NO RIGHT TO SURFACE ENTRY THEREON, TOGETHER WITH ONE-HALF OF ALL RIGHTS ISSUES AND PROFITS THEREFROM, AS RESERVED BY WALLACE INVESTMENT INC., A DELAWARE CORPORATION IN DEED RECORDED MAY 24, 1963 IN BOOK D-2041 PAGE 68 OF OFFICIAL RECORDS.

APN: 2176-026-904

FORM GEN. 160 (Rev. 7-98)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

Date: November 2, 2017

To: David Roberts, Assistant Director
Real Estate Services Division
Department of General Services
Attn: Enid Gomez, Senior Management Analyst

From: Maria Martin, Manager
Environmental Management Group
Bureau of Engineering
Department of Public Works

Subject: HAZARDOUS SUBSTANCE DISCLOSURE FOR 18825 EDLEEN DRIVE LOS ANGELS, CA (APN 2176-026-904) (W.O. E1903843) – COUNCIL DISTRICT 3

In response to your request, the Department of Public Works Bureau of Engineering (DPW/BoE) has reviewed the city's records to provide the information required by state law to be disclosed to prospective purchasers of the city-owned **residential** property named above. The following representations are based on the city's knowledge and analysis of maps drawn by city, state and federal agencies.

THIS REAL PROPERTY LIES WITHIN THE FOLLOWING HAZARDOUS AREA(S):

1. An EARTHQUAKE FAULT ZONE pursuant to §2622 of the Public Resources Code?

Yes ________ No __X__

This information to be provided by the Bureau of Engineering, Geotechnical Engineering Group. See Attached.

2. A SEISMIC HAZARD ZONE pursuant to §2696 of the Public Resources Code?

Yes __X__ No _____ (Landslide zone) Yes _____ No __X__ (Liquefaction zone)

This information to be provided by the Bureau of Engineering, Geotechnical Engineering Group. See Attached.

3. A SPECIAL FLOOD HAZARD AREA (any type Zone "A" or "V") designated by the Federal Emergency Management Agency?

Yes ________ No ___X___

Source: DFIRM Panel Number - 06037C1295F; Effective Date: September 26, 2008. Project site is noted as being outside of a flood zone.

4. An AREA OF POTENTIAL FLOODING shown on a dam failure inundation map pursuant to §8589.5 of the Government Code?

Yes ________ No ___X___

Source: Exhibit G *Inundation & Tsunami Hazard Areas In the City of Los Angeles* (City of Los Angeles General Plan, Safety Element)

5. A VERY HIGH FIRE HAZARD SEVERITY ZONE pursuant to §51178 or 51179 of the Government Code?

Yes ___X___ No ________

Source: NavigateLA, November 2, 2017

6. Pursuant to §4125 of the Public Resources Code, there are no WILDLAND AREAS THAT MAY CONTAIN SUBSTANTIAL FOREST FIRE RISKS AND HAZARDS within the City of Los Angeles.

As a result, they are not definitive indicators of whether or not the property will be affected by a natural disaster. This information is a disclosure and is not intended to be part of any contract between the city and the purchaser.

If you have any questions, please do not hesitate to telephone James R Tebbetts at (213) 485-5732 or email at james.tebbetts@lacity.org .

FORM GEN. 160 (Rev. 11-02)

CITY OF LOS ANGELES
INTERDEPARTMENTAL CORRESPONDENCE

Date: November 2, 2017

To: David Roberts, Assistant Director
Real Estate Services Division
Department of General Services
Attn: Enid Gomez, Senior Management Analyst

From: Maria Martin, Manager
Environmental Management Group
Bureau of Engineering
Department of Public Works

**Subject: SALE OF PROPERTY – 18825 WEST EDLEEN DRIVE, LOS ANGELES, CA (APNs 2176-026-904) (W.O. E1903843)
CEQA NOTICE OF EXEMPTION**

Following your request for environmental documentation, we have determined that this project is exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to *City of Los Angeles CEQA Guidelines* (Art III, Sec 1, Class 12) and State Guidelines (Sec 15312). The attached Notice of Exemption serves as your record that CEQA review has been completed and it should be retained in the official project file.

This determination is based on the information submitted to us by your office and on our subsequent investigation. Please review the enclosed notice carefully. If the notice incompletely or inaccurately describes the project, the City could be vulnerable to legal challenges. If you think there may be inconsistencies, or if the project description changes, please contact this office for a re-evaluation of the project's exempt status.

The Notice of Exemption may be filed with the Los Angeles County Clerk after the project is approved or a determination is made to carry out the project. Filing with the County Clerk is not usually required but has the advantage of limiting legal challenges to a 35-day period. Without the filing, legal challenges can be filed up to 180 days following commencement of the project. The filing is subject to a $75 filing fee, which your office will be expected to provide. If you want EMG to file the notice with the County Clerk, please let us know immediately after the project is approved or a determination is made to carry out the project. Project approval can occur in any of several actions, such as authorization to: going into escrow, proceed beyond the pre-design stage, acquire rights of way, expend funds for construction, or advertise for construction bids.

Should you have questions or concerns regarding this notice, please contact James R. Tebbetts of my staff at (213) 485-5732 or james.tebbetts@lacity.org

MM/jrt:CEQA NOE Transmittal Memo
Enclosure: Notice of Exemption

COUNTY CLERK'S USE

CITY OF LOS ANGELES
OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012
CALIFORNIA ENVIRONMENTAL QUALITY ACT
NOTICE OF EXEMPTION
(Articles II and III – City CEQA Guidelines)

CITY CLERK'S USE

Submission of this form is optional. The form shall be filed with the County Clerk, 12400 E. Imperial Highway, Norwalk, California, 90650, pursuant to Public Resources Code Section 21152(b). Pursuant to Public Resources Code Section 21167(d), the filing of this notice starts a 35-day statute of limitations on court challenges to the approval of the project.

LEAD CITY AGENCY AND ADDRESS:	Environmental Management Group Los Angeles City Engineer 1149 S. Broadway, MS 939 Los Angeles, CA 90015	**COUNCIL DISTRICT** 3
PROJECT TITLE: Sale of Property – 18825 West Edleen Drive, Los Angeles, CA. (APN 2176-026-904) (W.O. E1903843)		**LOG REFERENCE**

PROJECT LOCATION: The vacant property is located on West Edleen Drive, between Brewster Drive and La Montana Circle. The property is located in the Encino-Tarzana Community Plan Area. T.G. Pg. 560, Grid H4

DESCRIPTION OF NATURE, PURPOSE, AND BENEFICIARIES OF PROJECT: This single vacant property is in the process of being declared surplus by the City and will be sold at a public auction. The existing zoning on the property is RA-1 (Suburban Zone, One (1) Acre Minimum). The City will benefit by the sale of surplus property.

CONTACT PERSON: James R Tebbetts, ES II **TELEPHONE NUMBER:** (213) 487-5732

EXEMPT STATUS: (Check One)

	CITY CEQA GUIDELINES	STATE CEQA GUIDELINES
☐ MINISTERIAL	Art. II, Sec. 2.b	Sec. 15268
☐ DECLARED EMERGENCY	Art. II, Sec. 2.a(1)	Sec. 15269(a)
☐ EMERGENCY PROJECT	Art. II, Sec. 2.a(2)(3)	Sec. 15269(b)(c)
☐ GENERAL EXEMPTION	Art. II, Sec. 1	Sec. 15061(b)(3)
☒ CATEGORICAL EXEMPTION*	Art. III, Sec. 1 Class 12 (2)(c)	Sec. 15312
☐ STATUTORY*	Art. ______	Sec. _____

* See Public Resources Code Sec. 21080 and set forth state and city guidelines provisions.

JUSTIFICATION FOR PROJECT EXEMPTION: State *CEQA Guidelines* (Sec 15312) consists of sales of surplus government property except for parcels of land located in an area of statewide, regional, or area wide concern, as identified in Section 15206(b)(4). The subject properties are not located in an area of statewide, regional, or area wide concern. Additionally, the property does not have significant values for wildlife habitat or other environmental purposes (15312(a)) and the properties to be sold would qualify for an exemption under any other class of categorical exemption in these Guidelines (15312(b)(2)). The *City of Los Angeles CEQA Guidelines* (Art III, Sec 1, Class 12(2)(c)) exempts the sales of surplus government property except for parcels of land located in an area of statewide interest or potential area of critical concern as identified in the Governor's *Environmental Goals and Policy Report*, prepared pursuant to Government Code Section 65041, et. seq.

IF FILED BY APPLICANT, ATTACH CERTIFIED DOCUMENT OF EXEMPTION FINDING

SIGNATURE: Maria Martin		TITLE: Environmental Affairs Officer Environmental Management Group	DATE: 11/15/17
FEE: $75.00______	RECEIPT NO.	REC'D BY	DATE

DISTRIBUTION: (1) County Clerk (2) City Clerk (3) Agency Record

CATEGORICAL EXEMPTION NARRATIVE

I. HISTORY - The City of Los Angeles has implemented a program to sell unneeded City owned properties. The subject properties are some of these unneeded properties. The properties will be sold at public auction.

The subject property is currently has a zoning designation of RA-1 (*Suburban Zone, One-Acre Minimum*) and a General Plan Designation of Very Low I Residential. Specific development proposals for this property has not yet been determined. The future owner of the property would make that determination.

This exemption applies only to the sale of this property. No other project or development has been identified for this property. Any changes in the zoning or general plan designations and any proposed development activities would require processing and evaluation through the City Planning Department prior to approval of the approval of the zone or general plan designation change or development. These activities would trigger an environmental review of the proposed activities to ensure compliance with the California Environmental Quality Act (CEQA).

II. ENVIRONMENTAL REVIEW - The State CEQA Guidelines (CCR Sec 15300.2) limit the use of categorical exemptions in the following circumstances:

1. Location. Exemption Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located – a project that is ordinarily insignificant in its impact on the environment may be significant in a particularly sensitive environment. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.

This project is for the sale of a vacant, surplus City-owned property at this location. The sale of the property will not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies Therefore, this exception has no application here.

2. Cumulative Impact. This exception applies when, although a particular project may not have a significant impact, the cumulative impact of successive projects of the same type in the same place, over time is significant.

This project is the sale of vacant, surplus City-owned property at this location. There are no other known projects that could involve cumulatively significant impacts in the general area. Therefore, this exception has no application here.

3. Significant Effect. This exception applies when, although the project may otherwise be exempt, there is a reasonable possibility that the project will have a significant effect due to unusual circumstances.

This project is the sale of vacant surplus City-owned property at this location. There are no unusual circumstances known to this office on this project site. Therefore, this exception has no application here.

4. Scenic Highway. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway.

This project is the sale of vacant surplus City property at this location. The proposed project is not within sight of any state designated scenic highway resource. Therefore, this exception has no application here.

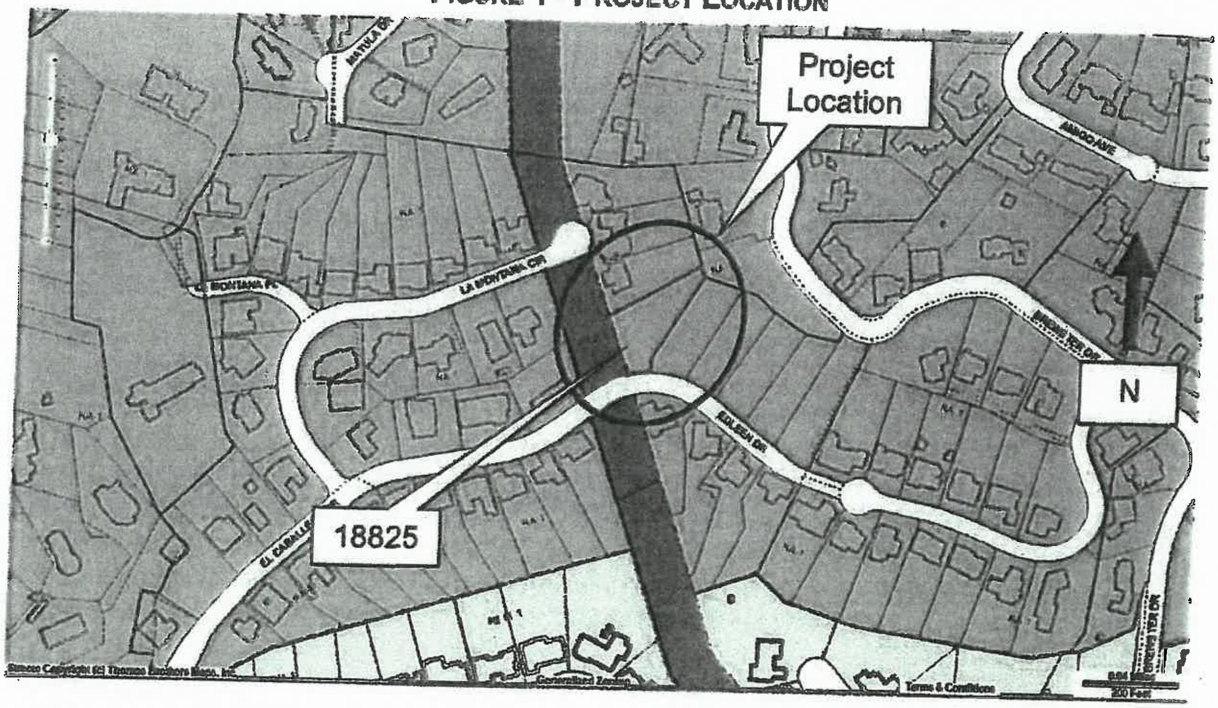
5. Hazardous Waste Site. This exception applies when a project is located on a site listed as a hazardous waste site under Government Code Section 65962.5.

This project is the sale of vacant surplus City property at this location. As of November 2, 2017, the State Department of Toxic Substances Control has not listed any sited within the project area (Envirostor at www.envirostor.dtsc.ca.gov). Therefore, this exception has no application here. As of November 2, 2017, the State Water Quality Control Board has not listed any sited within the project area (Geotracker at http://geotracker.waterboards.ca.gov/gama/). Otherwise there are no unusual circumstances known to this office on this project site. Therefore, this exception has no application here.

6. Historical Resources. This exception applies when a project may cause a substantial adverse change in the significance of a historical resource.

This project is the sale of vacant surplus City property at this location. According to the Zone Information and Map Access System (ZIMAS) the project site is not located within a City Historic Preservation Overlay Zone. The project site is not found on the listing of City Historical Cultural Monuments. Otherwise there are no unusual circumstances known to this office on this project site. Therefore, this exception has no application here.

FIGURE 1 - PROJECT LOCATION



EGV

RECEIVED
OCT - 4 2017
CITY OF LOS ANGELES
REAL ESTATE SERVICES

INTER-DEPARTMENTAL CORRESPONDENCE

Date: October 2, 2017

To: David Roberts, Property Manager
Department of General Services, Asset Management Division
Mail Stop 706
Attention: Enid Gomez

A. Achagy

From: for Mati Laan, District Engineer
Valley District Office

Subject: PROPOSED DIRECT SALE OF SURPLUS CITY-OWNED PROPERTY (18825 EDLEEN DR, APN 2176-026-904, CD-3)

In your memo dated September 12, 2017, you requested our comments regarding the sale of City-owned property at the following location:

APN	LEGAL DESCRIPTION and LOCATION	CD	LAND USE
2176-026-904	See Assessor's Map provided by your office	03	Low Residential

For your information, we are sending the following maps and plans as an electronic attachment (hard copies will not be sent):

1) Photo Page which includes maps and photos from the internet (11 sheets).
2) Screen shot of area in question from Cadastral Map 168B121 (1 sheet).
3) Information obtained online regarding the site (14 sheets).
4) Street plan P-23287 and drainage plan D-19141 (8 sheets total).
5) Signed memo dated July 12, 2017 for sale of adjacent lots (2 sheets).

COMMENTS

We had previously commented on the proposed sale of five City-owned properties east of this site (18801-18821 Edleen Dr, APN 2176-026-900/901/902/903/905) in our memo sent to you on July 12, 2017. Our comment would generally be the same for this site. We have modified those comments for the sale of this site as follows:

Modified Comments: The subject ~~properties have~~ *property has* frontage along Edleen Drive. ~~APN 2176-026-900 also has frontage along Brewster Drive. (Note: APN 2176-026-904, 18825 Edleen Drive, is also owned by the City.)~~

~~Both~~ Edleen Drive ~~and Brewster Drive~~ appear to have been improved per P-23287. Looking at Google Street-View it appears some of the curb, gutter and sidewalk along Edleen Drive ~~and some of the curb, gutter and possibly the existing culvert along Brewster Drive~~ are in need of repair. ~~There is an existing storm drain in a 5-foot storm drain easement along the easterly property line of APN 2176-026-900 constructed per D-19141 that will have to be retained.~~

We cannot comment on whether the site is suitable for new buildings or not. According to information available online (see attached), the site appears to have had some geotechnical issues during the Northridge Earthquake which resulted in the City purchasing the lots and demolishing the buildings. We can, however, comment as follows:

1) It appears our Geotechnical Engineering Group has been involved with the evaluation of the site as noted in the enclosed "Task Order Solicitation…", if you have not contacted them yet, please consult with them for further geotechnical information regarding the site.
2) ~~There is an existing storm drain in a 5-foot storm drain easement along the easterly property line of APN 2176-026-900 that will have to be retained. The integrity of the existing storm drain should be verified as part of developing the site and repairs or removal/reconstruction should be made as necessary by the buyer as part of the sales agreement (possibly guaranteed by a C & A).~~
3) The existing curb, gutter, sidewalk and any other public facilities should be repaired as necessary by the buyer as part of the sales agreement of the site (possibly guaranteed by a C & A).
4) The existing dedication along Edleen Drive (Local Street) is a 44-foot R/W which complies with Hillside Local Street standard (44-foot R/W) per Standard Plan S-470-1. The existing dedication along Brewster Drive (Local Street) is a 50-foot R/W which could have been our Hillside Collector standard (50-foot R/W) per Standard Plan S-470-1.
5) This site is within Hillside Ordinance area and will have to comply with the ordinance.

If you have any further questions please contact Ali Nahass at (818) 374-4626.

AN:pk(085)
Electronic Attachments (5-pdf files)

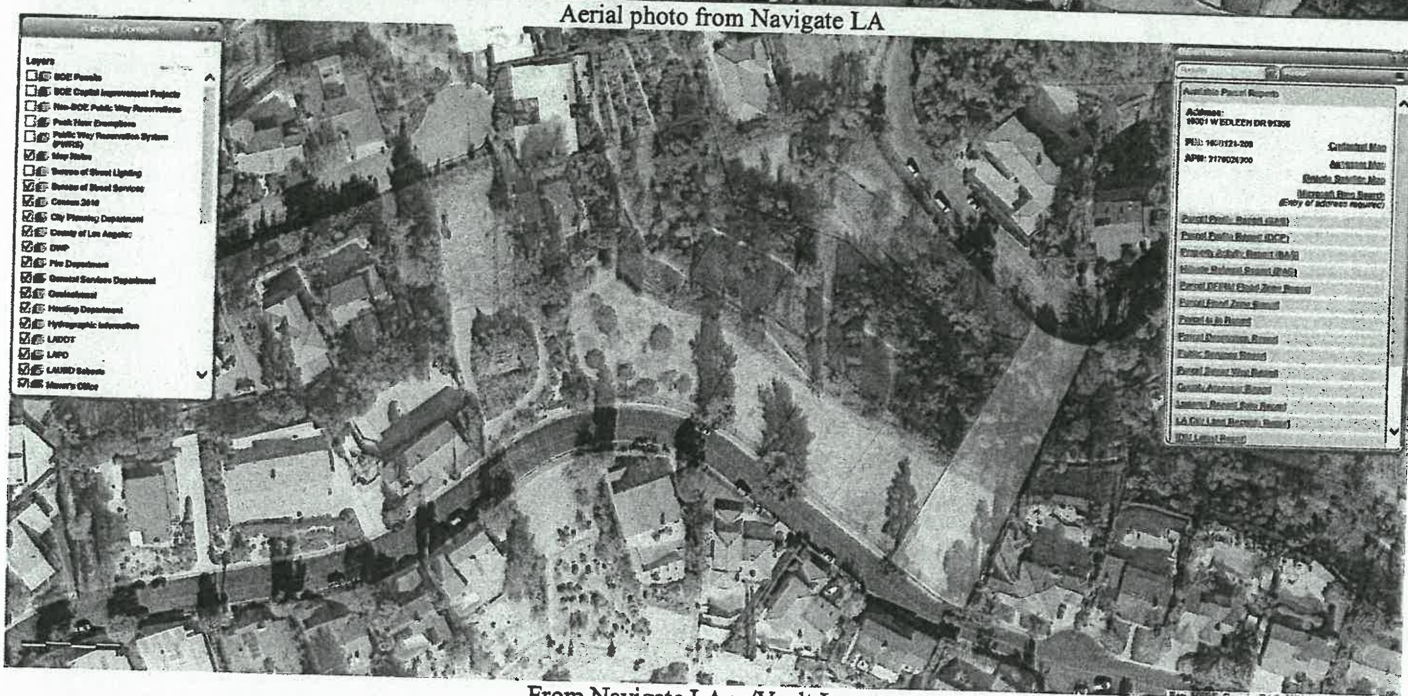
Q:\PRIVATE DEVELOPMENT\Sale of Surplus City Property\18825 Edleen Dr (APN 2176-026-904)\2017-09-12, Corres 2017_085\Memo, Corres 2017_085.docx

Cadastral Map 168B121

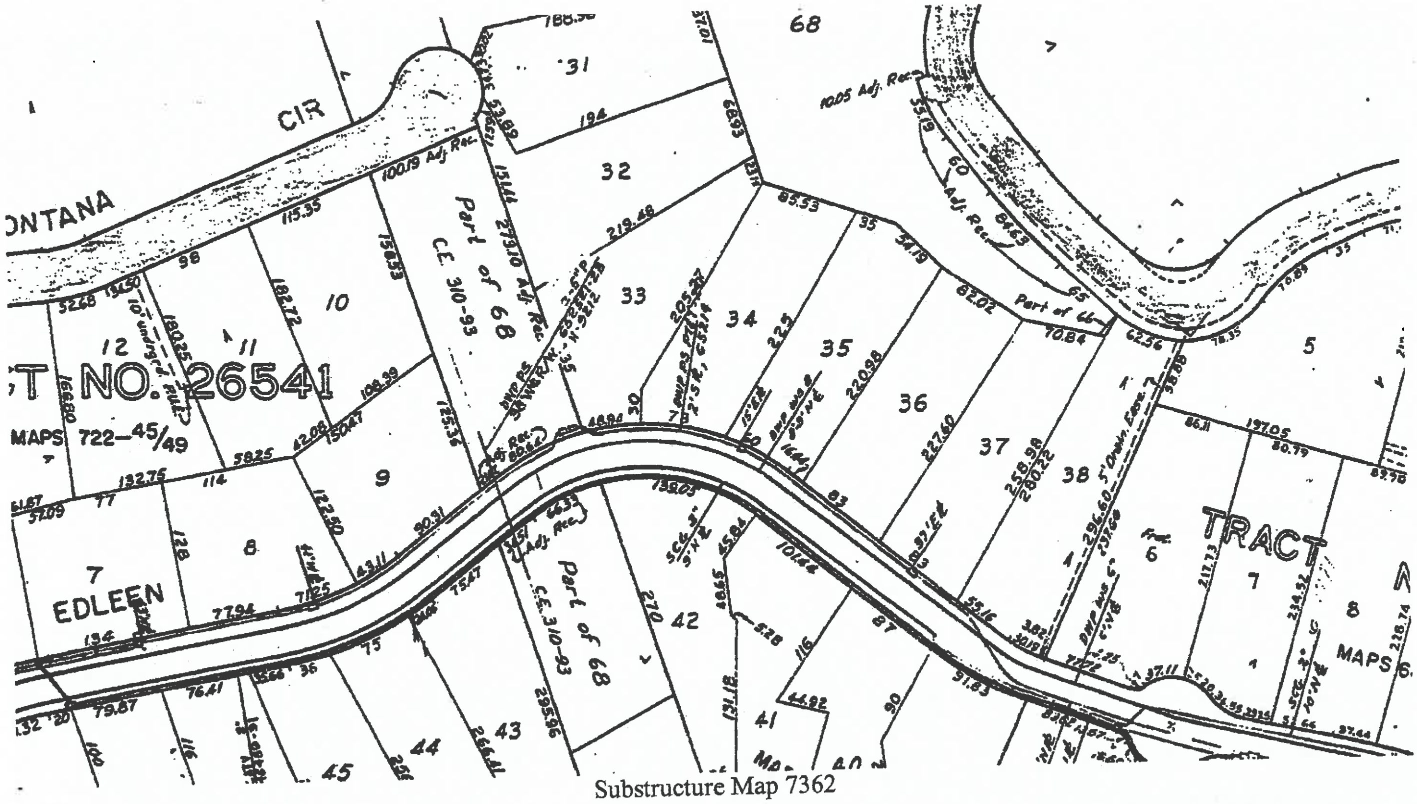
Cadastral Map 168B121

Internet Maps/Photo (18801-18821 Edleen Dr)

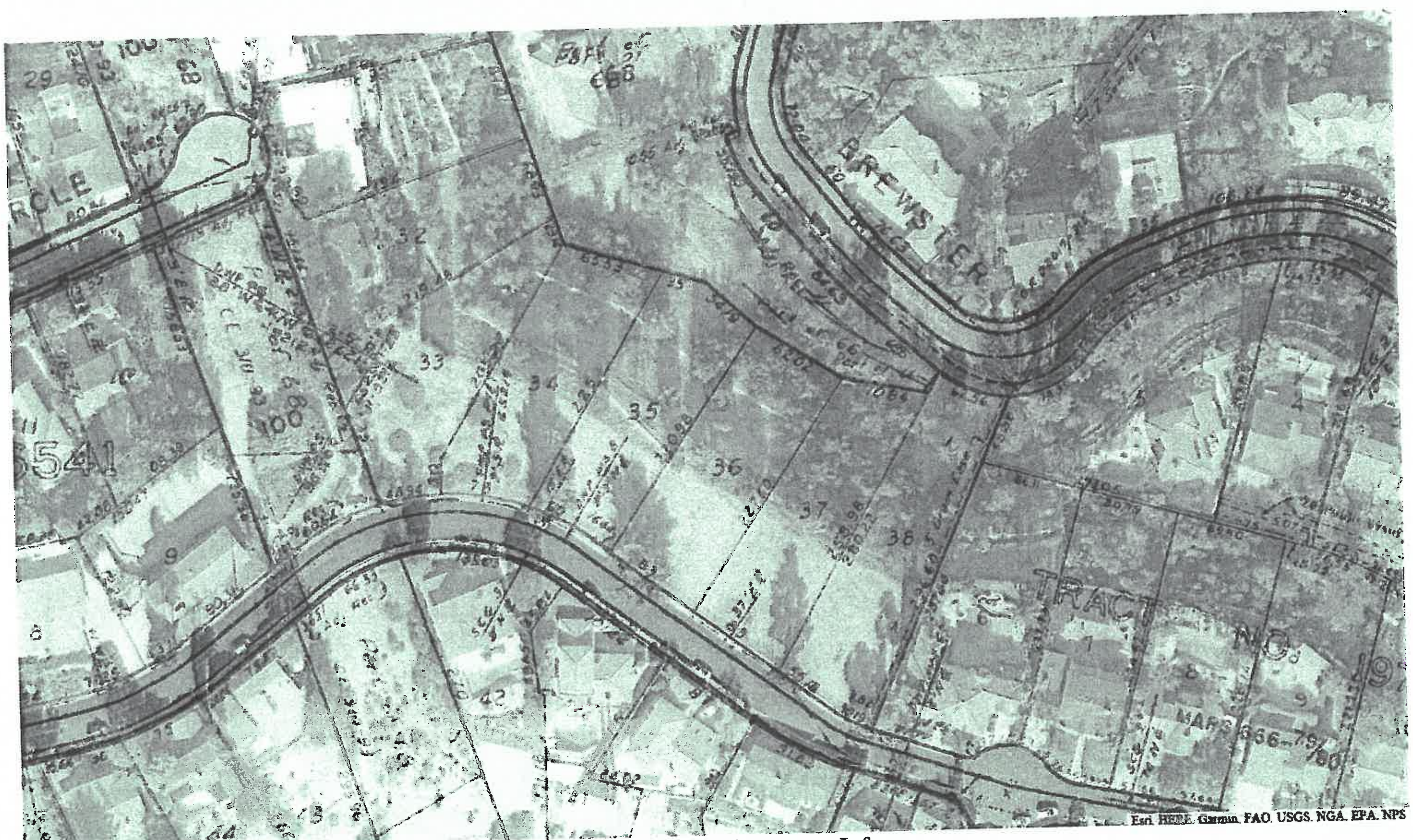
Aerial photo from Navigate LA



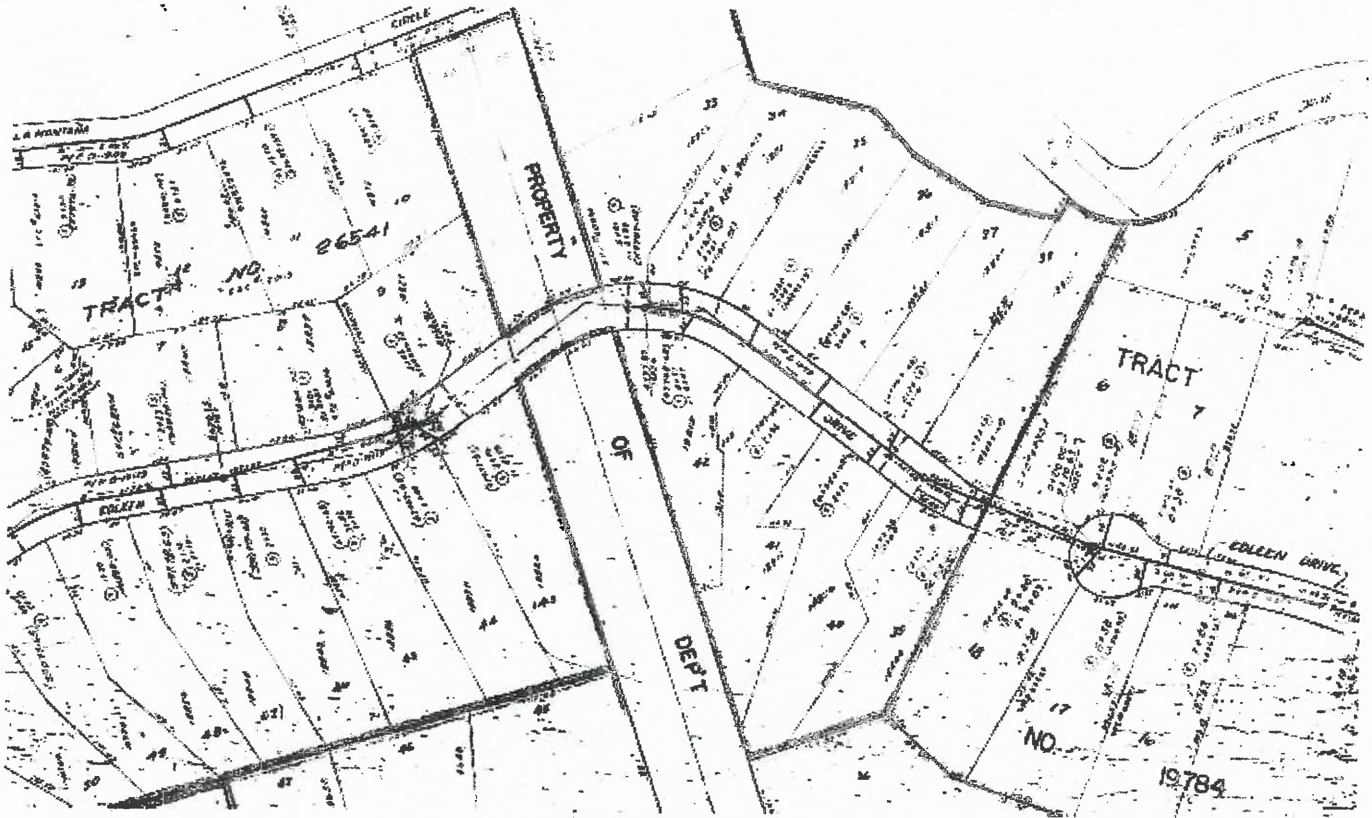
From Navigate LA w/Vault Layer



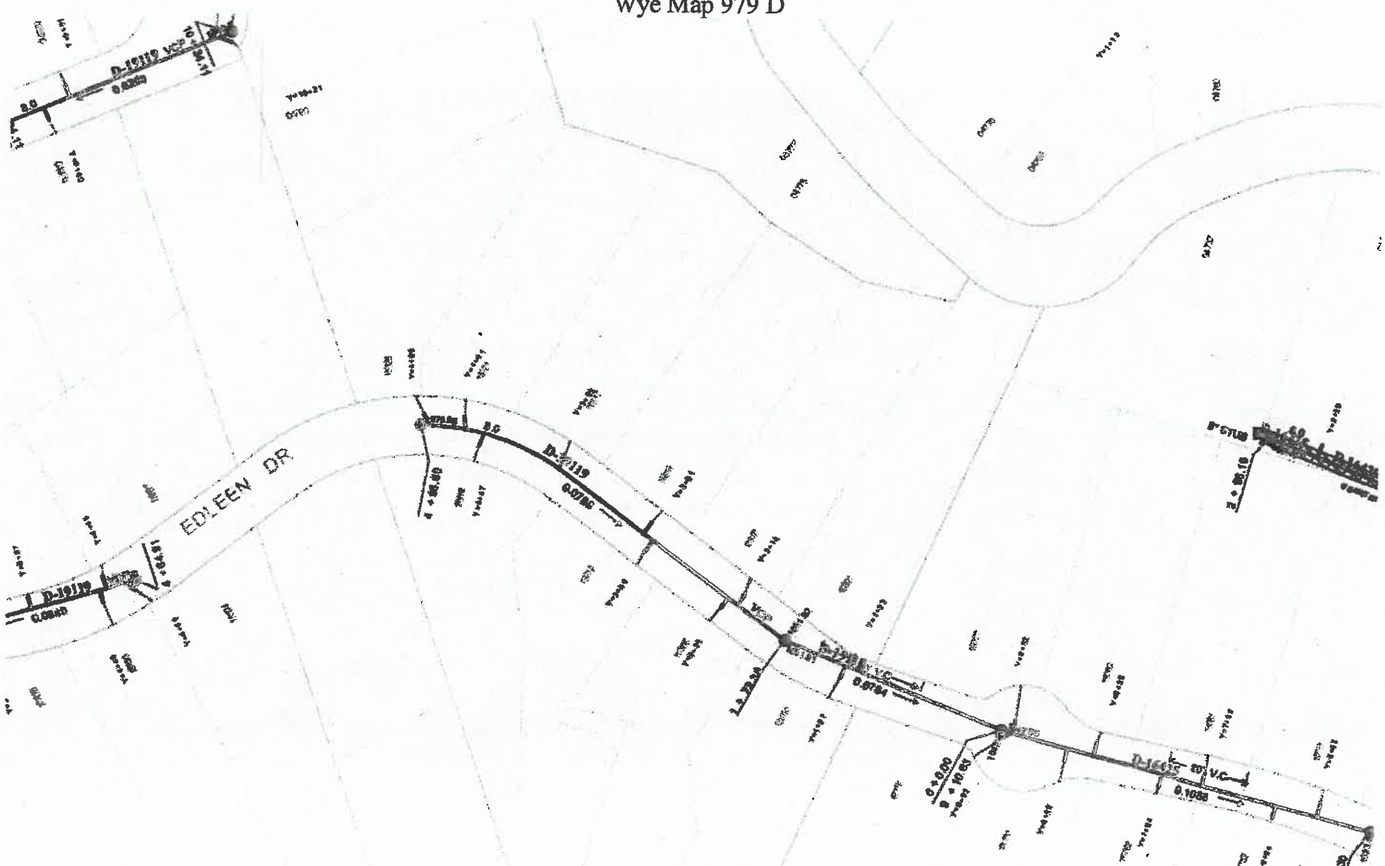
Substructure Map 7362



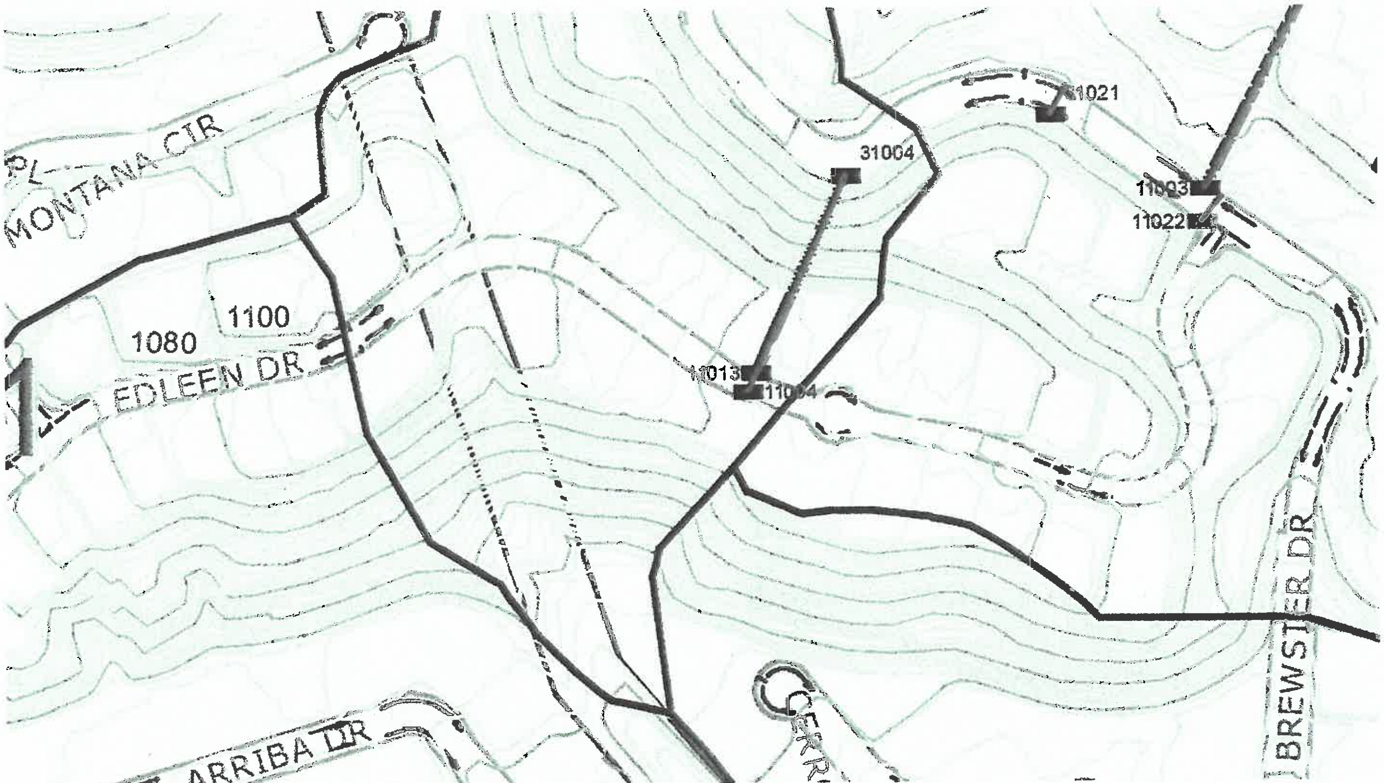
Navigate LA w/Substructure Info.



Wye Map 979 D



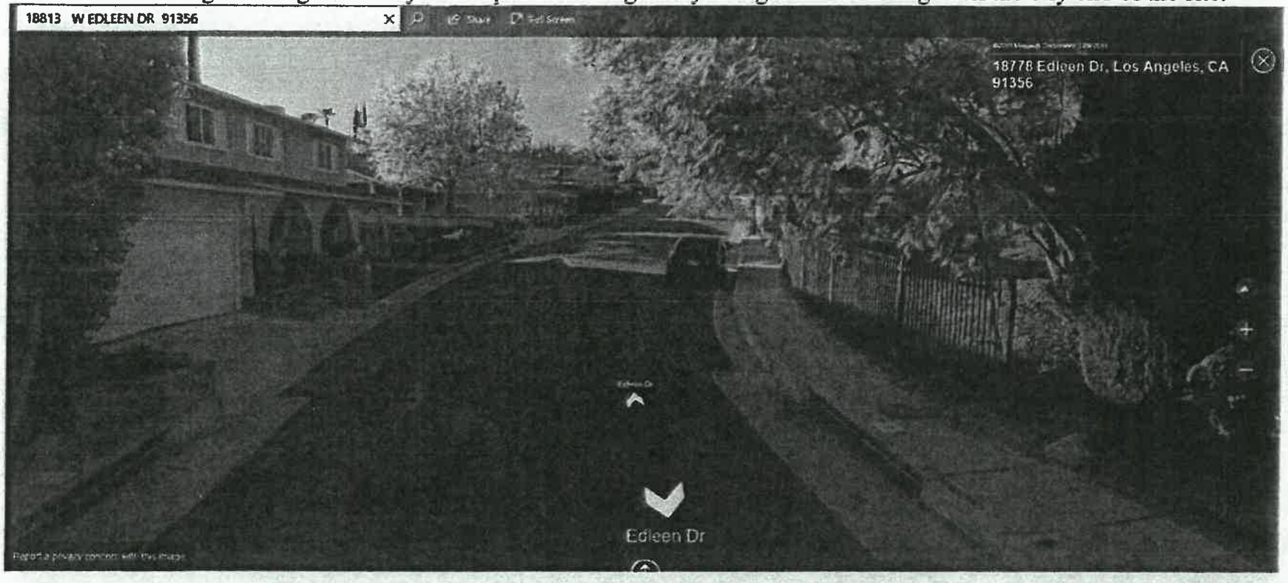
Updated Wye Map 168B121



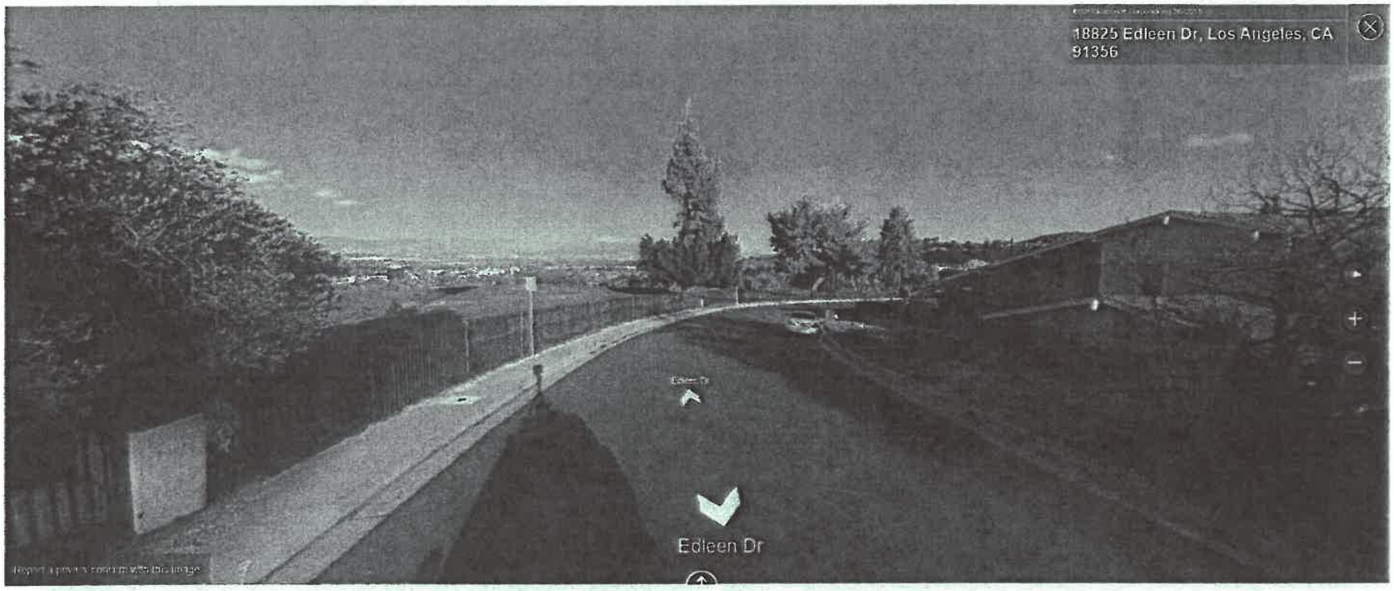
Drainage Map 440

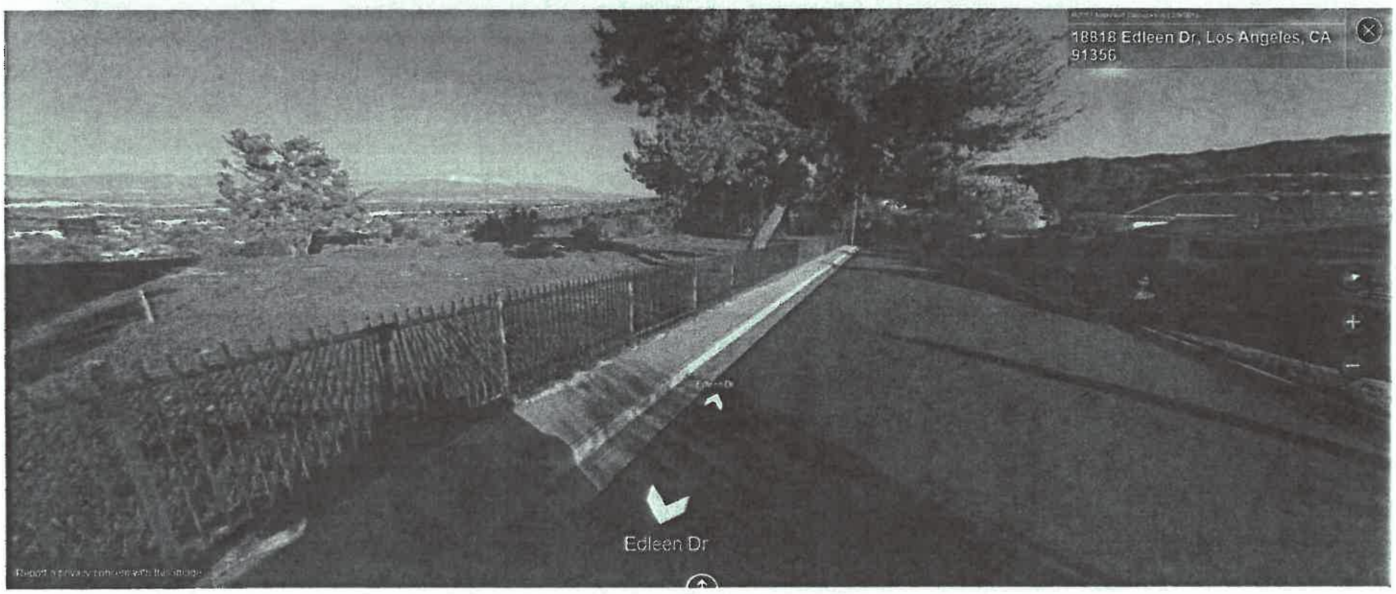
Bing Bird's-Eye view photo looking n'ly at the site.

The following are Bing Bird's-Eye view photo looking nw'ly along Edleen starting from the e'ly end of the site.



The following are Bing Bird's-Eye view photo looking se'ly along Edleen starting from the w'ly end of the site.

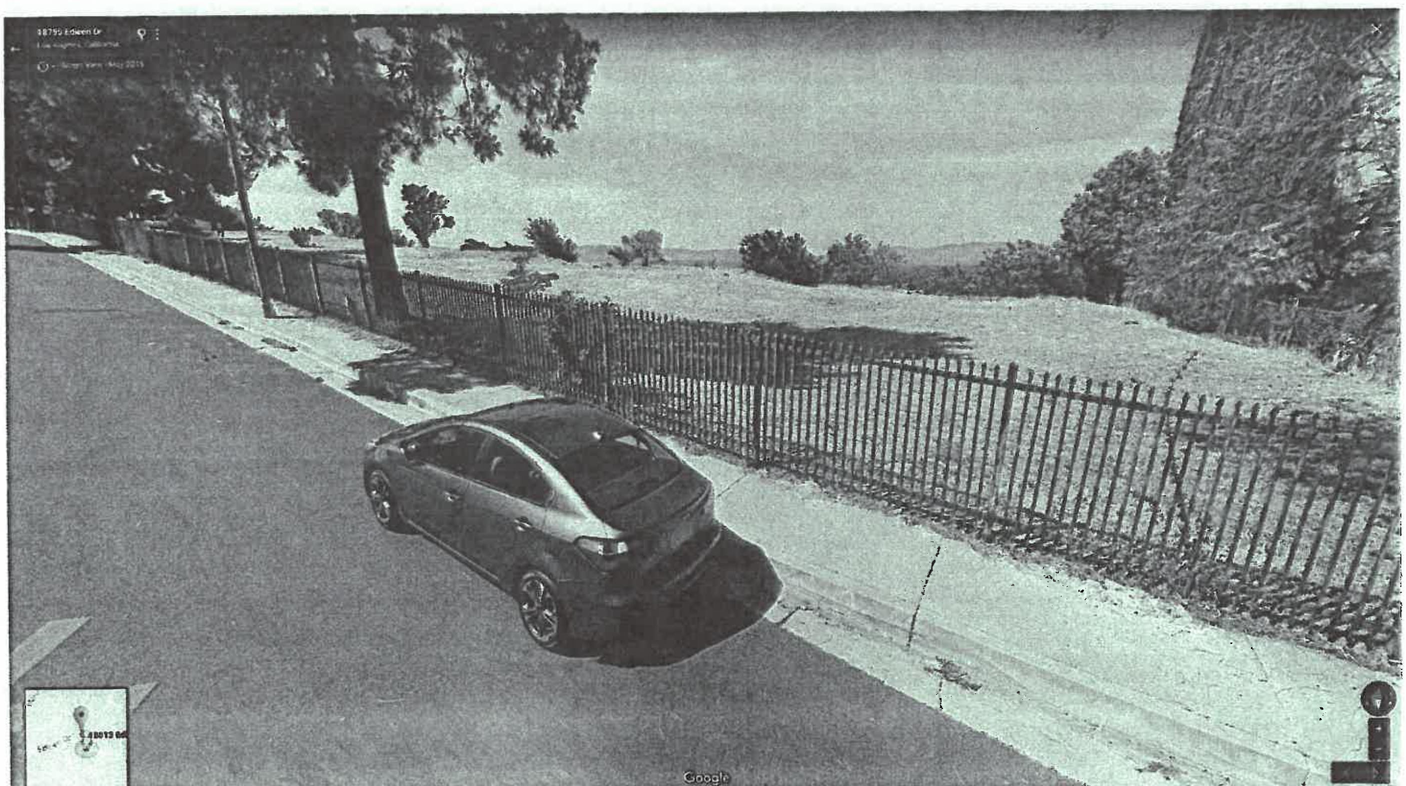




Google aerial photo looking at the site.

Google Street-View looking n'ly along the w'ly boundary of the site.

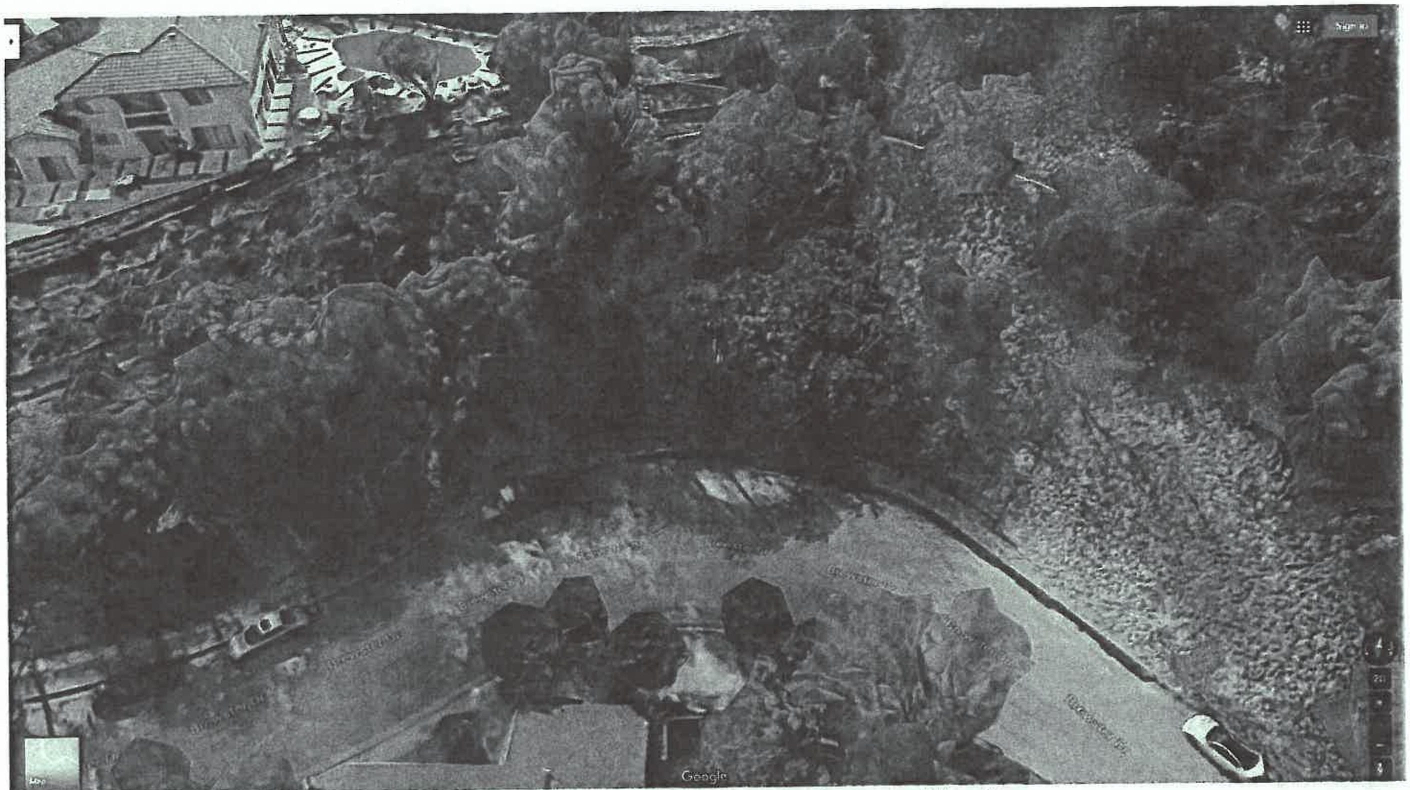
Google Street-View looking nw'ly along Edleen from near the e'ly end of the site.



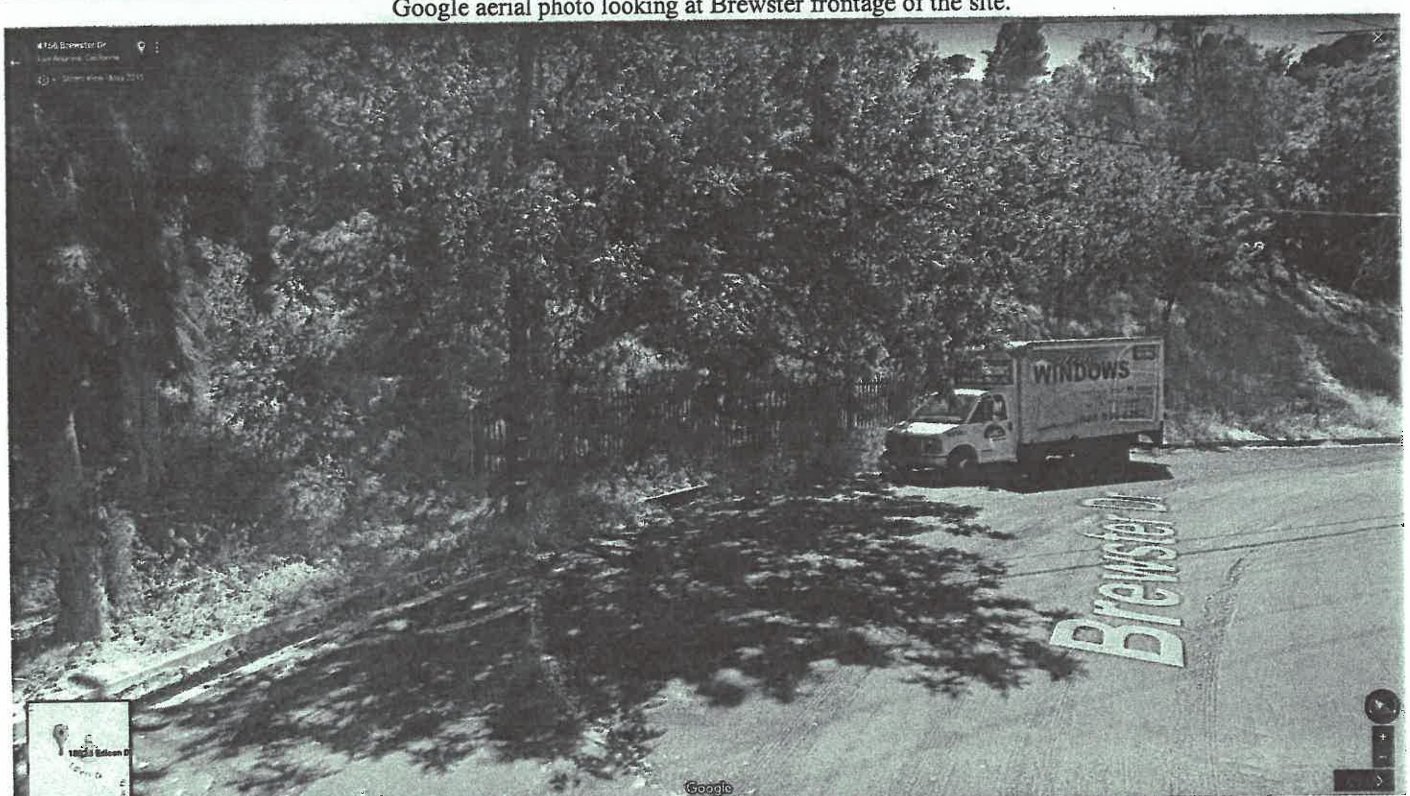
Google Street-View looking n'ly along Edleen from mid site.

Google Street-View looking nw'ly along Edleen from mid site.

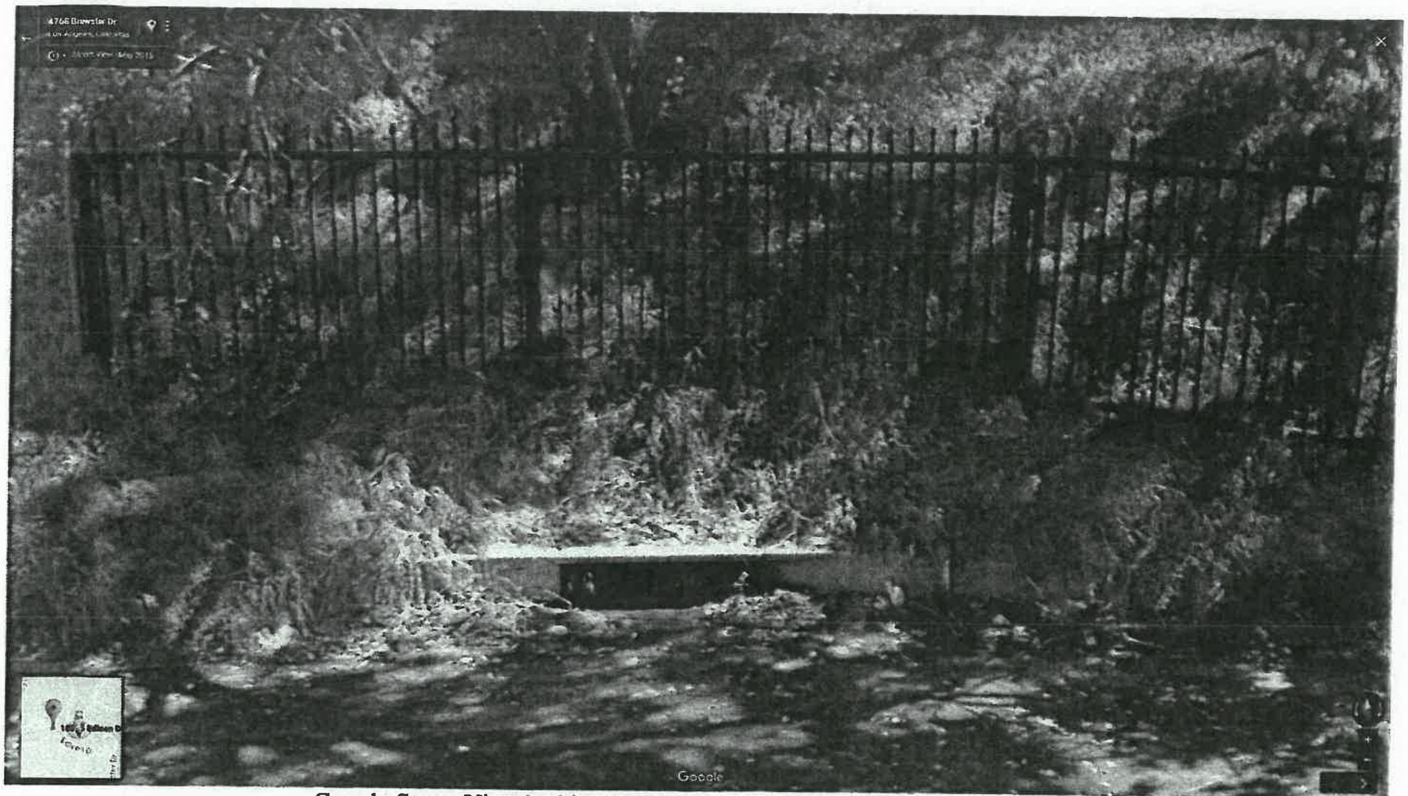
Google Street-View looking se'ly along Edleen from near the w'ly end of the site.



Google aerial photo looking at Brewster frontage of the site.



Google Street-View looking sw'ly at the Brewster frontage of the site.



Google Street-View looking at the culvert on Brewster frontage of the site.

COUNCIL PAYS FOR DAMAGED HILLSIDE HOMES.

Byline: Yvette Cabrera and David Bloom Daily News Staff Writers

Accepting responsibility for actions of more than 30 years ago, the City Council paid more than $4 million for six Tarzana homes that were damaged in the Northridge Earthquake.

Now city engineers are in the process of tearing them down, even though two of them were not damaged badly enough to be red tagged.

The homeowners have gotten their money and long ago moved away, leaving the city stuck with the south-of-the-boulevard property - which it intends to turn into a greenbelt because the land isn't stable enough to support any buildings.

City records show that the City Council agreed to purchase the homes after the steep bank on which they were built collapsed in the Northridge Quake.

The advice from City Attorney Jim Hahn's office to the council was that the city was liable because it had approved a grading plan for the hill in 1961 and also authorized a street widening lower on the hill that destabilized the slope, the records show.

It's a case of the past coming back to haunt the City Council, said Councilman Marvin Braude, whose district includes the Edleen Drive site.

``The city is really faced with a double whammy of policy and fault in this issue," Braude said. ``It's responsible like any other owner to correct damage and prevent threats to life and limb. . . . The lawyers are telling us that it would be a prudent investment to make to prevent further litigation."

Taxpayers are being asked to foot a swelling tab, which could climb past $4.4 million when the council considers authorizing the expenditure of $174,000 to tear down the remaining two houses. The first four were torn down last year.

The expenditure also would cover tearing out the foundations and swimming pools at the sites of the first four homes and landscaping the lots as a greenbelt.

James Jimenez, who lives two doors from the ruined houses, said the work needs to proceed as soon as possible. Not only are winter rains imminent, but loiterers are using the remaining two houses as a place to paint graffiti, start small fires and get into other mischief, he said.

``It's a safety issue as well as a liability issue," said Jimenez, an attorney. ``It's really a $174,000 investment vs. a landslide and further liability."

Funds for the demolition and landscaping work would come from the city's reserve. City officials said they are seeking quake damage repair funds from the Federal Emergency Management Agency, but such money may take years to arrive, if it ever does.

Councilman Michael Feuer raised a concern about the source of funding for the work at a time when the city is badly strapped for cash.

``There's no question we have to act quickly," Feuer said. ``The only question is the source of funds. Is there any other source besides the reserve?"

Ronald Morhar, whose home at 18801 Edleen Drive was one of the first four homes to be demolished by the city, said he was content with the settlement and thought it was only fair for the city to pay to demolish the remaining two damaged homes.

``The city should be responsible, and it should take care of it since it was the city's fault this happened in the first place," said Morhar, who has since purchased homes in Westwood and Woodland Hills.

For residents, the anticipated council approval of the final expenditure will mark the end of a worrisome nightmare made precarious by living on a ridge vulnerable to slippage. But for the city, the decision is just another in a series made to avoid litigation over a mishap hailing back to the '60s.

The city was forced to purchase the pricey homes, averaging between $500,000 and $750,000 each, after homeowners filed two lawsuits which claimed a street widening project approved by the city in the early 1960s destabilized the hillside and ultimately damaged the homes.

``The city's attorney went over it, the engineers went over it and they felt the city shared some responsibility for what happened there, and that they were liable," said Braude, adding that city regulations and standards for building on hillsides were not as tight as they should have been in the sixties.

``If we didn't settle, the costs in court would have been greater. I think it was a prudent settlement in the taxpayers' interest."

Joel Fox, president of the Howard Jarvis Taxpayers Association, said the settlement and the additional money spent to demolish the homes means taxpayers will have less money to spend on other city projects.

``It's something that unfortunately happens too often where the taxpayer is called upon to right a wrong," Fox said. ``The taxpayer unfortunately becomes the deep pockets when these situations are resolved."

Braude said other factors like storms as well as homeowner's practices of watering their lawns also contributed to the landslides.

The owners were partially at fault, said Braude.

``There's no question about that, but how much it was their fault, how much it was the builder's fault, how much it was the city's fault, how much it was building and safety's fault is very difficult to assess," he said.

Aides to the city attorney said Hahn would not comment on why the city agreed to assume liability for buying the homes because he wasn't familiar with the case.

They referred all questions to Deputy City Attorney Leslie Pinchuk, who refused to answer any questions regarding the case, claiming attorney-client privilege.

In their lawsuits, the families said the problems started in 1961 when the original developer was granted city approval for a grading plan that even the city's own engineers expressed doubts about.

Records show that the city's engineering geologists at the time said the grading plan did not solve the hillside stabilization problems that had been identified earlier.

Recently, in a report to the City Council asking for the money for demolition, the city's engineers acknowledged that the slope on which Edleen Drive rested was unstable prior to the development that was approved by the city.

``During the Northridge Earthquake, a crack opened up through the middle of the pad that severely damaged the houses and indicated that the slope below the residences was unstable," the engineers wrote.

When asked about the Edleen Drive homes, Robert Hancock, the city's geotechnical engineer on the case, refused to answer questions about the Edleen Drive houses and referred questions to Braude's aide Bonnie Kopp.

Kopp referred questions on why the city originally approved the grading to Pinchuk who refused to answer questions.

But city records show that the problems with the grading were further aggravated when in 1961 the city also required the builder to widen Brewster Street, which runs along the hillside 75 to 100 feet below the six homes that the city ultimately had to purchase.

Santa Monica attorney Richard Norton, who represented all six of the homeowners in their suits against the city, said the widening of the street by 10 feet was a fatal mistake that rendered his clients' properties ultimately unusable.

``If you take a 10-foot notch out of the hill then the rest of the material wants to slide so that the equilibrium is eradicated," Norton said. ``The city's liability for the original cut is why they had to pay."

Compounding the problem in the summer of 1961, the city approved a plan that called for creating a buttressing wall at the bottom of the hill, stripping much of the unstable soil off the hillside, court records show.

In June 1964 the city approved the developer's slope work and accepted Edleen Drive and the Brewster widening soon after, records show.

By 1978, the homeowners started having problems. The hillside began to sag, with surface soil creeping down toward Brewster, the court records said. Then in the rainy winter of 1992-93, the buttress wall failed, and land sliding became apparent.

According to Norton, the buttress wall - described as an earthen dam of compacted dirt - was smaller than required by the city and didn't hold up.

The 6.7-magnitude quake on the morning of Jan. 17, 1994, was the coup de grace for the properties, causing sliding so severe that the city condemned four of the houses.

``These homes had already suffered a lot of damage because of the landslide," Norton said. ``Then the earthquake came along, and they were basically devastated. It looked like a war zone, but that wasn't a result of the earthquake, it was a result of the landslide."

Five Edleen Drive homeowners filed claims against the city shortly after the earthquake, and the city, without recognition of any responsibility, settled the case out of court, giving the homeowners $3.5 million.

The city paid an additional $700,000 in a settlement with homeowner Marvin Hall, who filed his claim a year after his neighbors but had a similar case against the city, Norton said.

The city's General Services Department, which manages city-owned buildings, spent between $60,000 and $80,000 to demolish the four homes, remove the debris and pay for dump fees, said director of tenant services Bill Koenig, whose department could not afford to pay for the remaining work and went to the city council for more funds.

On Nov. 19, the council's Budget and Finance Committee recommended spending the necessary $174,000. If the full council approves the motion, the funds will go toward removing the final two homes, plus the foundations, swimming pools and retaining wall of all six homes.

The most expensive portion of the project will involve grading the hill appropriately so the water doesn't flow off the parcel and cause further slippage, Koenig said.

CAPTION(S):

Photo

PHOTO (color) Graffiti covers a Tarzana home abandoned since the '94 Northridge Earthquake.

Gus Ruelas/Daily News

Article Details

Publication: Daily News (Los Angeles, CA)
Date: Dec 2, 1996
Words: 1639
Previous Article: ANALYSIS : USC BRASS MISHANDLED SITUATION ROBINSON SHOULD HAVE BEEN BACKED.
Next Article: LAKERS IRKED BY WIN : ROUT BECOMES CLOSE CONTEST LAKERS 104, DENVER 96.

Related Articles

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GRANT TO PAY FOR DAMAGED HOMES.

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FEMA TO HELP BUY MUDSLIDE-DAMAGED HOMES.

LA CONCHITA SLIDE TRIAL TO BEGIN : RESIDENTS BLAME RANCH ATOP HILLSIDE FOR LOSS OF HOMES, DAMAGES.

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CITY OF LOS ANGELES

CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
PUBLIC WORKS

BUREAU OF
ENGINEERING

GARY LEE MOORE, PE, ENV SP
CITY ENGINEER

1149 S. BROADWAY, SUITE 700
LOS ANGELES, CA 90015-2213

http://eng.lacity.org

January 3, 2017

Distribution: All Consultants on the Approved Pre-Qualified On-Call Geotechnical List

TASK ORDER SOLICITATION FOR EDLEEN DRIVE GEOTECHNICAL EVALUATION; PROJECT W.O. #E1908159, GEO FILE NO. 16-232

The City is soliciting responses from all consultants on the Pre-Qualified On-Call Geotechnical Services Consultant List. Refer to the following Task Order Solicitation for details of the required services. All responses to this solicitation must be submitted to:

Attention: Patrick Schmidt
Geotechnical Engineering Group
1149 S. Broadway, Suite 120
Los Angeles, CA 90015-2213

All responses must be submitted no later than **3:30 PM on Thursday, January 19, 2016.** You may elect to email your proposal to daniel.orris@lacity.org prior to the deadline. Please call Daniel Orris at (213) 847-0488 or email him to confirm receipt of your proposal. An emailed proposal shall be followed-up with the delivery of the required hard copies.

Although it is our intent to move forward, the City always retains the right to award or not to award any part or all of the Task Order based solely on its convenience and shall not be responsible for any solicitation response costs.

Thank you for your interest. We look forward to receiving your response to this Task Order Solicitation.

Sincerely,

Patrick Schmidt

Patrick Schmidt P.E., G.E.
Geotechnical Engineering Group

TRANSMITTAL

Task Order Solicitation
Edleen Drive Geotechnical Evaluation
Pre-Qualified On-call Geotechnical Services Consultant Contract
City of Los Angeles
Department of Public Works
Bureau of Engineering

January 3, 2017

1.0 INTRODUCTION

The City of Los Angeles, Department of Public Works, Bureau of Engineering, Geotechnical Engineering Group (GEO) is soliciting responses from all consultants on the Pre-Qualified On-Call Geotechnical Services Consultant List to perform a geotechnical evaluation of six (6) properties located at 18801 through 18825 Edleen Drive, in the Tarzana area of the City of Los Angeles (City). This Task includes a review of available information, subsurface exploration, laboratory testing, slope stability analyses and preparation of a report for each lot. The report will be used as part of a real estate disclosure. The City plans to sell each of the six properties at an auction.

2.0 BACKGROUND

The study area is located on the north flank and near the base of the Santa Monica Mountains in a hilly area of single family residences. The project site is bordered by Edleen Drive on the southwest, single family residences on the southeast, Brewster Drive and a vacant residential lot on the northeast, and single family residences and a LA Department of Water and Power easement on the northwest. The project site includes six relatively level building pads and a northeast descending slope with heights in excess of 100 feet (see Figure 1).

The original geology and soils engineering reports were done in 1961 by Richard Merriam and Donald R. Warren. The site was graded in the 1960's under the observation and testing of H. W. Lawmaster Inc. Fill placed during grading was reportedly compacted to a minimum 90% relative compaction. The slope that exists along the northeast side of the site was constructed as a fill slope. Records are not available to indicate if the fill slope was properly keyed into bedrock or if appropriate sub-drainage was installed. The surface of the fill slope was constructed at a gradient of 1½:1 H:V (horizontal:vertical). Presently the surface of the slope ranges from 1½:1 to 2:1 H:V. This fill slope has been subject to surficial instability during periods of heavy rainfall. Up to approximately 30 feet of fill was placed near the top of the slope and in the area of the relatively level building pads. The site area is underlain by siltstone and shale bedrock of the Modelo Formation. Bedding dips 15 to 30 degrees northward, an out of slope direction.

During the 1994 Northridge Earthquake, the fill beneath the residences settled significantly which resulted in structural damage to the residences. The City purchased the six properties through litigation and removed the structures. The lots were regraded to drain toward the street and retaining walls located between the lots were removed.

The properties at 18817 and 18821 Edleen Drive had swimming pools located in the rear yards near the top of the fill slope. During the regrading, holes were punched in the bottom of the pools to allow drainage and then the pools were backfilled. The fill placed during the regrading operation was not certified.

During the past few years the City has received several inquiries about purchasing these lots. The existing geotechnical data is limited. This evaluation is directed toward providing an overview of the geologic and geotechnical conditions. This evaluation will be included in the real estate disclosure that will be prepared for the auction.

3.0 SCOPE OF SERVICES

The study will include review of available geotechnical information, subsurface exploration, laboratory testing, geologic and geotechnical analyses, meetings and coordination, and preparation of an evaluation report for each of the six lots. These reports will not provide recommendations.

3.1 Review of Geologic and/or Geotechnical Information

The consultant shall review available geologic and/or geotechnical documents relevant to the properties, including documents relevant to adjacent and/or nearby properties. We've attached some of these documents as part of this TOS. The consultant may choose to perform an additional records search at the Los Angeles Department of Building and Safety or review aerial photos.

3.2 Subsurface Exploration

The subsurface exploration shall include seven (7) bucket auger borings at the approximate locations shown on the attached Exploration Plan (Figure 1). All borings shall be logged under direct supervision of a California licensed Certified Engineering Geologist. GEO will coordinate with other City personnel to make sure the site is accessible on the day(s) of drilling. For budgeting purposes, assume all drilling will be performed Monday through Friday between the hours of 8 am and 7 pm. Weekend drilling operations may be possible.

Prior to beginning the field work, the consultant shall prepare a Health and Safety Plan. The plan shall address all health and safety issues associated with the actual drilling, sampling and logging operations as well as the potential for worker exposure to contamination. Although contamination is not anticipated at this time, the plan shall still specify contaminant action levels for onsite personnel to wear protective gear and specify the actual types of personal protective equipment. The plan shall also include recommendations for soil and groundwater sampling (if necessary) as well as handling/disposal of the drill cuttings. The plan shall require that all personnel onsite, including subcontractors, have current 40-hour OSHA HAZWOPER training. The consultant shall appoint a site safety officer who will be responsible for assuring compliance with the Safety Plan procedures. The site safety officer shall be aware of emergency procedures and know the location of the nearest hospital emergency room. The Health and Safety Plan shall be kept at the site for the entire duration of the field work.

As part of the subsurface exploration, the consultant shall:

- Verify the proposed boring locations are feasible and clear the area for utilities prior to mobilizing the drill rig. The boring locations shall be cleared by DigAlert. DigAlert should be notified at least 48 hours prior to commencing drilling.
- Obtain an excavation permit (E-permit) from the City of Los Angeles, Bureau of Engineering for the boring in Brewster Drive. For budgeting purposes, assume a permit fee is not required for the E-permit and no other permits are required. GEO will assist the consultant with the permit application; however, the Consultant will ultimately be responsible for obtaining the permit.
- Notify GEO of the drilling date(s), and determine which GEO representative will be available to answer questions during drilling. GEO may have a representative onsite during portions of the drilling to observe sampling and logging procedures.
- Provide traffic control for the boring in Brewster Drive. At a minimum, traffic cones, barricades and yellow caution tape shall be set-up and maintained around the work area for the full duration of the work. Temporary fencing shall be provided around the work area if deemed necessary by the Consultant or the driller. Traffic control shall be in accordance with the most current edition of the Work Area Traffic Control Handbook, and any specific requirements of the Los Angeles Department of Transportation. The Consultant shall include traffic control costs in the proposal.
- Drill, log, and sample six (6) bucket auger borings to a depth of approximately 80 feet and one (1) bucket auger boring to a depth of approximately 60 feet. We expect at least one boring will be drilled in each of the six existing lots and another near the base of the slope (adjacent to Brewster Drive). At a minimum, relatively undisturbed Modified California split spoon samples shall be collected every 5 feet in the fill and every 10 feet in the bedrock.
- Collect bulk and/or large bag samples within the upper 5 feet at each boring location. At a minimum, at least 1 bulk sample should be collected from each boring. The actual number of bulk/bag samples will depend on the materials encoutered.
- Downhole log all seven (7) borings to the maximum explored depth. Fill and native materials shall be classified in accordance with the American Society for Testing of Materials (ASTM) D2488 test method. Bulk samples of the soil/bedrock and measurements of bedding attitudes shall be obtained as necessary. Bedrock descriptions shall include the rock type and lithology, relative strength, degree of weathering, color, texture, structure, and degree of dip of any layers (such as bedding). Any discontinuities, infilling or coating,

and/or staining shall be noted. Any other observations such as occurrence and/or indication of faults, fossils, fractures, inclusions, joints, seams, and shearing shall also be recorded. Shear and joint surfaces shall be described with notation on asperities and striations. Landslide-related features, if observed, shall include description of the slip plane, striations, or subsidiary planes of slippage.

- Screen all soil and bedrock samples collected above the groundwater table in each boring using an organic vapor analyzer (OVA) or photo-ionization detector (PID). OVAs and PIDs shall be calibrated to factory specifications within the last three months of testing, and recalibrated daily onsite.
- Record all OVA or PID readings on the boring logs.
- Measure the groundwater depth, if encountered, in the borings.
- If no signs of contamination are encountered and/or if OVA/PID readings are less than 50 ppm, backfill the borings to the ground surface with a minimum one sack cement-slurry mix.
- Clean (i.e. not contaminated) soil and bedrock drill cuttings can be spread on the pad area of the vacant lots. The spoils shall be placed so that the lots drain to the street and no ponding of water occurs.
- If signs of contamination are encountered and/or if OVA/PID readings are greater than 50 ppm, GEO shall be notified immediately. Drilling waste shall be placed in labeled metal drums and stored in a protected area away from drainage areas. The Consultant shall dispose all contaminated waste generated by drilling. The consultant shall obtain and test a minimum number of samples as required by the waste receiving facility. Following laboratory analysis of the material, the cuttings will be classified as hazardous or non-hazardous and an application for the least expensive appropriate class of landfill or recycling facility will be made. If contaminated soil/bedrock/groundwater is encountered, this will be handled under a separate agreement.
- Submit draft (i.e. field) logs within 72 hours of completing the drilling, logging and sampling.

3.3 Laboratory Testing

The consultant shall perform the appropriate number and type of tests required to complete their evaluation. At a minimum, the geotechnical laboratory testing should include, but is not limited to the following:

- Sixty (60) in-situ dry density and moisture contents;
- Twelve (12) direct shears with 3 points/test in accordance with ASTM D3080;

- Six (6) direct shear (re-shear) with 3 points/test in accordance with ASTM D3080 and California DMG Special Publication 117. Per Special Publication 117, 3 cycles are required to establish the backbone curve and 5 cycles are required to estimate the residual shear strength.
- Fifteen (15) sieve analyses in accordance with ASTM D6913;
- Ten (10) hydrometer in accordance with ASTM D422;
- Four (4) compaction curves in accordance with ASTM D1557;
- Ten (10) Atterberg Limits in accordance with ASTM D4318;
- Six (6) expansion index tests in accordance with ASTM D4829;
- Six (6) corrosion potential (pH, sulfate concentration, chloride concentration and minimum resistivity)

3.4 Geologic and Geotechnical Analyses

Following completion of Tasks 3.1 through 3.3, the consultant shall develop a geologic cross-section for each of the six lots. The cross-section shall be located in areas thought to represent the most adverse condition from a slope stability standpoint. GEO will provide you with a site topographic map in AutoCAD that can be used as a base for the geologic map.

The consultant shall develop soil and bedrock engineering properties, including soil unit weight and shear strength parameters, to be used for slope stability analyses. We expect the different shear strength parameters will be required for the along-bedding and cross-bedding bedrock. Furthermore, we expect the along-bedding strength will be evaluated both by actual lab test results and using empirical correlations.

The consultant shall complete a slope stability analysis for each of the six cross-sections using a commercially available limit-equilibrium software program such as SLOPE/W or Slide. Prior to performing the analysis, GEO shall be provided an opportunity to review and comment on the engineering properties of the soil and bedrock. The slope stability analyses shall include both static and simplified seismic methods. The seismic stability shall be performed in accordance with the LADBS Grading Division's requirements. Deformation based analyses, including both simplified and numerical methods, are not required at this time.

3.5 Geologic and Geotechnical Evaluation Reports

Following completion of Task 3.4, an evaluation report shall be prepared for each of the six lots. The report, at a minimum, shall contain the following:

- A summary of all geologic and/or geotechnical information relevant to the project site (Task 3.1);
- A boring location and geologic cross-section location plan. The plan should depict the project limits, topographic contours, relevant exploration (borings and/or test pits) from previous reports, and the exploration performed for this study;
- Boring logs in gINT® format (version 8). Logs shall contain:
  - ➢ Elevations of tops and bottoms to the nearest foot estimated from topographic maps,
  - ➢ Longitude and latitude and Northing/Easting of the location based on a handheld NAD 83 Coordinate System Global Positioning System (GPS) unit,
  - ➢ Contacts between fill, native soil, and bedrock,
  - ➢ Complete fill, native soil, and bedrock descriptions as prescribed in Section 3.2.
  - ➢ Bedrock attitudes based on field measurements,
  - ➢ Sample types, locations and blow counts for all driven samples at 6-inch intervals,
  - ➢ Moisture contents and dry densities and other laboratory tests performed on samples,
  - ➢ All OVA and/or PID readings taken during drilling and sampling;
- Description of the field exploration including logging and sampling procedures;
- Description of the geotechnical laboratory testing program, including testing procedures;
- Geologic cross-section;
- Summary of the selected engineering properties for the fill, native soil and bedrock;
- Summary of the slope stability analyses;
- Slope stability output files, including graphical and text, in an appendix.

An electronic version of each draft report shall be submitted to GEO for review. The draft report may be submitted by email in Acrobat® .pdf format. Once the review comments have been incorporated into the report, GEO requests two unbound original copies of each final report with wet signatures and three bound copies of each final report (30 copies total). In addition, the consultant shall provide GEO with an electronic copy (PDF) of each report.

3.6 Meetings and Coordination

The Consultant shall budget for travel and meetings between the Consultant, the City's Project Manager, GEO representatives, and any others deemed necessary to evaluate and coordinate the required work. The Meetings will be held in the field or at the Public Works Building and are anticipated to be as follows:

Meeting 1 - A project kick-off meeting/pre-field work technical meeting with the Consultant's Project Manager, the consultant's project Certified Engineering Geologist (CEG) and Geotechnical Engineer (GE) and GEO. The duration of the meeting is not expected to exceed two hours.

Meeting 2 – Will occur upon completion of the data collection and field work and prior to the analysis and report preparation.

Meeting 3 – Will occur near completion of the final data report.

4.0 TIME DURATION - SOLICITATION SCHEDULE

The approximate project schedule is listed below.

- Issue Task Order Solicitation: Date of this Task Order Solicitation
- Receive Task Order Proposals: 3 weeks from the date of this Task Order Solicitation
- Consultant Selection: 5 weeks from the date of this Task Order Solicitation
- Issue Notice to Proceed: 9 weeks from the date of this Task Order Solicitation

All subsurface exploration and laboratory testing shall be completed within 8 weeks from the time the Notice to Proceed (NTP) is issued. GEO expects the draft reports will be submitted no later than 16 weeks following issue of the NTP, and the final reports will be submitted no later than 18 weeks following receipt of the Notice to Proceed. The above schedule may change.

5.0 TASK ORDER PROPOSAL REQUIREMENTS

Solicitation Responses shall be bound and not exceed twenty (20) pages, exclusive of cover, dividers and resumes. In response to this solicitation, one (1) master CD or DVD of the Task Order Proposal in electronic Adobe Acrobat®.pdf format (for archiving purposes) along with four (4) bound and one (1) unbound paper copies of the Task Order Proposal must be submitted no later than 3:30 pm, on January 19, 2017. Solicitation Responses shall be submitted to the receptionist of the GEO, located at 1149 S. Broadway, Suite 120, Los Angeles, CA 90015, and Attention: Daniel Orris.

The Task Order (TO) shall include an itemized breakdown of the tasks and their associated costs. TO proposals shall include:

Section 1 – PROJECT UNDERSTANDING: The consultant shall provide a statement as to their understanding of the work scope required to evaluate the stability of the site/slope.

Section 2 – RELATED WORK: The consultant shall provide a list of similar work that has been performed. The list shall include all project parameters that the consultant identifies as being similar as well as a client contact for each project listed.

Section 3 – PROJECT TEAM: Provide project team organization and describe background, roles, and responsibility of team members. Provide information on MBE/WBE involvement.

Section 4 – FEE ESTIMATE: The cost estimate shall detail compensation on a lump sum basis for the tasks described in Section 3.0 (Subtasks 3.1 through 3.6). The consultant shall be compensated a percentage of the total lump sum at each of the three milestones listed below:

Milestone 1 – Completion of the subsurface exploration
Milestone 2 – Completion of the laboratory testing and analyses
Milestone 3 – Completion of six final reports (one for each lot)

If contaminated soils are encountered, the disposal cost will be handled under a separate or addendum agreement.

Appendix – Include resumes of personnel anticipated to be assigned to the project. If different personnel are ultimately assigned to the project, their resumes will be provided to GEO before their assignment.

6.0 SELECTION CRITERIA

TO Proposals will be evaluated based on the following criteria:

- Capability and Qualifications of Consultant Firm to provide the Scope of Services as demonstrated by the task order proposal .... 30 points
- Completeness of Project Scope, Schedule, and Deliverables .... 30 points
- History of Contract, Budget and Schedule Compliance .... 20 points
- Value .... 20 points

7.0 SUGGESTED MBE/WBE PARTICIPATION LEVELS

A participation level of 12 percent MBE and 2 percent WBE is suggested. The actual MBE and WBE subconsultants, including the anticipated dollar value amounts for each subconsultant, shall be listed in the proposal.

8.0 PREVAILING WAGE

This project is subject to the payment of prevailing wages. All impacted workers on a public works project must be paid at a minimum the Basic and Total Hourly Rate for the type of work they perform (See California State Labor Code Section 1720). According to the State Department of Industrial Relations (DIR), the California Labor Code Section 1720 defines "construction" to include "work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work." For information regarding prevailing wage requirements you may refer to the DIR website at **www.dir.ca.gov/dlsr/pwd**, or you may contact the DIR Prevailing Wage Unit at (415) 703-4774.

9.0 DISCLAIMER

The City may or may not decide to award any or part of the TO based on its sole convenience and shall not be responsible for any solicitation response costs.

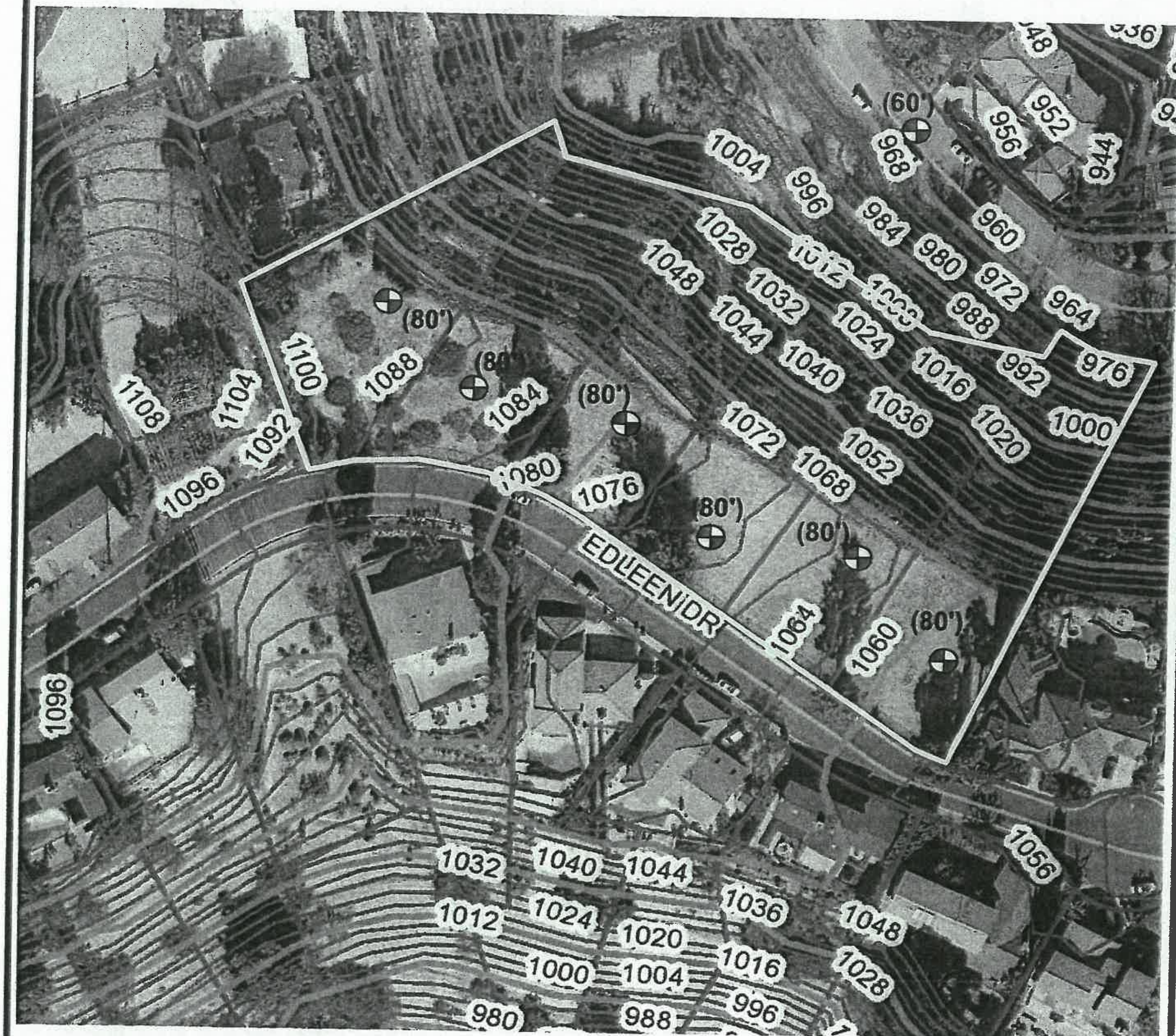
Any errors, omissions or revisions from the consultant's proposal will not be accepted if received after the deadline date. If you are the successful firm, the City will expect you to honor your proposal as submitted.

10.0 CLOSURE

Questions regarding this TOS may be directed to Daniel Orris at (213) 847-0488.

Attachments:

1. Exploration Plan
2. Previous Geologic and/or Geotechnical Information by Others
    - 18827 W. Edleen Drive Geologic/Geotechnical Reports
    - 4777 N. Brewster Drive Geologic/Geotechnical Reports
    - 4770 N. Brewster Drive Geologic/Geotechnical Reports
    - 4760 N. Brewster Drive Geologic/Geotechnical Reports



LEGEND

(80') Proposed Boring Location (Approx. Exploration Depth)

Approx. Limits of Six (6) City-Owned Lots

Property Line

Contour intervals 4 feet; major intervals thick, minor intervals thin

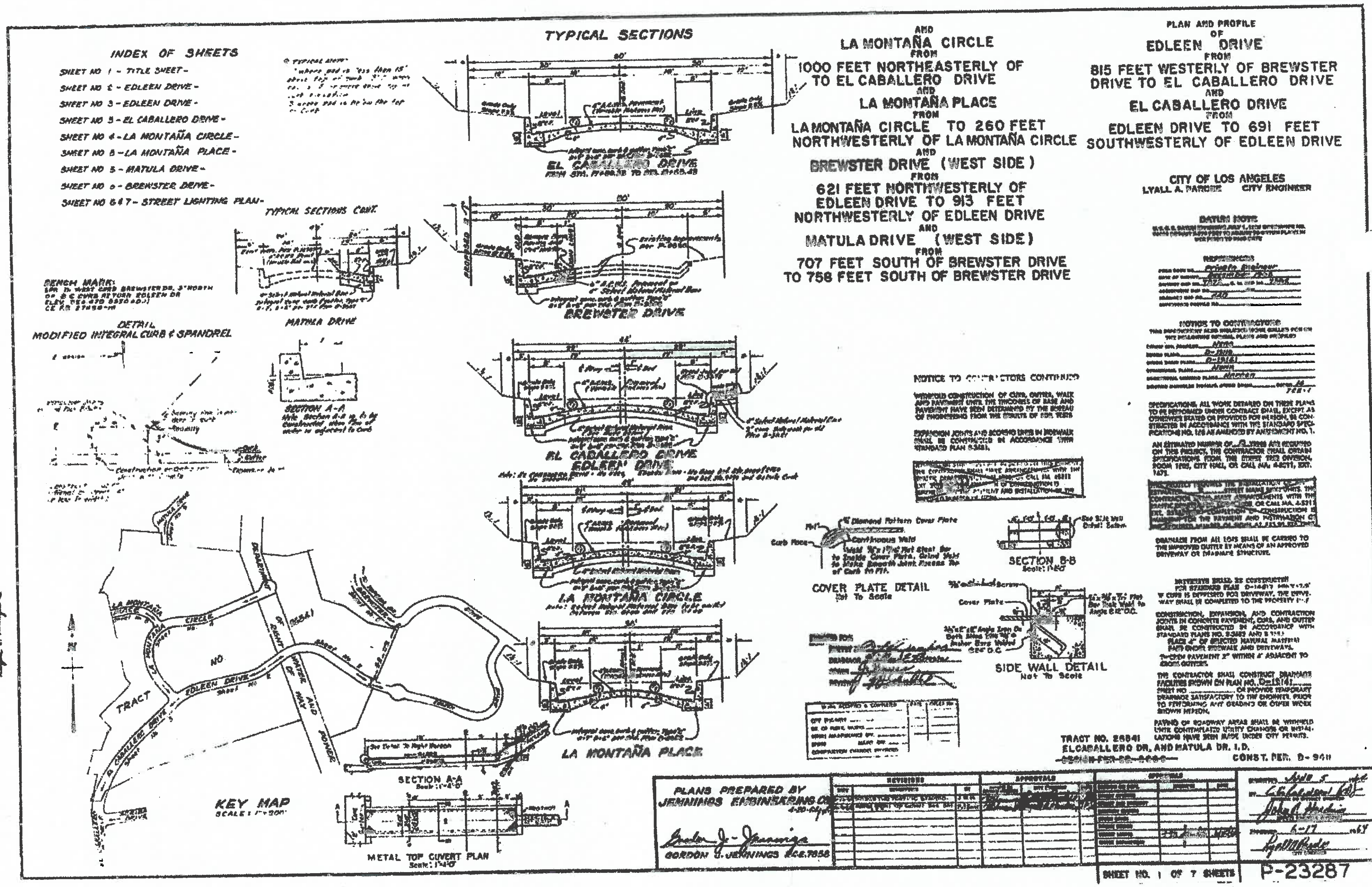
100 50 0 100

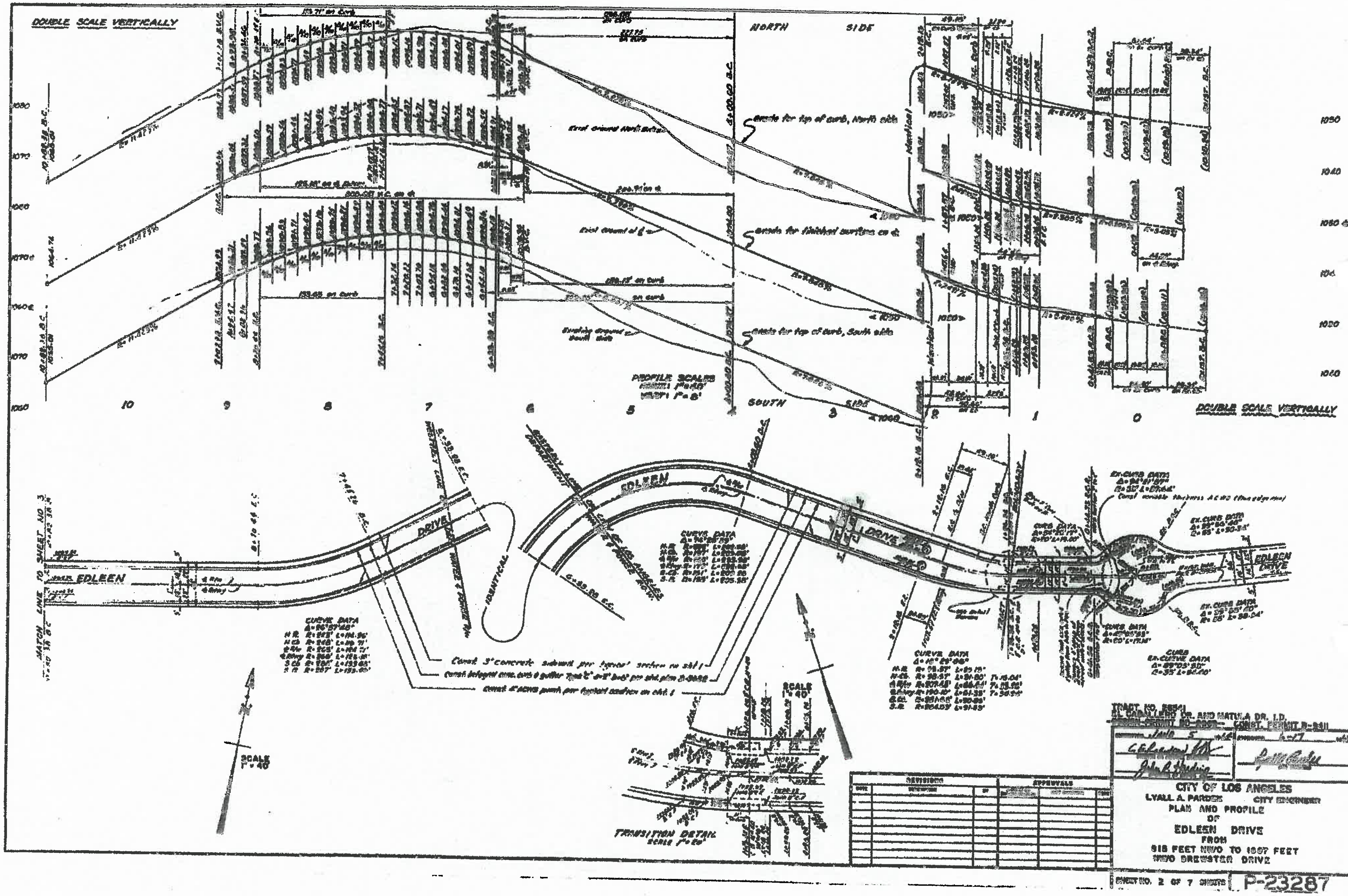
Feet

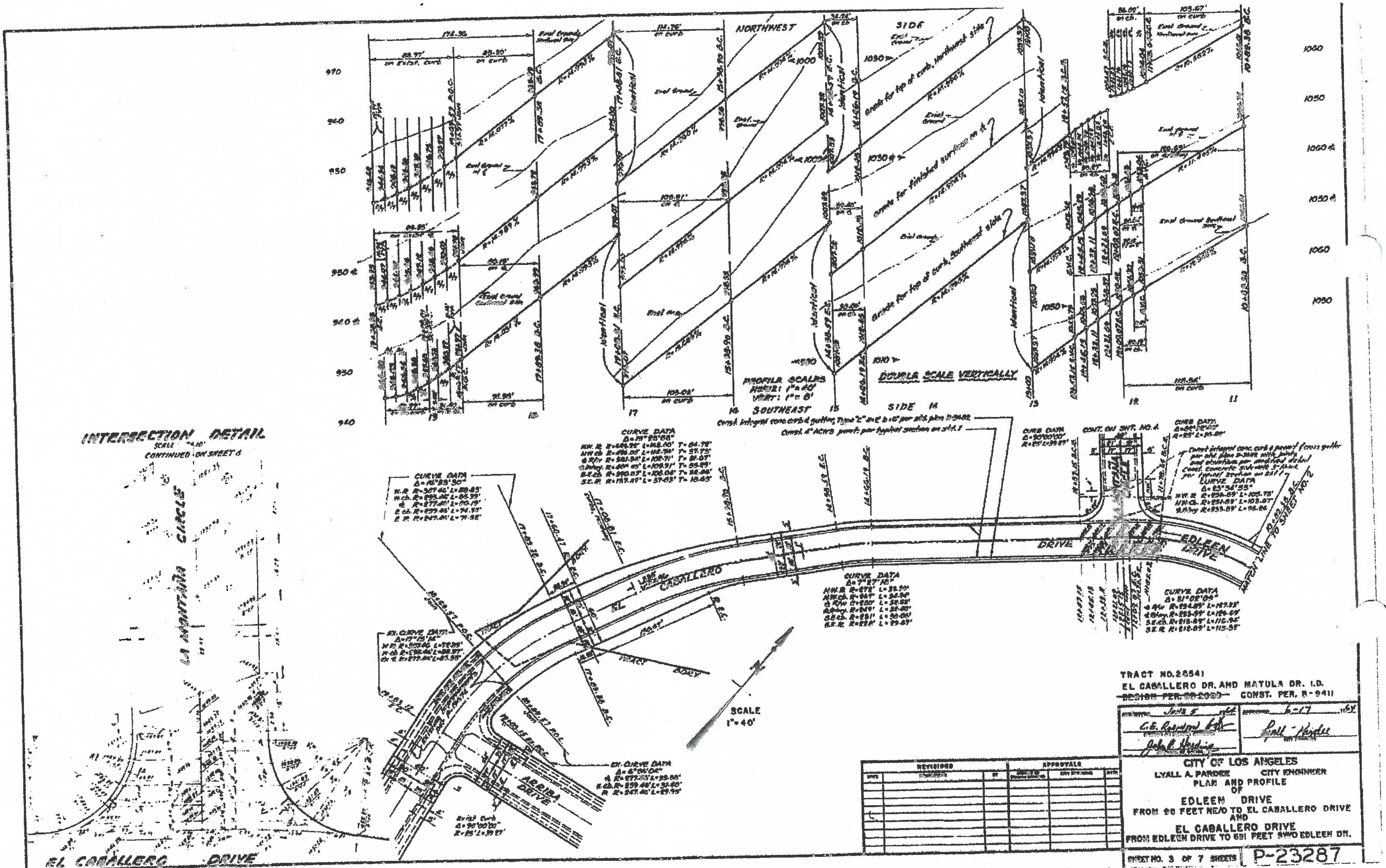
N

Exploration Plan

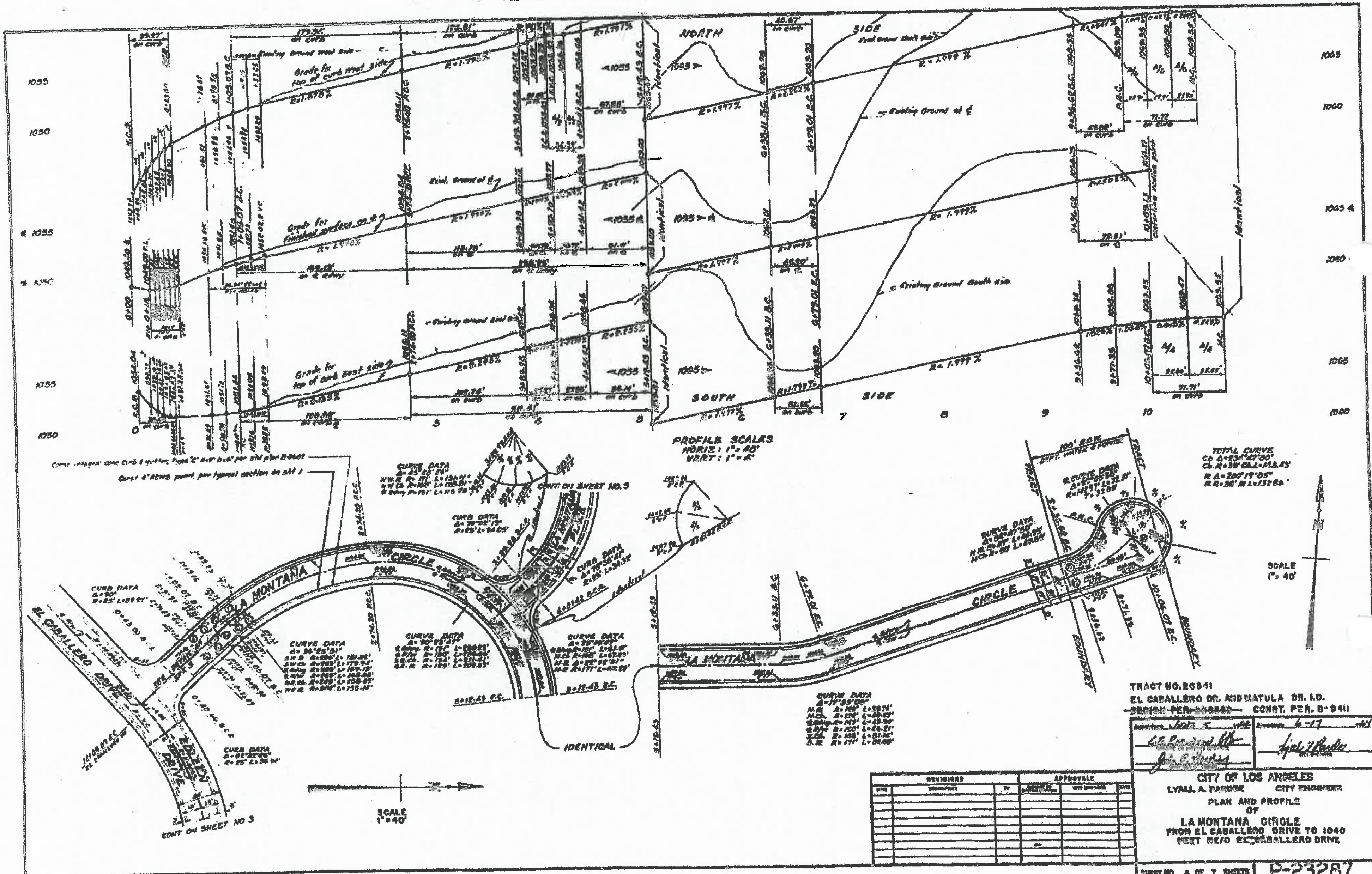
18825 - 18801 Edleen Drive LOS ANGELES, CALIFORNIA	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING GROUP (GEO) GEO FILE No.:10-098 DATE: September, 2016	FIGURE No. 1

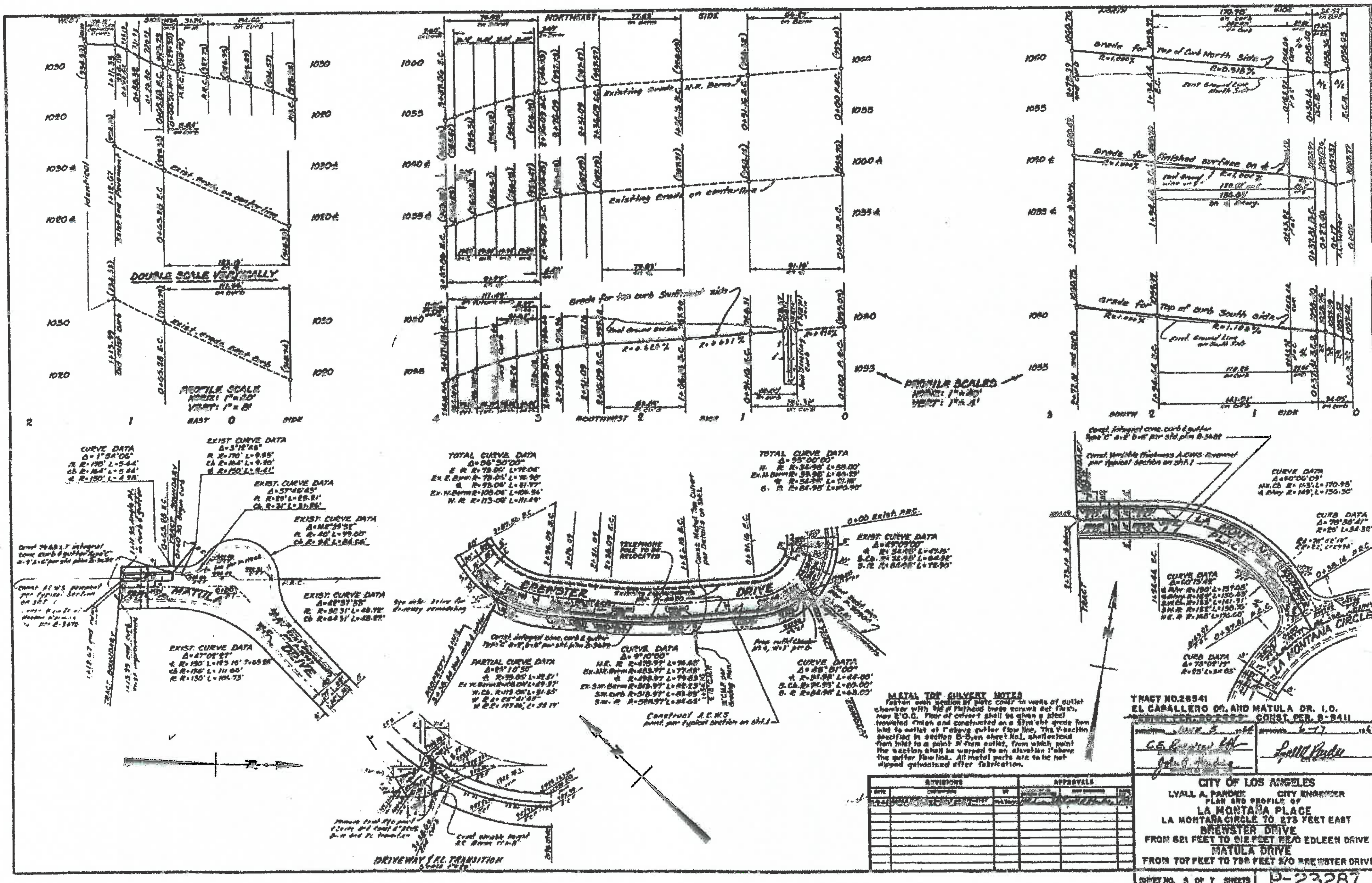

TYPICAL SECTIONS
INDEX OF SHEETS
SHEET NO 1 - TITLE SHEET -
SHEET NO 2 - EDLEEN DRIVE -
SHEET NO 3 - EDLEEN DRIVE -
SHEET NO 3 - EL CABALLERO DRIVE -
SHEET NO 4 - LA MONTAÑA CIRCLE -
SHEET NO 5 - LA MONTAÑA PLACE -
SHEET NO 5 - MATULA DRIVE -
SHEET NO 6 - BREWSTER DRIVE -
SHEET NO 6 & 7 - STREET LIGHTING PLAN -
TYPICAL SECTIONS CONT.
BENCH MARK:
DETAIL
MODIFIED INTEGRAL CURB & SPANDREL
MATULA DRIVE
SECTION A-A
EL CABALLERO DRIVE
BREWSTER DRIVE
EL CABALLERO DRIVE
EDLEEN DRIVE
LA MONTAÑA CIRCLE
LA MONTAÑA PLACE
KEY MAP
TRACT
NO
EDLEEN DRIVE
DEPARTMENT OF WATER AND POWER RIGHT OF WAY
SECTION A-A
METAL TOP CULVERT PLAN
PLAN AND PROFILE
OF
EDLEEN DRIVE
FROM
815 FEET WESTERLY OF BREWSTER DRIVE TO EL CABALLERO DRIVE
AND
EL CABALLERO DRIVE
FROM
EDLEEN DRIVE TO 691 FEET SOUTHWESTERLY OF EDLEEN DRIVE
AND
LA MONTAÑA CIRCLE
FROM
1000 FEET NORTHEASTERLY OF TO EL CABALLERO DRIVE
AND
LA MONTAÑA PLACE
FROM
LA MONTAÑA CIRCLE TO 260 FEET NORTHWESTERLY OF LA MONTAÑA CIRCLE
AND
BREWSTER DRIVE (WEST SIDE)
FROM
621 FEET NORTHWESTERLY OF EDLEEN DRIVE TO 913 FEET NORTHWESTERLY OF EDLEEN DRIVE
AND
MATULA DRIVE (WEST SIDE)
FROM
707 FEET SOUTH OF BREWSTER DRIVE TO 756 FEET SOUTH OF BREWSTER DRIVE
CITY OF LOS ANGELES
LYALL A. PARDEE CITY ENGINEER
DATUM NOTE
REFERENCES
NOTICE TO CONTRACTORS
NOTICE TO CONTRACTORS CONTINUED
COVER PLATE DETAIL
Not To Scale
SECTION B-B
SIDE WALL DETAIL
Not To Scale
TRACT NO. 26841
EL CABALLERO DR. AND MATULA DR. I.D.
CONST. PER. D-9411
PLANS PREPARED BY
JENNINGS ENGINEERING CO.
GORDON J. JENNINGS R.C.E. 7858
REVISIONS
APPROVALS
SHEET NO. 1 OF 7 SHEETS
P-23287


DOUBLE SCALE VERTICALLY
NORTH SIDE
SOUTH SIDE
Grade for top of curb, North side
Grade for finished surface on ¢
Grade for top of curb, South side
PROFILE SCALES
EDLEEN DRIVE
IDENTICAL
MATCH LINE TO SHEET NO. 3
CURVE DATA
TRANSITION DETAIL
SCALE 1" = 40'
CITY OF LOS ANGELES
LYALL A. PARDEE CITY ENGINEER
PLAN AND PROFILE
OF
EDLEEN DRIVE
FROM
918 FEET NW'O TO 1807 FEET
NW'O BREWSTER DRIVE
SHEET NO. 2 OF 7 SHEETS
P-23287

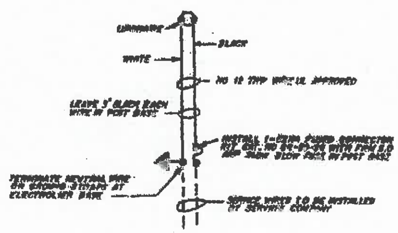


NORTHWEST
SIDE
SOUTHEAST
SIDE
PROFILE SCALES
HORIZ: 1" = 40'
VERT: 1" = 8'
DOUBLE SCALE VERTICALLY
Grade for top of curb, Northwest side
Grade for finished surface on ℄
Grade for top of curb, Southeast side
Identical
INTERSECTION DETAIL
CONTINUED ON SHEET 6
LA MONTAÑA CIRCLE
EL CABALLERO DRIVE
EDLEEN DRIVE
ARRIBA DRIVE
MATCH LINE TO SHEET NO. 2
CONT. ON SHT. NO. 4
CURVE DATA
EX. CURVE DATA
SCALE
1" = 40'
TRACT NO. 26541
EL CABALLERO DR. AND MATULA DR. I.D.
CONST. PER. R-9411
REVISIONS
APPROVALS
CITY OF LOS ANGELES
LYALL A. PARDEE
CITY ENGINEER
PLAN AND PROFILE
OF
EDLEEN DRIVE
FROM 90 FEET NE/O TO EL CABALLERO DRIVE
AND
EL CABALLERO DRIVE
FROM EDLEEN DRIVE TO 691 FEET SW/O EDLEEN DR.
SHEET NO. 3 OF 7 SHEETS
P-23287


NORTH
SIDE
SOUTH
SIDE
PROFILE SCALES
HORIZ: 1" = 40'
VERT: 1" = 4'
CURVE DATA
CURB DATA
CONT ON SHEET NO. 3
CONT ON SHEET NO 3
LA MONTANA
CIRCLE
EL CABALLERO DRIVE
IDENTICAL
TRACT
BOUNDARY
TOTAL CURVE
SCALE
1" = 40'
TRACT NO. 26341
EL CABALLERO DR. AND MATULA DR. I.D.
CONST. PER. B-9411
CITY OF LOS ANGELES
LYALL A. PARDEE CITY ENGINEER
PLAN AND PROFILE
OF
LA MONTANA CIRCLE
FROM EL CABALLERO DRIVE TO 1040
FEET NE/O EL CABALLERO DRIVE
SHEET NO. 4 OF 7 SHEETS
P-23287


DOUBLE SCALE VERTICALLY
PROFILE SCALE
PROFILE SCALES
NORTHEAST SIDE
SOUTHWEST SIDE
BREWSTER DRIVE
MATULA DRIVE
LA MONTANA PLACE
LA MONTANA CIRCLE
CURVE DATA
EXIST. CURVE DATA
TOTAL CURVE DATA
PARTIAL CURVE DATA
DRIVEWAY & P.L. TRANSITION
Grade for Top of Curb North Side
Grade for finished surface on ¢
Grade for Top of curb South side
Existing Grade on centerline
Grade for top curb Southwest side
TELEPHONE POLE TO BE RELOCATED
Construct A.C.W.S. pavt. per typical section on sht. 1
METAL TOP CULVERT NOTES
TRACT NO. 26541
EL CABALLERO DR. AND MATULA DR. I.O.
CONST. PER. B-9411
REVISIONS
APPROVALS
CITY OF LOS ANGELES
CITY ENGINEER
PLAN AND PROFILE OF
LA MONTANA PLACE
LA MONTANA CIRCLE TO 273 FEET EAST
BREWSTER DRIVE
EDLEEN DRIVE
MATULA DRIVE
SHEET NO. 5 OF 7 SHEETS
P-23287

PM 544
TYPICAL WIRING DIAGRAM
(ELECTROLIERS)



NOTE:

INTERCEPT 1" FLEXIBLE POLYETHYLENE CONDUIT (INSTALLED BY OTHERS) AT ELECTROLIER LOCATIONS AND INSTALL ELECTROLIERS. CONDUIT [illegible]

CITY OF LOS ANGELES
LYALL A. PARDEE CITY ENGINEER
O. W. MEISSNER, DIRECTOR BUREAU OF STREET LIGHTING

PLAN
OF
ELECTROLIER LIGHTING SYSTEM
IN
EL CABALLERO DRIVE
BETWEEN
EDLEEN DRIVE AND 120' N/O ARRIBA DRIVE
IN
EDLEEN DRIVE
BETWEEN
1000' E/O LA MONTANA CIRCLE AND LA MONTANA CIRCLE
IN
LA MONTANA CIRCLE
BETWEEN
600' E/O LA MONTANA PLACE AND EL CABALLERO DRIVE
IN
LA MONTANA PLACE
BETWEEN
290' NW/O LA MONTANA CIRCLE AND LA MONTANA CIRCLE

NOTICE TO CONTRACTORS

[illegible]

TYPE	QUANTITY	TYPE	[illegible]	[illegible]	[illegible]
ELECTROLIER	13	[illegible]		[illegible]	[illegible]
LUMINAIRE	13	G.E. [illegible]	[illegible]		
LAMP	13	[illegible]	[illegible]		

[illegible]

TRACT NO. [illegible]
[illegible] CONSTRUCTION PERMIT [illegible]

REVISIONS	APPROVALS
[illegible]	[illegible]

D.M. 1975

SHEET NO. 6 OF 7 SHEETS

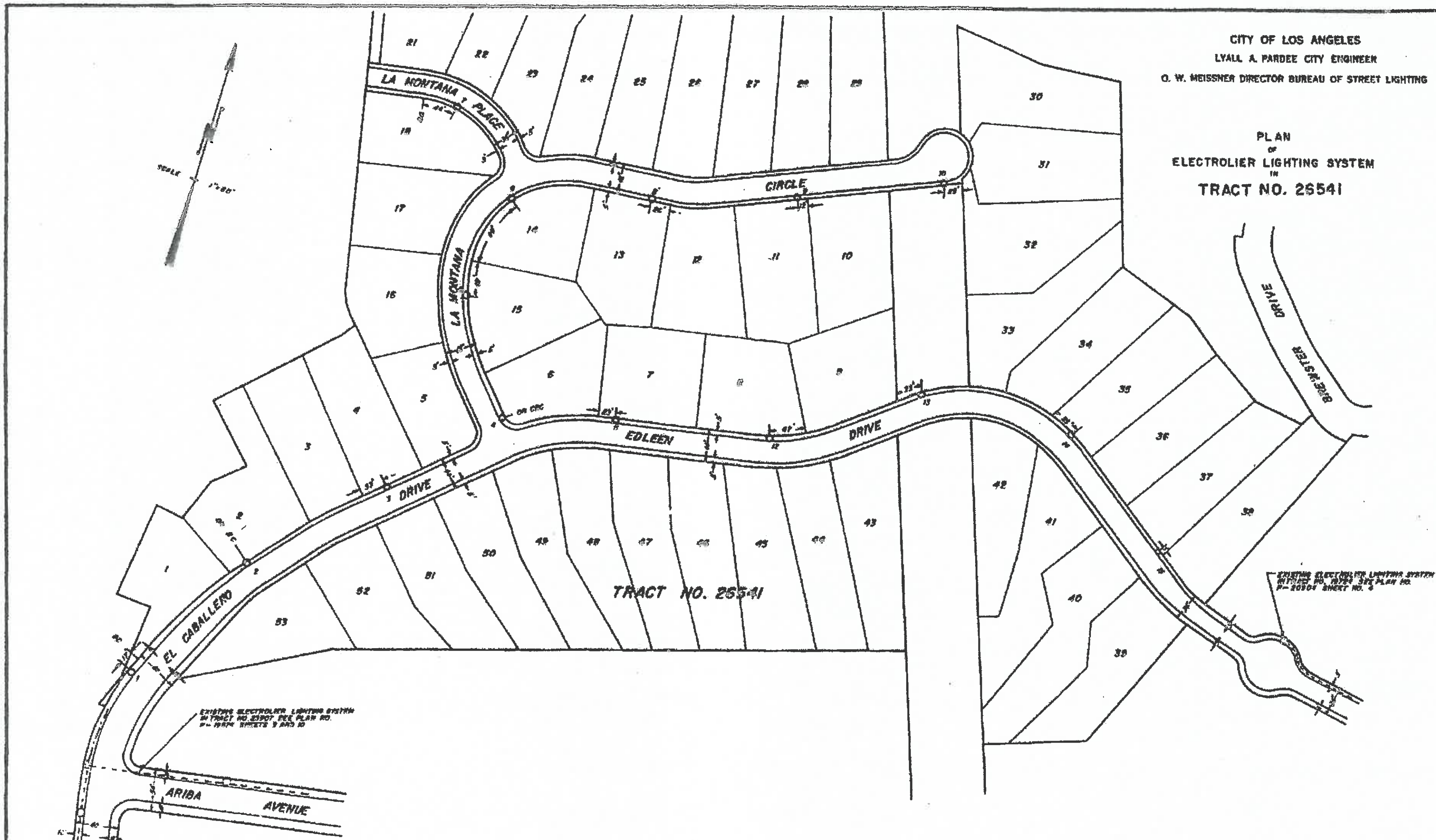
P-23287

CITY OF LOS ANGELES

LYALL A. PARDEE CITY ENGINEER

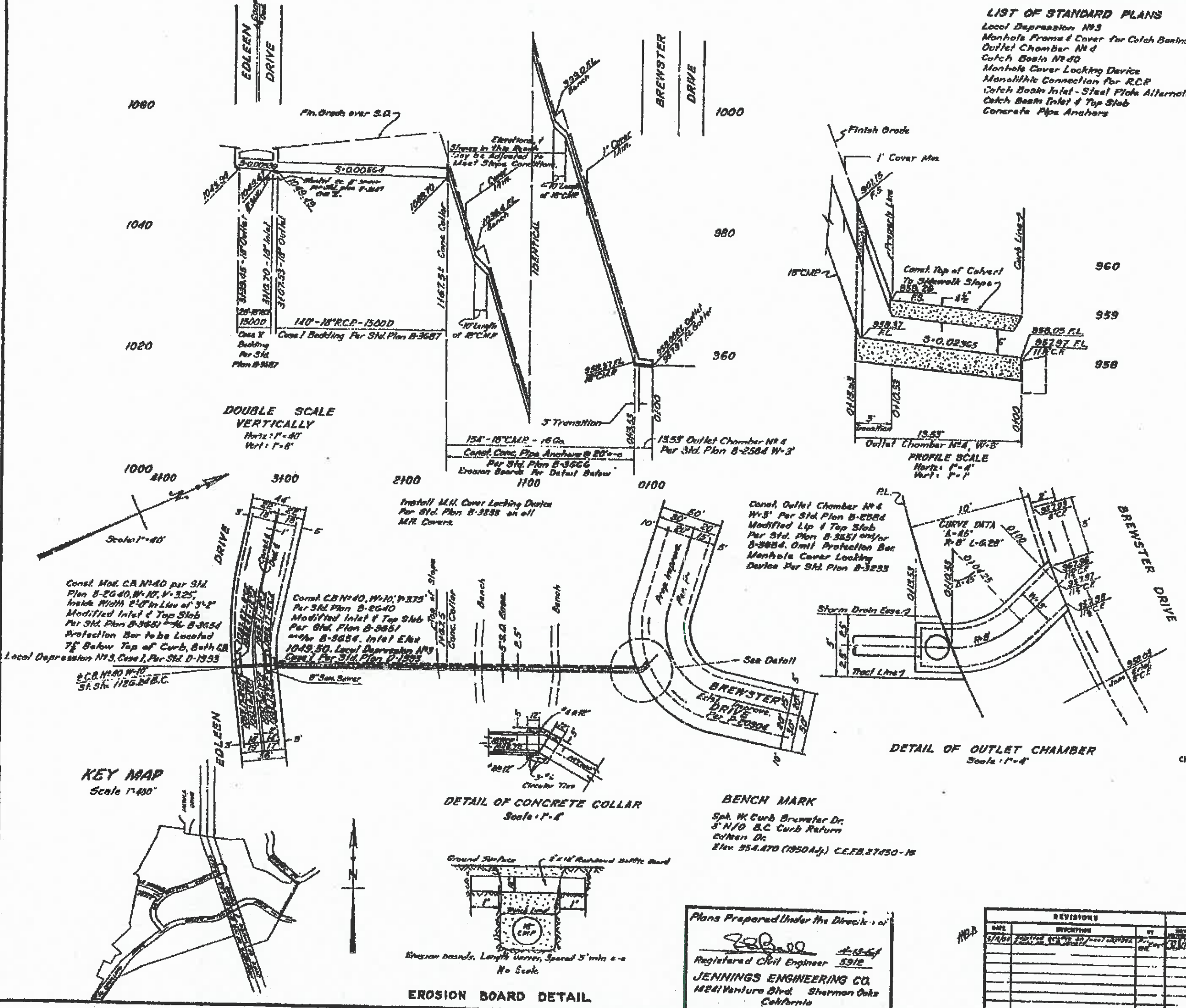
O. W. MEISSNER DIRECTOR BUREAU OF STREET LIGHTING

PLAN OF ELECTROLIER LIGHTING SYSTEM IN TRACT NO. 26541



TRACT NO. 26541
EL CABALLERO DRIVE AND MATULA DRIVE I.D.
~~DESIGN PERMIT~~
CONSTRUCTION PERMIT S-9411

APPROVED 4-6 19 64	APPROVED 6-17 19 64
BY Meissner DIRECTOR BUREAU OF STREET LIGHTING	BY Lyall A. Pardee CITY ENGINEER
SHEET NO. 7 OF 7 SHEETS	P-23287



LIST OF STANDARD PLANS

Local Depression No 3	D-1393
Manhole Frame & Cover for Catch Basins	B-2159
Outlet Chamber No 4	B-2584
Catch Basin No 40	B-2640
Manhole Cover Locking Device	B-3233
Monolithic Connection for R.C.P.	B-3644
Catch Basin Inlet - Steel Plate Alternate	B-3651
Catch Basin Inlet & Top Slab	B-3654
Concrete Pipe Anchors	B-3666

PLAN AND PROFILE

OF

STORM DRAIN

IN

EASEMENT NORTH OF ROSITA STREET

FROM

BREWSTER DRIVE TO EDLEEN DRIVE

CITY OF LOS ANGELES
LYALL A. PARDEE CITY ENGINEER

DATUM NOTE

U.S.G.S. DATUM EFFECTIVE JULY 1, 1928 ORDINANCE NO. ... DEDUCT 0.732 FEET TO ADJUST TO DATUM PLANE IN USE PRIOR TO SAID DATE

REFERENCES

FIELD BOOK NO. Pvt. Engr.
DATE OF SURVEY Dec. 1963
DISTRICT MAP NO. 1962
ASSESSMENT MAP NO.
WYE MAP NO. 440
SUBSEQUENT PROFILE NO. None

NOTICE TO CONTRACTORS

THIS IMPROVEMENT ALSO INCLUDES WORK CALLED FOR ON THE FOLLOWING SPECIAL PLANS AND PROFILES

STREET IMP. PROFILES P-
SEWER PLANS D-
STORM DRAIN PLANS Hereon
STRUCTURAL PLANS None
ORNAMENTAL LIGHTING PLANS P-
... 0 ... 0

"Specifications: All work detailed on these plans to be performed under contract shall, except as otherwise stated or provided for hereon, be constructed in accordance with the Standard Specifications No. 136 as amended by Amendment No. 1."

MONOLITHIC CONNECTIONS PER STANDARD PLAN B-3644 SHALL BE CONSTRUCTED ... OUTLETS OF CATCH BASINS AND JUNCTION CHAMBERS NO. 3 UNLESS OTHERWISE SPECIFIED.

TOP SLABS AND OPENINGS OF CATCH BASINS AND CULVERTS SHALL BE MODIFIED PER STANDARD PLAN B-3651 OR B-3654 UNLESS OTHERWISE SPECIFIED

MANHOLE COVER LOCKING DEVICES PER STANDARD PLAN B-3233 SHALL BE INSTALLED IN ALL MANHOLE FRAMES AND COVERS.

CHECKED FOR:
SURVEY [signature]
DRAINAGE
SEWER [signature]
REVIEWED [signature]

Plans Prepared Under the Direction of
[signature] 4-13-64
Registered Civil Engineer 5312
JENNINGS ENGINEERING CO.
14241 Ventura Blvd. Sherman Oaks California

TRACT NO. 26541
EL CABALLERO DR. AND MATULA DR. I.D.
~~DESIGN PERMIT~~ CONST. PERMIT B-9411

REVISIONS			APPROVALS			APPROVALS		
DATE	DESCRIPTION	BY		CITY ENGINEER	DATE			DATE
1/1/65	[illegible]		[signature]	[signature]			[signature]	5-5-64

SUBMITTED April ... 1964
BY [signature]
Herschel B. Brown
APPROVED 5-6 1964
Lyall A. Pardee
CITY ENGINEER

SHEET NO. 1 OF 1 SHEETS

D-1914

PLOTTED Pvt. Engr.
DESIGNED Pvt. Engr.
CHECKED [signature]
SUPERVISED [signature]
GENERAL CHECK [signature]

WORK ACCEPTED & COMPLETED	DATE	ORDER No.
CITY ENGINEER		
BD. OF PUBLIC WORKS		
STREET MAINTENANCE DIV.		
BANK. DR.		
CONSTRUCTION CHANGES RECORDED		

GEOTECHNICAL EVALUATION REPORT

18825 Edleen Drive

Tarzana District, City of Los Angeles, California

Prepared for:

City of Los Angeles Department of Public Works
Geotechnical Engineering Group
1149 South Broadway, Suite 120
Los Angeles, California 90015

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc.
121 Innovation Drive, Suite 200
Irvine, California 92617-3094
(949) 642-0245

August 22, 2017

Project No. IR17166570

amec
foster
wheeler

GEOTECHNICAL EVALUATION REPORT
18825 Edleen Drive
Tarzana District, City of Los Angeles, California

August 22, 2017
Project IR17166570

This report was prepared by the staff of Amec Foster Wheeler Environment & Infrastructure, Inc., under the supervision of the Engineer(s) and/or Geologist(s) whose seal(s) and signature(s) appear hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, in accordance with generally accepted professional engineering and geologic practice. No warranty is expressed or implied.

CERTIFIED ENGINEERING GEOLOGIST
DAVID LOWELL PERRY
No. 2040
STATE OF CALIFORNIA

David L. Perry, CEG
Associate Engineering Geologist

REGISTERED PROFESSIONAL ENGINEER
LIANGCAI HE
GE 3033
EXP. 12/31/18
GEOTECHNICAL
STATE OF CALIFORNIA

Liangcai He, PhD, PE, GE
Associate Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
ANTHONY BLANC
No. GE 2615
Exp. 12/31/18
GEOTECHNICAL
STATE OF CALIFORNIA

Anthony Blanc, PE, GE
Senior Associate Engineer

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(continued)

TABLES

FIGURES

PLATES

APPENDICES

GEOTECHNICAL EVALUATION REPORT
18825 Edleen Drive
Tarzana District, City of Los Angeles, California

1.0 INTRODUCTION

This report presents the results of a geotechnical evaluation performed by Amec Foster Wheeler for the Edleen Drive Geotechnical Evaluation project. The project site is located at 18825 Edleen Drive in the Tarzana District of Los Angeles, California, as shown on Figure 1.

This geotechnical evaluation was prepared to evaluate the geologic conditions, engineering properties of the subsurface materials, and the slope stability at the subject site, which is one of six contiguous lots that were evaluated as part of this investigation (i.e., 18801, 18807, 18813, 18817, 18821, and 18825 Edleen Drive, Plate 1). The scope of the investigation included reviewing existing data, meetings and coordination with the City of Los Angeles Bureau of Engineering (LABOE) Geotechnical Group (GEO) staff, conducting field exploration and laboratory testing programs, performing geologic and engineering analyses, and preparing this geotechnical evaluation report.

As summarized below, the six lots included in this investigation were constructed as part of mass grading operations for Tract No. 26451. Although there are minor variations between the lots, the overall topographic, geologic, soil, and associated stability conditions across the lots do not vary significantly. As such, the investigative approach and this summary report primarily address the overall conditions of the six contiguous lots, with appropriate site-specific descriptions and evaluations of the subject lot at 18825 Edleen Drive.

2.0 PROJECT DESCRIPTION

Six single family residential properties located at 18801, 18807, 18813, 18817, 18821, and 18825 Edleen Drive were damaged as a result of a slope failure that was claimed (Plaintiff Compliant, 1994) to have occurred in April, 1993 within the buttress fill. The 1994 Northridge Earthquake resulted in severe structural damage to the six single family dwellings and caused additional slope failure. The City subsequently purchased these properties and removed the structures in 1996. The project site location is shown on a U.S. Geological Survey topographic base map, Figure 1.

Task Order Solicitation (TOS) issued on January 3, 2017 by the Geotechnical Engineering Group (GEO) of the Bureau of Engineering (BOE), Los Angeles Department of Public Works, stated that the City of Los Angeles plans to sell the six properties at an auction. The goal of the project is to generate a geotechnical evaluation report for each property that will be used as part of a real estate disclosure. Additional geotechnical investigations and analysis will be required to develop geotechnical parameters to be used in support of potential future site development.

3.0 GEOTECHNICAL EVALUATION

This geotechnical evaluation investigation included reviewing available data, performing field exploration, conducting laboratory testing, performing engineering analyses, and preparing this report. The scope of work was performed in accordance with the January 3, 2017 TOS and the approved Amec Foster Wheeler proposal (February 22, 2017).

3.1 DATA REVIEW

Amec Foster Wheeler reviewed published and unpublished information, reports, maps, and drawings relevant to the site, including information on topography, geology, faults, landslides, and geologic hazard zones. Relevant information garnered from the data reviewed has been incorporated in the analyses contained in this report.

Geologic maps, reports and documents reviewed included the following. Full references are presented in Section 8 of the report.

- Geologic and seismic hazard maps and reports prepared by the U. S. Geological Society (USGS), California Geological Society (CGS), Association of Engineering Geologists (AEG), and the Dibblee Foundation

- Landslide Maps and Reports by the CGS

- Aerial photographs flown in 1938 and 1959 of the site vicinity

- Documents and reports pertaining to the development of Tract 26541 consisting of: geologic maps, geologic reports, soil engineering reports, and soil test compaction reports

3.2 FIELD EXPLORATION

Amec Foster Wheeler's field exploration program included pre-drilling activities, drilling eight 24-inch diameter bucket auger borings, downhole logging of the bucket auger borings, and collecting soil samples. The field exploration program is summarized in Table 1. Field activities were conducted between May 2 and May 17, 2017 under the supervision of an Amec Foster Wheeler engineer and a certified engineering geologist. The boring locations are shown on Plate 1. Key aspects of the field investigation program are described in the following subsections.

3.2.1 Pre-Drilling Activities

Prior to beginning drilling, Amec Foster Wheeler conducted a site reconnaissance to evaluate site access and to mark boring locations. Amec Foster Wheeler utilized a hand-held Global Positioning System (GPS) device with an accuracy of approximately 3 feet to locate the boring locations in the field. The borings were located in coordination with a GEO representative. GEOVision was subcontracted to provide geophysical services for utility locations and borehole clearance. Underground Service Alert (USA) was notified at least two working days before drilling to locate buried utilities in the vicinity of the proposed borings. GEO coordinated with LABOE for obtaining excavation permits in the city right-of-way for the two borings drilled on Brewster Drive.

3.2.2 Exploratory Drilling

Eight bucket auger borings (designated BA-1 through BA-8, were drilled to explore subsurface conditions and obtain samples for laboratory testing. Six borings were drilled on six contiguous properties located at 18801 to 18825 Edleen Drive (one boring per residential lot) and two borings were drilled on Brewster Drive at the locations shown on Plate 1. Drilling services were provided by Roy Brothers Drilling of Malibu, California. The borings on the properties located at 18801 to 18825 Edleen Drive were each drilled to a depth of approximately 80 to 81 feet below ground surface (bgs) using an EZ Bore truck-mounted bucket-auger drill rig. A Certified Engineering Geologist (CEG) from Amec Foster Wheeler classified the soils and bedrock materials encountered during drilling and collected soil/bedrock samples for laboratory testing. Relatively undisturbed soil/bedrock samples were obtained by driving a Modified California sampler using the weight of the Kelly bar.

Following completion of the bucket auger drilling, our CEG was lowered into the borehole to perform downhole geologic observations of the soil and bedrock and to take measurements of the bedrock structure (i.e., strike and dip of bedding, joints and/or small faults). The information obtained from the downhole observations was used to develop geologic cross-sections, and to evaluate the slope stability.

Soil/bedrock samples from the bucket auger borings were subsequently delivered to the laboratory for further examination and testing. Final boring logs were prepared based on the field logs, examination of samples in the laboratory, and laboratory test results. A more detailed description of the field exploration program, including logs of the borings, is presented in Appendix A.

3.2.3 Geologic Mapping

Following downhole logging of the bucket auger borings, Amec Foster Wheeler's CEG performed reconnaissance level geologic mapping of limited geologic exposures along Edleen

Drive and Brewster Drive. Bedding attitudes measured during the mapping are shown on Plate 1.

4.0 DISCUSSION OF FINDINGS

The following discussion of findings for the project is based on the results of the field exploration and laboratory testing programs.

4.1 REGIONAL AND LOCAL GEOLOGY

The site is located on the north flank of the Santa Monica Mountains within the Transverse Ranges structural/geomorphic provinces. This province is one of the most seismically active regions in California. The Transverse Ranges is a composite structural block bounded by the Big Pine fault on the north, the San Andreas Fault zone along the northeast, the Channel Islands on the west, and the Santa Monica, Hollywood, Raymond, Sierra Madre, and Cucamonga faults on the south. Large-scale geologic structures in the Transverse Ranges include predominantly westerly-trending folds and faults that were formed primarily by north-south compression and associated left-lateral, strike-slip and reverse faulting. The major geomorphic elements in the province consist of west-trending mountain ranges (Santa Ynez, Santa Monica, San Gabriel, and San Bernardino Mountains) and associated intermontane valleys. The regional geology in the site vicinity is shown on Figure 2, Regional Geologic Map. This geologic map was adapted from the Preliminary Geologic Map of the Los Angeles 30' by 60' Quadrangle (CGS, 2014).

The Santa Monica Mountains are situated along the southern boundary of the east-west trending Transverse Range Province. The northern flank of the Santa Monica Mountains is largely comprised of Cretaceous- and Tertiary-age sedimentary formations that depositionally on-lap against a core of older Jurassic to Cretaceous-age metasedimentary and granitic rocks as shown on Figure 2. The north flank of the Santa Monica Mountains in the vicinity of the site is underlain primarily by a Miocene-age marine formation assigned to the Modelo Formation by Hoots (1931) and subsequently reassigned to the Monterey Formation within the Santa Monica Mountains by Dibblee (1992). We have retained the original assignment to the Modelo Formation in this report. The Modelo Formation has been subdivided into a lower and upper member based on distinct lithologic rock units in each member. The geologic contact between the two members was mapped approximately 100 feet south of the site by Hoots (1931), AEG (1982), and Dibblee (1992). The local geology is shown on Figure 3, Local Geologic Map, which was excerpted from the Geologic map of the Topanga and Canoga Park (south ½) quadrangles (Dibblee, 1992). The lower member of the Modelo Formation is largely comprised of thinly bedded, platy siliceous shale alternating with massive units of sandstone whereas the upper member mapped at the subject site is largely comprised of diatomaceous shale and siltstone. Bedding planes in the Modelo Formation dip approximately 10 to 30 degrees to the North in the site vicinity.

4.2 SITE HISTORY

The six residential lots at 18801 to 18825 Edleen Drive were constructed as part of the mass grading of Tract No. 26541 during 1963 to 1964. Prior to grading operations, the lots consisted of moderately sloping hillside terrain that sloped to the northeast from a northwesterly-trending ridgeline (i.e., from the top of the ridge where Edleen Drive is now located down to Brewster Drive). Topographic maps of the Santa Monica Mountains prepared by the City of Los Angeles in 1960 (prior to development of Tract 26541 indicate that the pre-development slopes at 18801 to 18825 Edleen Drive were inclined at a gradient of approximately 2:1 to 3:1 (horizontal to vertical).

In preparation for grading of Tract No. 26451, a geologic report and map were prepared by Dr. Richard Merriam (1961) and a preliminary soil investigation was prepared by the Donald Warren Co. (1961). Merriam (1961) reported that the northern portion of the Tract was underlain by diatomaceous shale of the Upper Modelo Formation. Several attitudes were measured by Merriam along the ridgeline and near the toe of slope along Brewster Drive. The strike of bedding shown on the geologic map ranged from East-West to North 75° West and the dip angle ranged from 16 to 28 North to Northeast. It was noted by Merriam (1961) that a buttress fill would be necessary to stabilize adversely oriented bedding for the planned grading. Stability analyses were performed by H.V. Lawmaster and Co. in 1963 for the design of a buttress fill between Brewster Drive and the future Edleen Drive. The stability section for the buttress design showed a keyway to be excavated 10 feet deep below the Brewster Drive grade and extending 60 feet horizontally into or towards the previously existing slope face from the future curb line along Brewster Drive. The stability section (Lawmaster and Co., 1963) also indicated a series of continuous benches to be cut into the slope for the fill placement and a series of sub-drains to be installed at every approximately 20 vertical feet in height along the slope.

A final report of soil compaction tests was prepared by H.V. Lawmaster and Co., dated March 27, 1964. H.V. Lawmaster and Co. reported that they continuously observed and tested the placement of compacted fill for Tract 26541 from June 26, 1963 to 13, March 13, 1964 (H. V. Lawmaster and Co. Inc., 1964). The Final Report stated that in areas of natural slopes, benches were cut into firm natural soil and that the buttress fills were constructed in accordance with the recommendations of the engineering geologist and in accordance with design recommendations. The keyway for the buttress fill located at the toe of Brewster Drive exposed diatomaceous shale and no free water was observed according to an interim geologic report by Dr. Merriam, dated December 19, 1963. Dr. Richard Merriam prepared a Final Geologic Report for Tract No. 26451, dated May 16, 1964. In the Final Geologic Report, Dr.

Merriam stated that the keys for the buttress fills were excavated into bedrock and approved by Dr. Merriam and a City inspector before fill placement commenced. No areas of excess moisture were found in any cuts or areas to receive fill as reported by Merriam (1964). All geological recommendations made by the engineering geologist were reportedly complied with during the grading operations.

Surficial slope failures have been reported by the City of Los Angeles Department of Building and Safety in the descending slope portions of the properties at 18801, 18807, 18813, 18817, and 18825 Edleen Drive as summarized by JTM Geotechnical Engineering (JTM) in an Addendum Geotechnical Letter dated September 14, 2009). A copy of this addendum letter is presented in Appendix D. The slide dimensions were reportedly less than 3 feet deep and ranged from 25 to 60 feet wide and 20 to 35 feet in length. The slides reportedly occurred in 1968, 1969, and 1978 after heavy winter storm events.

According to a complaint report prepared by the previous owners of five of the six contiguous lots, a slope failure occurred within the buttress fill slope in April 1993 (prior to the Northridge Earthquake) and caused damage to the 18801 through 18825 Edleen Drive properties (Plaintiffs versus the City of Los Angeles, 1994). The complaint report states that the contiguous lots were further damaged and destabilized as a result of the January 17 Northridge Earthquake.

4.3 LOT-SPECIFIC SITE CONDITIONS – 18825 EDLEEN DRIVE

The subject lot is located on a trapezoidal graded pad adjacent to the north side of Edleen Drive in the foothills of the Santa Monica Mountains. A residential structure was located on the property until 1996 when the structure was demolished by the City of Los Angeles Department of Building and Safety as a result of earthquake damage sustained during the 1994 Northridge Earthquake. The site is presently vacant with a wrought iron fence bordering the southern perimeter.

Site topography consists of a relatively level graded pad area in the southwestern portion of the property adjacent to Edleen Drive and a northeast-facing fill slope that descends to a graded pad located at the adjacent 4777 Brewster Drive property (shown on the attached Site Plan/Geologic Map, Plate 1). A slope of approximately 10 feet in height ascends from the western property line to an easement owned by the Los Angeles Department of Water and Power (LADWP). A power transmission tower is located on the LADWP easement. The graded pad area slopes very gently to the southeast from Elevation 1090 feet above mean sea level (msl) to Elevation 1086 msl. The descending slope is inclined at an overall gradient of approximately 1.5:1 to 1-¾:1 (horizontal to vertical) with two concrete-lined v-ditch drains that transverse the slope. The overall slope height is approximately 90 feet from the pad area to the pad at 4777 Brewster Drive. The pad at 4777 Brewster Drive is situated about 40 feet in elevation above Brewster Drive as shown on Section A-A' (Plate 2).

Vegetation on the slope consists of grasses and various trees. Drainage on the descending slope is directed by the v-ditch drains to inlets that discharge into a buried storm drain/drainage easement.

4.4 GEOLOGIC UNITS

Geologic units within and near the subject lot consist of artificial fill and bedrock of the Modelo Formation. A colluvial unit was encountered underlying artificial fill in the two borings drilled on Brewster Drive. No geologic evidence of a landslide slip surface was observed in the borings drilled as part of this evaluation for the six contiguous lots, nor was a landslide slip surface reported in the prior borings drilled in the adjacent lot to the north at 4777 Brewster Drive. The following presents a general description of these materials along with the map unit designations used on the Site Plan / Geologic Map (Plate 1). Geologic Cross-Section A-A' was prepared for 18825 Edleen Drive and is presented on Plate 2.

4.4.1 Artificial Fill (afe)

Engineered artificial fill (designated as symbol "afe" on the Geologic Map and Section A-A') underlies the pad area to depths that ranged from an estimated 2 feet or less below pad grade in the southerly portion of the pad to an estimated 25 feet below the pad grade at the northern edge of the pad. The compacted/engineered fill was placed during the mass grading of Tract 26541. The fill depth was estimated based on the fill-bedrock contact encountered in Boring BA-6, and prior borings and test pits excavated by others for the adjacent property located to the North at 4777 Brewster Drive. Artificial fill was encountered to a depth of 14.5 feet to 15.5 feet in Boring BA-6 with a northward-dipping basal contact above bedrock of the Modelo Formation. The fill encountered in Boring BA-6 was variable in composition. It consisted of variably thick layers of sandy lean clay with rock fragments and sandy to clayey silt. The fill in Boring BA-6 appeared stiff.

Apparently undocumented artificial fill (designated as symbol "af" on Section A-A') was encountered in Boring BA-8, located on Brewster Drive, to a depth of approximately 6 feet below the ground surface. The fill in Boring BA-8 consisted of sandy lean clay to silty clay with abundant rock fragments.

4.4.2 Colluvium (Qcol)

Colluvium (designated as symbol "Qcol" on Section A-A') was observed in the slope above the pad near the western property line, and also encountered beneath artificial fill at a depth of 6 feet in Boring BA-8. The colluvium in Boring BA-8 was approximately 6 feet thick and consisted of layers of silty lean clay and silt with a large block of interbedded siltstone and claystone at a depth of approximately 7.5 to 10 feet. The block of bedrock may have been eroded from an upslope area and then incorporated by gravity into the colluvium.

4.4.3 Modelo Formation (Tm)

The site is underlain at shallow to moderate depths by sedimentary bedrock assigned to the Miocene-age Modelo Formation (designated as symbol "Tm" on the Geologic Map and Section A-A'). Bedrock was encountered beneath artificial fill at a depth of approximately 14 to 15 feet in Boring BA-6. Projection of the fill-bedrock contact from the depth encountered in Boring BA-6 to borings drilled by others at 4777 Brewster Drive indicates that the depth to bedrock is relatively shallow adjacent to Edleen Drive and is greater at the northern edge of the pad area.

The lithologic composition of the bedrock encountered in the Boring BA-6 consisted of a thinly to very thinly interbedded sequence of silty claystone, diatomaceous siltstone, and clayey siltstone, with subordinate interbeds and laminae of very fine to fine-grained sandstone. The strata comprising the bedrock were typically very thinly to thinly interbedded, with well-defined planar bedding and weak to moderate induration. The bedrock color varied from grayish brown for most of the silty claystone intervals to very light gray for the diatomaceous beds.

4.5 GEOLOGIC STRUCTURE

The regional dip of the Modelo Formation in the site vicinity is relatively consistent and is inclined approximately 10 to 30 degrees toward the North to Northeast as shown on geologic maps by Hoots (1931), AEG (1982), Yerkes and Campbell (1992), and Dibblee (1992). The onsite slopes descend moderately to the northeast, and thus, the regional bedding dip is oriented in the same general direction as the overlying northeast-facing slopes (approximating a "dip-slope" condition).

The strike and dip of bedding planes exposed in a small road-cut adjacent to the LADWP easement on Edleen Drive ranged from striking North 68° West to North 80° West with dips that ranged from 16 to 24 degrees to the northeast. This road-cut is located at the south end of Section A-A'. The strike of bedding in an exposed road-cut along the west side of Brewster Drive at the north end of Section A-A' ranged from North 84° West to East-West with dips that ranged from 18 to 22 degrees to the north and northeast, respectively.

Subsurface observations and measurements of bedding attitudes were performed in the six bucket auger borings located on the 18801 to 18825 Edleen Drive lots and in two bucket auger borings located on Brewster Drive. The strike of bedding in boring BA-6 on the subject lot ranged from North 62° West to East - West with bedding dip angles that ranged from 18 to 24 degrees to the northeast and north. The apparent dip in the line of geologic section, drawn perpendicular to slope contours ranged from 14 to 22 degrees to the northeast in the upper portion of the slope. In prior borings located in the graded pad at 4777 Brewster Drive, the strike of bedding was reported to be North 75° West with a bedding dip angle of 28 degrees to the northeast in Boring B-1 (MEC, 2001) and North 84° East to North 88° East with bedding dip angles that ranged from 20 to 22 degrees to the northwest in Boring B-2 (AES, 2009). The apparent dip in the lower portion of the slope along the line of geologic section was 15 to 24 degrees to the northeast based on the geologic data from prior Borings B-1 and B-2.

Joint and fracture spacing appear to be closely to moderately-spaced in Borings BA-6. The bedrock appears to be cut by a moderately developed joint set that strikes approximately perpendicular to bedding planes at North 5° West to North 16° East with very steep dip angles that ranged from 82 to 90 degrees. No geologic evidence of a landslide slip surface was observed in Boring BA-6, nor was evidence of a landslide slip surface reported by others in prior Borings B-1 and B-2.

4.6 GROUNDWATER CONDITIONS

Groundwater was not encountered in any of the eight borings to a maximum explored depth of approximately 81 feet bgs. Seepage was also not encountered in any of the eight borings. The project site elevations are approximately 100 to 150 feet above the elevation of alluvial drainages to the west and east of the project site.

5.0 LABORATORY TESTING AND MATERIAL PROPERTIES

Laboratory testing was performed to evaluate engineering properties of subsurface soils and rock. The laboratory testing program and material properties are discussed in the following sections. The discussions are based on test results on samples from all six properties (18801, 18807, 18813, 18817, 18821, and 18825 Edleen Drive).

5.1 LABORATORY TESTING

Selected samples obtained from the borings were tested in the laboratory to evaluate the physical characteristics and engineering properties of subsurface soils and rock. Physical tests performed included moisture content and dry density, fines content, grain size distribution, Atterberg limits, expansion index, compaction, direct shear, repeated direct shear, and corrosion potential. Procedures for these tests are described in Appendix B. Test results for moisture content and dry density, fines content, Atterberg Limits, and expansion index are summarized on the boring logs in Appendix A and individual sheets for all the laboratory tests are provided in Appendix B.

5.2 ENGINEERING PROPERTIES

Engineering properties of undocumented fill, engineered fill, colluvium, and bedrock are discussed in the following sections.

5.2.1 Undocumented Fill (af)

Test results on two relatively undisturbed samples from the undocumented fill indicate similar moisture contents (24.4 and 25.1 percent) and similarly low in-situ dry densities (70.2 and 70.4 pounds per cubic foot or pcf). No other tests were performed on the undocumented fill as its extent is limited and it is expected to have negligible effects on slope stability analysis results.

5.2.2 Engineered Fill (afe)

Test results on relatively undisturbed samples from the engineered fill indicate moisture contents ranging from 6.2 to 32.1 percent, and in-situ dry densities ranging from approximately 59.6 to 116.5 pcf. The in-situ total unit weight was found to vary from 73 to 124 pcf, with an average of 100 pcf. The total wet densities in the direct shear tests were found to range from 106 to 137 pcf, with an average of 123 pcf.

Based on grain size distribution tests, the engineered fill material is variable, and consists of silty sand, clayey sand, silt, and clay. Fines content of the material ranges from approximately 21 to 88 percent. Based on sieve analyses and hydrometer tests on a sample of the clayey sand material, the clay-size fraction (CF), i.e., quantity of particles smaller than 0.002 millimeters as defined by Stark et al. (2005), is about 9 percent. The results of Atterberg Limits on the sample indicate that the fines can be classified as lean clay (CL), with a liquid limit (LL) of 28 and a plasticity index (PI) of 8.

The results of expansion index (EI) tests on the engineered fill indicate that the EI values range from 1 to 68, and based on these values, the expansion potential is considered to be very low to medium.

Results of compaction tests on the engineered fill indicate maximum dry densities ranging from 114 to 121.3 pcf and optimum moisture contents ranging from 10.8 to 14.5%.

Finally, direct shear tests were performed on relatively undisturbed samples of the engineered fill. A repeated shear test was also performed on a relatively undisturbed sample of the engineered fill. Based on results of the first cycle of the repeated direct shear tests, this material was found to have an ultimate friction angle ranging from 31 to 38 degrees, ultimate cohesion ranging from 0 to 169 pounds per square foot (psf), a peak friction angle between 32 and 52 degrees, and peak cohesion between 59 and 528 psf. The average ultimate friction angle and cohesion values are about 34 degrees and 85 psf, respectively. The average peak friction angle and cohesion value are about 38 degrees and 350 psf, respectively. Based on results of the last cycle of the repeated direct tests, the residual friction angle and peak cohesion of the material were found to be 31 degrees and 23 psf, respectively. Friction angle and cohesion values from individual tests are summarized in Table 2. The ultimate and peak shear strength test results for the fill and their average values are presented in Figure 4.

5.2.3 Colluvium (Qcol)

Test results indicate the colluvium has moisture contents ranging from approximately 18.7 to 34.1 percent, and in-situ dry densities ranging from 72.3 to 92.2 pcf. The in-situ total unit weight was found to vary from 97 to 109 pcf, with an average of 103 pcf. The total wet density in the repeated direct shear tests on the colluvium was found to be 122 pcf.

Based on grain size distribution and Atterberg Limits tests, the colluvium consists of silt and fat clay. Fines content of the material ranges from approximately 80.6 to 96 percent. Based on sieve analyses and hydrometer tests on a sample of the material, the CF is about 46 percent. The results of Atterberg Limits on the sample indicate that the fines content can be classified as fat clay (CH), with an LL of 66 and a PI of 41.

Finally, repeated direct shear tests were performed on the relatively undisturbed sample of the colluvium from boring BA-7. Based on results of the first cycle of the repeated direct shear tests, this material was found to have an ultimate friction angle of 22 degrees, an ultimate cohesion value of 195 psf, a peak friction angle of 37 degrees, and a peak cohesion value of 165 psf. Based on results of the last cycle of the repeated direct shear tests, the residual friction angle and peak cohesion of the material were found to be 19 degrees and 31 psf, respectively. These friction angle and cohesion values are shown in Table 2 and Figure 5.

5.2.4 Bedrock – Modelo Formation (Tm)

Test results indicate the bedrock (Tm) has moisture contents ranging from approximately 8.2 to 79.7 percent, and in-situ dry densities ranging from approximately 51.5 to 118.7 pcf. The in-situ total unit weight was found to vary from 76 to 143 pcf, with an average of 107 pcf. The total wet densities in the direct shear tests were found to range from 111 to 123 pcf, with an average of 115 pcf.

Based on grain size distribution and Atterberg Limits tests, the bedrock consists of claystone. Fines content of the bedrock ranges from 69.3 to 94.2 percent. Based on sieve analyses and hydrometer tests, the CF ranges from approximately 21 to 30 percent, with an average of approximately 26.

The results of Atterberg Limits tests indicate the bedrock has an LL ranging from 57 to 81 and a PI ranging from 32 to 49, and based on these test results, the fines content can be classified as fat clay (CH). Average LL and PI of the bedrock are 71 and 41, respectively.

Finally, repeated direct shear tests were performed on relatively undisturbed samples of the bedrock in accordance with ASTM-D3080, CGS Special Publication 117A, and Blake et. al. (2002). Based on results of the first cycle of the repeated direct shear tests, the bedrock was found to have an ultimate friction angle ranging from 17 to 41 degrees, a cohesion value ranging from 0 to 490 psf, a peak friction angle between 23 and 43 degrees, and a peak cohesion value between 322 and 1,464 psf. The average ultimate friction angle and cohesion values are about 29 degrees and 170 psf, respectively. The average peak friction angle and cohesion value are about 33 degrees and 845 psf, respectively. Based on results of the last cycle of the repeated direct shear tests, the residual friction angle of the bedrock was found to be between 12 and 25 degrees, and the residual cohesion was between 65 and 429 psf. The average residual friction angle and cohesion value are about 19 degrees and 210 psf, respectively. The peak, ultimate and residual shear strength test results for the bedrock are presented in both Table 2 and Figure 6.

5.3 CORROSION POTENTIAL

AP Engineering & Testing, Inc. of Pomona, California performed chemical analyses, pH, and minimum resistivity tests on the fill and upper bedrock materials. Corrosion test results are presented in Appendix B.

The soil pH value was determined to be between 8.0 and 8.7, which is considered to be mildly alkaline.

Measured minimum resistivity are between 595 and 1,757 ohm-cm. Based on correlations in the Navy Design Manual (NAVFAC DM-5) and resistivity results, on-site fill and bedrock are considered to be severely corrosive when in contact with ferrous materials.

Measured chloride concentrations are between 42 and 57 ppm, indicating the materials are between slightly and very corrosive.

Measured sulfate content are between 86 and 2,034 ppm. The results indicate that in-situ materials could potentially have severe sulfate attack potential on concrete, according to ACI 318-05, Table 4.3.1.

6.0 SLOPE STABILITY ANALYSES

Limit-equilibrium analyses were performed to evaluate the static and seismic stability of the existing slopes on the north/northeastern side of the property. Details of the slope stability analyses are discussed in the following sections.

6.1 CROSS-SECTIONS AND SLOPE CONFIGURATIONS

The stability of the existing slopes for the group of lots was evaluated by analyzing Geologic Cross-Sections A-A' through F-F'. Although Geologic Cross-Section A-A' is specific to 18825 Edleen Drive, it is reasonable to examine the stability results of this lot in the context of those of the adjacent lots. The locations of the geologic cross-sections are shown on Plate 1, and the cross-section profile for this lot is depicted on Plate 2. The cross-section was selected for slope stability analysis as it was considered to represent an adverse condition due to the dip direction of the Modelo Formation in relation to the direction of the slope.

6.2 SHEAR STRENGTH PARAMETERS

The stability of the existing slopes is largely controlled by the shear strength of the Modelo Formation (Tm). Shear strength parameters are also required for the existing engineered fill (afe), undocumented fill (af), and colluvium (Qcol). The shear strength parameters for the materials were estimated based on laboratory direct shear tests discussed in Section 5.2, correlations of Stark et al. (2005) for drained residual and fully softened shear strengths, and review of previous geotechnical reports (AES 2009, Rybak 2011) for developments at 4777 and 4760 Brewster Drive. A comparison of the shear strength parameters from the various sources is provided in Table 3.

The shear strength parameters used in slope stability analyses are summarized in Table 4. The long-term static stability was analyzed using ultimate shear strength parameters for all materials, except for the bedrock along-bedding strength. The seismic stability was analyzed using peak shear strength parameters for all materials, except for the along-bedding strength of the bedrock. For bedrock along-bedding strength, residual shear strength parameters are used for both static and seismic stability analyses. The following paragraphs discuss the selection of these shear strength parameters.

The shear strength of the undocumented fill is believed to play a very minor role in the results of the stability analyses due to its limited extent in the cross-section profile. Therefore, the undocumented fill was assumed to have both an ultimate and peak friction angle of 30 degrees (no cohesion).

For the existing engineered fill (afe), laboratory direct shear tests were performed on representative soil samples, and test results are discussed in Section 5.2.2. Average shear strength parameters from the laboratory tests are presented in Table 3 and compared to those reported in previous geotechnical investigations. It can be seen from Table 3 that previous geotechnical reports provided 7 sets of ultimate shear strength parameters, but only one set of peak parameters for the fill. The average values of ultimate shear strength parameters from our laboratory tests are similar to those in previous geotechnical reports. Therefore, for the fill, shear strength parameters from our laboratory direct shear tests were used in the slope stability analyses. Specifically, the average ultimate friction angle and cohesion from our laboratory tests were used in the static slope stability analyses, and the average peak friction angle and cohesion were used in seismic slope stability analyses.

The colluvium materials are insignificant to the assessment of slope stability for this property due to the limited extent of colluvium in the cross-section profile; also, no previous geotechnical reports provided shear strength parameters for the material. Shear strength parameters from our laboratory direct shear tests are discussed in Section 5.2.3 and are presented in Table 3 again. These parameters were used in the slope stability analyses. Specifically, the ultimate friction angle and cohesion from our laboratory tests were used in the static slope stability analyses, and the average peak friction angle and cohesion were used in seismic slope stability analyses.

The shear strength of the Modelo Formation (Tm) bedrock at this site is largely controlled by the orientation of the beds (i.e. cross-bedding vs. along-bedding). The adverse bedding condition was modeled using an anisotropic Mohr-Coulomb model to account for the differences between cross-bedding and along-bedding strengths. Shear strength parameters for cross-bedding and along-bedding directions in the slope stability analyses are largely based on our repeated direct test results, in comparison with those from empirical correlations and recent adjacent geotechnical investigations.

Stark and Hussain (2013) correlations use LL and clay-size fraction to estimate shear strength parameters. The results of our laboratory tests on representative bedrock samples using ASTM test methods D4318 and D422 indicate that LL values range from 57 to 81 and clay-size fraction ranges from approximately 21 to 30 percent. These ASTM test results correspond to the Stark and Hussain (2013) ball milled LL values between 80 and 119, and ball milled clay-size fractions between 35 and 45 percent. Estimated shear strength parameters based on the Stark and Hussain (2013) correlations using the ball miller LL and clay-size fraction are presented in Table 3, in comparison to our repeated direct shear test results discussed in Section 5.2.4 and those from recent adjacent geotechnical investigations. It can be seen that strengths based on the Stark and Hussain (2013) correlations are significantly lower than those from our repeated direct shear tests. However, it should be noted the Stark and Hussain (2013) correlations are for landslide or failed slopes, which is not the case for the slopes at Edleen Drive. In addition, the average ultimate and residual shear strength parameters from our repeated direct shear tests are in general agreement with previous adjacent geotechnical investigations (Table 3). Furthermore, bedrock beneath the property and adjacent lots is believed to have similar strength parameters. Therefore, the average strength parameters from our repeated direct shear tests were used in the slope stability analyses. Specifically, the average residual friction angle and cohesion, 19 degrees and 210 psf, respectively, were assigned to the bedrock along-bedding direction in both the static and seismic slope stability analyses. The average ultimate friction angle and cohesion, 29 degrees and 170 psf, respectively, were assigned to the bedrock cross-bedding direction in the static slope stability analyses. The average peak friction angle and cohesion, 33 degrees and 845 psf, respectively, were assigned to the bedrock cross-bedding direction in the seismic slope stability analyses.

Finally, the anisotropic strength properties (along-bedding vs. cross-bedding) used in the analyses are based on field measurements of the strike and dip. Based on these measurements and our interpretation of the geology, along bedding strength properties were assigned to Section A-A' for slip surface inclinations between 14 and 22 degrees.

6.3 LIMIT-EQUILIBRIUM ANALYSIS

Two-dimensional limit-equilibrium analyses were performed to evaluate the global stability of the subject slopes and compute a factor of safety (FS) against sliding. The computer program Slope/W (Geo-Slope, 2007) was used to perform Morgenstern-Price's limit-equilibrium analysis method (Morgenstern and Price, 1965) because it satisfies both force and moment equilibrium, and accounts for variable inter-slice forces. Slope/W is a commercially available computer program with a comprehensive formulation that makes it possible to analyze complex geometric configurations and loading conditions.

In terms of slope stability, the FS against slope instability is defined as the ratio of resulting shear strength (friction and cohesion along a potential failure surface) to driving stresses (gravitational forces pulling downslope). A FS of unity (1.0) indicates a delicate balance between the resisting and driving stresses and represents incipient failure. A FS below unity indicates slope instability. For the limit-equilibrium analyses, the minimum static FS for slope stability was evaluated. The calculated static FS was compared to the design criterion for static slope stability for the City of Los Angeles (City of LA, 2017). For long-term static conditions, the FS criterion used to evaluate the static stability was 1.50.

The seismic stability was evaluated using the pseudo-static analysis method within Slope/W. In this method, the earthquake forces are represented by a static lateral force equal to the product of the horizontal seismic coefficient (k) and the weight of the slide mass, and a FS is computed using conventional limit-equilibrium analysis. The evaluation was performed in accordance with the City of LA (2017) guidelines, which is based on the recommended procedures provided in Special Publication 117A (California Geological Survey, 2008). This method, which is known as a screening analysis, involves calculating a "k" coefficient and evaluating the stability using a minimum required FS = 1.0. The "k" coefficient is dependent on the contributing earthquake magnitude and distance to the fault, the peak ground acceleration (PGA), and the amount of tolerable displacement. The City of LA (2017) requires that the amount of tolerable displacement should be a maximum of 5 centimeters (approximately 2 inches) for slopes that may affect the integrity of structures. The calculated "k" coefficient used in our analyses was determined to be 0.15, based on a Mw=6.77, a seismic source distance R of 17.18 km, a PGA = 0.34 g, and a tolerable displacement of 5 centimeters. The values of Mw and R were mean values obtained from a deaggregation analysis using the USGS Unified Hazard Tool (the Dynamic: Conterminous U.S. 2008 (v3.3.1) edition) for a PGA with a return period of 475 years and a site of $V_{s,30}$ = 360 m/s (C/D boundary), where $V_{s,30}$ is shear wave velocity in the upper 30 meters (i.e., 100 feet) of subsurface materials.

6.4 SURFICIAL SLOPE STABILITY

Surficial slope stability was evaluated in accordance with the City of LA requirements (2017). The City of LA (2017) requires an evaluation of an infinite slope condition with seepage parallel to the slope surface and a minimum FS = 1.50. In addition, a minimum saturated depth of three feet should be used in the analysis.

Based on the City of LA requirements (2017), the surficial stability of the fill was evaluated under saturated conditions for a 3-foot saturation depth. The ultimate shear strength was used to evaluate the surficial stability.

The slope stability equation (Abramson et al., 2002) for a fully saturated condition is as follows:

$$FS = \frac{c' + h(\gamma_{sat} - \gamma_w)\cos^2(\beta)\tan\phi'}{\gamma_{sat} h \sin\beta\cos\beta}$$

where:

c' = cohesion (psf)
h = vertical height ground surface and theoretical failure surface (feet)
γ_{sat} = saturated unit weight (pcf)
γ_w = unit weight of water
β = slope angle (degrees)
ϕ' = angle of internal friction (degrees)

Values of the above parameters are presented in Table 5.

6.5 RESULTS OF SLOPE STABILITY ANALYSES

Results of surficial stability analyses at Cross-Section A-A', along with the parameters used in the analysis are presented in Table 5. Results of global slope stability analyses are summarized in Table 6. Tables 5 and 6 also include slope stability analysis results for the adjacent lots involved in this investigation. Details of the global slope stability analyses for the property featured in this report are provided in Appendix C. Based on the results of our analyses, the minimum FS criterion (FS>=1.50) is not satisfied for the static cases for critical slip surfaces through the bedrock or within the fill. The minimum FS criterion (FS>=1.0) is not considered satisfied for the pseudo-static case (Cross-Section A-A'). For the saturated surficial stability, the minimum FS criterion (FS>=1.5) is considered not satisfied for a 3-foot saturated vertical depth.

7.0 CLOSURE

The conclusions and opinions presented herein are based upon our evaluation and interpretation of the data obtained from our field and laboratory programs, and upon an interpolation of subsurface conditions between and beyond the borings. The information in this report may not be sufficient for design of site improvements. Additional site-specific investigations will be necessary to further evaluate existing conditions and develop design recommendations.

8.0 REFERENCES

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TABLES

TABLE 1

SUMMARY OF FIELD EXPLORATION
Geotechnical Evaluation Report
18801 to 18825 Edleen Drive
Tarzana, California

Boring Designation	Date Drilled (2017)	Top Elevation (ft)	Bottom Elevation (ft)	Total Depth (ft)	Drilling Company	Geologic Units	Description of Boring Location	Coordinates				Approximate Groundwater Depth (ft)
								Northing	Easting	Latitude	Longitude	
BA-1	5/3 to 5/4	1060	980	80	Roy Brothers	afe/Tm	18801 Edlen Drive	6397874.956	1880020.76	34.15717091	-118.541405	N/E[1]
BA-2	5/2	1065	985	80	Roy Brothers	afe/Tm	18807 Edleen Drive	6397785.878	1880012.455	34.15714677	-118.5416993	N/E
BA-3	5/4 to 5/5	1074	993	81	Roy Brothers	afe/Tm	18813 Edleen Drive	6397737.442	1880099.805	34.15738608	-118.541861	N/E
BA-4	5/8	1079	999	80	Roy Brothers	afe/Tm	18817 Edleen Drive	6397668.847	1880123.213	34.15744938	-118.5420881	N/E
BA-5	5/9	1086	1006	80	Roy Brothers	afe/Tm	18821 Edleen Drive	6397588.948	1880155.473	34.15753684	-118.5423528	N/E
BA-6	5/10	1090	1010	80	Roy Brothers	afe/Tm	18825 Edleen Drive	6397533.616	1880210.669	34.15768769	-118.5425367	N/E
BA-7	5/17	961	921	40	Roy Brothers	af/Qcol/Tm	Brewster Drive	6397972.751	1880247.206	34.1577946	-118.5410858	N/E
BA-8	5/16	959	911	48	Roy Brothers	af/Qcol/Tm	Brewster Drive	6397805.828	1880383.138	34.15816564	-118.54164	N/E

Notes
1. N/E = Not Encountered
2. afe: engineered artificial fill
3. af: undocumented artificial fill
4. Qcol: Colluvium
5. Tm: Modelo Formation
6. Coordinates are based on hand held GPS; accuracry to within about 3 feet

TABLE 2

SUMMARY OF DIRECT SHEAR AND REPEATED DIRECT SHEAR TEST RESULTS

Geotechnical Evaluation Report
18801 to 18825 Edleen Drive
Tarzana, California

Boring No. Sample No. Depth	Geology Unit	Address Cross-Section No.	Normal Stress (psf)	Shear Stress (psf)			Shear Strength Parameters					
							Peak		Ultimate		Residual	
				Peak	Ultimate	Residual	Cohesion (psf)	Friction Angle (degrees)	Cohesion (psf)	Friction Angle (degrees)	Cohesion (psf)	Friction Angle (degrees)
BA-1 D-4 20.5-21'	Bedrock (Tm)	18801 Edleen Dr F - F'	1034	1292	624	437	732	31	0	32	65	21
			2113	2119	1305	891						
			3000	2453	1906	1171						
BA-2 D-2 10.5-11'	Bedrock (Tm)	18807 Edleen Dr E - E'	1034	1278	744	477	516	38	144	26	101	18
			2113	2226	984	717						
			3000	2787	1732	1131						
BA-2 D-7 50.5-51'	Bedrock (Tm)	18807 Edleen Dr E - E'	2113	2133	1211	1078	947	28	268	26	353	19
			4190	3147	2373	1786						
			8000	5297	4055	3094						
BA-3 D-6 35.5-36'	Bedrock (Tm)	18813 Edleen Dr D - D'	1034	1065	584	424	322	35	41	31	106	18
			3000	2386	2039	1158						
			5000	3842	3001	1745						
BA-4 D-3 15.5-16'	Bedrock (Tm)	18817 Edleen Dr C - C'	1034	1412	757	597	858	29	131	34	152	25
			2113	2026	1679	1185						
			3000	2480	2053	1492						
BA-5 D-4 25.5-26'	Bedrock (Tm)	18821 Edleen Dr B - B'	1034	1345	731	557	1031	23	490	17	429	12
			2113	2106	1278	1011						
			4190	2733	1759	1265						
BA-6 D-5 30.5-31'	Bedrock (Tm)	18825 Edleen Dr A - A'	1034	2173	918	597	1464	43	0	41	185	24
			2113	3828	1438	1185						
			4190	5244	3828	2012						
BA-8 D-4 25.5-26'	Bedrock (Tm)	Toe at 18817 & 18821 Edleen Dr B - B', C - C'	500	1145	477	424	912	35	289	26	295	15
			1034	1799	864	584						
			2113	2320	1278	864						
BA-7 D-2 10.5-11'	Colluvium (Qcol)	Toe at 18801 & 18807 Edleen Dr E - E', F - F'	500	490	237	197	165	37	195	22	31	19
			1034	1011	864	397						
			2113	1719	984	757						
BA-1 D-1 5.5-6'	Fill (afe)	18801 Edleen Dr F - F'	500	876	466		528	33	145	31		
			1000	1128	708							
			1500	1524	1068							
BA-3 D-4 20.5-21'	Fill (afe)	18813 Edleen Dr D - D'	1000	948	708		295	32	60	33		
			2000	1533	1356							
			3000	2220	2004							
BA-4 D-1 5.5-6'	Fill (afe)	18817 Edleen Dr C - C'	500	1032	451		387	52	49	38		
			1000	1688	792							
			1500	2328	1224							
BA-5 D-2 10.5-11'	Fill (afe)	18821 Edleen Dr B - B'	500	477	330	303	59	41	0	36	23	31
			1034	1024	717	664						
			1500	1358	1145	891						
BA-6 D-1 5.5-6'	Fill (afe)	18825 Edleen Dr A - A'	500	792	492		500	32	169	33		
			1000	1188	819							
			1500	1428	1140							

TABLE 3

COMPARISON OF SHEAR STRENGTH PARAMETERS

Geotechnical Evaluation Report
18801 to 18825 Edleen Drive
Tarzana, California

Material Type	Data Source	Project Location	Shear Strength Parameters: Peak Cohesion (psf)	Peak Friction Angle (degrees)	Ultimate Cohesion (psf)	Ultimate Friction Angle (degrees)	Residual Cohesion (psf)	Residual Friction Angle (degrees)	Total Unit Weight (pcf)
Fill	AES (2009)	4777 Brewster Dr	-- [1]	--	280	34	--	--	124
	MEC (2001)	4777 Brewster Dr	--	--	530	31	--	--	123
	MEC (2001)	4777 Brewster Dr	--	--	490	33	--	--	123
	MEC (2001)	4777 Brewster Dr	--	--	480	32	--	--	106
	JTM/Novus (2009)	4777 Brewster Dr	--	--	140	18	--	--	117
	Rybak (2011)	4760 Brewster Dr	360	29	170	27			116
	ASE (2013)	18827 Edleen Dr	--	--	165	33	--	--	99
	Amec Foster Wheeler (2017) Average Direct Shear Test Results	**18801 through 18825 Edleen Dr**	**350**	**38**	**85**	**34**	23	31	**123**
Colluvium	**Amec Foster Wheeler (2017) Direct Shear Test Results**	**18801 through 18825 Edleen Dr**	**165**	**37**	**195**	**22**	31	19	**122**
Bedrock	MEC (2001)	4777 Brewster Dr	--	--	900	33	--	--	112
	MEC (2001)	4777 Brewster Dr	--	--	610	32	--	--	127
	MEC (2001)	4777 Brewster Dr	--	--	590	28	--	--	113
	AES (2009)	4777 Brewster Dr	--	--	540	30	200	18	120
	JTM/Novus (2009)	4777 Brewster Dr	--	--	320	28	--	--	120
	Rybak (2011)	4760 Brewster Dr	620	29	480	23	180	20	121
	ASE (2013)	18827 Edleen Dr	--	--	325	30	--	--	118
	ASE (2013)	18827 Edleen Dr	--	--	355	30	--	--	94
	Amec Foster Wheeler (2017) Average Direct Shear Test Results	**18801 through 18825 Edleen Dr**	**845**	**33**	**170**	**29**	**210**	**19**	**115**
	Amec Foster Wheeler (2017) Based on Stark and Hussain (2013)	18801 through 18825 Edleen Dr	--	--	0	21 - 35 [2]	0	8 - 13 [3]	--

Notes

0.2485207 0.5757576

1. -- denotes data not available
2. Based on Stark and Hussain (2013), the ultimate (fully softened) friction angles of bedrock are 35, 24, 21 and 21 degrees at normal stresses of 1,045, 2,089, 4,173, and 14,623 psf, respectively, with an average of 25 degrees.
3. Based on Stark and Hussain (2013), the residual friction angles of bedrock are 13,12, 10 and 8 degrees at normal stresses of 1,045, 2,089, 4,173, and 14,623 psf, respectively, with an average of 12 degrees.
4. Values in Bold are used in our slope stability analyses.

TABLE 4

SUMMARY OF MATERIAL PROPERTIES USED IN SLOPE STABILITY ANALYSES

Geotechnical Evaluation Report
18801 to 18825 Edleen Drive
Tarzana, California

Material Description	Unit Weight (pcf)[1]	Static Shear Strength Parameters		Pseudostatic Shear Strength Parameters	
		Cohesion (psf)[2]	Friction Angle (degree)	Cohesion (psf)	Friction Angle (degree)
Undocumented Artificial Fill (af)[3]	88	0	30	0	30
Engineered Fill (afe)	123	85	34	350	38
Colluvium (Qcol)	122	195	22	165	37
Modelo Formation (Tm) Cross Bedding	115	170	29	845	33
Modelo Formation (Tm) Along Bedding	115	210	19	210	19

Notes
1. pcf = pounds per cubic foot
2. psf = pounds per square foot
3. Unit weight and shear strength parameters for undocumented fill are assumed and believed to have negligible effect on analysis results.

TABLE 5

SUMMARY OF SURFICIAL SLOPE STABILITY ANALYSES
Geotechnical Evaluation Report
18801 to 18825 Edleen Drive
Tarzana, California

Cross Section	Soil Cohesion c' (psf)	Soil Friction Angle ϕ' (°)	Saturated Unit Weight γ_{sat} (pcf)	Unit Weight of Water γ_w (pcf)	Saturated Vertical Depth, h (feet)	Approximate Slope Angle, β (°)	Factor of Safety, FS
A-A'	85	34	123	62.4	3	29.3	1.13
B-B'	85	34	123	62.4	3	26.5	1.24
C-C'	85	34	123	62.4	3	28.3	1.17
D-D'	85	34	123	62.4	3	29.0	1.14
E-E'	85	34	123	62.4	3	29.0	1.14
F-F'	85	34	123	62.4	3	28.5	1.16

TABLE 6

SUMMARY OF SLOPE STABILITY ANALYSIS RESULTS

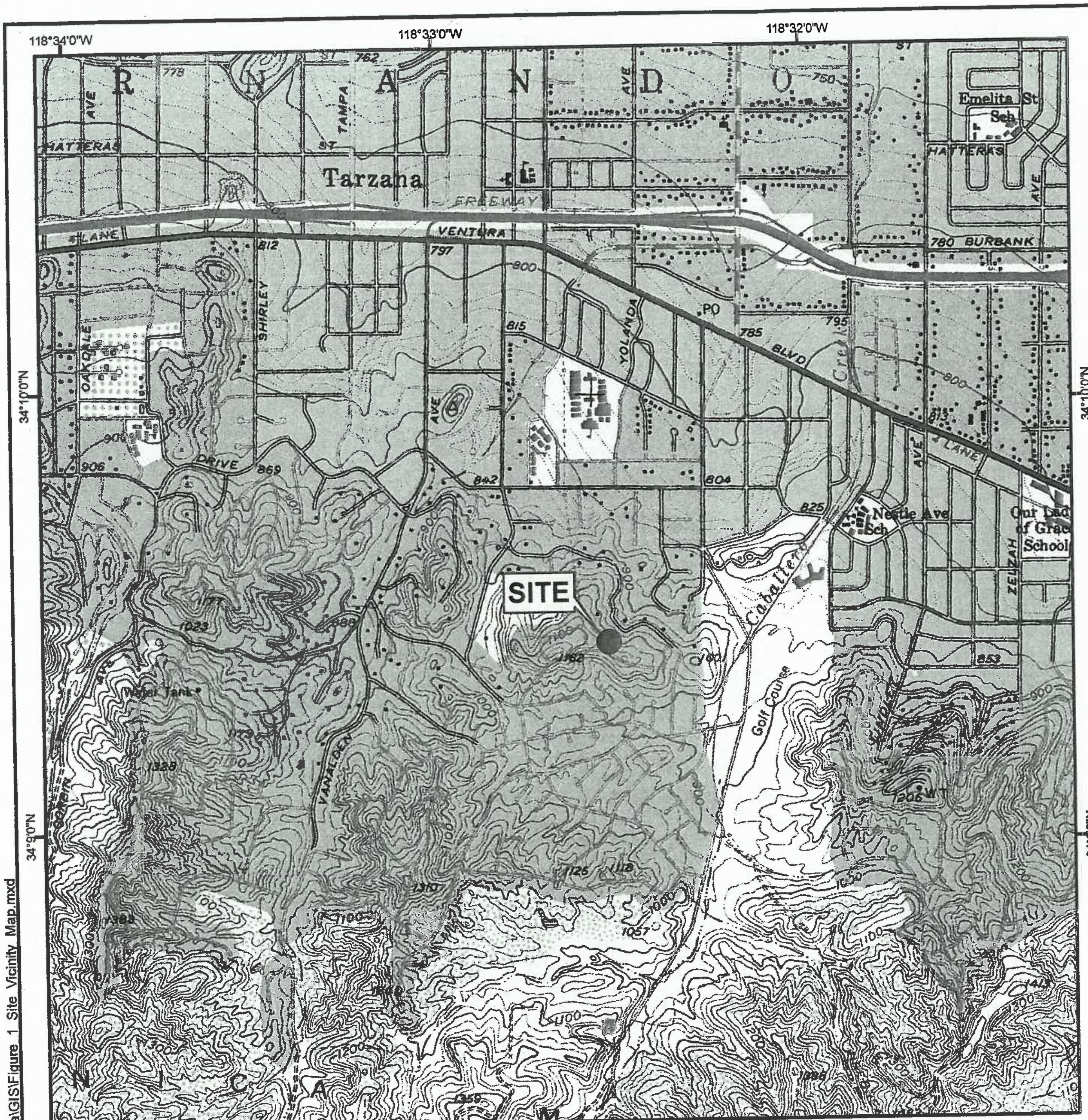
Geotechnical Evaluation Report
18801 to 18825 Edleen Drive
Tarzana, California

Cross Section (Property Address)	Static Factor of Safety		Pseudo Static Factor of Safety for $k_h = 0.15$ [1]	Surficial Slope Stability
	Critical Slip Surface Through Bedrock	Critical Slip Surface within Fill	Slip Surface Through the Critical Static Slip Surface	Saturated Vertical Depth h = 3 feet
A - A' (18825 Edleen Dr)	1.10	1.41	0.98	1.13
B - B' (18821 Edleen Dr)	1.10	1.49	0.94	1.24
C - C' (18817 Edleen Dr)	1.18	1.41	1.10	1.17
D - D' (18813 Edleen Dr)	1.18	1.37	1.11	1.14
E - E' (18807 Edleen Dr)	1.25	1.35	1.18	1.14
F - F' (18801 Edleen Dr)	1.27	1.42	1.21	1.16

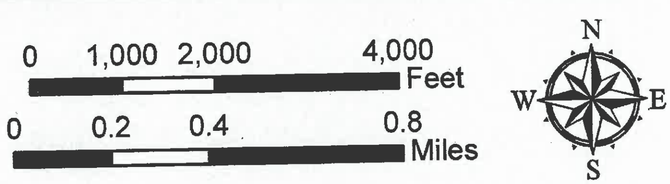
Notes

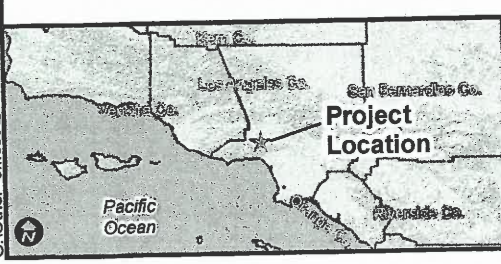
1. K_h=horizontal seismic coefficient. k_h=0.15 corresponds to seismic deformation of 5 centimeters at the project site.

FIGURES



Base: USGS topographic map of the Canoga Park 7.5 minute Quadrangle





amec foster wheeler

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Environment & Infrastructure, Inc.
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Edleen Drive Geotechnical Evailuation
18801 To 18825 Edleen Drive
Tarzana, City of Los Angeles, California

LAT:	34.15728
LON:	-118.54189
SCALE:	1:24,000
DRAWN:	KSH
CHECK:	XXX
DATE:	7/25/2017

SITE VICINITY MAP

FIGURE: 1

PROJECT: IR17166570

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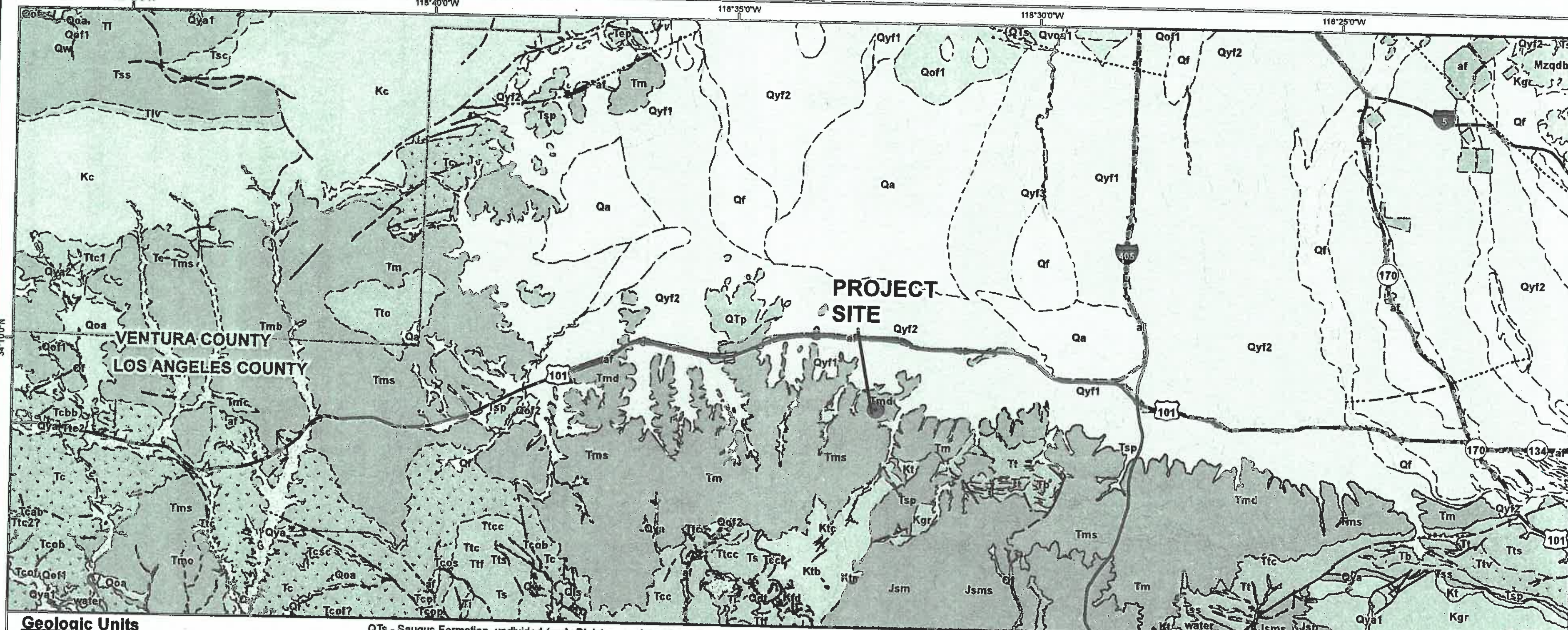


Geologic Units

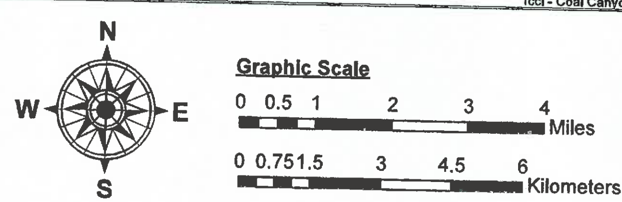
af - Artificial fill (latest Holocene)
Qa - Alluvium, undifferentiated, active channel (late Holocene)
Qw - Wash deposits (late Holocene)
Qf - Alluvial fan deposits (late Holocene, Holocene)
Qyf - Young alluvial fan deposits, unit 1 (Holocene to late Pleistocene)
Qya - Young alluvium, undivided (Holocene to late Pleistocene)
Qdt - Debris trains and talus (Holocene, late Pleistocene)
Qls - Landslide deposits (Holocene, late Pleistocene)
Qoa - Old alluvium, undivided (late to middle Pleistocene)
Qof - Old alluvial fan deposits, undivided (late to middle Pleistocene)
Qvoa1 - Very old alluvium, unit 1 (early Pleistocene)
QTs - Saugus Formation, undivided (early Pleistocene, late Pliocene)
QTp - Pico Formation, undivided (Pliocene)
Tto - Towsley Formation, sandstone with micaceous claystone (late Miocene and early Pliocene)
Tm - Modelo Formation, undivided, mudstone, siltstone, shale (late Miocene)
Tb - Basalt dikes, flows and breccias (Miocene)
Ti - Intrusive rocks, undivided (middle Miocene)
Tc - Conejo Volcanics, undifferentiated (middle Miocene)
Tcab - Conejo Volcanics; andesite, dacite, breccia (middle Miocene)
Tcof - Conejo Volcanics, basaltic and andesitic flows (middle Miocene)
Tcop - Conejo Volcanics, basaltic lower zone, pillow basalt (middle Miocene)
Tcos - Conejo Volcanics, Solstice Canyon tongue, basaltic and andesitic flow breccia, tuff (middle Miocene)
Tcob - Conejo Volcanics, basaltic lower zone, basalt and andesitic basalt (middle Miocene)
Tcsc - Topanga Group, Calabasas Formation, Stokes Canyon Breccia Member (middle Miocene)
Tcbb - Conejo Volcanics, basalt dacite flows (middle Miocene)
Tt - Topanga Group, undivided, sedimentary and volcanic rocks (middle Miocene)
Tl - Llajas Formation, very fine sandstone and siltstone (middle to early Miocene)
Tlv - Las Virgenes Formation, sandstone (early Paleocene)
Ts - Sespe Formation, undivided, conglomerate, sandstone (late Eocene, Oligocene, early Miocene)
Tsc - Simi Conglomerate, undivided, sandstone and cobble conglomerate (Paleocene)
Tss - Santa Susana Formation, clay and mudrock (early to late Paleocene)
Tcc - Coal Canyon Formation, sandstone, conglomerate, siltstone (Eocene and Paleocene)
Tccl - Coal Canyon Formation, algal limestone (Eocene and Paleocene)
Tep - Sedimentary Rocks of Chatsworth Reservoir (Eocene and/or Paleocene)
Kc - Chatsworth Formation, sandstone (late Cretaceous)
Kt - Tuna Canyon Formation, undivided marine sandstone, siltstone, conglomerate (late Cretaceous)
Ktr - Trabuco Formation, conglomerate (late Cretaceous)
Kgr - Granitic rocks (late Cretaceous)
Jsm - Santa Monica Slate (late Jurassic)
Jsp - Santa Monica Slate, phyllite (late Jurassic)
Mzqdb - Biotite-quartz diorite (Mesozoic)

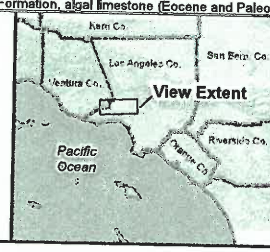
Note: Some geologic units may have sub-units shown on map

Geologic Contacts

contact, identity and existence certain, location accurate
contact, identity and existence certain, location approximate
contact, identity and existence certain, location concealed
contact, identity and existence certain, location inferred
fault, identity and existence certain, location accurate
fault, identity and existence certain, location approximate
fault, identity and existence certain, location concealed
fault, identity and existence certain, location inferred

(Queried where contacts are questionable)





Reference:
Bedrossian, T.L., Roffers, P., Hayhurst, C.A., 2010, "Geologic Compilation of Quaternary Surficial Deposits in Southern California", California Geological Survey, vector spatial data, Special Report 217, July 2010.

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LAT:	34.1573
LON:	-118.5419
SCALE:	1:100,000
DRAWN:	KSH
CHECK:	XXX
DATE:	7/31/2017

Edleen Drive Geotechnical Evaluation
18801 To 18825 Edleen Drive
Tarzana, City of Los Angeles, California

REGIONAL GEOLOGIC MAP

FIGURE: 2

PROJECT: IR17166570

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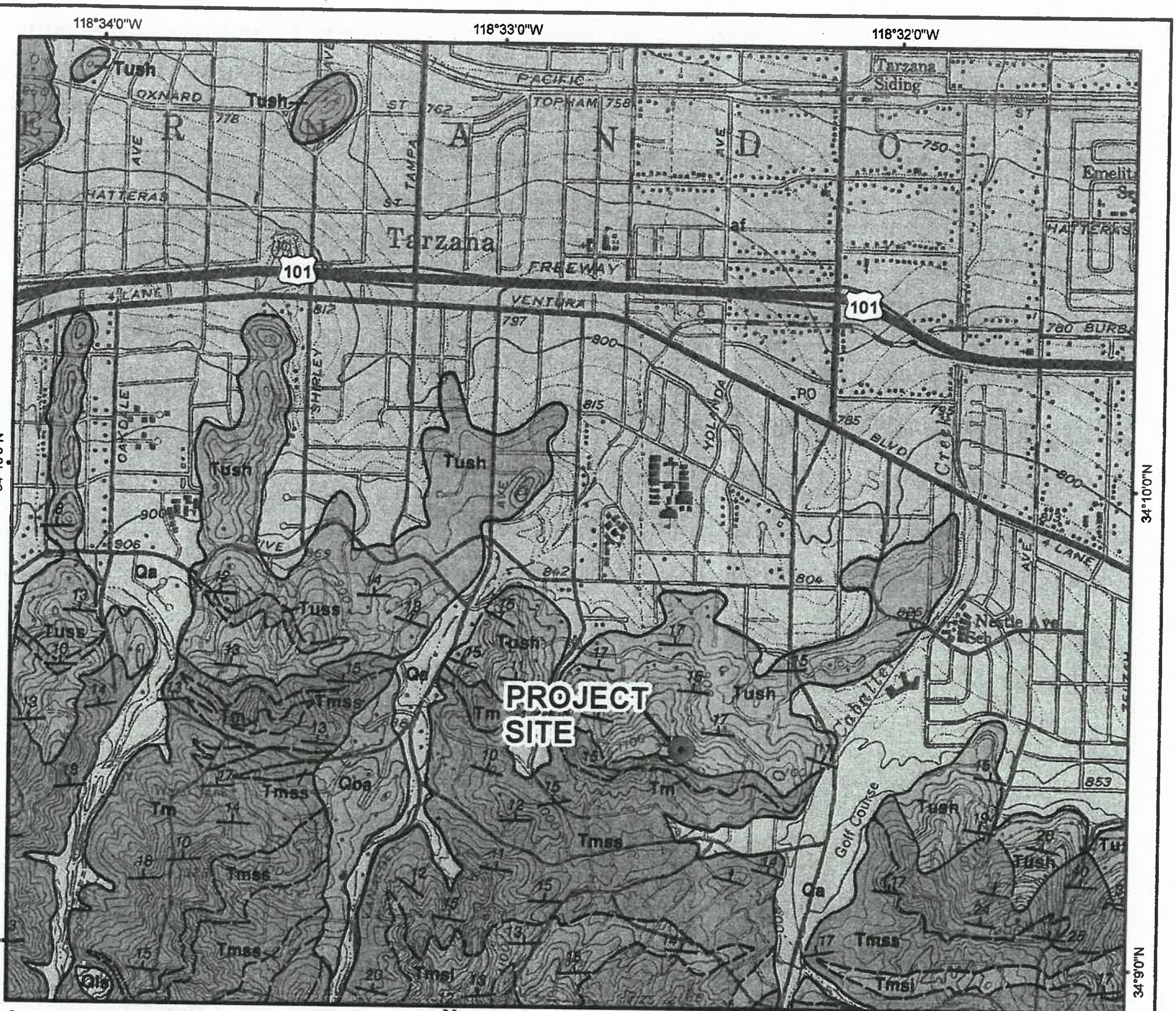


0 1,000 2,000 4,000 Feet

N W E S

Geologic Units

Unit - Description (Age)

Qa- Alluvial gravel, sand, and clay of valley areas (Holocene)

Qoa- Older alluvium of gravel, sand, and silt-clay derived from Santa Monica Mountains (late Pleistocene)

Tush- Unnamed Shale. Claystone and siltstone, moderately to vaguely bedded. Equivalent to Upper Modelo Formation of Hoots, 1931 and A.E.G Maps, 1982 (late Miocene)

Tuss- Unnamed Shale. Sandstone (late Miocene)

Tm- Monterey Formation. Siliceous, thinly bedded shale (middle and late Miocene)

Tmsi - Similar to Tm, but with thinly bedded clay shale, siltsone, and sandstone (middle to late Miocene)

Tmss- Monterey Formation. Sandstone, bedded (middle and late Miocene)

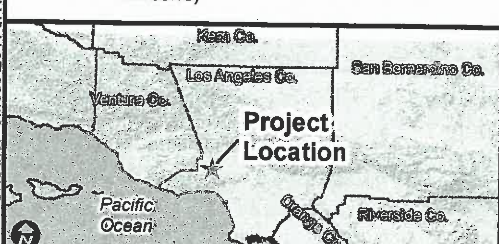
Contacts:

- contact, location accurate
- contact, location approximate
- contact, location concealed
- contact, location inferred
- fault, location accurate
- fault, location approximate
- fault, location concealed
- fault, location inferred

Symbols:

- 23 Inclined Bedding
- 18 Inclined Bedding approx.

Reference:
Dibblee, T.W., and Ehrenspeck, H.E., ed., 1992, Geologic map of the Topanga and Canoga Park (south 1/2) quadrangles, Los Angeles County, California: Dibblee Geological Foundation, Dibblee Foundation Map DF-35, scale 1:24,000.



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Edleen Drive Geotechnical Evaluation
18801 To 18825 Edleen Drive
Tarzana, City of Los Angeles, California

LAT:	34.1573
LON:	-118.5417
SCALE:	1:24,000
DRAWN:	KSH
CHECK:	XXX
DATE:	7/25/2017

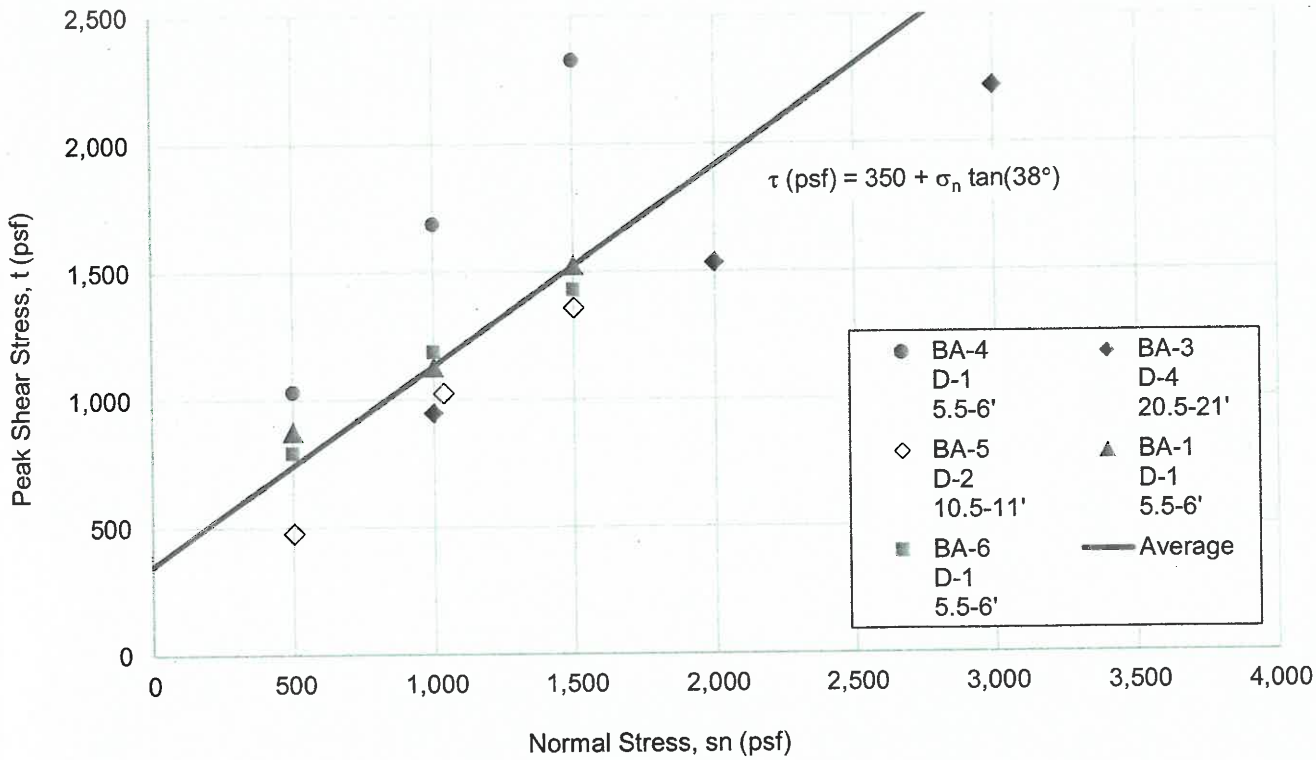
LOCAL GEOLOGIC MAP

FIGURE: 3

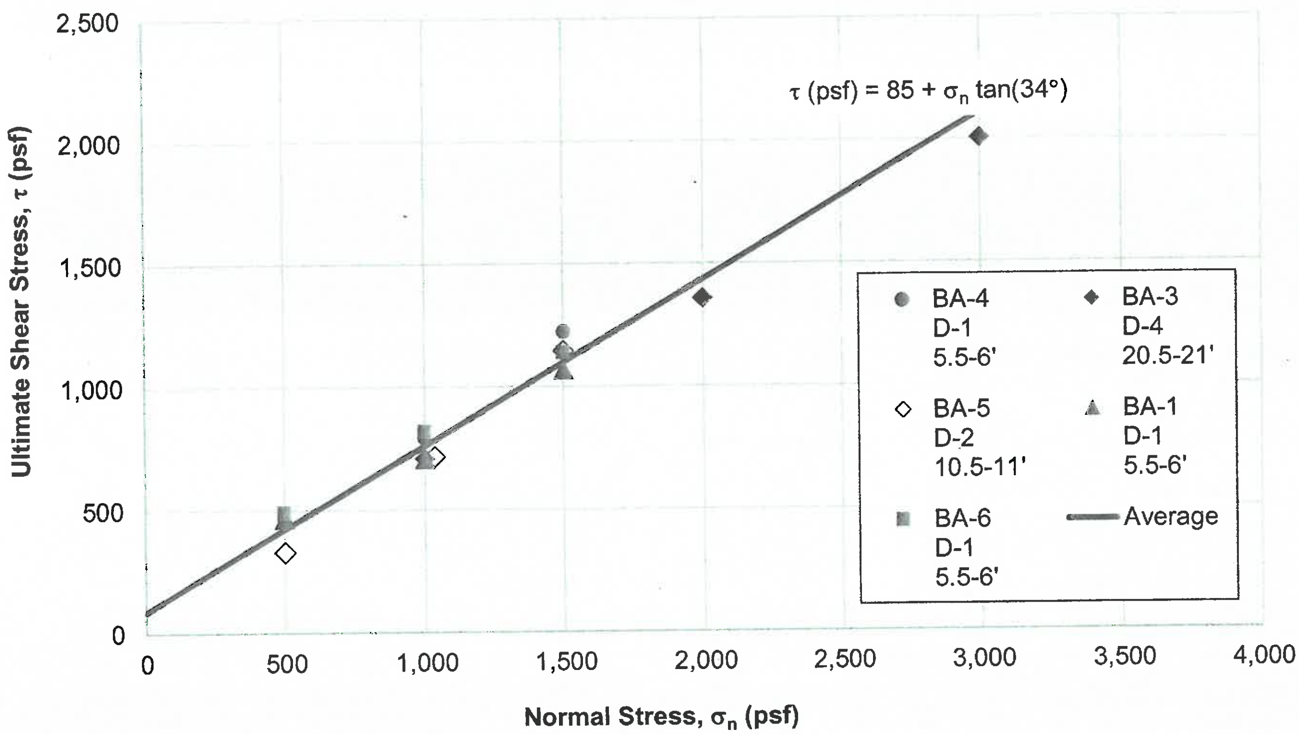
PROJECT: IR17166570

Path: G:\Other offices\2017\IR17166570_Edleen Drive Tarzana\GIS\Figure 3 Local Geologic Map draft.mxd

P:\166570\Docs\18825 Edleen Drive\Figures\Figures 4-6 for DS ResultsFigure 4 Fill 8/22/2017



(a) Peak Shear Strength



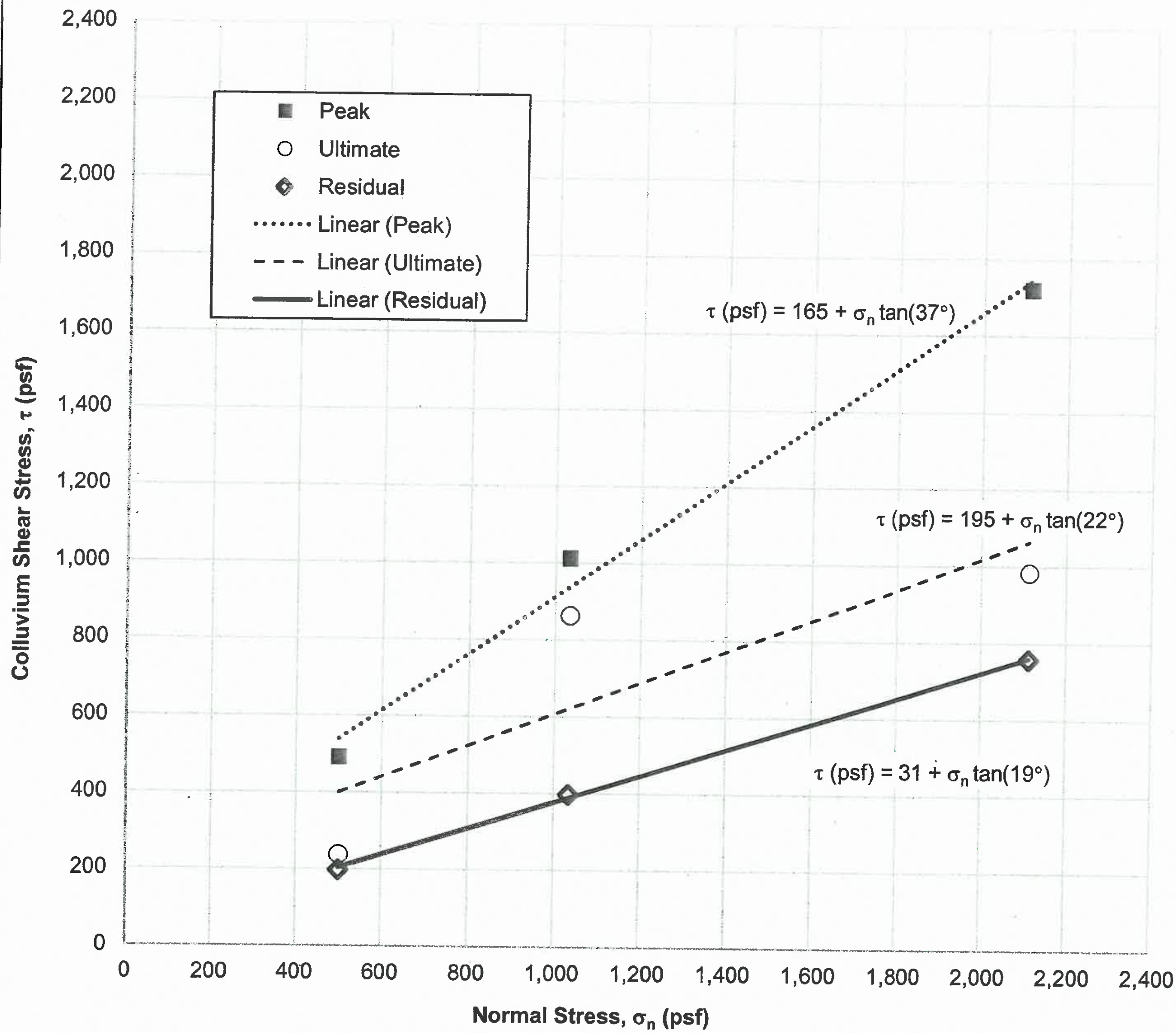
(b) Ultimate Shear Strength

Note:
BA-6: Boring Number
D-1: Sample Number
5.5-6': Sample Depth (feet)

RESULTS OF DIRECT SHEAR TESTS ON ENGINEERED FILL
Geotechnical Evaluation Report
Edleen Drive
Tarzana, California

amec foster wheeler

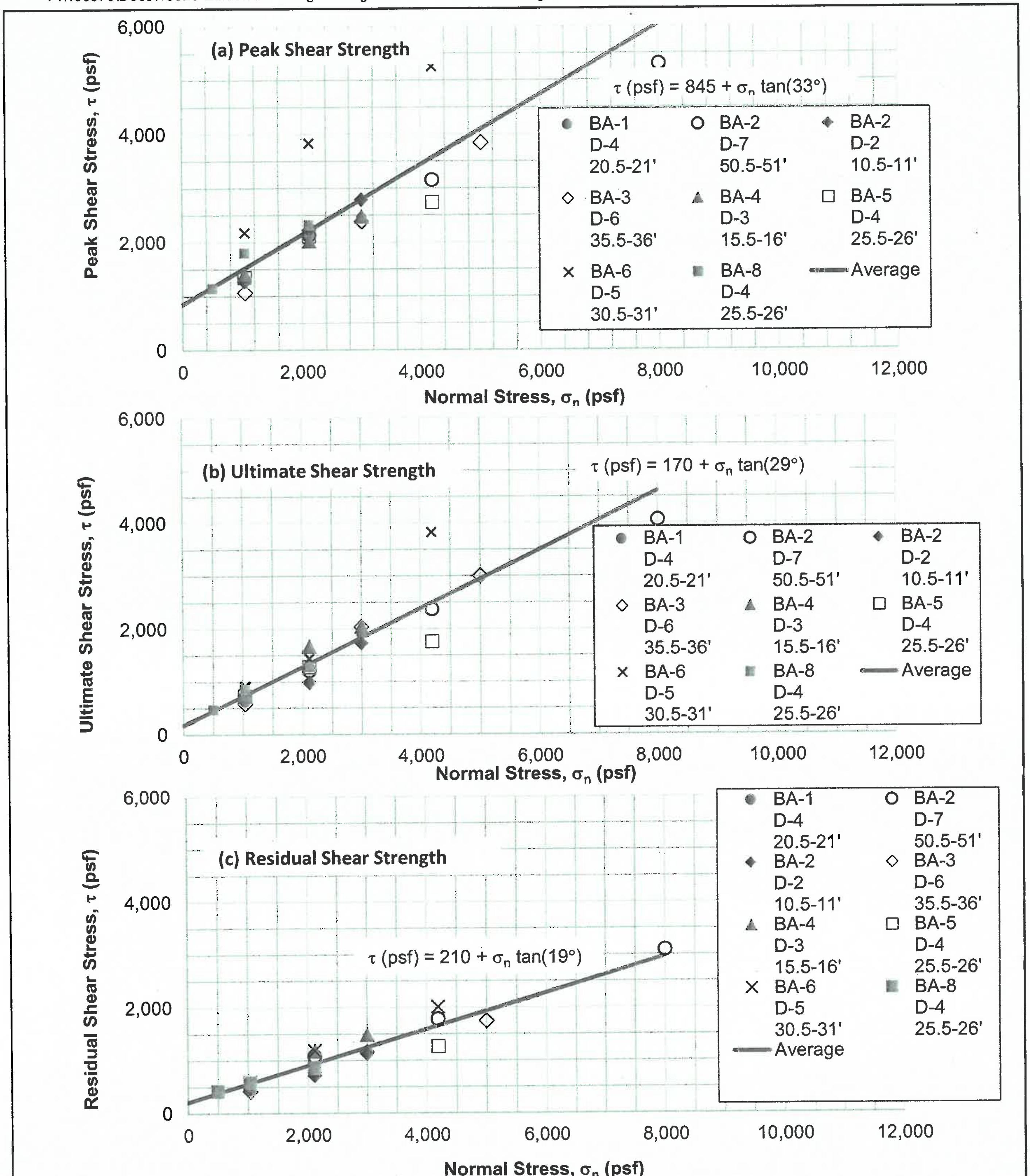
Date: 08/16/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	4



Note:
BA-7: Boring Number
D-1: Sample Number
10.5-11': Sample Depth (feet)

RESULTS OF DIRECT SHEAR TESTS ON COLLUVIUM Geotechnical Evaluation Report Edleen Drive Tarzana, California		amec foster wheeler
Date: 08/16/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	5

P:\166570\Docs\18825 Edleen Drive\Figures\Figures 4-6 for DS ResultsFigure 6 Bedrock 8/22/2017



RESULTS OF DIRECT SHEAR TESTS ON BEDROCK
Geotechnical Evaluation Report
Edleen Drive
Tarzana, California

amec foster wheeler

Date: 08/16/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	6

Note:
BA-8: Boring Number
D-4: Sample Number
25.5-26': Sample Depth (feet)

PLATES

Reference: Image Los Angeles County Ortholmagery, 2013; Topography: NAD 83 Horizontal Datum; NAVD 88 Vertical Datum

LEGEND:

BA-8 CURRENT BORING LOCATIONS - (AMEC FOSTER WHEELER, 2017)
B-3 PRIOR BORING LOCATIONS - (APPLIED EARTH SCIENCES, 2009)
B-3 PRIOR BORING LOCATIONS - (MEC, 2001)
TP-5 PRIOR TEST PIT - (APPLIED EARTH SCIENCES, 2009)

GEOLOGIC SYMBOLS

APPROXIMATE GEOLOGIC CONTACT - QUERIED WHERE INFERRED
GEOLOGIC CROSS SECTIONS
STRIKE AND DIP OF SEDIMENTARY BEDDING - SOLID WHERE EXPOSED, DASHED WHERE MEASURED IN BUCKET-AUGER BORING, SHOWING DEPTH
STRIKE AND DIP OF SEDIMENTARY BEDDING - SOLID WHERE EXPOSED, DASHED WHERE MEASURED IN BUCKET-AUGER BORING, SHOWING DEPTH FROM PRIOR BORING (AES, 2009, MEC, 2000)
STRIKE AND DIP OF JOINT - DASHED WHERE MEASURED IN BUCKET-AUGER BORING, SHOWING DEPTH
STRIKE AND DIP OF VERTICAL JOINT - DASHED WHERE MEASURED IN BUCKET-AUGER BORING, SHOWING DEPTH
STRIKE AND DIP OF MINOR FAULT - DASHED WHERE MEASURED IN BUCKET-AUGER BORING, SHOWING DEPTH

GEOLOGIC UNITS

af ARTIFICIAL FILL - UNDOCUMENTED
afe ARTIFICIAL FILL - ENGINEERED (FOR TRACT 28541 IN 1963-1964)
Qcol COLLUVIUM
Tm MODELO FORMATION - UPPER MEMBER Interbedded Siltystone, Claystone, and Minor Sandstone

PROJECT SITE BOUNDARY
LOT BOUNDARY

SCALE: 1" = 40'

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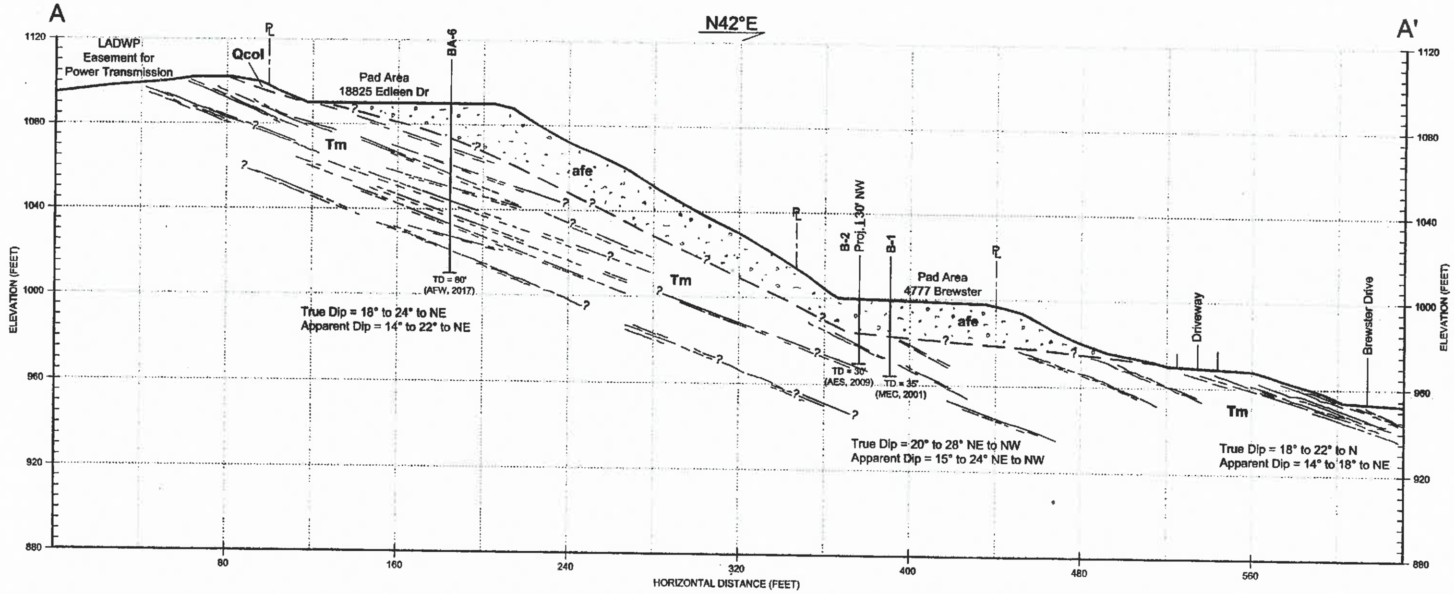
LADPW
18801 TO 18825 EDLEEN DRIVE
TARZANA, CITY OF LOS ANGELES, CALIFORNIA

LT.LNG:	
PREPARED BY:	VMN
SCALE:	1" = 40'
DRAWN:	VMN
CHKD:	DLP
DATE:	8/7/2017

GEOTECHNICAL EVALUATION
SITE PLAN / GEOLOGIC MAP
EDLEEN DRIVE, TARZANA

PLATE NO. 1

PROJECT NO. IR17166570



SYMBOLS

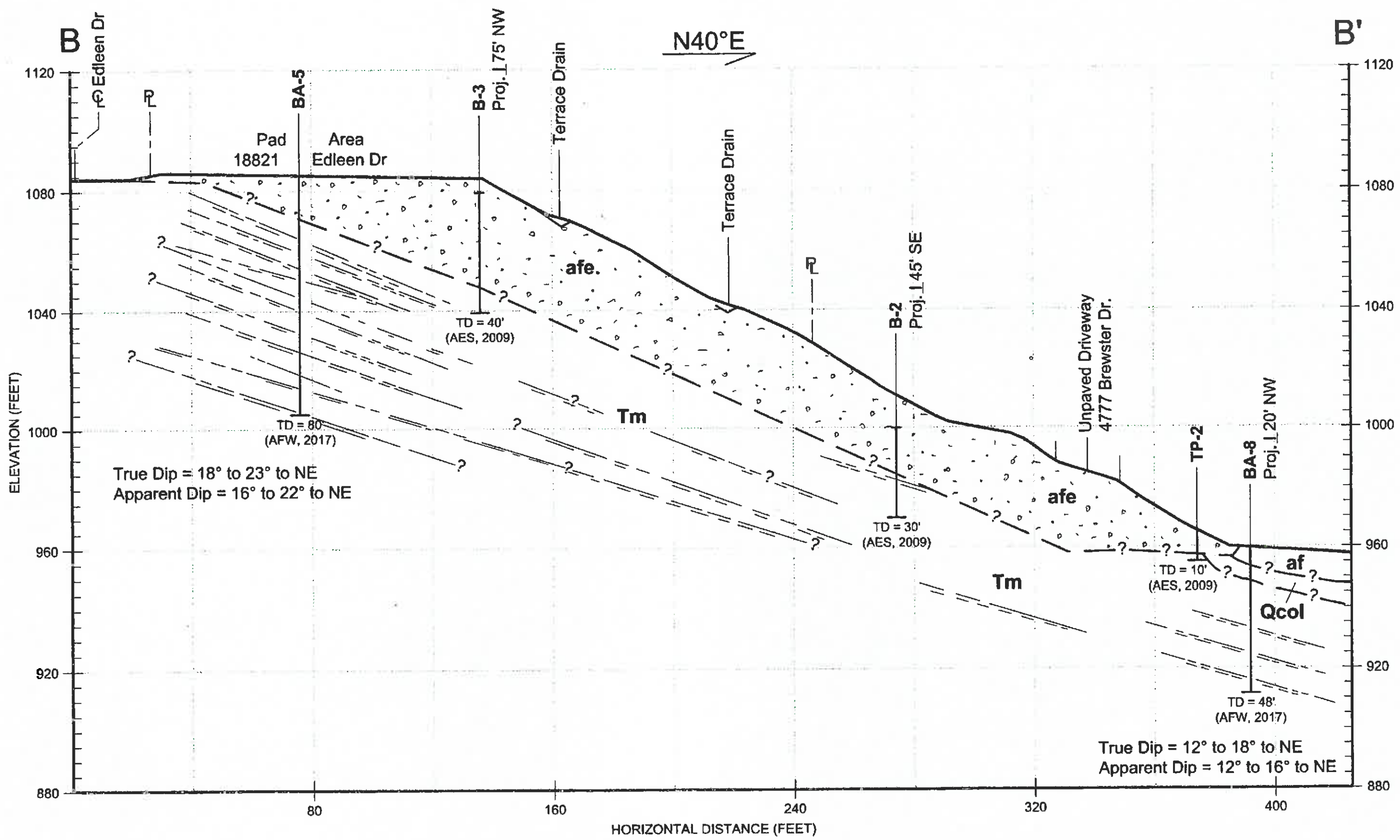
- Exploratory boring showing total depth (td) in feet below ground surface (BA, TD=60', AFW, 2017)
- Property line
- Geologic contact: dashed where approximate; queried (?) where estimated based on projection of current and prior boring data
- Trace of bedding showing apparent dip along line of section

Notes:

1. Benches between afe and Tm if present are not shown.
2. Estimated contact between afe and Tm based on current and prior boring data.
3. See Plate 1 for explanation of geologic unit designation.
4. Topography based on Los Angeles County Orthoimagery, 2013.

0 20' 40' 80'
SCALE: 1" = 40'

amec foster wheeler	LADPW 18825 EDLEEN DRIVE TARZANA, CITY OF LOS ANGELES, CALIFORNIA	
PREPARED BY: VMN SCALE: 1" = 40' DRAWN: VMN CHKD: DLP DATE: 8/17/2017	GEOLOGIC CROSS SECTION A-A'	PLATE NO. 2 IR17166570



SYMBOLS

- BA, TD=80' (AFW, 2017) — Exploratory boring showing total depth (td) in feet below ground surface
- ℙ — Property line
- —?— Geologic contact: dashed where approximate; queried (?) where estimated based on projection of current and prior boring data
- Trace of bedding showing apparent dip along line of section

Notes:
1. Keyway width estimated from stability section (prepared by H.V. Lawmaster and Co., 1963).
2. Estimated contact between afe and Tm based on current and prior boring data.
3. Benches between afe and Tm if present are not shown.
4. See Plate 1 for explanation of geologic unit designation.
5. Topography based on Los Angeles County Orthoimagery, 2013.

0 20' 40' 80'
SCALE: 1" = 40'

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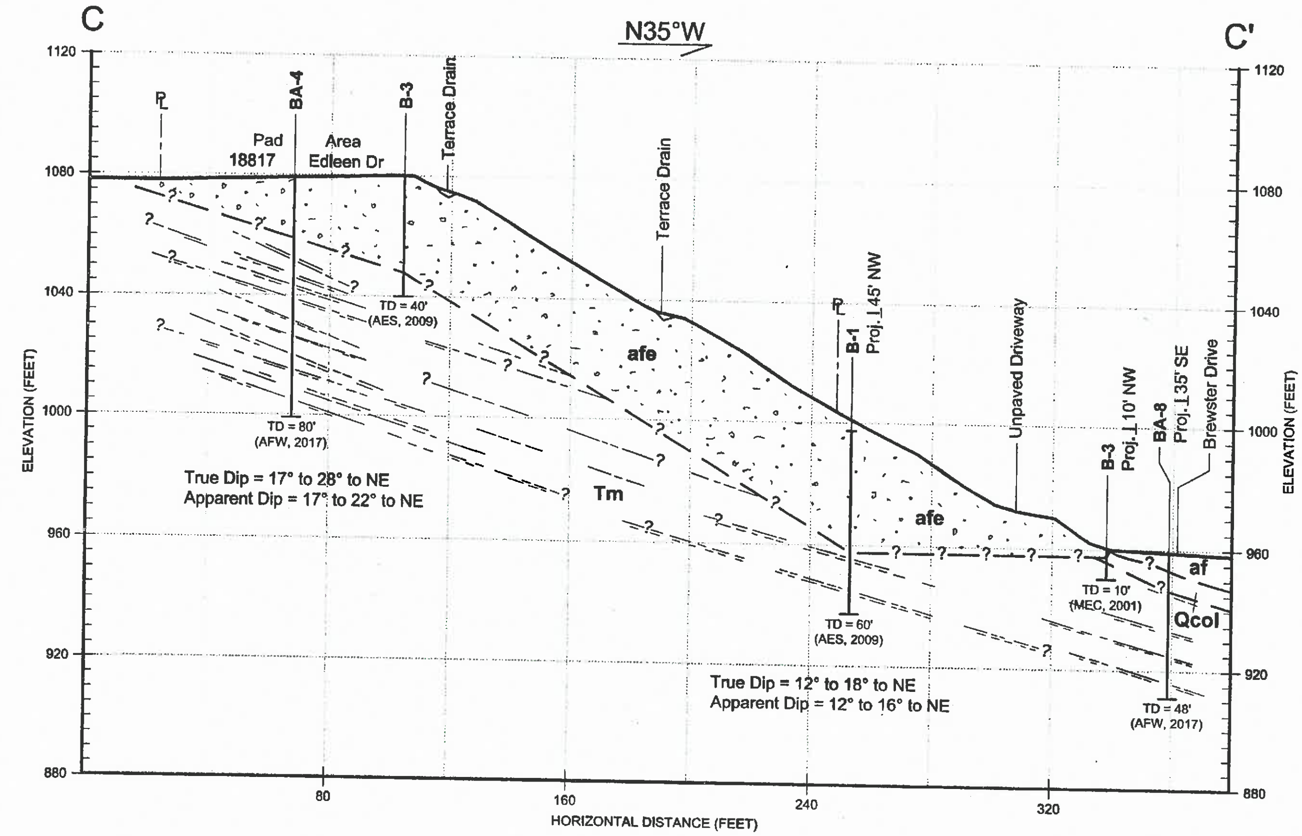
LT,LNG:	
PREPARED BY:	VMN
SCALE:	1" = 40'
DRAWN:	VMN
CHKD:	DLP
DATE:	8/17/2017

LADPW
18821 EDLEEN DRIVE
TARZANA, CITY OF LOS ANGELES, CALIFORNIA

GEOLOGIC CROSS SECTION B-B'

PLATE NO. 3

PROJECT NO. IR17166570



SYMBOLS

BA — TD=80' (AFW, 2017) — Exploratory boring showing total depth (td) in feet below ground surface

PL — Property line

—?— Geologic contact: dashed where approximate; queried (?) where estimated based on projection of current and prior boring data

Trace of bedding showing apparent dip along line of section

Notes:

1. Keyway width estimated from stability section (prepared by H.V. Lawmaster and Co., 1963) and Boring B-1.
2. Estimated contact between afe and Tm based on plan and current and prior boring data.
3. Benches between afe and Tm if present are not shown.
4. See Plate 1 for explanation of geologic unit designation.
5. Topography based on Los Angeles County Orthoimagery, 2013.

0 20' 40' 80'

SCALE: 1" = 40'

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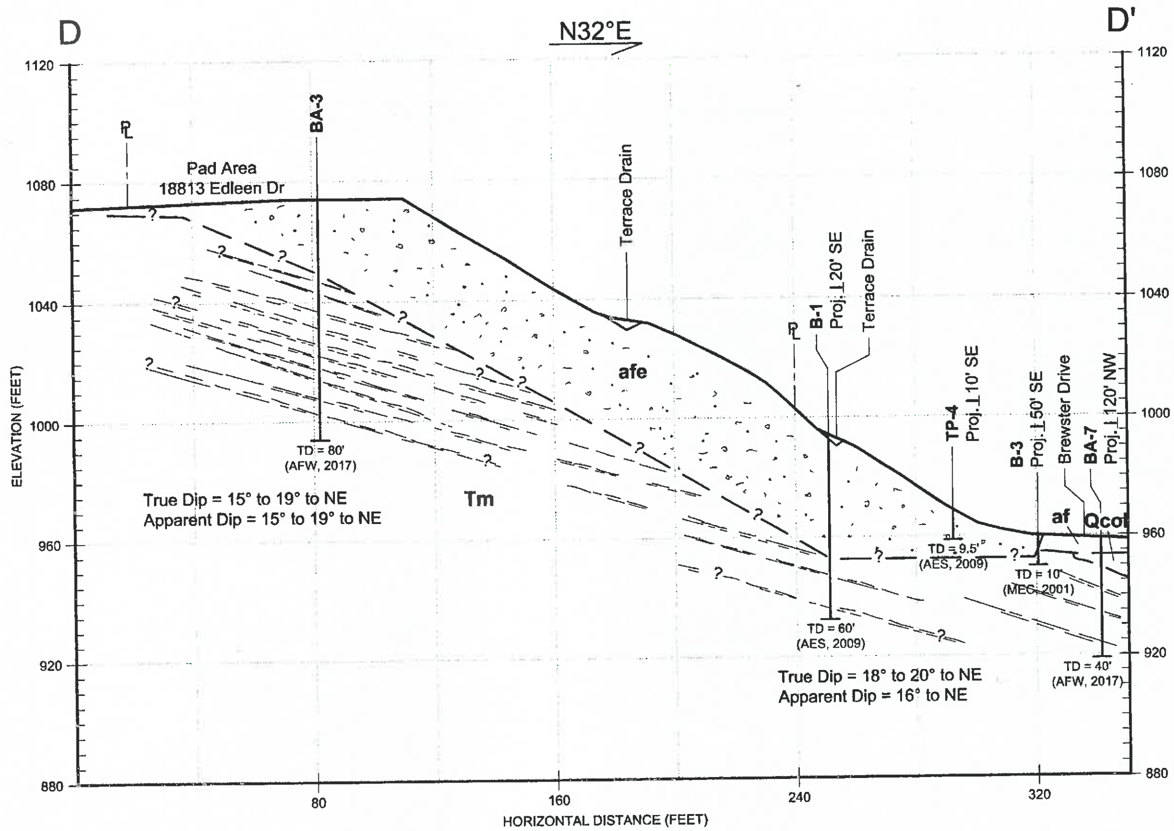
TARZANA, CITY OF LOS ANGELES, CALIFORNIA

LT,LNG:	
PREPARED BY:	VMN
SCALE:	1" = 40'
DRAWN:	VMN
CHKD:	DLP
DATE:	8/17/2017

GEOLOGIC CROSS SECTION C-C'

PLATE NO. 4

PROJECT NO. IR17166570



SYMBOLS

BA — TD=80' (AFW, 2017) — Exploratory boring showing total depth (td) in feet below ground surface

℄ — Property line

—?— Geologic contact: dashed where approximate; queried (?) where estimated based on projection of current and prior boring data

Trace of bedding showing apparent dip along line of section

Notes:
1. Keyway width estimated from stability section (prepared by H.V. Lawmaster and Co., 1963), and prior boring data.
2. Estimated contact between afe and Tm based on and current and prior boring data.
3. Benches between afe and Tm if present are not shown.
4. See Plate 1 for explanation of geologic unit designation.
5. Topography based on Los Angeles County Orthoimagery, 2013.

0 20' 40' 80'

SCALE: 1" = 40'

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LADPW
18813 EDLEEN DRIVE
TARZANA, CITY OF LOS ANGELES, CALIFORNIA

LT,LNG:	
PREPARED BY:	VMN
SCALE:	1" = 40'
DRAWN:	VMN
CHKD:	DLP
DATE:	8/17/2017

GEOLOGIC CROSS SECTION D-D'

PLATE NO. 5

PROJECT NO. IR17166570

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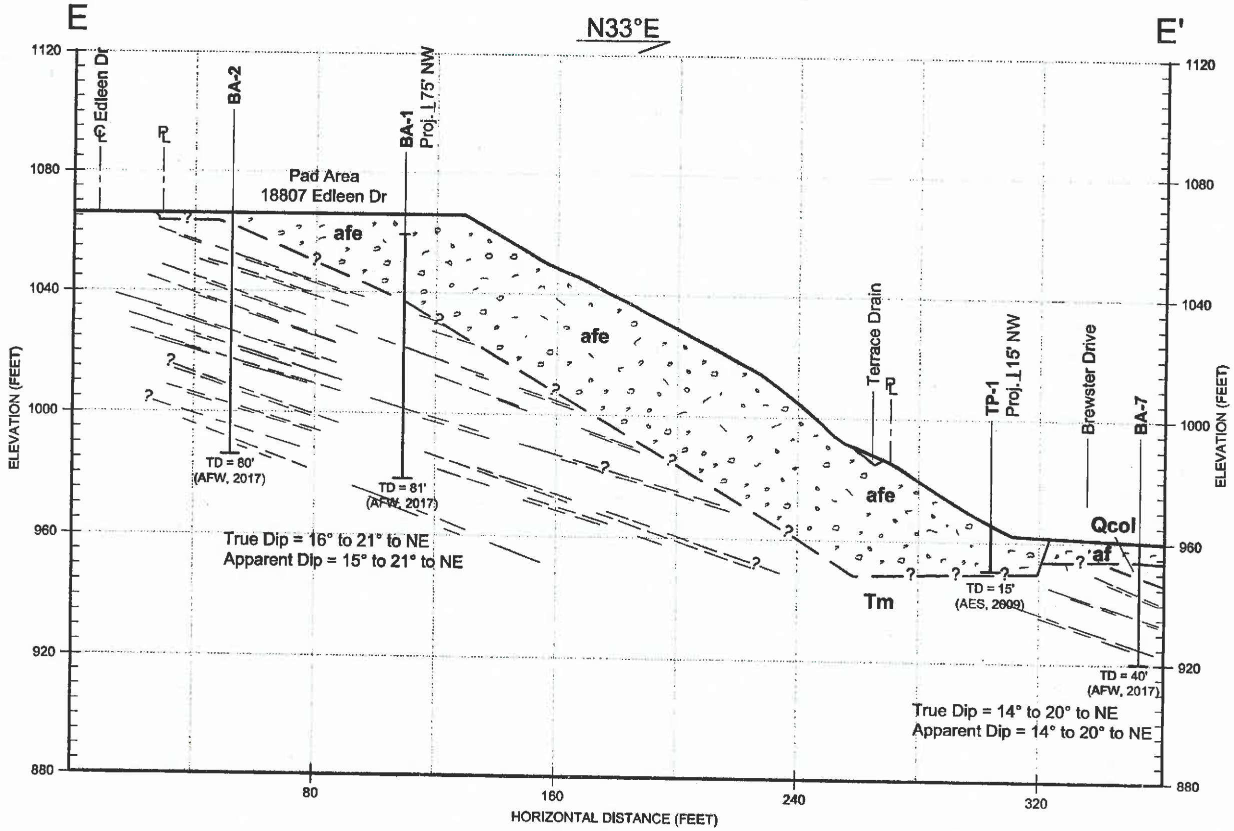

SYMBOLS

- BA / TD=80' (AFW, 2017) — Exploratory boring showing total depth (td) in feet below ground surface
- PL — Property line
- —?— Geologic contact: dashed where approximate; queried (?) where estimated based on projection of current and prior boring data
- Trace of bedding showing apparent dip along line of section

Notes:
1. Estimated keyway width based on stability section (prepared by H.V. Lawmaster and Co., 1963).
2. Estimated contact between afe and Tm based on current and prior boring data.
3. Benches between afe and Tm if present are not shown.
4. See Plate 1 for explanation of geologic unit designation.
5. Topography based on Los Angeles County Orthoimagery, 2013.

0 20' 40' 80'
SCALE: 1" = 40'

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18807 EDLEEN DRIVE
TARZANA, CITY OF LOS ANGELES, CALIFORNIA

LT/LNG:	
PREPARED BY:	VMN
SCALE:	1" = 40'
DRAWN:	VMN
CHKD:	DLP
DATE:	8/17/2017

GEOLOGIC
CROSS SECTION
E-E'

PLATE NO. 6

PROJECT NO. IR17166570

Path: G:\Other_office\2017\IR17166570_Edleen Drive_Tarzana\CADD\WORK\17166570_Plate-2-2_Geo-Sections(17.08.07).dwg [Sect-E]
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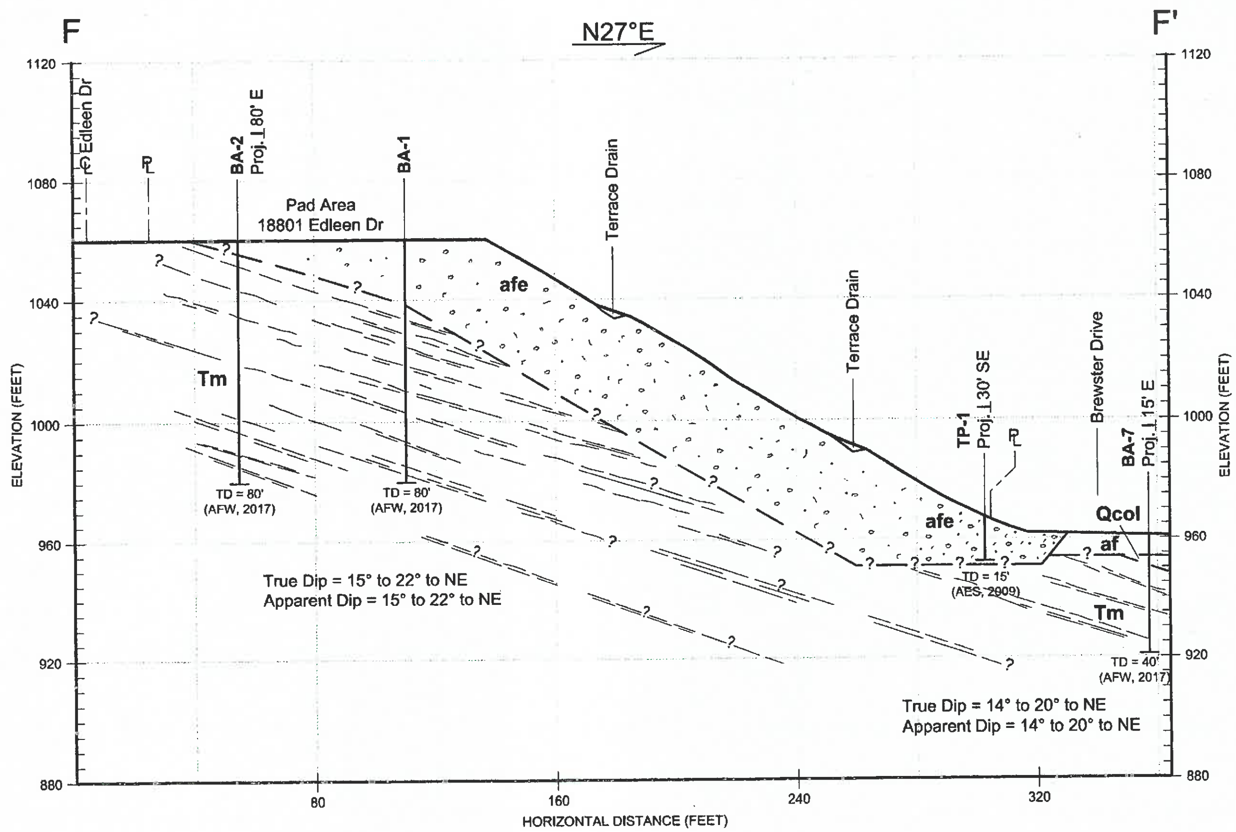

SYMBOLS

- Exploratory boring showing total depth (td) in feet below ground surface (BA; TD=80' (AFW, 2017))
- ℙ Property line
- —?— Geologic contact: dashed where approximate; queried (?) where estimated based on projection of current and prior boring data
- Trace of bedding showing apparent dip along line of section

Notes:
1. Estimated keyway width based on stability section (prepared by H.V. Lawmaster and Co., 1963).
2. Estimated contact between afe and Tm based on current and prior boring data.
3. Benches between afe and Tm if present are not shown.
4. See Plate 1 for explanation of geologic unit designation.
5. Topography based on Los Angeles County Orthoimagery, 2013.

0 20' 40' 80'
SCALE: 1" = 40'

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LT.LNG	
PREPARED BY	VMN
SCALE	1" = 40'
DRAWN	VMN
CHKD	DLP
DATE	8/17/2017

GEOLOGIC
CROSS SECTION
F-F'

PLATE NO. 7

PROJECT NO. IR1766570

APPENDIX A

Field Exploration Program

APPENDIX A

FIELD EXPLORATION PROGRAM
GEOTECHNICAL EVALUATION REPORT
18801 to 18825 Edleen Drive
Tarzana, California

The field exploration program described in this appendix was performed between May 2 and May 17, 2017 for the proposed Geotechnical Evaluation at 18801 to 18825 Edleen Drive, in the Tarzana area of Los Angeles, California. The field exploration program included pre-drilling activities, drilling 8 bucket auger borings, downhole logging of the bucket auger borings and collecting soil/bedrock samples. The information provided herein describes subsurface conditions at the specific locations and at the particular times that the explorations were made. Soil, bedrock, and groundwater conditions at these locations may have changed since these explorations were performed.

Pre-Drilling Activities

Prior to beginning the field exploration, Amec Foster Wheeler conducted a site reconnaissance to evaluate site access. Underground Service Alert (USA) was notified at least 48 hours prior to drilling to mark the locations of underground utilities. Amec Foster Wheeler utilized a hand-held Global Positioning System (GPS) device with an accuracy of approximately 3 feet to locate the boring locations in the field.

Bucket Auger Borings

A total of eight bucket auger borings were drilled, sampled and logged for this project. Amec Foster Wheeler's bucket auger borings were identified by a "BA" designation. The subject borings are, therefore, designated as BA-1 thru BA-8. Bucket auger drilling was performed by Roy Brothers Drilling Services of Malibu, California between May 2 and May 17, 2017. The borings were drilled using a truck mounted EZ Bore Bucket rig equipped with a bucket auger 24 inches in diameter. Total exploration depths ranged from 40 feet (BA-7) to 81 feet (BA-2) below the ground surface (bgs). Approximate boring locations for the proposed project are shown on Plate 1.

Depth-discrete engineering soil samples were collected at selected depth intervals from the exploratory borings using a 2½-inch inside diameter (I.D.) modified California split-barrel sampler fitted with 12 brass rings of 2½-inches in O.D. and 1-inch in height, and one brass liner (2½-inch O.D. by 6 inches long) above the brass rings. The sampler was lowered to the bottom of the boreholes and driven into the geologic materials (soil or bedrock) at selected sample depths with a Kelly bar falling 12 inches. The Kelly bar drives with a force equivalent to 4,900 lbs in the upper 25 feet, 3,900 lbs between 25 and 50 feet and 2,200 lbs between 50 and 81 feet. The number of blows required to drive the sampler twelve inches of the sampling interval is shown on the blow count column of the boring logs.

After removing the sampler from the boreholes, the sampler was opened and the brass rings and liner containing the soil were removed and observed for soil classification. Brass rings containing the geologic materials were placed in polyethylene bags and sealed in plastic canisters to preserve the natural moisture content of the soil. Bulk samples of soil and bedrock cuttings were collected from the exploratory borings and placed in polyethylene bags. Bulk and relatively undisturbed samples collected from the borings were labeled, and submitted to the laboratory for geotechnical testing.

Soil classifications and descriptions were recorded on field logs by an Amec Foster Wheeler California certified engineering geologist using visual/manual procedures described in ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). These procedures are in accordance with the Unified Soil Classification System. Bedrock samples were classified using U.S. Bureau of Reclamation recommendations for logging of geologic materials.

Final boring logs were prepared based on the field logs, examination of samples in the laboratory, and laboratory test results, and are presented in this appendix. Borings BA-1 thru BA-6 were backfilled with one sack slurry Borings BA-7 and BA-8 were backfilled using 2-sack slurry.

Downhole Logging

After the bucket auger borings reached the target depth of exploration, a California-Certified Engineering Geologist was lowered into the borings for downhole observations of the bedrock structure. The bulk of the information on the bucket auger logs was derived from downhole observations and logging of the borehole wall by the engineering geologist.

After surface logging of the drill cuttings, the upper portion of the boreholes was secured with a temporary surface casing and the open borehole was tested to its full depth with gas monitoring instrumentation prior to entry. The logging stand used to enter the borings consisted of a lumber board attached to ropes and a cone-shaped steel cap of a similar diameter that were connected by heavy strapping on two sides to provide an area to stand in the middle. The steel cap was equipped with a light and a heavy-duty welded loop on the top of the cap for connection to the free-line of the drill rig using a "D" shackle. The drill rigs were also equipped with a separate emergency winch system that was connected to the harness worn by the geologists during the downhole logging operations. Air was circulated in the borings using a surface blower and flexible hose that extended to the bottom of the boreholes. The engineering geologist was in continuous communication with the surface logger for most of the borings to record his observations and measurements. Logging of the bucket auger borings included primarily: descriptions of the bedrock lithologies and associated discontinuities, measurement of the orientation of selected discontinuities, groundwater observations, preparation of a graphic log to illustrate the downhole observations and other pertinent data regarding the borehole conditions and drilling operations. The "BA" boring logs for this geotechnical evaluation are attached in this appendix.

Field Screening

Soil samples obtained from the borings during exploration were field-screened for the presence of possible flammable gases and organic vapors using a MultiRae Four-Gas Monitor with Photoionization Ionization Detector (PID). The Multi Rae is capable of measuring the lower explosive limit (LEL) of potential gases, the percent of oxygen, carbon monoxide (CO), and hydrogen sulfide gases (H_2S). In general, a portion of each soil sample was placed in a resealable bag and allowed to set for several minutes. Then, the tip of the PID probe was inserted into the bag and the highest stabilized organic vapor reading in units of parts per million (ppm) was recorded on the soil boring log. In addition to the head space readings from the bags, the immediate vicinity of the boreholes was also checked periodically for possible organic vapors and flammable gases with the MultiRae Four-Gas Monitor. The results of the PID readings are shown on the boring logs in this appendix. The PID monitoring revealed background to very low readings for photoionizable constituents in samples collected from the borings.

EXPLANATION OF BORING LOGS

LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

MAJOR DIVISIONS		LTR	DESCRIPTION	MAJOR DIVISIONS		LTR	DESCRIPTION
COARSE GRAINED SOILS	GRAVEL	GW	Well-graded gravels or gravel-sand mixtures, little or no fines	FINE GRAINED SOILS	SILTS AND CLAYS LL<50	ML	Inorganic silts and very fine sand, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity
		GP	Poorly-graded gravels or gravel-sand mixture, little or no fines			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		GM	Silty gravels, gravel-sand-silt mixtures				
		GC	Clayey gravels, gravel-sand-clay mixtures			OL	Organic silts and organic silt-clays of low plasticity
	SAND	SW	Well-graded sands or sand with gravel, little or no fines		SILTS AND CLAYS LL>50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		SP	Poorly-graded sands or sand with gravel, little or no fines			CH	Inorganic clays of hogh plasticity, fat clays
		SM	Silty sands, sand-silt mixtures			OH	Organic clays of medium to high plasticity
		SC	Clayey sands, sand-clay mixtures	HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

SAMPLE COLUMN SYMBOLS

B Bulk sample

Modified California split spoon sample

BLOWS/12-INCH- Summation of blow counts for deepest 12 inches is sampling interval

DESCRIPTION COLUMN SYMBOLS

--- Dashed lines separating soil strata represent inferred boundaries between sampled intervals or no recovery intervals and may be distinct or gradual transitions

Solid lines represent distinct or gradual boundaries observed within sampled intervals

Description right of bracket symbol represents soil conditions within the depth interval defined by the bracket length

Description right of arrow symbol represents soil conditions to the next deeper boundary line unless otherwise noted

LABORATORY TEST ABBREVIATIONS

ATT	Atterberg Limits	CORR	Corrosion	SE	Sand Equivalent
COLL	Collapse Potential	DS	Direct Shear	SG	Specific Gravity
COMP	Compaction	EI	Expansion Index	TX	Triaxial Test
CON	Consolidation	GRAD	Grain Size Analysis	UC	Unconfined Compression Test
R	R-Value	PERM	Permeability	#200	No. 200 Wash Sieve Analysis

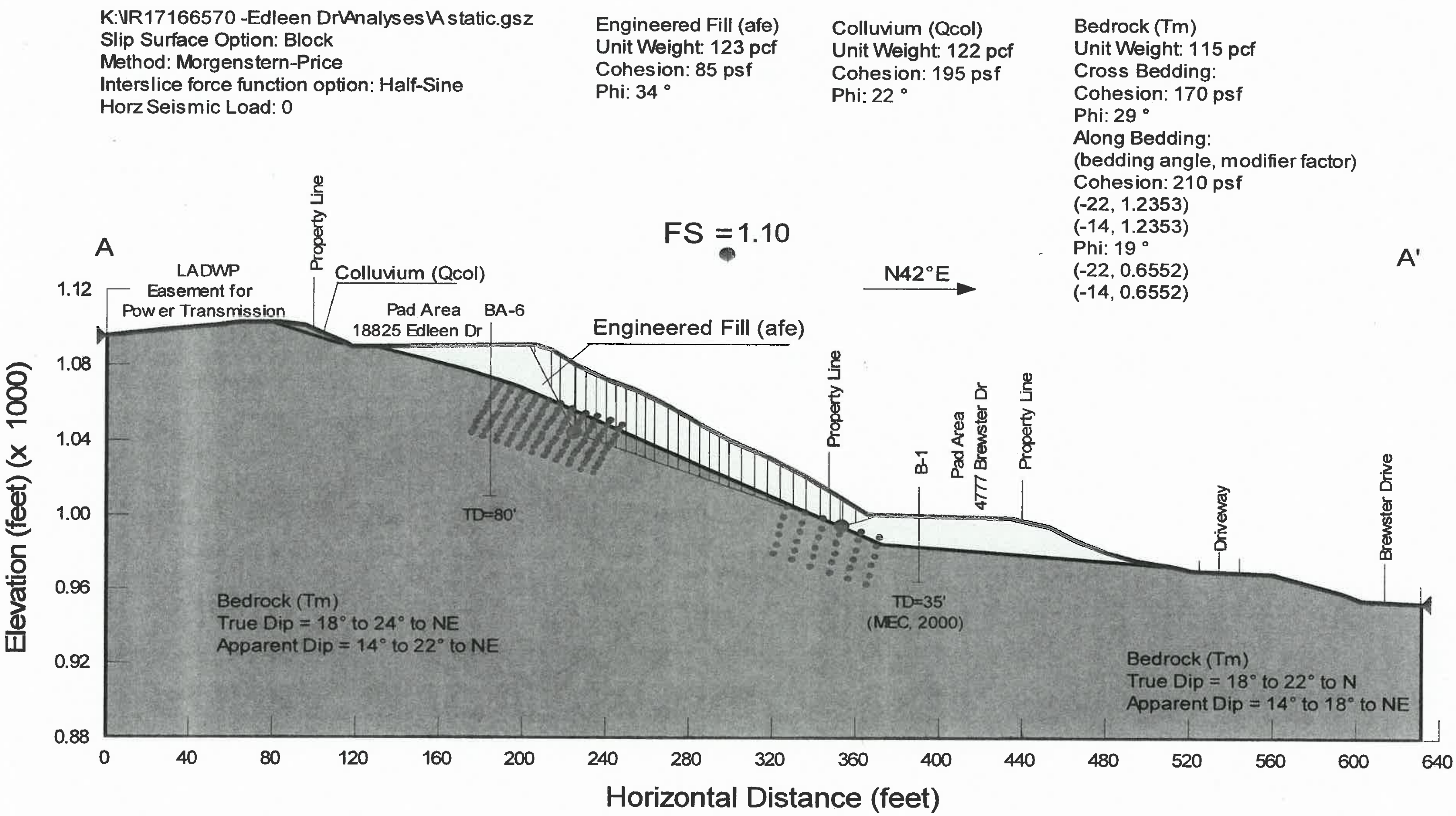
NOTES

1. Soil descriptions are in accordance with the USCS as set forth by ASTM D2488 "Standard Practice for Description and Identification Soil (Visual-Manual Procedure)."
2. Soil color described according to Munsell Soil Color Chart. Rock color described according to Munsell Rock-Color Chart
3. Soil descriptions in these borings are generalized representations and based upon visual classification of cuttings and/or samples during drilling. Descriptions and related information in these borings depict subsurface conditions at the specific location and at the time of drilling only. Soil conditions at other locations may differ from conditions observed at the boring locations. Also, soil and groundwater conditions may change with time at these locations.

PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana		**Log of Bucket Auger** **Boring No. BA-1**	
BORING LOCATION: N6397874.96, E1880020.76		ELEVATION AND DATUM: 1060 feet, NAVD 88	
DRILLING CONTRACTOR: Roy Brothers		DATE STARTED: 05/03/2017	DATE FINISHED: 05/04/2017
DRILLING METHOD: Bucket Auger: 24" diameter		TOTAL DEPTH (ft.): 80.0	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: EZ Bore Bucket Auger		DEPTH TO WATER / FIRST: N/E	COMPL.: N/E / 24 HRS.
SAMPLING METHOD: 12-inch Cal Mod		LOGGED BY: D.L. Perry CEG, 2040	
HAMMER WEIGHT: See Notes	DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry	REG. NO. CEG 2040

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0–1				**ARTIFICIAL FILL (afe)** CLAYEY SILT (ML) to SANDY LEAN CLAY (CL) - grayish brown, moist, shale and siltstone fragments (up to 4 inches in diameter)	SURFACE CASING	Hand auger to 5 feet on 5-13-2017 at 1130. Start bucket auger drilling 1200.			
3	B1	B							%<#200 =21, COMP, EI
4				@ 4': SILTY SAND (SM) - dark yellowish brown, moist, with siltstone fragments, appears dense	afe				
5	D1		4				10.7	114.8	DS, GRAD
8				@ 8': Silty Clay layer about 1 foot thick, dark grayish brown, moist, scattered rock fragments, appears stiff					
9				@ 9': SILTY SAND with CLAY (SM) to CLAYEY SAND (SC) - dark yellowish brown, moist, fine to medium grained, scattered rock fragments (up to 7 inches thick), appears dense					
10	D2		3				14.6	101.8	
12				@ 12': Some layers of Clayey Silt, about 4 to 8-inches thick					
13									CORR
14	B2	B							
15	D3		2	@ 15': SILTY SAND (SM) to SANDY SILT (ML), yellowish brown, fine to medium grained, moist, with angular shale rock fragments, appears dense	afe		11.2	99.9	
18				@ 18': SANDY LEAN CLAY (CL) - appears stiff, with subangular claystone, siltstone, and sandstone rock fragments					
20									

P:\166570\Docs\18825 Edleen Drive\Appendix\Appendix C Section A ResultsStatic 8/22/2017



CROSS SECTION A-A' STATIC SLOPE STABILITY - SLIP SURFACE THROUGH BEDROCK Geotechnical Evaluation Report 18825 Edleen Drive Tarzana, California		amec foster wheeler
Date: 07/25/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	C1

APPENDIX C

Results of Slope Stability Analyses

AP Engineering and Testing, Inc.
DBE|MBE|SBE
2607 Pomona Boulevard | Pomona, CA 91768
t. 909.869.6316 | f. 909.869.6318 | www.aplaboratory.com

CORROSION TEST RESULTS

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/14/17

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
BA-6	B-1	1-4	CL	595	8.2	1756	52

NOTES:

Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

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CORROSION TEST RESULTS

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/14/17

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
BA-5	B-2	10-12	SM	1757	8.4	86	47

NOTES: Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

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CORROSION TEST RESULTS

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/14/17

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
BA-4	B-1	1-4	CL	606	8.0	2034	48

NOTES:
Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

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CORROSION TEST RESULTS

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/14/17

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
BA-3	B-3	21-22.5	SM	1235	8.6	193	55

NOTES:
Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

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CORROSION TEST RESULTS

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/14/17

Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
BA-2	D-1	5.5-6	CL	772	8.0	1113	57

NOTES:

Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

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CORROSION TEST RESULTS

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/14/17

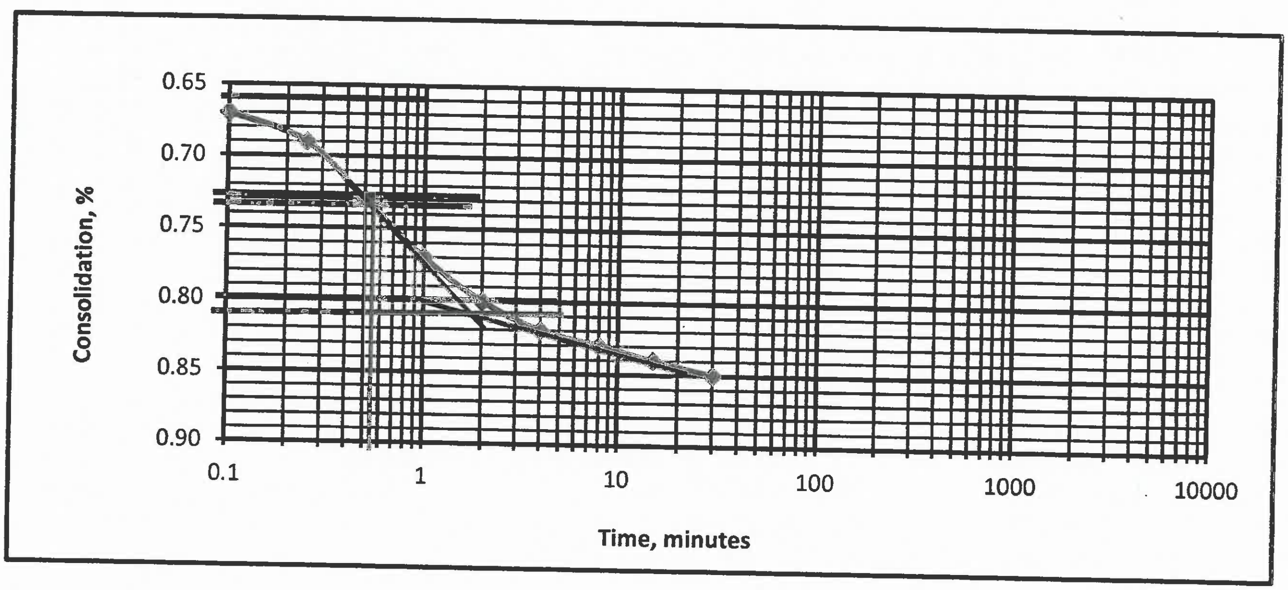
Boring No.	Sample No.	Depth (feet)	Soil Type	Minimum Resistivity (ohm-cm)	pH	Sulfate Content (ppm)	Chloride Content (ppm)
BA-1	B-2	13-15	SC	1213	8.7	130	42

NOTES:
Resistivity Test and pH: California Test Method 643
Sulfate Content : California Test Method 417
Chloride Content : California Test Method 422
ND = Not Detectable
NA = Not Sufficient Sample
NR = Not Requested

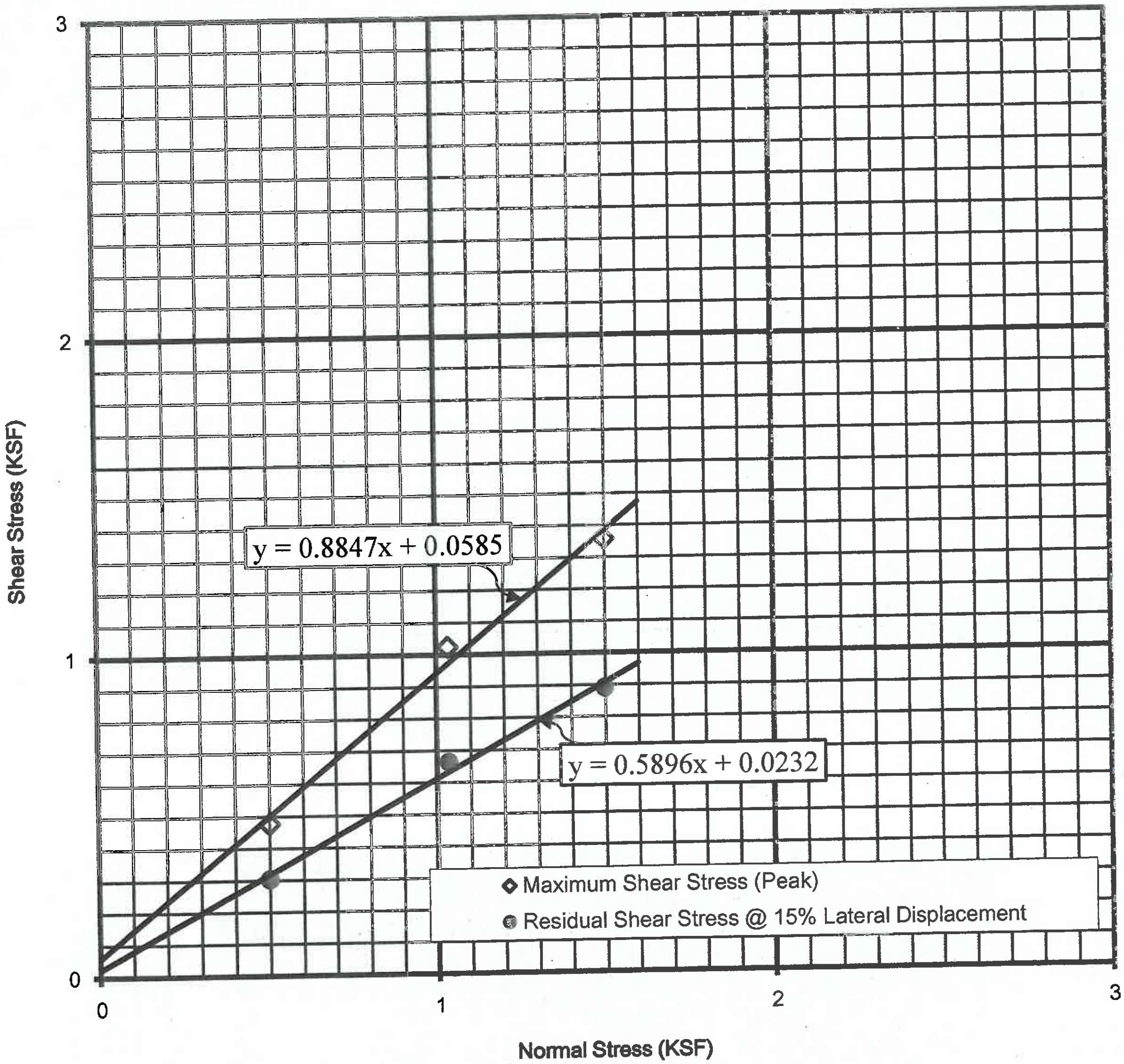
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-5
Sample Depth:	10.5-11 Feet
Normal Load:	1.034 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.2000	0.00
0:00:06	0.1	0.2067	0.67
0:00:15	0.25	0.2069	0.69
0:00:30	0.5	0.2073	0.73
0:01:00	1	0.2077	0.77
0:02:00	2	0.2080	0.80
0:04:00	4	0.2082	0.82
0:08:00	8	0.2083	0.83
0:15:00	15	0.2084	0.84
0:30:00	30	0.2085	0.85
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		

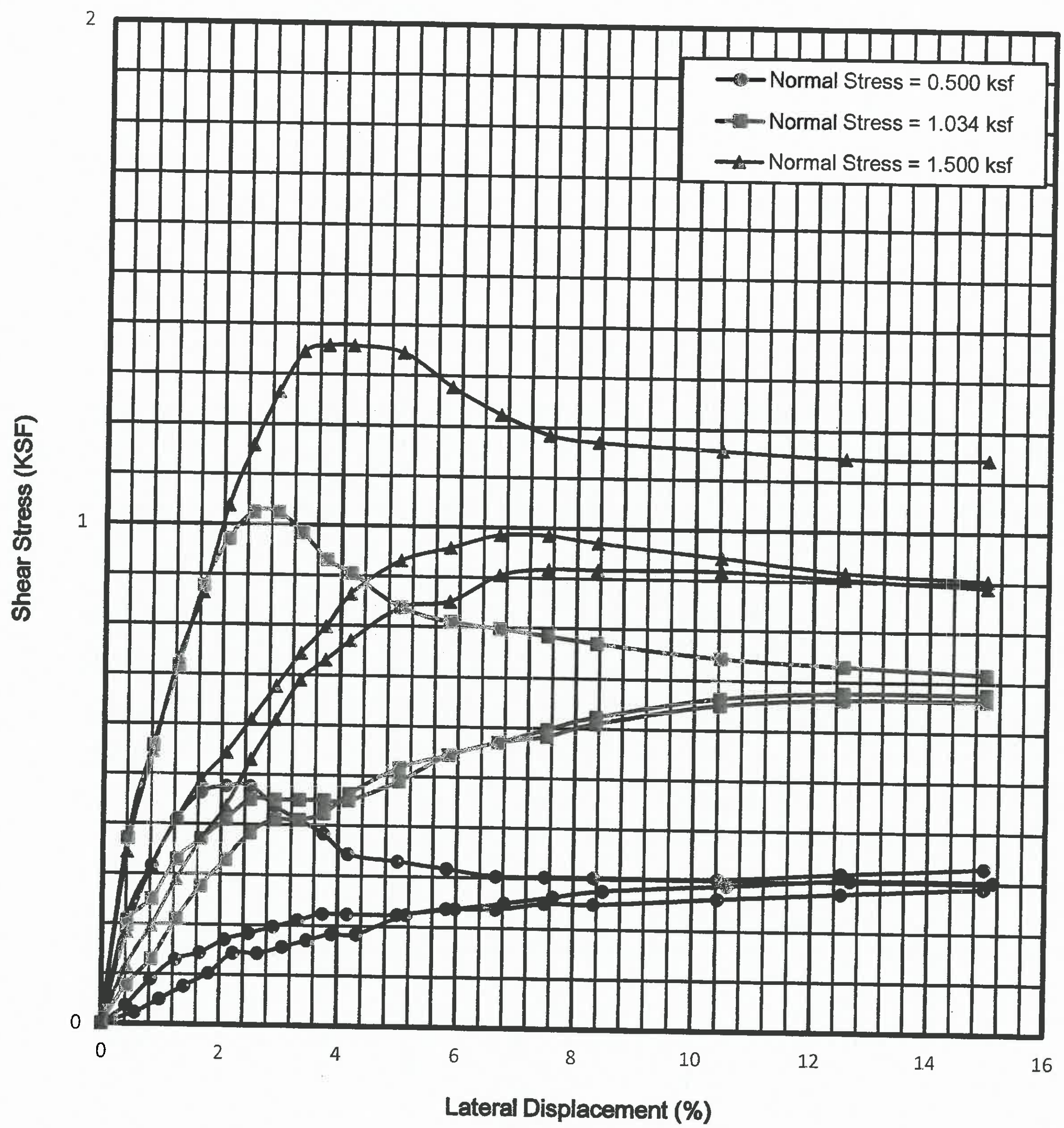


t_{50} (minute) =	0.55
t_f ($50t_{50}$) =	27.5
Estimated displacement at failure (in.) (d_f)	0.0604 (2.5% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002
Estimated displacement at failure (in.) (d_f)	0.101472 (4.2% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.004



Boring No.:	BA-5	In-Place Dry Density (PCF):		116.5
Sample No.:	D-2	In-Place Moisture Content (%):		6.2
Sample Depth :	10.5-11 Feet			
Soil Type:	SC		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	59	23
Shear Rate:	0.002 in./min.	Friction Angle (Degrees):	41	31

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.: BA-5	Sample No.: D-2	Depth (ft): 10.5-11 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-5	*Sample No.:*	D-2	*Depth:*	10.5-11 Feet	*Date:*	7/03-7/06/2017
Soil Description:	Dark Yellowish Brown (10YR, 4/6) Clayey Sand (SC)					*Tested By:*	LT

				Initial	After Consolidation		
					Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		576.35	---	---	---
Normal Stress, ksf:	0.5, 1, 1.5	Weight of Ring, gr:		129.80	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9948	0.9915	0.9839
Shear Rate, in/min:	0.002	Moisture-	Tare No.:	R-13	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	363.24	85.49	82.16	76.27
Saturated(x):	X		Dry Weight and Tare, gr:	356.32	73.54	70.78	65.92
Intact(x):	X		Tare Weight, gr:	244.64	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	6.2	16.2	16.1	15.7
@, %:		Wet Density, pcf:		123.7	136.1	136.4	137.0
Notes:		Dry Density, pcf:		116.5	117.1	117.5	118.4
		Saturation %:	S.G. = 2.70 (Assumed)	37.4	99.8	99.8	100.0

Load 3-1 (KSF): 1.500				Load 3-2 (KSF): 1.500				Load 3-3 (KSF): 1.500			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0025	0.344	0.010	0.4	0.0013	0.183	0.010	0.4	0.0008	0.117
0.020	0.8	0.0040	0.544	0.020	0.8	0.0023	0.317	0.020	0.8	0.0014	0.197
0.030	1.2	0.0054	0.731	0.030	1.2	0.0030	0.410	0.030	1.2	0.0021	0.290
0.040	1.7	0.0064	0.864	0.040	1.7	0.0036	0.490	0.040	1.7	0.0027	0.370
0.050	2.1	0.0077	1.038	0.050	2.1	0.0040	0.544	0.050	2.1	0.0032	0.437
0.060	2.5	0.0086	1.158	0.060	2.5	0.0045	0.611	0.060	2.5	0.0039	0.530
0.070	2.9	0.0094	1.265	0.070	2.9	0.0050	0.677	0.070	2.9	0.0045	0.611
0.080	3.3	0.0100	1.345	0.081	3.3	0.0055	0.744	0.081	3.3	0.0051	0.691
0.091	3.7	0.0101	1.358	0.091	3.8	0.0059	0.797	0.091	3.8	0.0054	0.731
0.101	**4.2**	**0.0101**	**1.358**	0.101	4.2	0.0064	0.864	0.101	4.2	0.0057	0.771
0.121	5.0	0.0100	1.345	0.121	5.0	0.0069	0.931	0.121	5.0	0.0062	0.838
0.141	5.8	0.0095	1.278	0.141	5.8	0.0071	0.958	0.141	5.8	0.0063	0.851
0.161	6.7	0.0091	1.225	0.161	6.7	0.0073	0.984	0.161	6.7	0.0067	0.904
0.181	7.5	0.0088	1.185	0.182	7.5	0.0073	0.984	0.182	7.5	0.0068	0.918
0.202	8.3	0.0087	1.171	0.202	8.3	0.0072	0.971	0.202	8.3	0.0068	0.918
0.252	10.4	0.0086	1.158	0.252	10.4	0.0070	0.944	0.252	10.4	0.0068	0.918
0.303	12.5	0.0085	1.145	0.303	12.5	0.0068	0.918	0.303	12.5	0.0067	0.904
0.362	15.0	0.0085	1.145	0.362	15.0	0.0067	0.904	0.362	**15.0**	**0.0066**	**0.891**

Max. Shear Stress, ksf: 1.358

Lat. Displmt@Max Stress,%.: 4.2

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-5	*Sample No.:*	D-2	*Depth:*	10.5-11 Feet	*Date:*	7/03-7/06/2017
Soil Description:	Dark Yellowish Brown (10YR, 4/6) Clayey Sand (SC)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		576.35	---	---	---
Normal Stress, ksf:	0.5, 1, 1.5	Weight of Ring, gr:		129.80	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9948	0.9915	0.9839
Shear Rate, in/min:	0.002	Moisture-	Tare No.:	R-13	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	363.24	85.49	82.16	76.27
Saturated(x):	X		Dry Weight and Tare, gr:	356.32	73.54	70.78	65.92
Intact(x):	X		Tare Weight, gr:	244.64	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	6.2	16.2	16.1	15.7
@, %:		Wet Density, pcf:		123.7	136.1	136.4	137.0
Notes:		Dry Density, pcf:		116.5	117.1	117.5	118.4
		Saturation %:	S.G. = 2.70 (Assumed)	37.4	99.8	99.8	100.0

Load 2-1 (KSF): 1.034				Load 2-2 (KSF): 1.034				Load 2-3 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0027	0.370	0.010	0.4	0.0014	0.197	0.010	0.4	0.0005	0.076
0.020	0.8	0.0041	0.557	0.020	0.8	0.0018	0.250	0.020	0.8	0.0009	0.130
0.030	1.2	0.0053	0.717	0.030	1.2	0.0024	0.330	0.030	1.2	0.0015	0.210
0.040	1.7	0.0065	0.878	0.040	1.7	0.0027	0.370	0.040	1.7	0.0020	0.277
0.050	2.1	0.0072	0.971	0.050	2.1	0.0030	0.410	0.050	2.1	0.0024	0.330
0.060	2.5	0.0076	1.024	0.060	2.5	0.0033	0.450	0.060	2.5	0.0028	0.384
0.070	**2.9**	**0.0076**	**1.024**	0.070	2.9	0.0033	0.450	0.070	2.9	0.0030	0.410
0.080	3.3	0.0073	0.984	0.080	3.3	0.0033	0.450	0.080	3.3	0.0030	0.410
0.091	3.7	0.0069	0.931	0.091	3.7	0.0033	0.450	0.091	3.7	0.0031	0.424
0.101	4.2	0.0067	0.904	0.101	4.2	0.0033	0.450	0.101	4.2	0.0034	0.464
0.121	5.0	0.0062	0.838	0.121	5.0	0.0036	0.490	0.121	5.0	0.0038	0.517
0.141	5.8	0.0060	0.811	0.141	5.8	0.0040	0.544	0.141	5.8	0.0040	0.544
0.161	6.7	0.0059	0.797	0.161	6.7	0.0042	0.571	0.161	6.7	0.0042	0.571
0.181	7.5	0.0058	0.784	0.181	7.5	0.0044	0.597	0.181	7.5	0.0043	0.584
0.202	8.3	0.0057	0.771	0.202	8.3	0.0046	0.624	0.202	8.3	0.0045	0.611
0.252	10.4	0.0055	0.744	0.252	10.4	0.0049	0.664	0.252	10.4	0.0048	0.651
0.303	12.5	0.0054	0.731	0.303	12.5	0.0050	0.677	0.303	12.5	0.0049	0.664
0.362	15.0	0.0053	0.717	0.362	15.0	0.0050	0.677	0.362	**15.0**	**0.0049**	**0.664**

Max. Shear Stress, ksf: 1.024

Lat. Displmt@Max Stress,%.: 2.9

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-5	*Sample No.:*	D-2	*Depth:*	10.5-11 Feet	*Date:*	7/03-7/06/2017
Soil Description:	Dark Yellowish Brown (10YR, 4/6) Clayey Sand (SC)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		576.35	---	---	---
Normal Stress, ksf:	0.5, 1, 1.5	Weight of Ring, gr:		129.80	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9948	0.9915	0.9839
Shear Rate, in/min:	0.002	Moisture-	Tare No.:	R-13	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	363.24	85.49	82.16	76.27
Saturated(x):	X		Dry Weight and Tare, gr:	356.32	73.54	70.78	65.92
Intact(x):	X		Tare Weight, gr:	244.64	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	6.2	16.2	16.1	15.7
@, %:		Wet Density, pcf:		123.7	136.1	136.4	137.0
Notes:		Dry Density, pcf:		116.5	117.1	117.5	118.4
		Saturation %:	S.G. = 2.70 (Assumed)	37.4	99.8	99.8	100.0

Load 1-1 (KSF): 0.500				Load 1-2 (KSF): 0.500				Load 1-3 (KSF): 0.500			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0015	0.210	0.010	0.4	0.0002	0.036	0.013	0.6	0.0001	0.023
0.020	0.8	0.0023	0.317	0.020	0.8	0.0006	0.090	0.024	1.0	0.0003	0.050
0.030	1.2	0.0030	0.410	0.030	1.2	0.0009	0.130	0.034	1.4	0.0005	0.076
0.040	1.7	0.0034	0.464	0.040	1.7	0.0010	0.143	0.044	1.8	0.0007	0.103
0.050	2.1	0.0035	0.477	0.050	2.1	0.0012	0.170	0.054	2.2	0.0010	0.143
0.060	**2.5**	**0.0035**	**0.477**	0.060	2.5	0.0013	0.183	0.064	2.6	0.0010	0.143
0.070	2.9	0.0032	0.437	0.070	2.9	0.0014	0.197	0.074	3.1	0.0011	0.157
0.080	3.3	0.0030	0.410	0.080	3.3	0.0015	0.210	0.084	3.5	0.0012	0.170
0.091	3.7	0.0028	0.384	0.091	3.7	0.0016	0.223	0.094	3.9	0.0013	0.183
0.101	4.2	0.0025	0.344	0.101	4.2	0.0016	0.223	0.104	4.3	0.0013	0.183
0.121	5.0	0.0024	0.330	0.121	5.0	0.0016	0.223	0.125	5.2	0.0016	0.223
0.141	5.8	0.0023	0.317	0.141	5.8	0.0017	0.237	0.145	6.0	0.0017	0.237
0.161	6.7	0.0022	0.303	0.161	6.7	0.0017	0.237	0.165	6.8	0.0018	0.250
0.181	7.5	0.0022	0.303	0.181	7.5	0.0018	0.250	0.185	7.7	0.0019	0.263
0.202	8.3	0.0022	0.303	0.202	8.3	0.0018	0.250	0.205	8.5	0.0020	0.277
0.252	10.4	0.0022	0.303	0.252	10.4	0.0019	0.263	0.256	10.6	0.0021	0.290
0.303	12.5	0.0023	0.317	0.303	12.5	0.0020	0.277	0.306	12.7	0.0022	0.303
0.362	15.0	0.0024	0.330	0.362	15.0	0.0021	0.290	0.365	**15.1**	**0.0022**	**0.303**

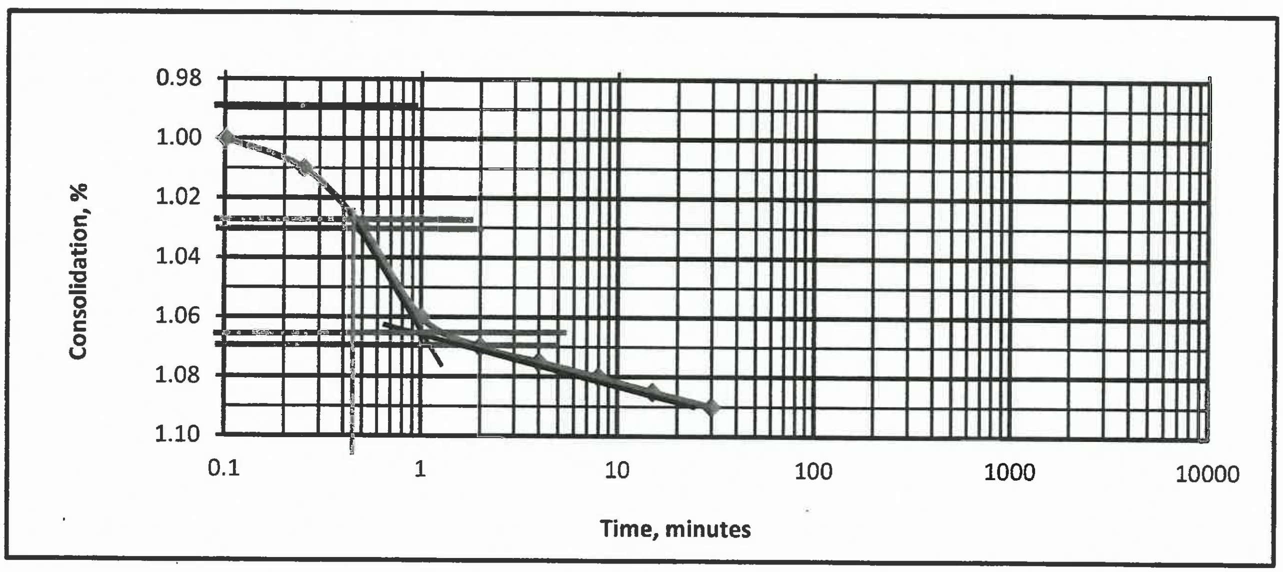
Max. Shear Stress, ksf: 0.477

Lat. Displmt@Max Stress,%.: 2.5

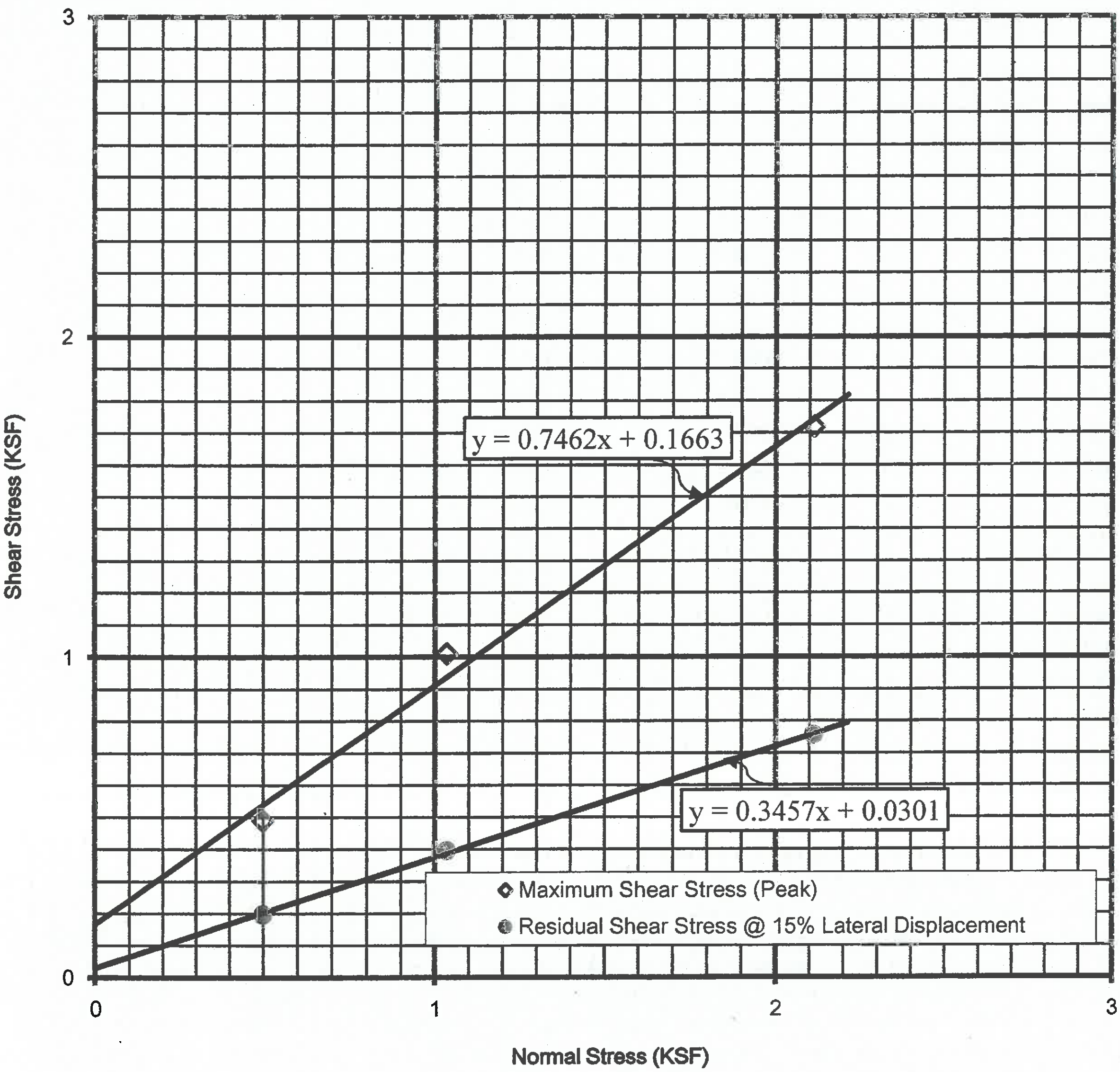
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-7
Sample Depth:	10.5-11 Feet
Normal Load:	1.034 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.20000	0.00
0:00:06	0.1	0.21000	1.00
0:00:15	0.25	0.21010	1.01
0:00:30	0.5	0.21030	1.03
0:01:00	1	0.21060	1.06
0:02:00	2	0.21070	1.07
0:04:00	4	0.21075	1.08
0:08:00	8	0.21080	1.08
0:15:00	15	0.21085	1.09
0:30:00	30	0.21090	1.09
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		

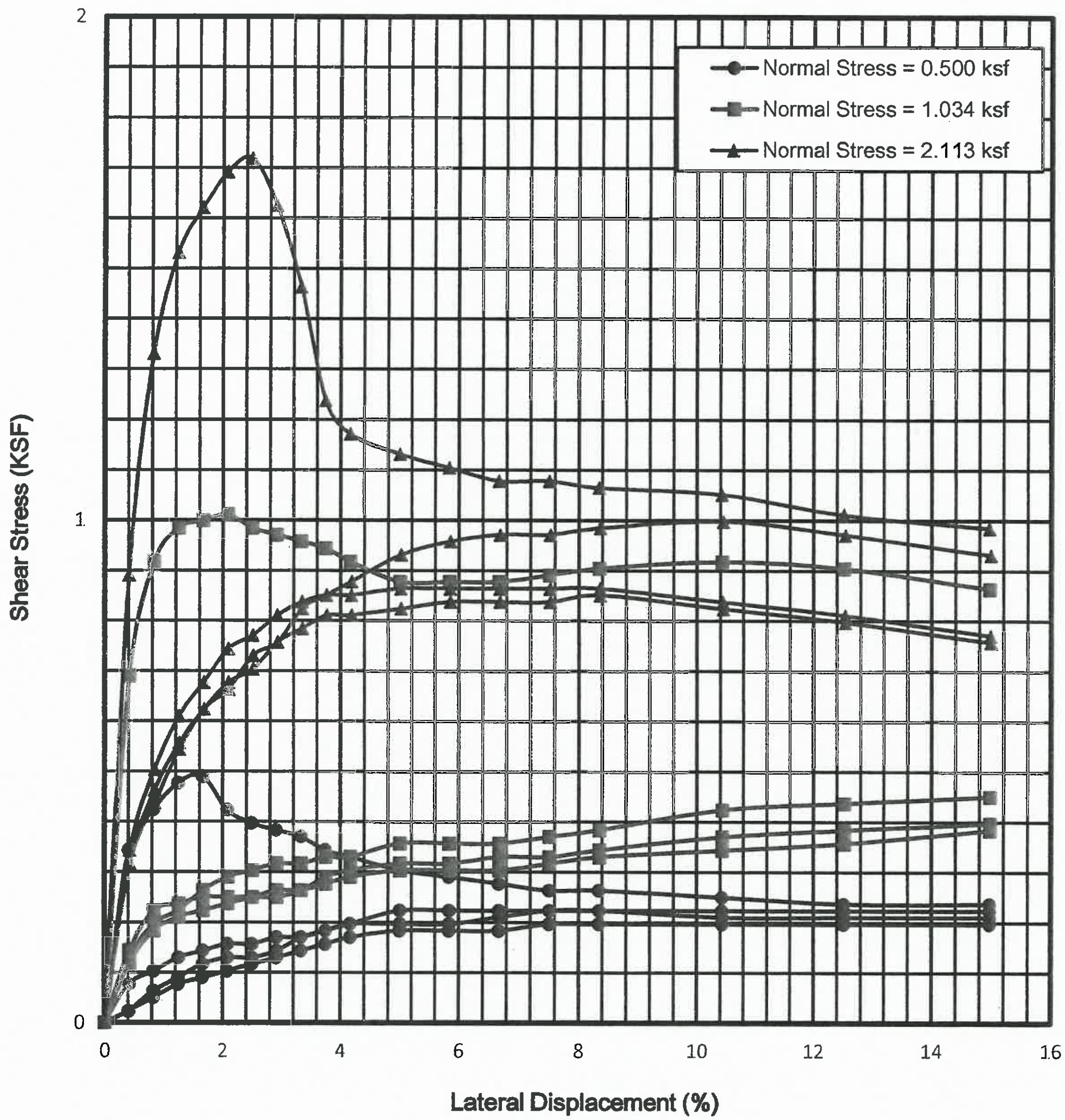


t_{50} (minute) =	0.45
t_f ($50t_{50}$) =	22.5
Estimated displacement at failure (in.) (d_f)	0.041072 (1.7% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002
Estimated displacement at failure (in.) (d_f)	0.0604 (2.5% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.003



Boring No.:	BA-7	In-Place Dry Density (PCF):		92.2
Sample No.:	D-2	In-Place Moisture Content (%):		18.7
Sample Depth :	10.5-11 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	166	30
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	37	19

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.:	BA-7	Sample No.:	D-2	Depth (ft):	10.5-11 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570
		Phase 0002

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive				*Project No.:*	IR17166570.0002	
Boring No.:	BA-7	*Sample No.:*	D-2	*Depth:*	10.5-11 Feet	*Date:*	7/03-7/07/2017
Soil Description:	Very Dark Grayish Brown (2.5Y, 3/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	After Consolidation Load 2	After Consolidation Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		523.43	---	---	---
Normal Stress, ksf:	0.5, 1, 2	Weight of Ring, gr:		128.31	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9984	0.9891	0.9799
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-12	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	330.26	82.51	87.94	76.12
Saturated(x):	X		Dry Weight and Tare, gr:	317.24	63.21	67.70	58.92
Intact(x):	X		Tare Weight, gr:	247.76	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	18.7	30.5	29.9	29.2
@, %:		Wet Density, pcf:		109.4	120.5	121.1	121.5
Notes:		Dry Density, pcf:		92.2	92.3	93.2	94.1
		Saturation %:	S.G. = 2.70 (Assumed)	61.1	99.8	99.8	99.5

Load 3-1 (KSF): 2.113				Load 3-2 (KSF): 2.113				Load 3-3 (KSF): 2.113				Load 3-4 (KSF): 2.113			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0066	0.891	0.010	0.4	0.0023	0.317	0.010	0.4	0.0025	0.344	0.010	0.4	0.0023	0.317
0.020	0.8	0.0099	1.332	0.020	0.8	0.0032	0.437	0.020	0.8	0.0037	0.504	0.020	0.8	0.0034	0.464
0.030	1.2	0.0114	1.532	0.030	1.3	0.0040	0.544	0.030	1.3	0.0045	0.611	0.030	1.3	0.0041	0.557
0.040	1.7	0.0121	1.621	0.041	1.7	0.0046	0.624	0.040	1.7	0.0050	0.677	0.041	1.7	0.0046	0.624
0.050	2.1	0.0126	1.692	0.051	2.1	0.0049	0.664	0.051	2.1	0.0055	0.744	0.051	2.1	0.0050	0.677
0.060	**2.5**	**0.0128**	**1.719**	0.061	2.5	0.0054	0.731	0.061	2.5	0.0057	0.771	0.061	2.5	0.0052	0.704
0.070	2.9	0.0121	1.625	0.071	2.9	0.0056	0.757	0.071	2.9	0.0060	0.811	0.071	2.9	0.0056	0.757
0.080	3.3	0.0109	1.464	0.081	3.4	0.0061	0.824	0.081	3.3	0.0062	0.838	0.081	3.4	0.0058	0.784
0.091	3.7	0.0092	1.238	0.091	3.8	0.0063	0.851	0.091	3.8	0.0063	0.851	0.091	3.8	0.0060	0.811
0.101	4.2	0.0087	1.171	0.101	4.2	0.0065	0.878	0.101	4.2	0.0063	0.851	0.101	4.2	0.0060	0.811
0.121	5.0	0.0084	1.131	0.121	5.0	0.0069	0.931	0.121	5.0	0.0064	0.864	0.121	5.0	0.0061	0.824
0.141	5.8	0.0082	1.105	0.142	5.9	0.0071	0.958	0.141	5.9	0.0064	0.864	0.142	5.9	0.0062	0.838
0.161	6.7	0.0080	1.078	0.162	6.7	0.0072	0.971	0.162	6.7	0.0064	0.864	0.162	6.7	0.0062	0.838
0.181	7.5	0.0080	1.078	0.182	7.5	0.0072	0.971	0.182	7.5	0.0064	0.864	0.182	7.5	0.0062	0.838
0.202	8.3	0.0079	1.065	0.202	8.4	0.0073	0.984	0.202	8.4	0.0064	0.864	0.202	8.4	0.0063	0.851
0.252	10.4	0.0078	1.051	0.253	10.5	0.0074	0.998	0.252	10.4	0.0062	0.838	0.253	10.5	0.0061	0.824
0.303	12.5	0.0075	1.011	0.303	12.5	0.0072	0.971	0.303	12.5	0.0060	0.811	0.303	12.5	0.0059	0.797
0.362	15.0	0.0073	0.984	0.362	15.0	0.0069	0.931	0.362	15.0	0.0057	0.771	0.362	**15.0**	**0.0056**	**0.757**

Max. Shear Stress, ksf:	1.719
Lat. Displmt@Max Stress,%.:	2.5

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-7	*Sample No.:*	D-2	*Depth:*	10.5-11 Feet	*Date:*	7/03-7/07/2017
Soil Description:	Very Dark Grayish Brown (2.5Y, 3/2) Fat Clay with Sand (CH)					*Tested By:*	LT

Sample Diameter, in:	2.416
Normal Stress, ksf:	0.5, 1, 2
Over-burdened @, pcf:	
Shear Rate, in/min:	0.001
Natural Moisture(x):	
Saturated(x):	X
Intact(x):	X
Remolded to, pcf:	
@, %:	
Notes:	

		Initial	After Consolidation Load 1	After Consolidation Load 2	After Consolidation Load 3
Weight of Wet Soil & Ring, gr:		523.43	---	---	---
Weight of Ring, gr:		128.31	---	---	---
Height of Sample, in:		3.00	0.9984	0.9891	0.9799
Moisture-	Tare No.:	R-12	---	---	---
	Wet Weight and Tare, gr:	330.26	82.51	87.94	76.12
	Dry Weight and Tare, gr:	317.24	63.21	67.70	58.92
	Tare Weight, gr:	247.76	0.00	0.00	0.00
	Moisture Content, %:	18.7	30.5	29.9	29.2
Wet Density, pcf:		109.4	120.5	121.1	121.5
Dry Density, pcf:		92.2	92.3	93.2	94.1
Saturation %:	S.G. = 2.70 (Assumed)	61.1	99.8	99.8	99.5

Load 2-1 (KSF): 1.034				Load 2-2 (KSF): 1.034				Load 2-3 (KSF): 1.034				Load 2-4 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0051	0.691	0.010	0.4	0.0009	0.130	0.010	0.4	0.0008	0.117	0.010	0.4	0.0010	0.143
0.020	0.8	0.0068	0.918	0.020	0.8	0.0014	0.197	0.020	0.8	0.0013	0.183	0.020	0.8	0.0016	0.223
0.030	1.2	0.0073	0.984	0.030	1.2	0.0016	0.223	0.030	1.2	0.0015	0.210	0.030	1.2	0.0017	0.237
0.040	1.7	0.0074	0.999	0.040	1.7	0.0019	0.263	0.040	1.7	0.0016	0.223	0.040	1.7	0.0018	0.250
0.050	**2.1**	**0.0075**	**1.011**	0.050	2.1	0.0021	0.290	0.050	2.1	0.0017	0.237	0.050	2.1	0.0018	0.250
0.060	2.5	0.0073	0.984	0.060	2.5	0.0022	0.303	0.060	2.5	0.0018	0.250	0.060	2.5	0.0018	0.250
0.070	2.9	0.0072	0.971	0.070	2.9	0.0023	0.317	0.070	2.9	0.0019	0.263	0.070	2.9	0.0018	0.250
0.080	3.3	0.0071	0.958	0.081	3.3	0.0023	0.317	0.081	3.3	0.0019	0.263	0.081	3.3	0.0019	0.263
0.091	3.7	0.0070	0.944	0.091	3.8	0.0024	0.330	0.091	3.8	0.0020	0.277	0.091	3.8	0.0021	0.290
0.101	4.2	0.0068	0.918	0.101	4.2	0.0024	0.330	0.101	4.2	0.0021	0.290	0.101	4.2	0.0022	0.303
0.121	5.0	0.0065	0.878	0.121	5.0	0.0026	0.357	0.121	5.0	0.0022	0.303	0.121	5.0	0.0023	0.317
0.141	5.8	0.0065	0.878	0.141	5.8	0.0026	0.357	0.141	5.8	0.0022	0.303	0.141	5.8	0.0023	0.317
0.161	6.7	0.0065	0.878	0.161	6.7	0.0026	0.357	0.161	6.7	0.0022	0.303	0.161	6.7	0.0024	0.330
0.181	7.5	0.0066	0.891	0.182	7.5	0.0027	0.370	0.182	7.5	0.0023	0.317	0.182	7.5	0.0024	0.330
0.202	8.3	0.0067	0.904	0.202	8.3	0.0028	0.384	0.202	8.3	0.0024	0.330	0.202	8.3	0.0025	0.344
0.252	10.4	0.0068	0.918	0.252	10.4	0.0031	0.424	0.252	10.4	0.0025	0.344	0.252	10.4	0.0027	0.370
0.303	12.5	0.0067	0.904	0.303	12.5	0.0032	0.437	0.303	12.5	0.0026	0.357	0.303	12.5	0.0028	0.384
0.362	15.0	0.0064	0.864	0.362	15.0	0.0033	0.450	0.362	15.0	0.0028	0.384	0.362	**15.0**	**0.0029**	**0.397**

Max. Shear Stress, ksf:	1.011
Lat. Displmt@Max Stress,%.:	2.1

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive				*Project No.:*	IR17166570.0002	
Boring No.:	BA-7	*Sample No.:*	D-2	*Depth:* 10.5-11 Feet	*Date:*	7/03-7/07/2017	
Soil Description:	Very Dark Grayish Brown (2.5Y, 3/2) Fat Clay with Sand (CH)				*Tested By:*	LT	

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		523.43	---	---	---
Normal Stress, ksf:	0.5, 1, 2	Weight of Ring, gr:		128.31	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9984	0.9891	0.9799
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-12	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	330.26	82.51	87.94	76.12
Saturated(x):	X		Dry Weight and Tare, gr:	317.24	63.21	67.70	58.92
Intact(x):	X		Tare Weight, gr:	247.76	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	18.7	30.5	29.9	29.2
@, %:		Wet Density, pcf:		109.4	120.5	121.1	121.5
Notes:		Dry Density, pcf:		92.2	92.3	93.2	94.1
		Saturation %:	S.G. = 2.70 (Assumed)	61.1	99.8	99.8	99.5

Load 1-1 (KSF): 0.500				Load 1-2 (KSF): 0.500			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0025	0.344	0.010	0.4	0.0005	0.076
0.020	0.8	0.0031	0.424	0.020	0.8	0.0007	0.103
0.030	1.2	0.0035	0.477	0.030	1.2	0.0009	0.130
0.040	**1.7**	**0.0036**	**0.490**	0.040	1.7	0.0010	0.143
0.050	2.1	0.0031	0.424	0.050	2.1	0.0011	0.157
0.060	2.5	0.0029	0.397	0.060	2.5	0.0011	0.157
0.070	2.9	0.0028	0.384	0.070	2.9	0.0012	0.170
0.080	3.3	0.0027	0.370	0.080	3.3	0.0012	0.170
0.090	3.7	0.0025	0.344	0.091	3.7	0.0013	0.183
0.101	4.2	0.0024	0.330	0.101	4.2	0.0014	0.197
0.121	5.0	0.0022	0.303	0.121	5.0	0.0016	0.223
0.141	5.8	0.0021	0.290	0.141	5.8	0.0016	0.223
0.161	6.7	0.0020	0.277	0.161	6.7	0.0016	0.223
0.181	7.5	0.0019	0.263	0.181	7.5	0.0016	0.223
0.201	8.3	0.0019	0.263	0.202	8.3	0.0016	0.223
0.252	10.4	0.0018	0.250	0.252	10.4	0.0016	0.223
0.302	12.5	0.0017	0.237	0.303	12.5	0.0016	0.223
0.362	15.0	0.0017	0.237	0.362	15.0	0.0016	0.223

Load 1-3 (KSF): 0.500				Load 1-4 (KSF): 0.500			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0001	0.023	0.010	0.4	0.0001	0.023
0.020	0.8	0.0004	0.063	0.020	0.8	0.0003	0.050
0.030	1.2	0.0006	0.090	0.030	1.2	0.0005	0.076
0.040	1.7	0.0008	0.117	0.040	1.7	0.0006	0.090
0.050	2.1	0.0009	0.130	0.050	2.1	0.0007	0.103
0.060	2.5	0.0009	0.130	0.060	2.5	0.0008	0.117
0.070	2.9	0.0010	0.143	0.070	2.9	0.0009	0.130
0.080	3.3	0.0012	0.170	0.080	3.3	0.0010	0.143
0.091	3.7	0.0013	0.183	0.090	3.7	0.0011	0.157
0.101	4.2	0.0014	0.197	0.101	4.2	0.0012	0.170
0.121	5.0	0.0014	0.197	0.121	5.0	0.0013	0.183
0.141	5.8	0.0014	0.197	0.141	5.8	0.0013	0.183
0.161	6.7	0.0015	0.210	0.161	6.7	0.0013	0.183
0.181	7.5	0.0016	0.223	0.181	7.5	0.0014	0.197
0.202	8.3	0.0016	0.223	0.201	8.3	0.0014	0.197
0.252	10.4	0.0015	0.210	0.252	10.4	0.0014	0.197
0.303	12.5	0.0015	0.210	0.302	12.5	0.0014	0.197
0.362	15.0	0.0015	0.210	0.362	**15.0**	**0.0014**	**0.197**

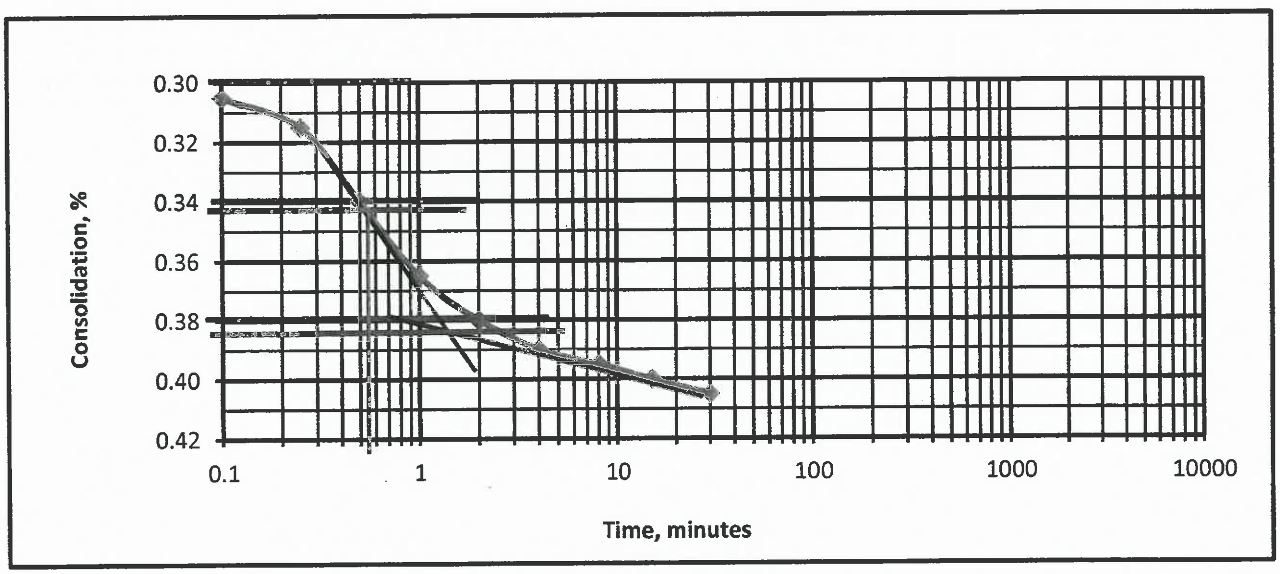
Max. Shear Stress, ksf: 0.490

Lat. Displmt@Max Stress,%.: 1.7

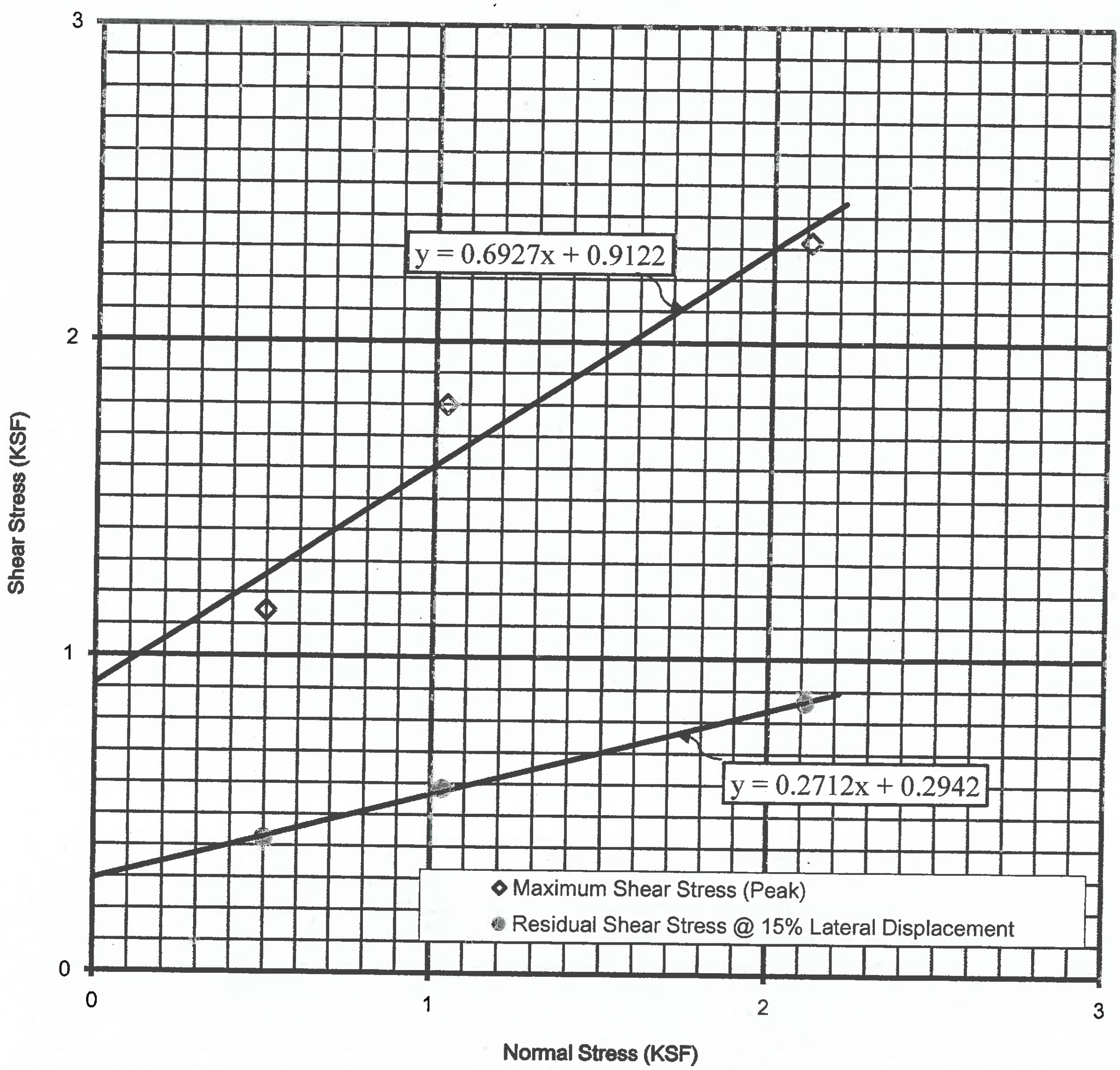
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-8
Sample Depth:	25.5-26 Feet
Normal Load:	1.034 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.20000	0.00
0:00:06	0.1	0.20305	0.31
0:00:15	0.25	0.20315	0.31
0:00:30	0.5	0.20340	0.34
0:01:00	1	0.20365	0.36
0:02:00	2	0.20380	0.38
0:04:00	4	0.20390	0.39
0:08:00	8	0.20395	0.39
0:15:00	15	0.20400	0.40
0:30:00	30	0.20405	0.41
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		

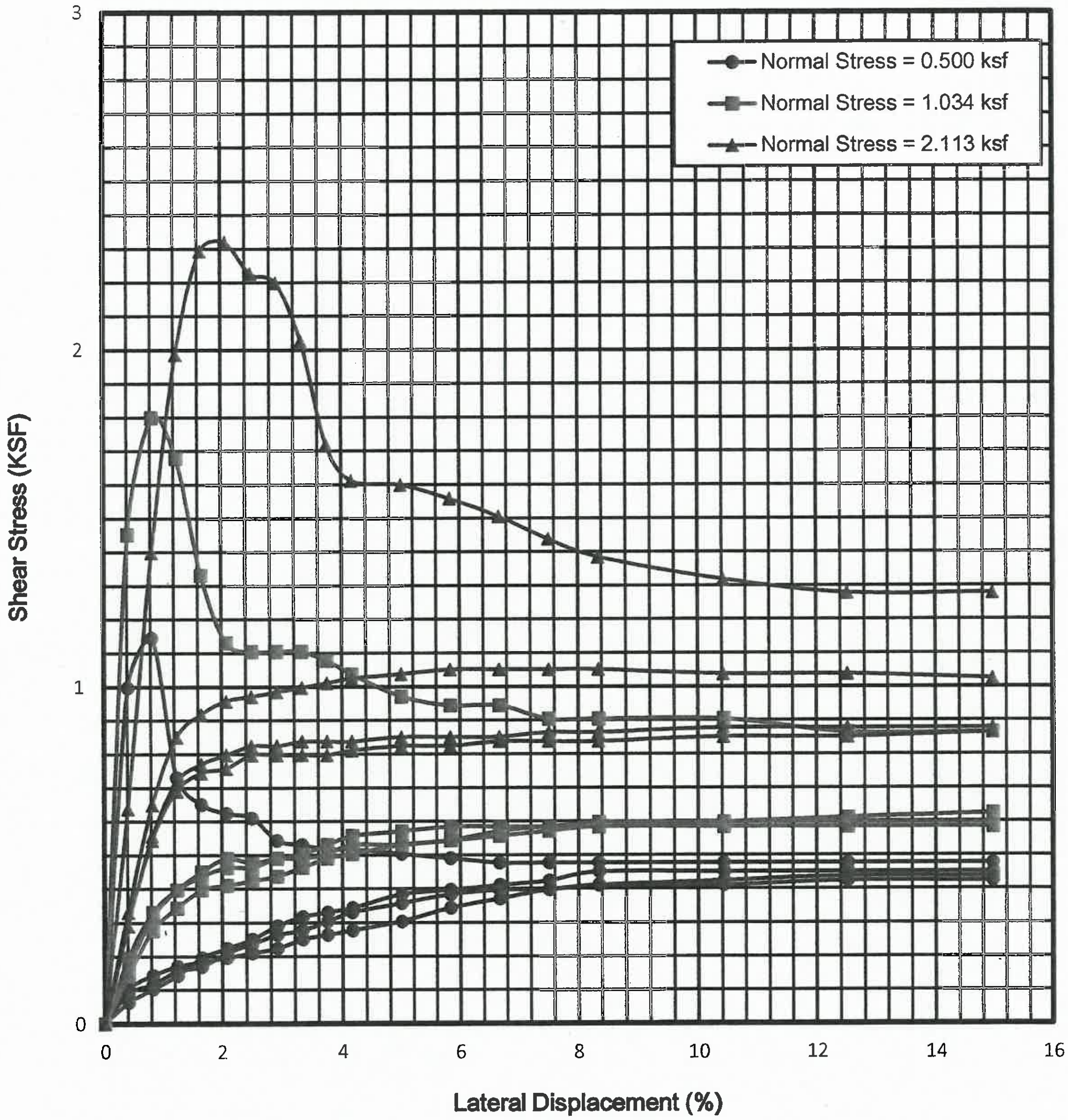


t_{50} (minute) =	0.55
t_f ($50t_{50}$) =	27.5
Estimated displacement at failure (in.) (d_f)	0.019328 (0.8% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001
Estimated displacement at failure (in.) (d_f)	0.050736 (2.1% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002



Boring No.:	BA-8	In-Place Dry Density (PCF):		77.8
Sample No.:	D-4	In-Place Moisture Content (%):		42.9
Sample Depth :	25.5-26 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	912	294
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	35	15

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.:	BA-8	Sample No.:	D-4	Depth (ft):	25.5-26 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570
		Phase 0002

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-8	*Sample No.:*	D-4	*Depth:*	25.5-26 Feet	*Date:*	7/06-7/11/2017
Soil Description:	Grayish Brown (10YR, 5/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		529.20	---	---	---
Normal Stress, ksf:	0.5, 1, 2	Weight of Ring, gr:		127.86	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9981	0.9959	0.9780
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-22	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	379.65	74.47	69.03	65.73
Saturated(x):	X		Dry Weight and Tare, gr:	340.46	52.11	48.32	46.51
Intact(x):	X		Tare Weight, gr:	249.19	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	42.9	42.9	42.9	41.3
@, %:		Wet Density, pcf:		111.2	111.4	111.6	112.4
Notes:		Dry Density, pcf:		77.8	77.9	78.1	79.5
		Saturation %:	S.G. = 2.70 (Assumed)	99.3	99.6	99.9	99.7

Load 3-1 (KSF): 2.113				Load 3-2 (KSF): 2.113				Load 3-3 (KSF): 2.113				Load 3-4 (KSF): 2.113			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0047	0.637	0.010	0.4	0.0024	0.330	0.010	0.4	0.0021	0.290	0.010	0.4	0.0021	0.290
0.020	0.8	0.0104	1.398	0.020	0.8	0.0048	0.651	0.020	0.8	0.0041	0.557	0.020	0.8	0.0040	0.544
0.030	1.2	0.0148	1.986	0.030	1.2	0.0063	0.851	0.030	1.2	0.0053	0.717	0.030	1.2	0.0051	0.691
0.040	1.7	0.0171	2.293	0.040	1.7	0.0068	0.918	0.040	1.7	0.0057	0.771	0.040	1.7	0.0055	0.744
0.050	**2.1**	**0.0173**	**2.320**	0.050	2.1	0.0071	0.958	0.050	2.1	0.0059	0.797	0.050	2.1	0.0056	0.757
0.060	2.5	0.0166	2.226	0.060	2.5	0.0072	0.971	0.060	2.5	0.0061	0.824	0.060	2.5	0.0059	0.797
0.070	2.9	0.0164	2.199	0.070	2.9	0.0073	0.984	0.070	2.9	0.0061	0.824	0.070	2.9	0.0059	0.797
0.080	3.3	0.0151	2.026	0.080	3.3	0.0074	0.998	0.080	3.3	0.0062	0.838	0.080	3.3	0.0059	0.797
0.091	3.7	0.0128	1.719	0.091	3.7	0.0075	1.011	0.091	3.7	0.0062	0.838	0.091	3.7	0.0059	0.797
0.101	4.2	0.0120	1.612	0.101	4.2	0.0076	1.024	0.101	4.2	0.0062	0.838	0.101	4.2	0.0060	0.811
0.121	5.0	0.0119	1.599	0.121	5.0	0.0077	1.038	0.121	5.0	0.0063	0.851	0.121	5.0	0.0061	0.824
0.141	5.8	0.0116	1.559	0.141	5.8	0.0078	1.051	0.141	5.8	0.0063	0.851	0.141	5.8	0.0061	0.824
0.161	6.7	0.0112	1.505	0.161	6.7	0.0078	1.051	0.161	6.7	0.0063	0.851	0.161	6.7	0.0062	0.838
0.181	7.5	0.0107	1.438	0.181	7.5	0.0078	1.051	0.181	7.5	0.0064	0.864	0.181	7.5	0.0062	0.838
0.202	8.3	0.0103	1.385	0.202	8.3	0.0078	1.051	0.202	8.3	0.0064	0.864	0.202	8.3	0.0062	0.838
0.252	10.4	0.0098	1.318	0.252	10.4	0.0077	1.038	0.252	10.4	0.0065	0.878	0.252	10.4	0.0063	0.851
0.303	12.5	0.0095	1.278	0.303	12.5	0.0077	1.038	0.303	12.5	0.0065	0.878	0.303	12.5	0.0063	0.851
0.362	15.0	0.0095	1.278	0.362	15.0	0.0076	1.024	0.362	15.0	0.0065	0.878	0.362	**15.0**	**0.0064**	**0.864**

Max. Shear Stress, ksf: 2.320

Lat. Displmt@Max Stress,%.: 2.1

amec
foster
wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-8	*Sample No.:*	D-4	*Depth:*	25.5-26 Feet	*Date:*	7/06-7/11/2017
Soil Description:	Grayish Brown (10YR, 5/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		529.20	---	---	---
Normal Stress, ksf:	0.5, 1, 2	Weight of Ring, gr:		127.86	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9981	0.9959	0.9780
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-22	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	379.65	74.47	69.03	65.73
Saturated(x):	X		Dry Weight and Tare, gr:	340.46	52.11	48.32	46.51
Intact(x):	X		Tare Weight, gr:	249.19	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	42.9	42.9	42.9	41.3
@, %:		Wet Density, pcf:		111.2	111.4	111.6	112.4
Notes:		Dry Density, pcf:		77.8	77.9	78.1	79.5
		Saturation %:	S.G. = 2.70 (Assumed)	99.3	99.6	99.9	99.7

Load 2-1 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0108	1.452
0.020	**0.8**	**0.0134**	**1.799**
0.030	1.2	0.0125	1.679
0.040	1.7	0.0099	1.332
0.050	2.1	0.0084	1.131
0.060	2.5	0.0082	1.105
0.070	2.9	0.0082	1.105
0.080	3.3	0.0082	1.105
0.091	3.7	0.0080	1.078
0.101	4.2	0.0077	1.038
0.121	5.0	0.0072	0.971
0.141	5.8	0.0070	0.944
0.161	6.7	0.0070	0.944
0.181	7.5	0.0067	0.904
0.202	8.3	0.0067	0.904
0.252	10.4	0.0067	0.904
0.303	12.5	0.0064	0.864
0.362	15.0	0.0064	0.864

Load 2-2 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0010	0.143
0.020	0.8	0.0020	0.277
0.030	1.2	0.0025	0.344
0.040	1.7	0.0029	0.397
0.050	2.1	0.0030	0.410
0.060	2.5	0.0031	0.424
0.070	2.9	0.0032	0.437
0.080	3.3	0.0034	0.464
0.091	3.7	0.0036	0.490
0.101	4.2	0.0037	0.504
0.121	5.0	0.0039	0.530
0.141	5.8	0.0040	0.544
0.161	6.7	0.0042	0.571
0.181	7.5	0.0043	0.584
0.202	8.3	0.0043	0.584
0.252	10.4	0.0044	0.597
0.303	12.5	0.0045	0.611
0.362	15.0	0.0046	0.624

Load 2-3 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0014	0.197
0.020	0.8	0.0024	0.330
0.030	1.2	0.0029	0.397
0.040	1.7	0.0032	0.437
0.050	2.1	0.0034	0.464
0.060	2.5	0.0034	0.464
0.070	2.9	0.0036	0.490
0.080	3.3	0.0037	0.504
0.091	3.7	0.0039	0.530
0.101	4.2	0.0041	0.557
0.121	5.0	0.0042	0.571
0.141	5.8	0.0043	0.584
0.161	6.7	0.0043	0.584
0.181	7.5	0.0043	0.584
0.202	8.3	0.0044	0.597
0.252	10.4	0.0044	0.597
0.303	12.5	0.0044	0.597
0.362	15.0	0.0044	0.597

Load 2-4 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0012	0.170
0.020	0.8	0.0023	0.317
0.030	1.2	0.0029	0.397
0.040	1.7	0.0033	0.450
0.050	2.1	0.0036	0.490
0.060	2.5	0.0035	0.477
0.070	2.9	0.0036	0.490
0.080	3.3	0.0036	0.490
0.091	3.7	0.0037	0.504
0.101	4.2	0.0039	0.530
0.121	5.0	0.0039	0.530
0.141	5.8	0.0040	0.544
0.161	6.7	0.0041	0.557
0.181	7.5	0.0042	0.571
0.202	8.3	0.0043	0.584
0.252	10.4	0.0043	0.584
0.303	12.5	0.0043	0.584
0.362	**15.0**	**0.0043**	**0.584**

Max. Shear Stress, ksf: 1.799

Lat. Displmt@Max Stress,%.: 0.8

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive				*Project No.:*	IR17166570.0002	
Boring No.:	BA-8	*Sample No.:*	D-4	*Depth:* 25.5-26 Feet	*Date:*	7/06-7/11/2017	
Soil Description:	Grayish Brown (10YR, 5/2) Fat Clay with Sand (CH)				*Tested By:*	LT	

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		529.20	---	---	---
Normal Stress, ksf:	0.5, 1, 2	Weight of Ring, gr:		127.86	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9981	0.9959	0.9780
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-22	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	379.65	74.47	69.03	65.73
Saturated(x):	X		Dry Weight and Tare, gr:	340.46	52.11	48.32	46.51
Intact(x):	X		Tare Weight, gr:	249.19	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	42.9	42.9	42.9	41.3
@, %:		Wet Density, pcf:		111.2	111.4	111.6	112.4
Notes:		Dry Density, pcf:		77.8	77.9	78.1	79.5
		Saturation %:	S.G. = 2.70 (Assumed)	99.3	99.6	99.9	99.7

Load 1-1 (KSF): 0.500				Load 1-2 (KSF): 0.500				Load 1-3 (KSF): 0.500				Load 1-4 (KSF): 0.500			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0074	0.998	0.010	0.4	0.0004	0.063	0.010	0.4	0.0007	0.103	0.010	0.4	0.0006	0.090
0.020	**0.8**	**0.0085**	**1.145**	0.020	0.8	0.0007	0.103	0.020	0.8	0.0010	0.143	0.020	0.8	0.0008	0.117
0.030	1.2	0.0054	0.731	0.030	1.2	0.0010	0.143	0.030	1.2	0.0012	0.170	0.030	1.2	0.0011	0.157
0.040	1.7	0.0048	0.651	0.040	1.7	0.0014	0.197	0.040	1.7	0.0013	0.183	0.040	1.7	0.0012	0.170
0.050	2.1	0.0046	0.624	0.050	2.1	0.0016	0.223	0.050	2.1	0.0014	0.197	0.050	2.1	0.0015	0.210
0.060	2.5	0.0045	0.611	0.060	2.5	0.0018	0.250	0.060	2.5	0.0015	0.210	0.060	2.5	0.0017	0.237
0.070	2.9	0.0040	0.544	0.070	2.9	0.0021	0.290	0.070	2.9	0.0016	0.223	0.070	2.9	0.0019	0.263
0.080	3.3	0.0039	0.530	0.081	3.3	0.0023	0.317	0.081	3.3	0.0018	0.250	0.080	3.3	0.0020	0.277
0.091	3.7	0.0038	0.517	0.091	3.8	0.0024	0.330	0.091	3.8	0.0019	0.263	0.091	3.7	0.0022	0.303
0.101	4.2	0.0038	0.517	0.101	4.2	0.0025	0.344	0.101	4.2	0.0020	0.277	0.101	4.2	0.0024	0.330
0.121	5.0	0.0037	0.504	0.121	5.0	0.0028	0.384	0.121	5.0	0.0022	0.303	0.121	5.0	0.0026	0.357
0.141	5.8	0.0036	0.490	0.141	5.8	0.0029	0.397	0.141	5.8	0.0025	0.344	0.141	5.8	0.0028	0.384
0.161	6.7	0.0035	0.477	0.161	6.7	0.0030	0.410	0.161	6.7	0.0027	0.370	0.161	6.7	0.0029	0.397
0.181	7.5	0.0035	0.477	0.182	7.5	0.0031	0.424	0.182	7.5	0.0029	0.397	0.181	7.5	0.0029	0.397
0.202	8.3	0.0035	0.477	0.202	8.3	0.0033	0.450	0.202	8.3	0.0030	0.410	0.202	8.3	0.0030	0.410
0.252	10.4	0.0035	0.477	0.252	10.4	0.0033	0.450	0.252	10.4	0.0031	0.424	0.252	10.4	0.0030	0.410
0.303	12.5	0.0035	0.477	0.303	12.5	0.0033	0.450	0.303	12.5	0.0032	0.437	0.303	12.5	0.0031	0.424
0.362	15.0	0.0035	0.477	0.362	15.0	0.0033	0.450	0.362	15.0	0.0032	0.437	0.362	**15.0**	**0.0031**	**0.424**

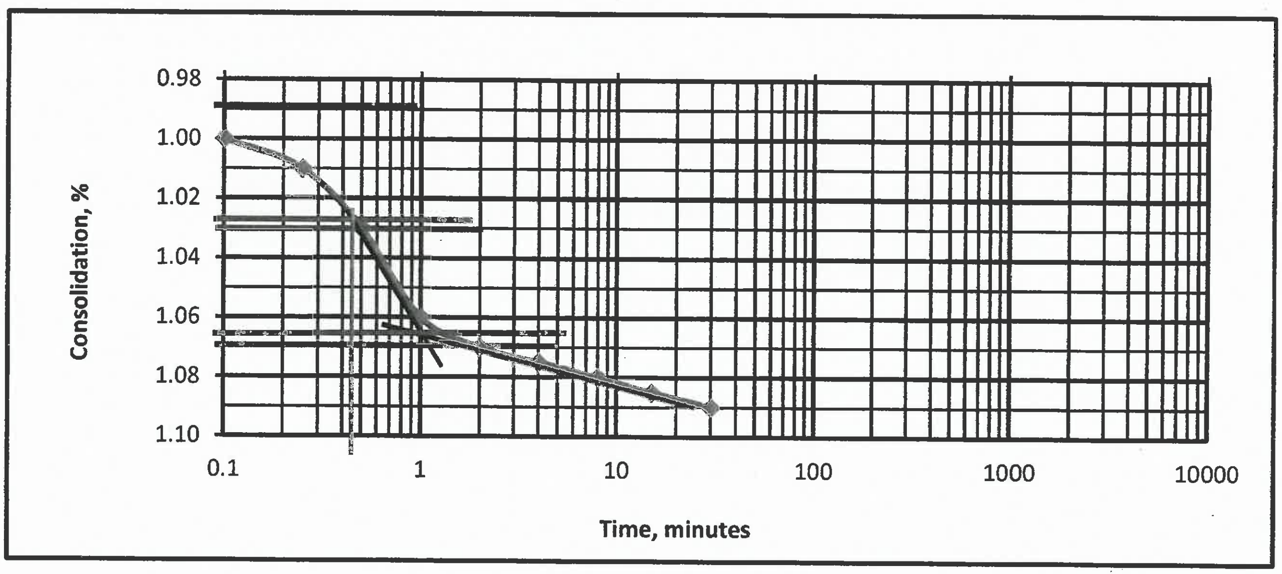
Max. Shear Stress, ksf: 1.145

Lat. Displmt@Max Stress,%.: 0.8

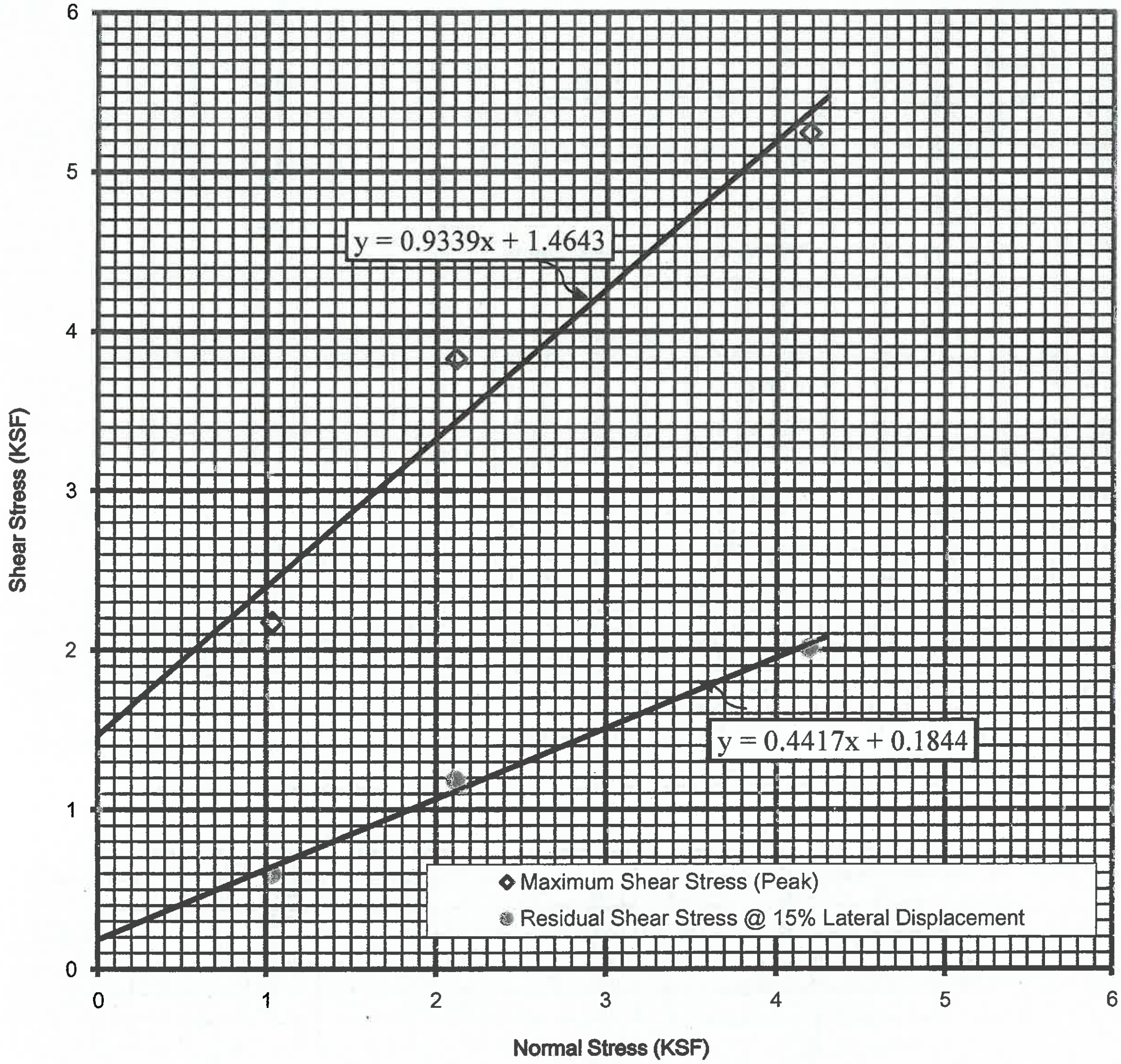
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-6
Sample Depth:	30.5-31 Feet
Normal Load:	2.113 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.20000	0.00
0:00:06	0.1	0.21000	1.00
0:00:15	0.25	0.21010	1.01
0:00:30	0.5	0.21030	1.03
0:01:00	1	0.21060	1.06
0:02:00	2	0.21070	1.07
0:04:00	4	0.21075	1.08
0:08:00	8	0.21080	1.08
0:15:00	15	0.21085	1.09
0:30:00	30	0.21090	1.09
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		

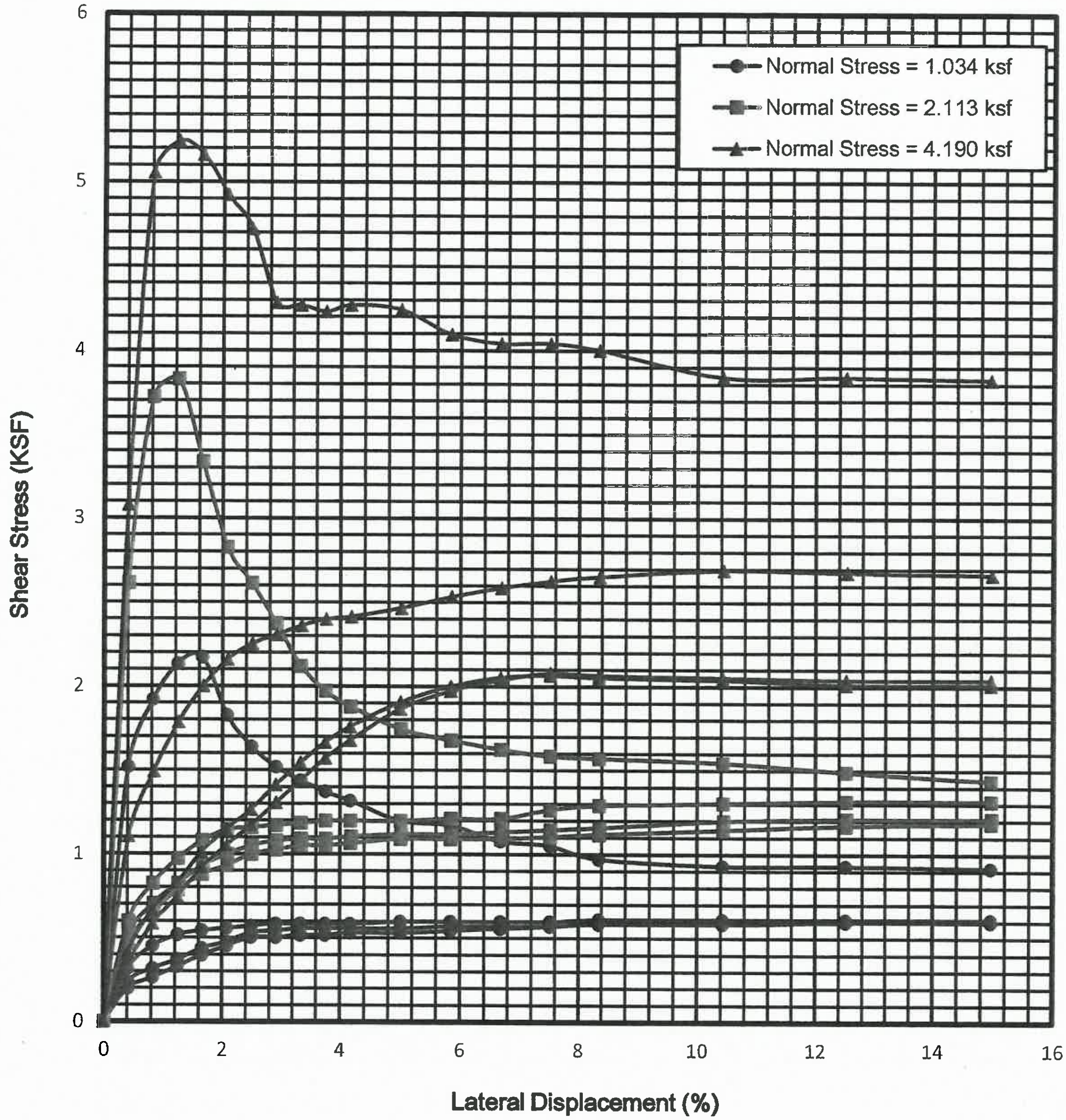


t_{50} (minute) =	0.45
t_f ($50t_{50}$) =	22.5
Estimated displacement at failure (in.) (d_f)	0.028992 (1.2% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001
Estimated displacement at failure (in.) (d_f)	0.041072 (1.7% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002



Boring No.:	BA-6	In-Place Dry Density (PCF):		84.5
Sample No.:	D-5	In-Place Moisture Content (%):		32.4
Sample Depth :	30.5-31 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	1464	184
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	43	24

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.: BA-6	Sample No.: D-5	Depth (ft): 30.5-31 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive			*Project No.:*	IR17166570.0002	
Boring No.:	BA-6	*Sample No.:*	D-5	*Depth:* 30.5-31 Feet	*Date:*	7/06-7/10/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay (CH)				*Tested By:*	LT

			Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:	532.30	---	---	---
Normal Stress, ksf:	1, 2, 4	Weight of Ring, gr:	128.64	---	---	---
Over-burdened @, pcf:		Height of Sample, in:	3.00	0.9984	0.9891	0.9799
Shear Rate, in/min:	0.001	Moisture- Tare No.:	R-86	---	---	---
Natural Moisture(x):		Wet Weight and Tare, gr:	348.95	80.87	85.21	69.45
Saturated(x):	X	Dry Weight and Tare, gr:	324.50	59.19	62.67	51.32
Intact(x):	X	Tare Weight, gr:	248.94	0.00	0.00	0.00
Remolded to, pcf:		Moisture Content, %:	32.4	36.6	36.0	35.3
@, %:		Wet Density, pcf:	111.8	115.6	116.1	116.7
Notes:		Dry Density, pcf:	84.5	84.6	85.4	86.2
		Saturation %: S.G. = 2.70 (Assumed)	87.8	99.7	99.7	99.9

Load 3-1 (KSF): 4.190				Load 3-2 (KSF): 4.190				Load 3-3 (KSF): 4.190				Load 3-4 (KSF): 4.190			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0230	3.081	0.010	0.4	0.0082	1.105	0.010	0.4	0.0025	0.344	0.010	0.4	0.0030	0.410
0.020	0.8	0.0378	5.057	0.020	0.8	0.0111	1.492	0.020	0.8	0.0043	0.584	0.020	0.8	0.0049	0.664
0.030	**1.2**	**0.0392**	**5.244**	0.030	1.3	0.0133	1.786	0.030	1.2	0.0055	0.744	0.030	1.2	0.0061	0.824
0.040	1.7	0.0386	5.164	0.040	1.7	0.0149	1.999	0.040	1.7	0.0068	0.918	0.040	1.7	0.0075	1.011
0.050	2.1	0.0368	4.923	0.051	2.1	0.0161	2.159	0.050	2.1	0.0078	1.051	0.050	2.1	0.0085	1.145
0.060	2.5	0.0353	4.723	0.061	2.5	0.0168	2.253	0.060	2.5	0.0087	1.171	0.060	2.5	0.0094	1.265
0.070	2.9	0.0320	4.282	0.071	2.9	0.0172	2.306	0.070	2.9	0.0097	1.305	0.070	2.9	0.0105	1.412
0.080	3.3	0.0319	4.269	0.081	3.3	0.0176	2.360	0.081	3.3	0.0107	1.438	0.080	3.3	0.0115	1.545
0.091	3.7	0.0316	4.229	0.091	3.8	0.0179	2.400	0.091	3.8	0.0117	1.572	0.091	3.7	0.0124	1.665
0.101	4.2	0.0319	4.269	0.101	4.2	0.0180	2.413	0.101	4.2	0.0125	1.679	0.101	4.2	0.0131	1.759
0.121	5.0	0.0317	4.242	0.121	5.0	0.0184	2.466	0.121	5.0	0.0139	1.866	0.121	5.0	0.0142	1.906
0.141	5.8	0.0306	4.095	0.141	5.9	0.0189	2.533	0.141	5.8	0.0147	1.972	0.141	5.8	0.0149	1.999
0.161	6.7	0.0302	4.042	0.162	6.7	0.0193	2.587	0.161	6.7	0.0152	2.039	0.161	6.7	0.0153	2.053
0.181	7.5	0.0302	4.042	0.182	7.5	0.0196	2.627	0.182	7.5	0.0155	2.079	0.181	7.5	0.0154	2.066
0.202	8.3	0.0299	4.002	0.202	8.4	0.0198	2.653	0.202	8.3	0.0154	2.066	0.202	8.3	0.0153	2.053
0.252	10.4	0.0287	3.842	0.252	10.4	0.0201	2.693	0.252	10.4	0.0153	2.053	0.252	10.4	0.0152	2.039
0.303	12.5	0.0287	3.842	0.303	12.5	0.0200	2.680	0.303	12.5	0.0152	2.039	0.303	12.5	0.0150	2.012
0.362	15.0	0.0286	3.828	0.362	15.0	0.0199	2.667	0.362	15.0	0.0152	2.039	0.362	**15.0**	**0.0150**	**2.012**

Max. Shear Stress, ksf: 5.244

Lat. Displmt@Max Stress,%.: 1.2

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-6	*Sample No.:*	D-5	*Depth:*	30.5-31 Feet	*Date:*	7/06-7/10/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation		
					Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		532.30	---	---	---
Normal Stress, ksf:	1, 2, 4	Weight of Ring, gr:		128.64	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9984	0.9891	0.9799
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-86	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	348.95	80.87	85.21	69.45
Saturated(x):	X		Dry Weight and Tare, gr:	324.50	59.19	62.67	51.32
Intact(x):	X		Tare Weight, gr:	248.94	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	32.4	36.6	36.0	35.3
@, %:		Wet Density, pcf:		111.8	115.6	116.1	116.7
Notes:		Dry Density, pcf:		84.5	84.6	85.4	86.2
		Saturation %:	S.G. = 2.70 (Assumed)	87.8	99.7	99.7	99.9

Load 2-1 (KSF): 2.113				Load 2-2 (KSF): 2.113				Load 2-3 (KSF): 2.113				Load 2-4 (KSF): 2.113			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0195	2.613	0.010	0.4	0.0044	0.597	0.010	0.4	0.0038	0.517	0.010	0.4	0.0034	0.464
0.020	0.8	0.0278	3.722	0.020	0.8	0.0061	0.824	0.020	0.8	0.0052	0.704	0.020	0.8	0.0048	0.651
0.030	**1.2**	**0.0286**	**3.828**	0.030	1.2	0.0072	0.971	0.030	1.3	0.0061	0.824	0.030	1.2	0.0058	0.784
0.040	1.7	0.0249	3.334	0.040	1.7	0.0080	1.078	0.040	1.7	0.0069	0.931	0.040	1.7	0.0065	0.878
0.050	2.1	0.0211	2.827	0.050	2.1	0.0085	1.145	0.050	2.1	0.0074	0.998	0.050	2.1	0.0069	0.931
0.060	2.5	0.0195	2.613	0.060	2.5	0.0086	1.158	0.061	2.5	0.0078	1.051	0.060	2.5	0.0074	0.998
0.070	2.9	0.0177	2.373	0.070	2.9	0.0087	1.171	0.071	2.9	0.0080	1.078	0.070	2.9	0.0076	1.024
0.080	3.3	0.0158	2.119	0.081	3.3	0.0088	1.185	0.081	3.3	0.0081	1.091	0.081	3.3	0.0078	1.051
0.091	3.7	0.0147	1.972	0.091	3.8	0.0089	1.198	0.091	3.8	0.0081	1.091	0.091	3.8	0.0078	1.051
0.101	4.2	0.0140	1.879	0.101	4.2	0.0089	1.198	0.101	4.2	0.0082	1.105	0.101	4.2	0.0079	1.065
0.121	5.0	0.0130	1.745	0.121	5.0	0.0089	1.198	0.121	5.0	0.0083	1.118	0.121	5.0	0.0081	1.091
0.141	5.8	0.0125	1.679	0.141	5.8	0.0090	1.211	0.141	5.8	0.0083	1.118	0.141	5.8	0.0081	1.091
0.161	6.7	0.0121	1.625	0.161	6.7	0.0090	1.211	0.162	6.7	0.0084	1.131	0.161	6.7	0.0081	1.091
0.181	7.5	0.0118	1.585	0.182	7.5	0.0094	1.265	0.182	7.5	0.0085	1.145	0.182	7.5	0.0082	1.105
0.202	8.3	0.0117	1.572	0.202	8.3	0.0096	1.292	0.202	8.4	0.0086	1.158	0.202	8.3	0.0083	1.118
0.252	10.4	0.0115	1.545	0.252	10.4	0.0097	1.305	0.252	10.4	0.0089	1.198	0.252	10.4	0.0085	1.145
0.303	12.5	0.0111	1.492	0.303	12.5	0.0098	1.318	0.303	12.5	0.0090	1.211	0.303	12.5	0.0087	1.171
0.362	15.0	0.0107	1.438	0.362	15.0	0.0098	1.318	0.362	15.0	0.0090	1.211	0.362	**15.0**	**0.0088**	**1.185**

Max. Shear Stress, ksf: 3.828

Lat. Displmt@Max Stress,%.: 1.2

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive				*Project No.:*	IR17166570.0002	
Boring No.:	BA-6	*Sample No.:*	D-5	*Depth:* 30.5-31 Feet	*Date:*	7/06-7/10/2017	
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay (CH)				*Tested By:*	LT	

				Initial	After Consolidation		
					Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		532.30	---	---	---
Normal Stress, ksf:	1, 2, 4	Weight of Ring, gr:		128.64	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9984	0.9891	0.9799
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-86	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	348.95	80.87	85.21	69.45
Saturated(x):	X		Dry Weight and Tare, gr:	324.50	59.19	62.67	51.32
Intact(x):	X		Tare Weight, gr:	248.94	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	32.4	36.6	36.0	35.3
@, %:		Wet Density, pcf:		111.8	115.6	116.1	116.7
Notes:		Dry Density, pcf:		84.5	84.6	85.4	86.2
		Saturation %:	S.G. = 2.70 (Assumed)	87.8	99.7	99.7	99.9

Load 1-1 (KSF): 1.034				Load 1-2 (KSF): 1.034				Load 1-3 (KSF): 1.034				Load 1-4 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0113	1.518	0.010	0.4	0.0023	0.317	0.010	0.4	0.0017	0.237	0.010	0.4	0.0014	0.197
0.020	0.8	0.0143	1.919	0.020	0.8	0.0033	0.450	0.020	0.8	0.0023	0.317	0.020	0.8	0.0019	0.263
0.030	1.2	0.0159	2.133	0.030	1.2	0.0038	0.517	0.030	1.2	0.0027	0.370	0.030	1.2	0.0024	0.330
0.040	**1.7**	**0.0162**	**2.173**	0.040	1.7	0.0040	0.544	0.040	1.7	0.0032	0.437	0.040	1.7	0.0029	0.397
0.050	2.1	0.0136	1.826	0.050	2.1	0.0041	0.557	0.050	2.1	0.0035	0.477	0.050	2.1	0.0033	0.450
0.060	2.5	0.0122	1.639	0.060	2.5	0.0042	0.571	0.060	2.5	0.0039	0.530	0.060	2.5	0.0037	0.504
0.070	2.9	0.0113	1.518	0.070	2.9	0.0043	0.584	0.070	2.9	0.0040	0.544	0.070	2.9	0.0037	0.504
0.080	3.3	0.0107	1.438	0.080	3.3	0.0043	0.584	0.080	3.3	0.0041	0.557	0.080	3.3	0.0038	0.517
0.091	3.7	0.0102	1.372	0.091	3.7	0.0043	0.584	0.091	3.7	0.0041	0.557	0.091	3.7	0.0038	0.517
0.101	4.2	0.0098	1.318	0.101	4.2	0.0043	0.584	0.101	4.2	0.0041	0.557	0.101	4.2	0.0039	0.530
0.121	5.0	0.0089	1.198	0.121	5.0	0.0044	0.597	0.121	5.0	0.0041	0.557	0.121	5.0	0.0039	0.530
0.141	5.8	0.0087	1.171	0.141	5.8	0.0044	0.597	0.141	5.8	0.0042	0.571	0.141	5.8	0.0040	0.544
0.161	6.7	0.0080	1.078	0.161	6.7	0.0044	0.597	0.161	6.7	0.0042	0.571	0.161	6.7	0.0041	0.557
0.181	7.5	0.0078	1.051	0.181	7.5	0.0044	0.597	0.181	7.5	0.0042	0.571	0.181	7.5	0.0042	0.571
0.202	8.3	0.0072	0.971	0.202	8.3	0.0045	0.611	0.202	8.3	0.0043	0.584	0.202	8.3	0.0043	0.584
0.252	10.4	0.0069	0.931	0.252	10.4	0.0045	0.611	0.252	10.4	0.0043	0.584	0.252	10.4	0.0043	0.584
0.303	12.5	0.0069	0.931	0.303	12.5	0.0045	0.611	0.303	12.5	0.0044	0.597	0.303	12.5	0.0044	0.597
0.362	15.0	0.0068	0.918	0.362	15.0	0.0045	0.611	0.362	15.0	0.0044	0.597	0.362	**15.0**	**0.0044**	**0.597**

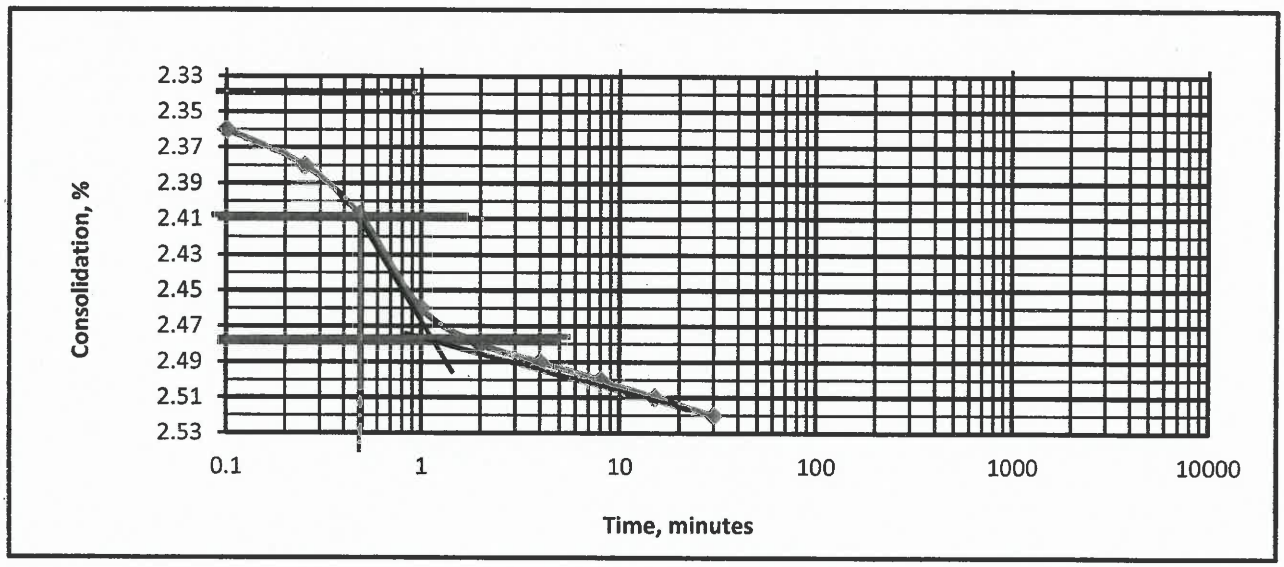
Max. Shear Stress, ksf: 2.173

Lat. Displmt@Max Stress,%.: 1.7

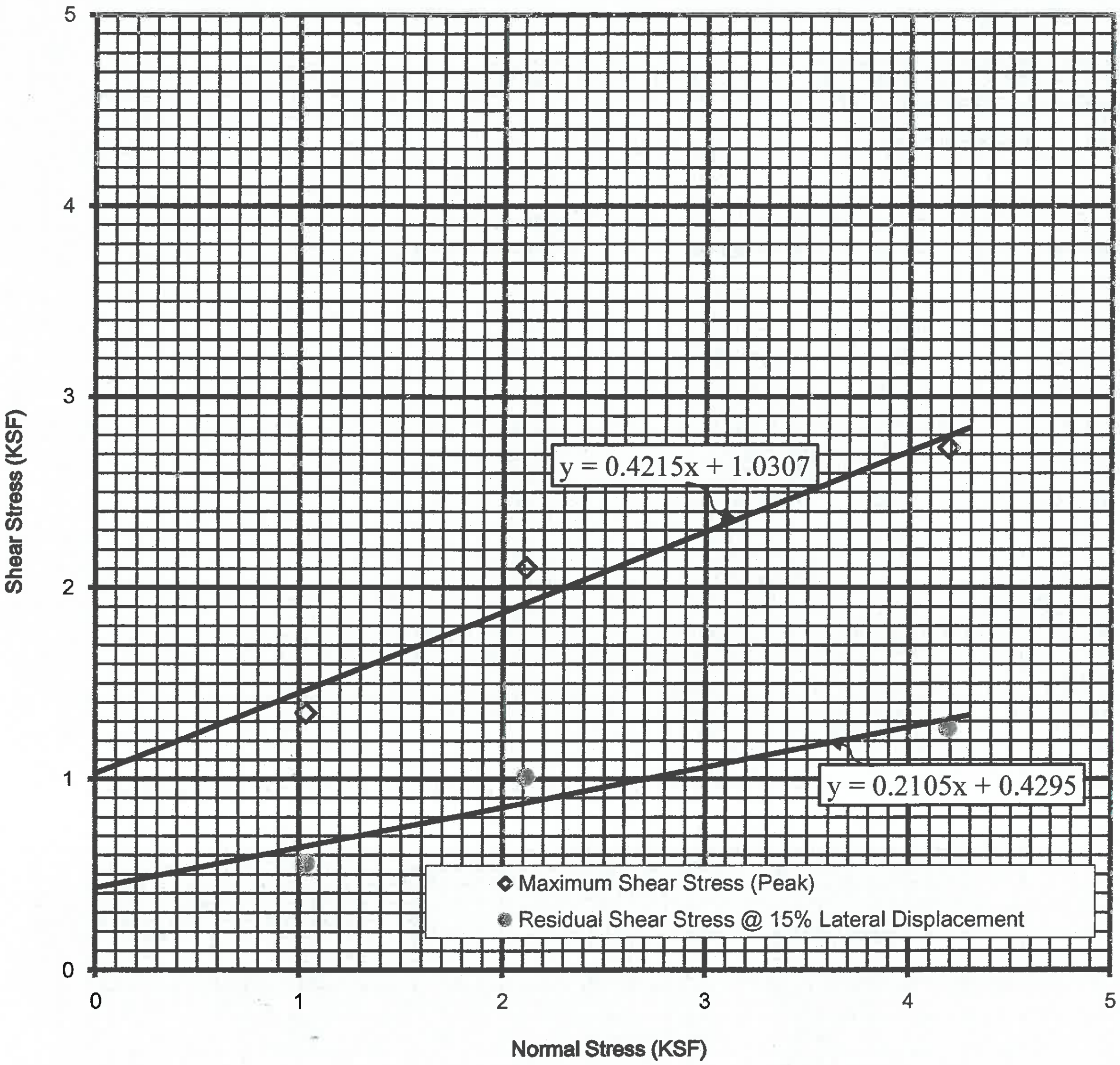
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-5
Sample Depth:	25.5-26 Feet
Normal Load:	2.113 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.20000	0.00
0:00:06	0.1	0.22360	2.36
0:00:15	0.25	0.22380	2.38
0:00:30	0.5	0.22410	2.41
0:01:00	1	0.22460	2.46
0:02:00	2	0.22480	2.48
0:04:00	4	0.22490	2.49
0:08:00	8	0.22500	2.50
0:15:00	15	0.22510	2.51
0:30:00	30	0.22520	2.52
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		

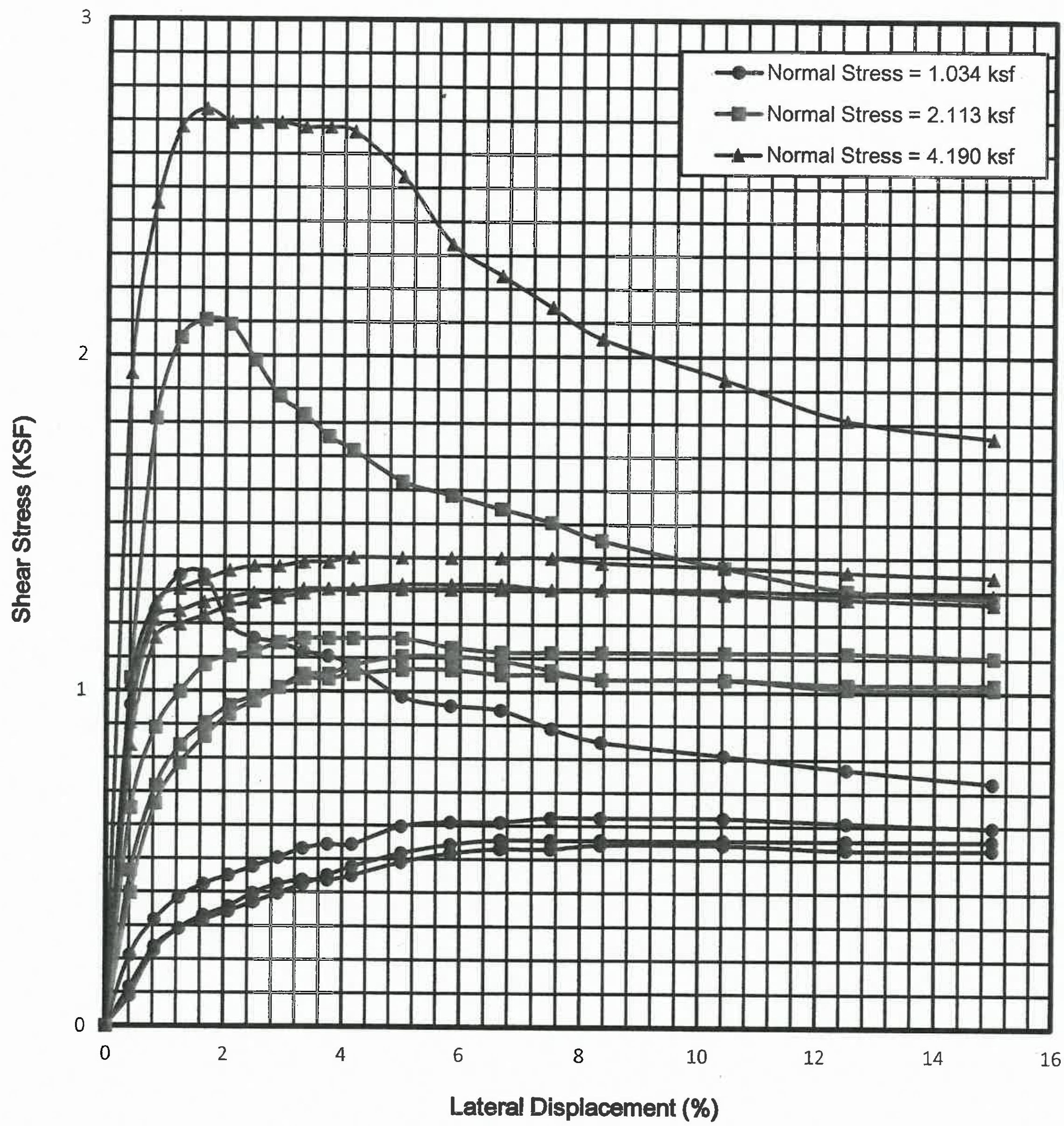


t_{50} (minute) =	0.49	
t_f ($50t_{50}$) =	24.5	
Estimated displacement at failure (in.) (d_f)	0.019328	(0.8% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001	
Estimated displacement at failure (in.) (d_f)	0.0604	(2.5% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002	



Boring No.:	BA-5	In-Place Dry Density (PCF):		81.4
Sample No.:	D-4	In-Place Moisture Content (%):		32.2
Sample Depth :	25.5-26 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	1031	430
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	23	12

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.:	BA-5	Sample No.:	D-4	Depth (ft):	25.5-26 Feet

amec foster wheeler

DIRECT SHEAR TEST

SHEAR STRESS VS. LATERAL DISPLACEMENT

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No. IR17166570

Phase 0002

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-5	*Sample No.:*	D-4	*Depth:*	25.5-26 Feet	*Date:*	7/03-7/07/2017
Soil Description:	Light Olive Brown (2.5Y, 5/3) Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	After Consolidation Load 2	After Consolidation Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		517.40	---	---	---
Normal Stress, ksf:	1, 2, 4	Weight of Ring, gr:		128.93	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9964	0.9748	0.9679
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-68	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	365.38	76.73	81.80	73.55
Saturated(x):	X		Dry Weight and Tare, gr:	336.70	55.12	59.44	53.67
Intact(x):	X		Tare Weight, gr:	247.66	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	32.2	39.2	37.6	37.0
@, %:		Wet Density, pcf:		107.6	113.7	114.9	115.2
Notes:		Dry Density, pcf:		81.4	81.7	83.5	84.1
		Saturation %:	S.G. = 2.70 (Assumed)	81.2	99.5	99.7	99.6

Load 3-1 (KSF): 4.190				Load 3-2 (KSF): 4.190				Load 3-3 (KSF): 4.190				Load 3-4 (KSF): 4.190			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0145	1.946	0.010	0.4	0.0076	1.024	0.010	0.4	0.0067	0.904	0.010	0.4	0.0062	0.838
0.020	0.8	0.0183	2.453	0.020	0.8	0.0094	1.265	0.020	0.8	0.0090	1.211	0.020	0.8	0.0086	1.158
0.030	1.2	0.0200	2.680	0.030	1.2	0.0097	1.305	0.030	1.2	0.0092	1.238	0.030	1.2	0.0089	1.198
0.040	**1.7**	**0.0204**	**2.733**	0.040	1.7	0.0099	1.332	0.040	1.7	0.0094	1.265	0.040	1.7	0.0091	1.225
0.050	2.1	0.0201	2.693	0.050	2.1	0.0101	1.358	0.050	2.1	0.0095	1.278	0.050	2.1	0.0093	1.251
0.060	2.5	0.0201	2.693	0.060	2.5	0.0102	1.372	0.060	2.5	0.0096	1.292	0.060	2.5	0.0094	1.265
0.070	2.9	0.0201	2.693	0.071	2.9	0.0102	1.372	0.070	2.9	0.0096	1.292	0.071	2.9	0.0095	1.278
0.080	3.3	0.0200	2.680	0.081	3.3	0.0103	1.385	0.080	3.3	0.0097	1.305	0.081	3.3	0.0096	1.292
0.091	3.7	0.0200	2.680	0.091	3.8	0.0103	1.385	0.091	3.7	0.0097	1.305	0.091	3.8	0.0097	1.305
0.101	4.2	0.0199	2.667	0.101	4.2	0.0104	1.398	0.101	4.2	0.0097	1.305	0.101	4.2	0.0097	1.305
0.121	5.0	0.0189	2.533	0.121	5.0	0.0104	1.398	0.121	5.0	0.0097	1.305	0.121	5.0	0.0098	1.318
0.141	5.8	0.0174	2.333	0.141	5.8	0.0104	1.398	0.141	5.8	0.0097	1.305	0.141	5.8	0.0098	1.318
0.161	6.7	0.0167	2.239	0.161	6.7	0.0104	1.398	0.161	6.7	0.0097	1.305	0.161	6.7	0.0098	1.318
0.181	7.5	0.0160	2.146	0.182	7.5	0.0104	1.398	0.181	7.5	0.0097	1.305	0.182	7.5	0.0097	1.305
0.202	8.3	0.0153	2.053	0.202	8.4	0.0103	1.385	0.202	8.3	0.0097	1.305	0.202	8.4	0.0097	1.305
0.252	10.4	0.0144	1.932	0.252	10.4	0.0102	1.372	0.252	10.4	0.0097	1.305	0.252	10.4	0.0096	1.292
0.303	12.5	0.0135	1.812	0.303	12.5	0.0101	1.358	0.303	12.5	0.0096	1.292	0.303	12.5	0.0095	1.278
0.362	15.0	0.0131	1.759	0.362	15.0	0.0100	1.345	0.362	15.0	0.0096	1.292	0.362	**15.0**	**0.0094**	**1.265**

Max. Shear Stress, ksf: 2.733

Lat. Displmt@Max Stress,%.: 1.7

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive				*Project No.:*	IR17166570.0002	
Boring No.:	BA-5	*Sample No.:*	D-4	*Depth:*	25.5-26 Feet	*Date:*	7/03-7/07/2017
Soil Description:	Light Olive Brown (2.5Y, 5/3) Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		517.40	---	---	---
Normal Stress, ksf:	1, 2, 4	Weight of Ring, gr:		128.93	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9964	0.9748	0.9679
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-68	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	365.38	76.73	81.80	73.55
Saturated(x):	X		Dry Weight and Tare, gr:	336.70	55.12	59.44	53.67
Intact(x):	X		Tare Weight, gr:	247.66	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	32.2	39.2	37.6	37.0
@, %:		Wet Density, pcf:		107.6	113.7	114.9	115.2
Notes:		Dry Density, pcf:		81.4	81.7	83.5	84.1
		Saturation %:	S.G. = 2.70 (Assumed)	81.2	99.5	99.7	99.6

Load 2-1 (KSF): 2.113				Load 2-2 (KSF): 2.113				Load 2-3 (KSF): 2.113				Load 2-4 (KSF): 2.113			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0077	1.038	0.010	0.4	0.0048	0.651	0.010	0.4	0.0034	0.464	0.010	0.4	0.0029	0.397
0.020	0.8	0.0135	1.812	0.020	0.8	0.0066	0.891	0.020	0.8	0.0053	0.717	0.020	0.8	0.0049	0.664
0.030	1.2	0.0153	2.053	0.030	1.2	0.0074	0.998	0.030	1.3	0.0062	0.838	0.030	1.2	0.0058	0.784
0.040	**1.7**	**0.0157**	**2.106**	0.040	1.7	0.0080	1.078	0.040	1.7	0.0067	0.904	0.040	1.7	0.0064	0.864
0.050	2.1	0.0156	2.093	0.050	2.1	0.0082	1.105	0.050	2.1	0.0071	0.958	0.050	2.1	0.0069	0.931
0.060	2.5	0.0148	1.986	0.060	2.5	0.0083	1.118	0.061	2.5	0.0073	0.984	0.060	2.5	0.0072	0.971
0.070	2.9	0.0140	1.879	0.071	2.9	0.0085	1.145	0.071	2.9	0.0075	1.011	0.071	2.9	0.0075	1.011
0.080	3.3	0.0136	1.826	0.081	3.3	0.0086	1.158	0.081	3.3	0.0077	1.038	0.081	3.3	0.0078	1.051
0.091	3.7	0.0131	1.759	0.091	3.8	0.0086	1.158	0.091	3.8	0.0077	1.038	0.091	3.8	0.0078	1.051
0.101	4.2	0.0128	1.719	0.101	4.2	0.0086	1.158	0.101	4.2	0.0078	1.051	0.101	4.2	0.0080	1.078
0.121	5.0	0.0121	1.625	0.121	5.0	0.0086	1.158	0.121	5.0	0.0079	1.065	0.121	5.0	0.0082	1.105
0.141	5.8	0.0118	1.585	0.141	5.8	0.0084	1.131	0.141	5.8	0.0079	1.065	0.141	5.8	0.0082	1.105
0.161	6.7	0.0115	1.545	0.161	6.7	0.0083	1.118	0.162	6.7	0.0078	1.051	0.161	6.7	0.0081	1.091
0.181	7.5	0.0112	1.505	0.182	7.5	0.0083	1.118	0.182	7.5	0.0078	1.051	0.182	7.5	0.0079	1.065
0.202	8.3	0.0108	1.452	0.202	8.4	0.0083	1.118	0.202	8.4	0.0077	1.038	0.202	8.4	0.0077	1.038
0.252	10.4	0.0102	1.372	0.252	10.4	0.0083	1.118	0.252	10.4	0.0077	1.038	0.252	10.4	0.0077	1.038
0.303	12.5	0.0097	1.305	0.303	12.5	0.0083	1.118	0.303	12.5	0.0076	1.024	0.303	12.5	0.0075	1.011
0.362	15.0	0.0095	1.278	0.362	15.0	0.0082	1.105	0.362	15.0	0.0076	1.024	0.362	**15.0**	**0.0075**	**1.011**

Max. Shear Stress, ksf: 2.106

Lat. Displmt@Max Stress,%.: 1.7

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-5	*Sample No.:*	D-4	*Depth:*	25.5-26 Feet	*Date:*	7/03-7/07/2017
Soil Description:	Light Olive Brown (2.5Y, 5/3) Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		517.40	---	---	---
Normal Stress, ksf:	1, 2, 4	Weight of Ring, gr:		128.93	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9964	0.9748	0.9679
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-68	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	365.38	76.73	81.80	73.55
Saturated(x):	X		Dry Weight and Tare, gr:	336.70	55.12	59.44	53.67
Intact(x):	X		Tare Weight, gr:	247.66	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	32.2	39.2	37.6	37.0
@, %:		Wet Density, pcf:		107.6	113.7	114.9	115.2
Notes:		Dry Density, pcf:		81.4	81.7	83.5	84.1
		Saturation %:	S.G. = 2.70 (Assumed)	81.2	99.5	99.7	99.6

Load 1-1 (KSF): 1.034				Load 1-2 (KSF): 1.034				Load 1-3 (KSF): 1.034				Load 1-4 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0071	0.958	0.010	0.4	0.0015	0.210	0.010	0.4	0.0006	0.090	0.010	0.4	0.0008	0.117
0.020	0.8	0.0092	1.238	0.020	0.8	0.0023	0.317	0.020	0.8	0.0016	0.223	0.020	0.8	0.0017	0.237
0.030	1.2	0.0100	1.345	0.030	1.2	0.0028	0.384	0.030	1.2	0.0021	0.290	0.030	1.2	0.0021	0.290
0.040	**1.7**	**0.0100**	**1.345**	0.040	1.7	0.0031	0.424	0.040	1.7	0.0024	0.330	0.040	1.7	0.0023	0.317
0.050	2.1	0.0089	1.198	0.050	2.1	0.0033	0.450	0.050	2.1	0.0026	0.357	0.050	2.1	0.0025	0.344
0.060	2.5	0.0086	1.158	0.060	2.5	0.0035	0.477	0.060	2.5	0.0029	0.397	0.060	2.5	0.0027	0.370
0.070	2.9	0.0085	1.145	0.070	2.9	0.0037	0.504	0.070	2.9	0.0031	0.424	0.070	2.9	0.0029	0.397
0.080	3.3	0.0083	1.118	0.080	3.3	0.0039	0.530	0.080	3.3	0.0032	0.437	0.080	3.3	0.0031	0.424
0.091	3.7	0.0082	1.105	0.091	3.7	0.0040	0.544	0.091	3.7	0.0032	0.437	0.091	3.7	0.0033	0.450
0.101	4.2	0.0080	1.078	0.101	4.2	0.0040	0.544	0.101	4.2	0.0033	0.450	0.101	4.2	0.0035	0.477
0.121	5.0	0.0073	0.984	0.121	5.0	0.0044	0.597	0.121	5.0	0.0036	0.490	0.121	5.0	0.0038	0.517
0.141	5.8	0.0071	0.958	0.141	5.8	0.0045	0.611	0.141	5.8	0.0038	0.517	0.141	5.8	0.0040	0.544
0.161	6.7	0.0070	0.944	0.161	6.7	0.0045	0.611	0.161	6.7	0.0039	0.530	0.161	6.7	0.0041	0.557
0.181	7.5	0.0066	0.891	0.181	7.5	0.0046	0.624	0.181	7.5	0.0039	0.530	0.181	7.5	0.0041	0.557
0.202	8.3	0.0063	0.851	0.202	8.3	0.0046	0.624	0.202	8.3	0.0040	0.544	0.202	8.3	0.0041	0.557
0.252	10.4	0.0060	0.811	0.252	10.4	0.0046	0.624	0.252	10.4	0.0040	0.544	0.252	10.4	0.0041	0.557
0.303	12.5	0.0057	0.771	0.303	12.5	0.0045	0.611	0.303	12.5	0.0039	0.530	0.303	12.5	0.0041	0.557
0.362	15.0	0.0054	0.731	0.362	15.0	0.0044	0.597	0.362	15.0	0.0039	0.530	0.362	**15.0**	**0.0041**	**0.557**

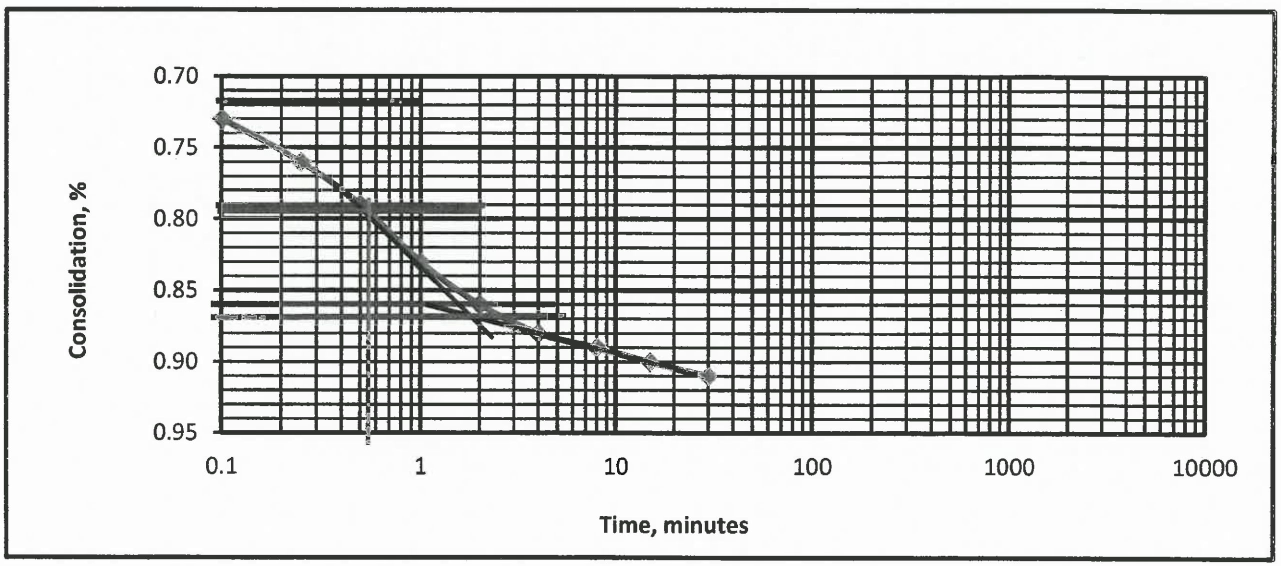
Max. Shear Stress, ksf: 1.345

Lat. Displmt@Max Stress,%.: 1.7

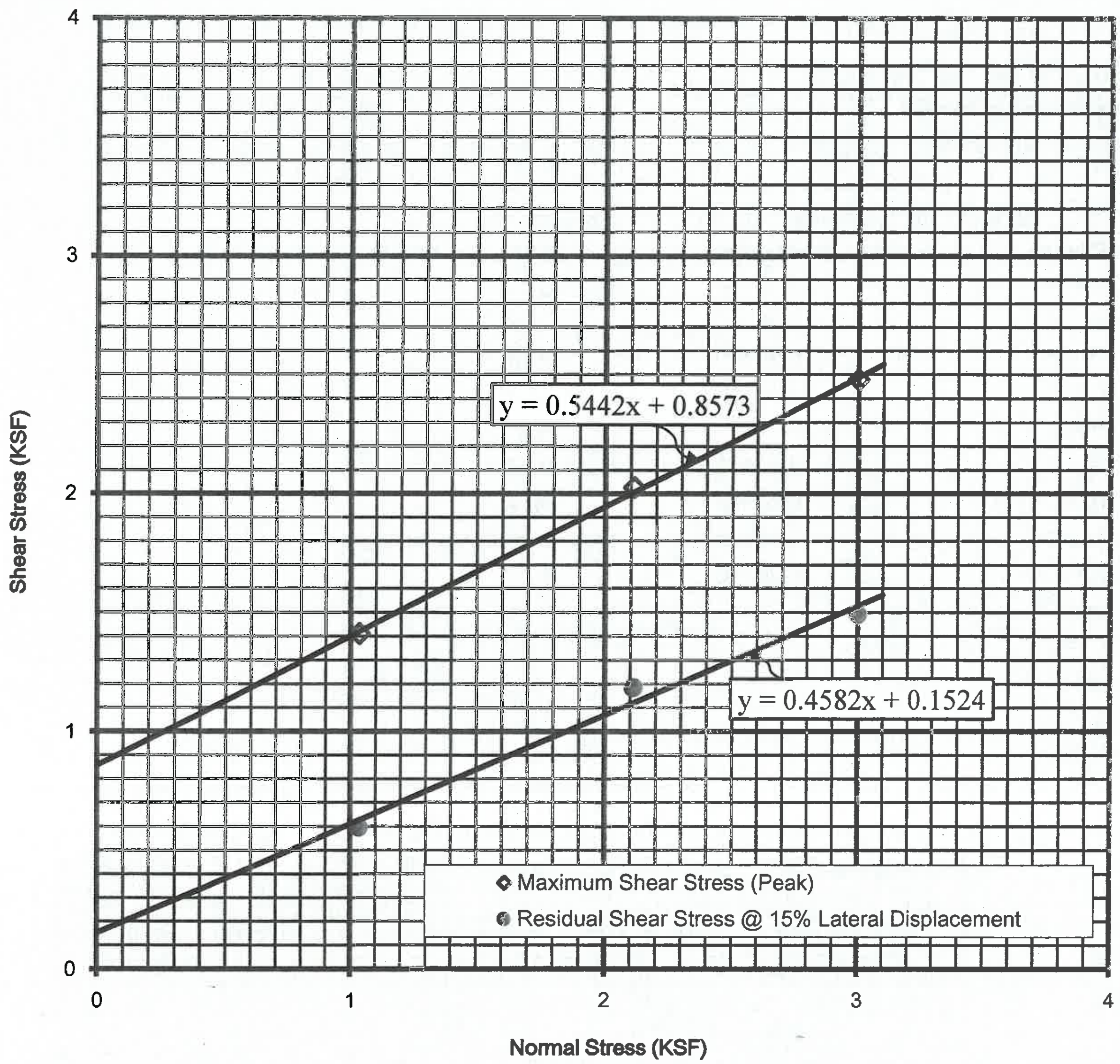
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-4
Sample Depth:	15.5-16 Feet
Normal Load:	2.113 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.20000	0.00
0:00:06	0.1	0.20730	0.73
0:00:15	0.25	0.20760	0.76
0:00:30	0.5	0.20790	0.79
0:01:00	1	0.20830	0.83
0:02:00	2	0.20860	0.86
0:04:00	4	0.20880	0.88
0:08:00	8	0.20890	0.89
0:15:00	15	0.20900	0.90
0:30:00	30	0.20910	0.91
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		



t_{50} (minute) =	0.54	
t_f ($50t_{50}$) =	27	
Estimated displacement at failure (in.) (d_f)	0.019328	(0.8% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001	
Estimated displacement at failure (in.) (d_f)	0.0604	(2.5% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002	



Boring No.:	BA-4	In-Place Dry Density (PCF):		95.4
Sample No.:	D-3	In-Place Moisture Content (%):		15.4
Sample Depth :	15.5-16 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	857	152
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	29	25

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DIRECT SHEAR TEST

SHEAR STRESS VS. NORMAL STRESS

EDLEEN DRIVE

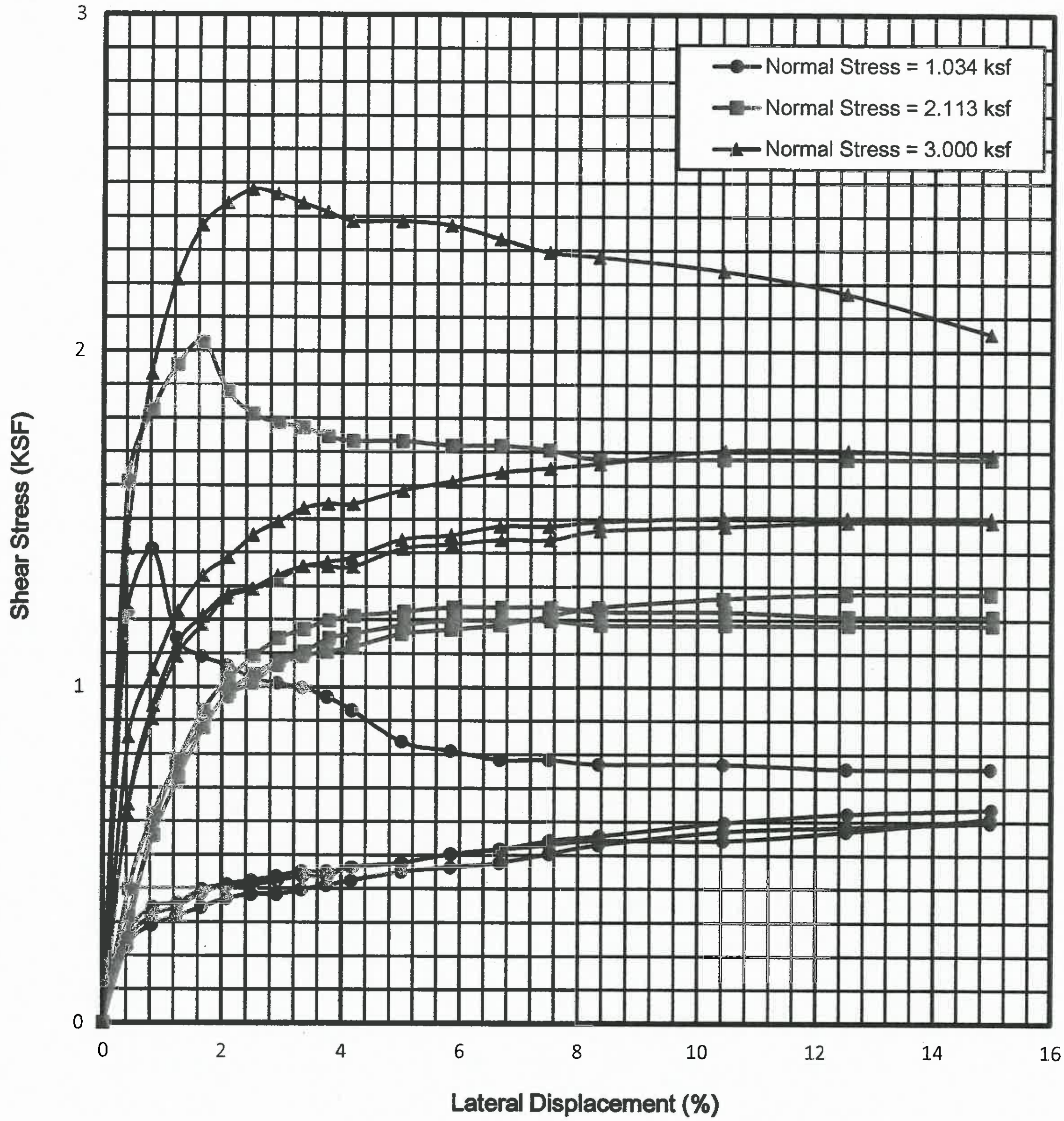
Tarzana, Los Angeles, California

Project No.

IR17166570

Phase

0002



Boring No.:	BA-4	Sample No.:	D-3	Depth (ft):	15.5-16 Feet

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DIRECT SHEAR TEST

SHEAR STRESS VS. LATERAL DISPLACEMENT

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570

Phase
0002

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-4	*Sample No.:*	D-3	*Depth:*	15.5-16 Feet	*Date:*	6/29-7/05/2017
Soil Description:	Grayish Brown (10YR, 5/2) Sandy Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		532.57	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:		135.23	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9987	0.9909	0.9886
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-3	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	339.67	79.59	84.23	80.59
Saturated(x):	X		Dry Weight and Tare, gr:	327.08	62.05	65.92	63.17
Intact(x):	X		Tare Weight, gr:	245.23	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	15.4	28.3	27.8	27.6
@, %:		Wet Density, pcf:		110.1	122.5	123.0	123.1
Notes:		Dry Density, pcf:		95.4	95.5	96.3	96.5
		Saturation %:	S.G. = 2.70 (Assumed)	54.1	99.8	99.9	99.7

Load 3-1 (KSF): 3.000				Load 3-2 (KSF): 3.000				Load 3-3 (KSF): 3.000				Load 3-4 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0105	1.412	0.010	0.4	0.0063	0.851	0.010	0.4	0.0046	0.624	0.010	0.4	0.0048	0.651
0.020	0.8	0.0144	1.932	0.020	0.8	0.0078	1.051	0.020	0.8	0.0067	0.904	0.020	0.8	0.0070	0.944
0.030	1.2	0.0165	2.213	0.031	1.3	0.0091	1.225	0.030	1.2	0.0081	1.091	0.031	1.3	0.0084	1.131
0.040	1.7	0.0177	2.373	0.041	1.7	0.0099	1.332	0.040	1.7	0.0088	1.185	0.041	1.7	0.0090	1.211
0.050	2.1	0.0182	2.440	0.051	2.1	0.0103	1.385	0.050	2.1	0.0094	1.265	0.051	2.1	0.0095	1.278
0.060	**2.5**	**0.0185**	**2.480**	0.061	2.5	0.0108	1.452	0.060	2.5	0.0096	1.292	0.061	2.5	0.0096	1.292
0.070	2.9	0.0184	2.466	0.071	2.9	0.0111	1.492	0.071	2.9	0.0099	1.332	0.071	2.9	0.0098	1.318
0.080	3.3	0.0182	2.440	0.081	3.4	0.0114	1.532	0.081	3.3	0.0101	1.358	0.081	3.4	0.0101	1.358
0.091	3.7	0.0180	2.413	0.091	3.8	0.0115	1.545	0.091	3.8	0.0102	1.372	0.091	3.8	0.0101	1.358
0.101	4.2	0.0178	2.386	0.101	4.2	0.0115	1.545	0.101	4.2	0.0103	1.385	0.101	4.2	0.0101	1.358
0.121	5.0	0.0178	2.386	0.121	5.0	0.0118	1.585	0.121	5.0	0.0107	1.438	0.121	5.0	0.0105	1.412
0.141	5.8	0.0177	2.373	0.142	5.9	0.0120	1.612	0.141	5.8	0.0108	1.452	0.142	5.9	0.0106	1.425
0.161	6.7	0.0174	2.333	0.162	6.7	0.0122	1.639	0.161	6.7	0.0110	1.478	0.162	6.7	0.0107	1.438
0.181	7.5	0.0171	2.293	0.182	7.5	0.0123	1.652	0.182	7.5	0.0110	1.478	0.182	7.5	0.0107	1.438
0.202	8.3	0.0170	2.280	0.202	8.4	0.0124	1.665	0.202	8.4	0.0111	1.492	0.202	8.4	0.0109	1.465
0.252	10.4	0.0167	2.239	0.253	10.5	0.0127	1.705	0.252	10.4	0.0112	1.505	0.253	10.5	0.0110	1.478
0.303	12.5	0.0162	2.173	0.303	12.5	0.0127	1.705	0.303	12.5	0.0112	1.505	0.303	12.5	0.0111	1.492
0.362	15.0	0.0153	2.053	0.362	15.0	0.0126	1.692	0.362	15.0	0.0112	1.505	0.362	**15.0**	**0.0111**	**1.492**

Max. Shear Stress, ksf: 2.480

Lat. Displmt@Max Stress,%.: 2.5

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-4	*Sample No.:*	D-3	*Depth:*	15.5-16 Feet	*Date:*	6/29-7/05/2017
Soil Description:	Grayish Brown (10YR, 5/2) Sandy Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		532.57	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:		135.23	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9987	0.9909	0.9886
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-3	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	339.67	79.59	84.23	80.59
Saturated(x):	X		Dry Weight and Tare, gr:	327.08	62.05	65.92	63.17
Intact(x):	X		Tare Weight, gr:	245.23	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	15.4	28.3	27.8	27.6
@, %:		Wet Density, pcf:		110.1	122.5	123.0	123.1
Notes:		Dry Density, pcf:		95.4	95.5	96.3	96.5
		Saturation %:	S.G. = 2.70 (Assumed)	54.1	99.8	99.9	99.7

Load 2-1 (KSF): 2.113

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0120	1.612
0.020	0.8	0.0136	1.826
0.030	1.2	0.0146	1.959
0.040	**1.7**	**0.0151**	**2.026**
0.050	2.1	0.0140	1.879
0.060	2.5	0.0135	1.812
0.071	2.9	0.0133	1.786
0.081	3.3	0.0132	1.772
0.091	3.8	0.0130	1.745
0.101	4.2	0.0129	1.732
0.121	5.0	0.0129	1.732
0.141	5.8	0.0128	1.719
0.161	6.7	0.0128	1.719
0.182	7.5	0.0127	1.705
0.202	8.4	0.0125	1.679
0.252	10.4	0.0125	1.679
0.303	12.5	0.0125	1.679
0.362	15.0	0.0125	1.679

Load 2-2 (KSF): 2.113

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0018	0.250
0.020	0.8	0.0042	0.571
0.030	1.2	0.0057	0.771
0.040	1.7	0.0065	0.878
0.050	2.1	0.0072	0.971
0.060	2.5	0.0075	1.011
0.070	2.9	0.0079	1.065
0.080	3.3	0.0081	1.091
0.090	3.7	0.0082	1.105
0.101	4.2	0.0083	1.118
0.121	5.0	0.0086	1.158
0.141	5.8	0.0087	1.171
0.161	6.7	0.0088	1.185
0.181	7.5	0.0090	1.211
0.201	8.3	0.0092	1.238
0.252	10.4	0.0094	1.265
0.302	12.5	0.0095	1.278
0.362	15.0	0.0095	1.278

Load 2-3 (KSF): 2.113

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0029	0.397
0.021	0.9	0.0046	0.624
0.031	1.3	0.0058	0.784
0.041	1.7	0.0069	0.931
0.051	2.1	0.0076	1.024
0.061	2.5	0.0081	1.091
0.071	2.9	0.0085	1.145
0.081	3.4	0.0087	1.171
0.091	3.8	0.0089	1.198
0.101	4.2	0.0090	1.211
0.122	5.0	0.0091	1.225
0.142	5.9	0.0092	1.238
0.162	6.7	0.0092	1.238
0.182	7.5	0.0092	1.238
0.202	8.4	0.0091	1.225
0.253	10.5	0.0091	1.225
0.303	12.6	0.0090	1.211
0.362	15.0	0.0090	1.211

Load 2-4 (KSF): 2.113

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0023	0.317
0.021	0.9	0.0041	0.557
0.031	1.3	0.0054	0.731
0.041	1.7	0.0065	0.878
0.051	2.1	0.0073	0.984
0.061	2.5	0.0077	1.038
0.071	2.9	0.0080	1.078
0.081	3.4	0.0082	1.105
0.091	3.8	0.0085	1.145
0.101	4.2	0.0086	1.158
0.122	5.0	0.0088	1.185
0.142	5.9	0.0089	1.198
0.162	6.7	0.0089	1.198
0.182	7.5	0.0089	1.198
0.202	8.4	0.0088	1.185
0.253	10.5	0.0088	1.185
0.303	12.6	0.0088	1.185
0.362	**15.0**	**0.0088**	**1.185**

Max. Shear Stress, ksf: 2.026

Lat. Displmt@Max Stress,%.: 1.7

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-4	*Sample No.:*	D-3	*Depth:*	15.5-16 Feet	*Date:*	6/29-7/05/2017
Soil Description:	Grayish Brown (10YR, 5/2) Sandy Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	After Consolidation Load 2	After Consolidation Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		532.57	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:		135.23	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9987	0.9909	0.9886
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-3	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	339.67	79.59	84.23	80.59
Saturated(x):	X		Dry Weight and Tare, gr:	327.08	62.05	65.92	63.17
Intact(x):	X		Tare Weight, gr:	245.23	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	15.4	28.3	27.8	27.6
@, %:		Wet Density, pcf:		110.1	122.5	123.0	123.1
Notes:		Dry Density, pcf:		95.4	95.5	96.3	96.5
		Saturation %:	S.G. = 2.70 (Assumed)	54.1	99.8	99.9	99.7

Load 1-1 (KSF): 1.034				Load 1-2 (KSF): 1.034				Load 1-3 (KSF): 1.034				Load 1-4 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0091	1.222	0.010	0.4	0.0019	0.263	0.010	0.4	0.0017	0.237	0.010	0.4	0.0016	0.223
0.020	**0.8**	**0.0105**	**1.412**	0.020	0.8	0.0025	0.344	0.020	0.8	0.0023	0.317	0.020	0.8	0.0021	0.290
0.030	1.2	0.0085	1.145	0.030	1.3	0.0026	0.357	0.030	1.2	0.0025	0.344	0.030	1.2	0.0023	0.317
0.040	1.7	0.0081	1.091	0.040	1.7	0.0029	0.397	0.040	1.7	0.0028	0.384	0.040	1.7	0.0025	0.344
0.050	2.1	0.0079	1.065	0.051	2.1	0.0030	0.410	0.050	2.1	0.0030	0.410	0.050	2.1	0.0027	0.370
0.060	2.5	0.0076	1.024	0.061	2.5	0.0030	0.410	0.060	2.5	0.0031	0.424	0.060	2.5	0.0028	0.384
0.070	2.9	0.0075	1.011	0.071	2.9	0.0031	0.424	0.070	2.9	0.0032	0.437	0.070	2.9	0.0028	0.384
0.080	3.3	0.0074	0.998	0.081	3.3	0.0032	0.437	0.080	3.3	0.0033	0.450	0.080	3.3	0.0029	0.397
0.091	3.7	0.0072	0.971	0.091	3.8	0.0032	0.437	0.091	3.7	0.0033	0.450	0.091	3.7	0.0030	0.410
0.101	4.2	0.0069	0.931	0.101	4.2	0.0034	0.464	0.101	4.2	0.0034	0.464	0.101	4.2	0.0031	0.424
0.121	5.0	0.0062	0.838	0.121	5.0	0.0035	0.477	0.121	5.0	0.0035	0.477	0.121	5.0	0.0033	0.450
0.141	5.8	0.0060	0.811	0.141	5.9	0.0037	0.504	0.141	5.8	0.0037	0.504	0.141	5.8	0.0034	0.464
0.161	6.7	0.0058	0.784	0.162	6.7	0.0038	0.517	0.161	6.7	0.0038	0.517	0.161	6.7	0.0035	0.477
0.181	7.5	0.0058	0.784	0.182	7.5	0.0040	0.544	0.181	7.5	0.0039	0.530	0.181	7.5	0.0037	0.504
0.202	8.3	0.0057	0.771	0.202	8.4	0.0041	0.557	0.202	8.3	0.0040	0.544	0.202	8.3	0.0039	0.530
0.252	10.4	0.0057	0.771	0.252	10.4	0.0044	0.597	0.252	10.4	0.0040	0.544	0.252	10.4	0.0042	0.571
0.303	12.5	0.0056	0.757	0.303	12.5	0.0046	0.624	0.303	12.5	0.0042	0.571	0.303	12.5	0.0043	0.584
0.362	15.0	0.0056	0.757	0.362	15.0	0.0047	0.637	0.362	15.0	0.0045	0.611	0.362	**15.0**	**0.0044**	**0.597**

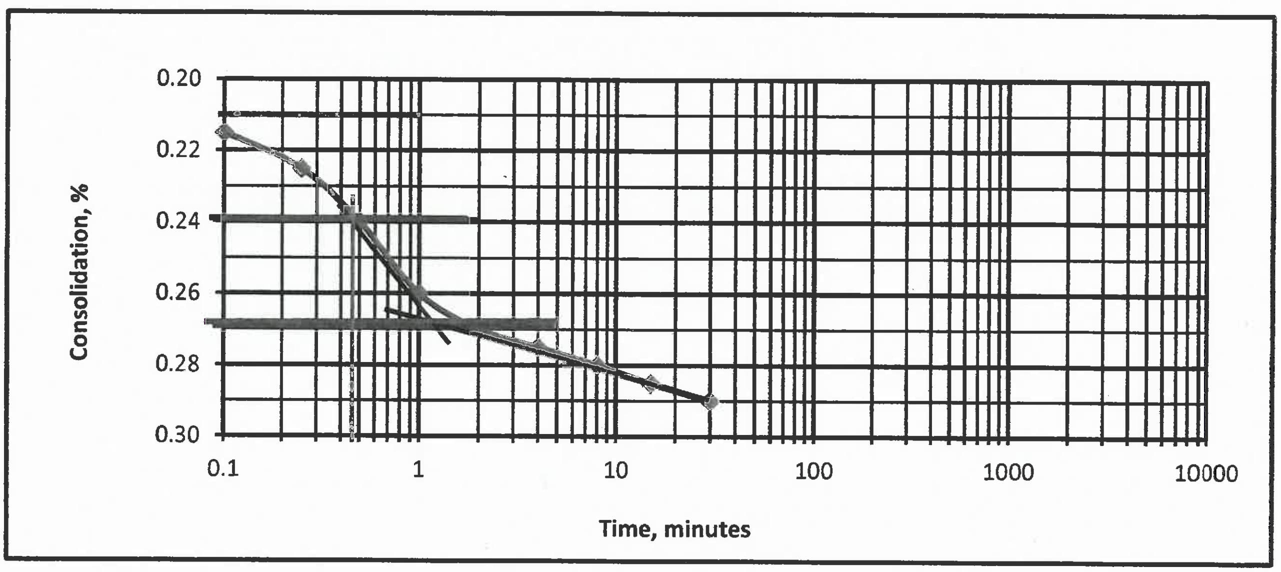
Max. Shear Stress, ksf: 1.412

Lat. Displmt@Max Stress,%.: 0.8

SHEAR RATE CALCULATION WORKSHEET

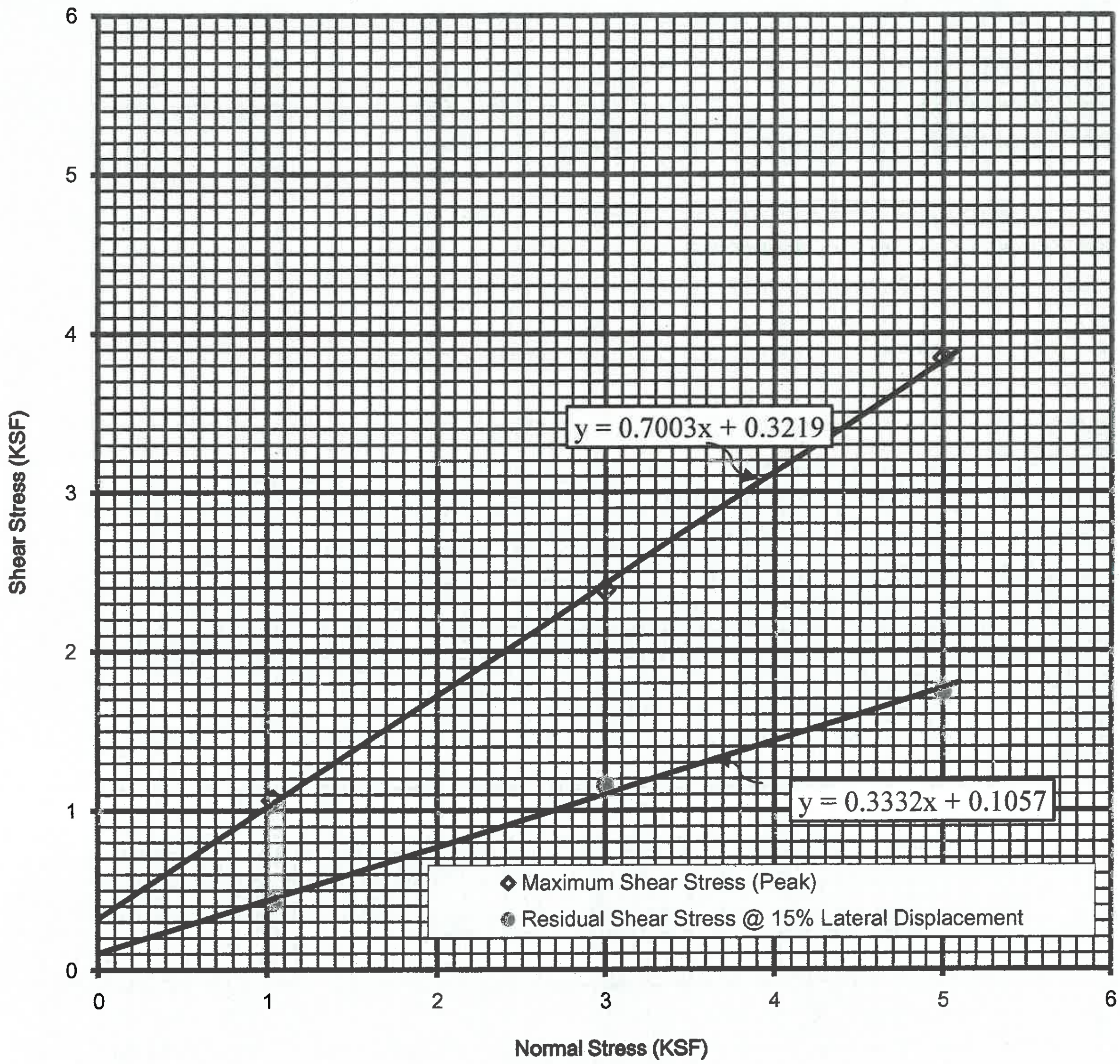
Project Name: Edleen Drive
Project No.: IR17166570.0002
Boring No.: BA-3
Sample Depth: 35.5-36 Feet
Normal Load: 1.034 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.20000	0.00
0:00:06	0.1	0.20215	0.21
0:00:15	0.25	0.20225	0.23
0:00:30	0.5	0.20240	0.24
0:01:00	1	0.20260	0.26
0:02:00	2	0.20270	0.27
0:04:00	4	0.20275	0.27
0:08:00	8	0.20280	0.28
0:15:00	15	0.20285	0.28
0:30:00	30	0.20290	0.29
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		



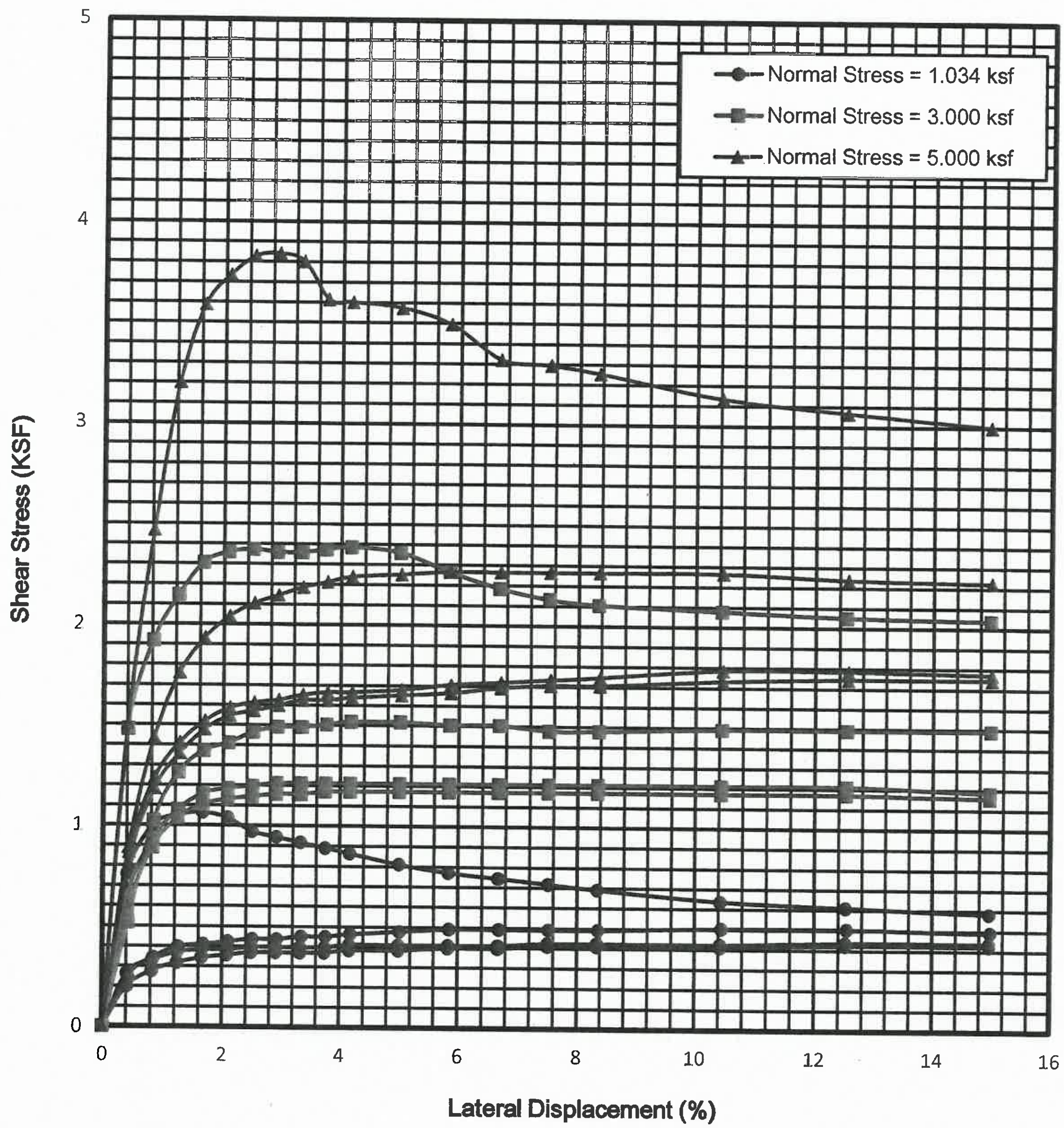
t_{50} (minute) = 0.47
t_f ($50t_{50}$) = 23.5
Estimated displacement at failure (in.) (d_f) 0.041072 (1.7% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f): 0.002

Estimated displacement at failure (in.) (d_f) 0.101472 (4.2% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f): 0.004



Boring No.:	BA-3	In-Place Dry Density (PCF):		78.5
Sample No.:	D-6	In-Place Moisture Content (%):		35.8
Sample Depth :	35.5-36 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	322	106
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	35	18

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.: BA-3	Sample No.: D-6	Depth (ft): 35.5-36 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-3	*Sample No.:*	D-6	*Depth:*	35.5-36 Feet	*Date:*	6/27-6/29/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation		
					Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		517.85	---	---	---
Normal Stress, ksf:	1, 3, 5	Weight of Ring, gr:		132.96	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9971	0.9876	0.9737
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-5	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	330.86	60.79	62.55	55.65
Saturated(x):	X		Dry Weight and Tare, gr:	309.36	42.75	44.23	39.67
Intact(x):	X		Tare Weight, gr:	249.27	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	35.8	42.2	41.4	40.3
@, %:		Wet Density, pcf:		106.6	112.0	112.4	113.1
Notes:		Dry Density, pcf:		78.5	78.7	79.5	80.6
		Saturation %:	S.G. = 2.70 (Assumed)	84.2	99.9	99.8	99.8

Load 3-1 (KSF): 5.000				Load 3-2 (KSF): 5.000				Load 3-3 (KSF): 5.000				Load 3-4 (KSF): 5.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0112	1.505	0.010	0.4	0.0066	0.891	0.010	0.4	0.0064	0.864	0.010	0.4	0.0060	0.811
0.020	0.8	0.0184	2.466	0.020	0.8	0.0107	1.438	0.021	0.9	0.0092	1.238	0.021	0.9	0.0088	1.185
0.030	1.2	0.0239	3.201	0.030	1.3	0.0131	1.759	0.031	1.3	0.0105	1.412	0.031	1.3	0.0101	1.358
0.040	1.7	0.0268	3.588	0.041	1.7	0.0144	1.932	0.041	1.7	0.0113	1.518	0.041	1.7	0.0110	1.478
0.050	2.1	0.0279	3.735	0.051	2.1	0.0152	2.039	0.051	2.1	0.0118	1.585	0.051	2.1	0.0115	1.545
0.060	2.5	0.0286	3.828	0.061	2.5	0.0157	2.106	0.061	2.5	0.0120	1.612	0.061	2.5	0.0117	1.572
0.070	**2.9**	**0.0287**	**3.842**	0.071	2.9	0.0160	2.146	0.071	2.9	0.0121	1.625	0.071	2.9	0.0119	1.599
0.080	3.3	0.0284	3.802	0.081	3.4	0.0163	2.186	0.081	3.4	0.0123	1.652	0.081	3.4	0.0121	1.625
0.091	3.7	0.0270	3.615	0.091	3.8	0.0165	2.213	0.091	3.8	0.0124	1.665	0.091	3.8	0.0121	1.625
0.101	4.2	0.0269	3.601	0.101	4.2	0.0167	2.239	0.101	4.2	0.0124	1.665	0.101	4.2	0.0122	1.639
0.121	5.0	0.0267	3.575	0.121	5.0	0.0168	2.253	0.122	5.0	0.0125	1.679	0.122	5.0	0.0123	1.652
0.141	5.8	0.0261	3.495	0.142	5.9	0.0169	2.266	0.142	5.9	0.0127	1.705	0.142	5.9	0.0124	1.665
0.161	6.7	0.0248	3.321	0.162	6.7	0.0169	2.266	0.162	6.7	0.0128	1.719	0.162	6.7	0.0126	1.692
0.181	7.5	0.0246	3.294	0.182	7.5	0.0169	2.266	0.182	7.5	0.0129	1.732	0.182	7.5	0.0127	1.705
0.202	8.3	0.0243	3.254	0.202	8.4	0.0169	2.266	0.202	8.4	0.0130	1.745	0.202	8.4	0.0127	1.705
0.252	10.4	0.0234	3.134	0.253	10.5	0.0169	2.266	0.253	10.5	0.0133	1.786	0.253	10.5	0.0129	1.732
0.303	12.5	0.0229	3.067	0.303	12.5	0.0167	2.239	0.303	12.6	0.0133	1.786	0.303	12.6	0.0130	1.745
0.362	15.0	0.0224	3.001	0.362	15.0	0.0166	2.226	0.362	15.0	0.0132	1.772	0.362	**15.0**	**0.0130**	**1.745**

Max. Shear Stress, ksf: 3.842

Lat. Displmt@Max Stress,%.: 2.9

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-3	*Sample No.:*	D-6	*Depth:*	35.5-36 Feet	*Date:*	6/27-6/29/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	After Consolidation Load 2	After Consolidation Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		517.85	---	---	---
Normal Stress, ksf:	1, 3, 5	Weight of Ring, gr:		132.96	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9971	0.9876	0.9737
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-5	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	330.86	60.79	62.55	55.65
Saturated(x):	X		Dry Weight and Tare, gr:	309.36	42.75	44.23	39.67
Intact(x):	X		Tare Weight, gr:	249.27	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	35.8	42.2	41.4	40.3
@, %:		Wet Density, pcf:		106.6	112.0	112.4	113.1
Notes:		Dry Density, pcf:		78.5	78.7	79.5	80.6
		Saturation %:	S.G. = 2.70 (Assumed)	84.2	99.9	99.8	99.8

Load 2-1 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0110	1.478
0.020	0.8	0.0143	1.919
0.030	1.2	0.0160	2.146
0.040	1.7	0.0172	2.306
0.050	2.1	0.0176	2.360
0.060	2.5	0.0177	2.373
0.070	2.9	0.0176	2.360
0.080	3.3	0.0176	2.360
0.090	3.7	0.0177	2.373
0.101	**4.2**	**0.0178**	**2.386**
0.121	5.0	0.0176	2.360
0.141	5.8	0.0169	2.266
0.161	6.7	0.0163	2.186
0.181	7.5	0.0159	2.133
0.201	8.3	0.0157	2.106
0.252	10.4	0.0155	2.079
0.302	12.5	0.0153	2.053
0.362	15.0	0.0152	2.039

Load 2-2 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0038	0.517
0.020	0.8	0.0076	1.024
0.030	1.2	0.0094	1.265
0.040	1.7	0.0102	1.372
0.050	2.1	0.0105	1.412
0.060	2.5	0.0109	1.465
0.071	2.9	0.0111	1.492
0.081	3.3	0.0111	1.492
0.091	3.8	0.0112	1.505
0.101	4.2	0.0113	1.518
0.121	5.0	0.0113	1.518
0.141	5.8	0.0112	1.505
0.161	6.7	0.0112	1.505
0.182	7.5	0.0110	1.478
0.202	8.4	0.0110	1.478
0.252	10.4	0.0111	1.492
0.303	12.5	0.0111	1.492
0.362	15.0	0.0111	1.492

Load 2-3 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0048	0.651
0.020	0.8	0.0069	0.931
0.030	1.2	0.0080	1.078
0.040	1.7	0.0086	1.158
0.050	2.1	0.0088	1.185
0.060	2.5	0.0089	1.198
0.070	2.9	0.0090	1.211
0.080	3.3	0.0090	1.211
0.091	3.7	0.0090	1.211
0.101	4.2	0.0090	1.211
0.121	5.0	0.0090	1.211
0.141	5.8	0.0090	1.211
0.161	6.7	0.0090	1.211
0.181	7.5	0.0090	1.211
0.202	8.3	0.0090	1.211
0.252	10.4	0.0090	1.211
0.303	12.5	0.0090	1.211
0.362	15.0	0.0088	1.185

Load 2-4 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0042	0.571
0.020	0.8	0.0066	0.891
0.030	1.2	0.0077	1.038
0.040	1.7	0.0082	1.105
0.050	2.1	0.0084	1.131
0.060	2.5	0.0085	1.145
0.070	2.9	0.0086	1.158
0.080	3.3	0.0086	1.158
0.090	3.7	0.0087	1.171
0.101	4.2	0.0087	1.171
0.121	5.0	0.0087	1.171
0.141	5.8	0.0087	1.171
0.161	6.7	0.0087	1.171
0.181	7.5	0.0087	1.171
0.201	8.3	0.0087	1.171
0.252	10.4	0.0087	1.171
0.302	12.5	0.0087	1.171
0.362	**15.0**	**0.0086**	**1.158**

Max. Shear Stress, ksf:	2.386
Lat. Displmt@Max Stress,%.:	4.2

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-3	*Sample No.:*	D-6	*Depth:*	35.5-36 Feet	*Date:*	6/27-6/29/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	After Consolidation Load 2	After Consolidation Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		517.85	---	---	---
Normal Stress, ksf:	1, 3, 5	Weight of Ring, gr:		132.96	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9971	0.9876	0.9737
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-5	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	330.86	60.79	62.55	55.65
Saturated(x):	X		Dry Weight and Tare, gr:	309.36	42.75	44.23	39.67
Intact(x):	X		Tare Weight, gr:	249.27	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	35.8	42.2	41.4	40.3
@, %:		Wet Density, pcf:		106.6	112.0	112.4	113.1
Notes:		Dry Density, pcf:		78.5	78.7	79.5	80.6
		Saturation %:	S.G. = 2.70 (Assumed)	84.2	99.9	99.8	99.8

Load 1-1 (KSF): 1.034				Load 1-2 (KSF): 1.034				Load 1-3 (KSF): 1.034				Load 1-4 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0056	0.757	0.010	0.4	0.0018	0.250	0.010	0.4	0.0019	0.263	0.010	0.4	0.0014	0.197
0.020	0.8	0.0074	0.998	0.020	0.8	0.0025	0.344	0.020	0.8	0.0024	0.330	0.020	0.8	0.0020	0.277
0.030	1.2	0.0078	1.051	0.030	1.3	0.0029	0.397	0.030	1.2	0.0027	0.370	0.030	1.2	0.0023	0.317
0.040	**1.7**	**0.0079**	**1.065**	0.040	1.7	0.0030	0.410	0.040	1.7	0.0028	0.384	0.040	1.7	0.0025	0.344
0.050	2.1	0.0077	1.038	0.051	2.1	0.0031	0.424	0.050	2.1	0.0028	0.384	0.050	2.1	0.0026	0.357
0.060	2.5	0.0072	0.971	0.061	2.5	0.0032	0.437	0.060	2.5	0.0029	0.397	0.060	2.5	0.0027	0.370
0.070	2.9	0.0070	0.944	0.071	2.9	0.0032	0.437	0.070	2.9	0.0029	0.397	0.070	2.9	0.0027	0.370
0.080	3.3	0.0068	0.918	0.081	3.3	0.0033	0.450	0.080	3.3	0.0029	0.397	0.080	3.3	0.0027	0.370
0.091	3.7	0.0066	0.891	0.091	3.8	0.0033	0.450	0.091	3.7	0.0029	0.397	0.090	3.7	0.0027	0.370
0.101	4.2	0.0064	0.864	0.101	4.2	0.0034	0.464	0.101	4.2	0.0030	0.410	0.101	4.2	0.0028	0.384
0.121	5.0	0.0060	0.811	0.121	5.0	0.0035	0.477	0.121	5.0	0.0030	0.410	0.121	5.0	0.0028	0.384
0.141	5.8	0.0057	0.771	0.141	5.9	0.0036	0.490	0.141	5.8	0.0030	0.410	0.141	5.8	0.0029	0.397
0.161	6.7	0.0055	0.744	0.162	6.7	0.0036	0.490	0.161	6.7	0.0030	0.410	0.161	6.7	0.0029	0.397
0.181	7.5	0.0053	0.717	0.182	7.5	0.0036	0.490	0.181	7.5	0.0031	0.424	0.181	7.5	0.0030	0.410
0.202	8.3	0.0051	0.691	0.202	8.4	0.0036	0.490	0.202	8.3	0.0031	0.424	0.201	8.3	0.0030	0.410
0.252	10.4	0.0047	0.637	0.252	10.4	0.0037	0.504	0.252	10.4	0.0031	0.424	0.252	10.4	0.0030	0.410
0.303	12.5	0.0045	0.611	0.303	12.5	0.0037	0.504	0.303	12.5	0.0032	0.437	0.302	12.5	0.0031	0.424
0.362	15.0	0.0043	0.584	0.362	15.0	0.0036	0.490	0.362	15.0	0.0032	0.437	0.362	**15.0**	**0.0031**	**0.424**

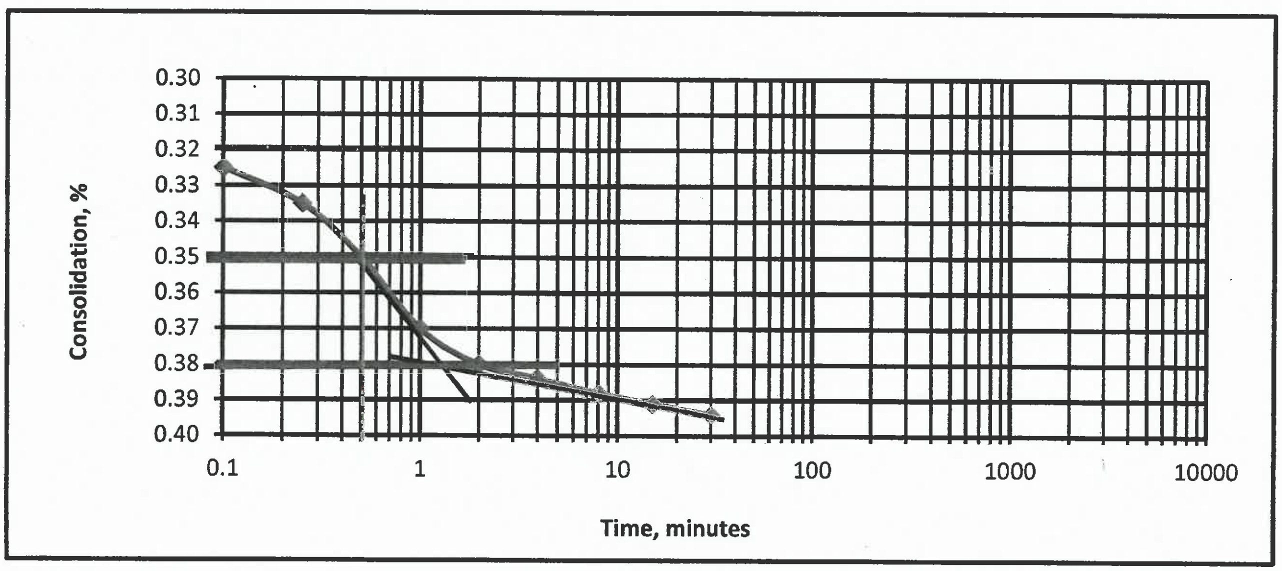
Max. Shear Stress, ksf: 1.065

Lat. Displmt@Max Stress,%.: 1.7

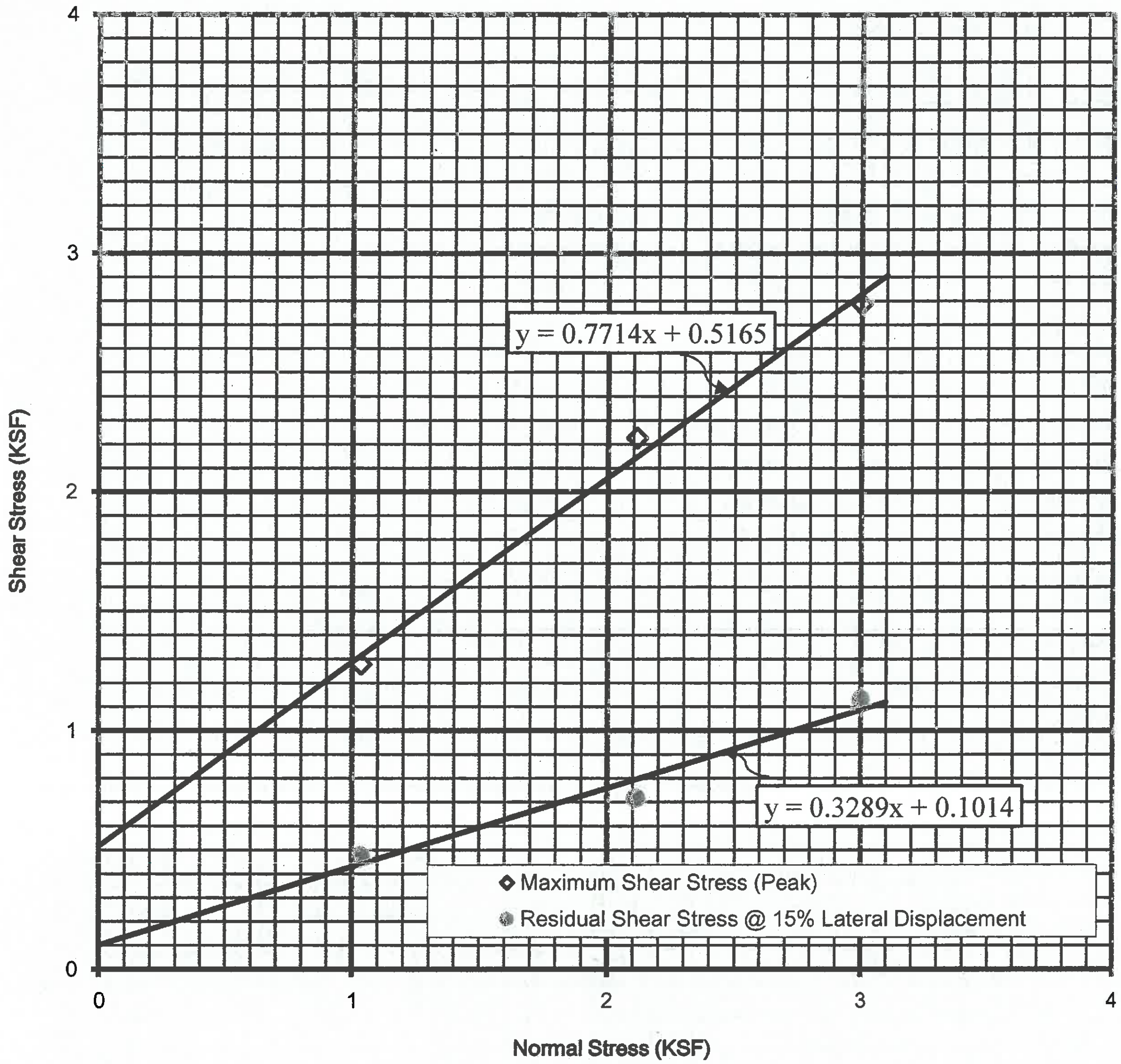
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-2
Sample Depth:	10.5-11 Feet
Normal Load:	2.113 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.20000	0.00
0:00:06	0.1	0.20325	0.32
0:00:15	0.25	0.20335	0.33
0:00:30	0.5	0.20350	0.35
0:01:00	1	0.20370	0.37
0:02:00	2	0.20380	0.38
0:04:00	4	0.20384	0.38
0:08:00	8	0.20388	0.39
0:15:00	15	0.20391	0.39
0:30:00	30	0.20394	0.39
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		

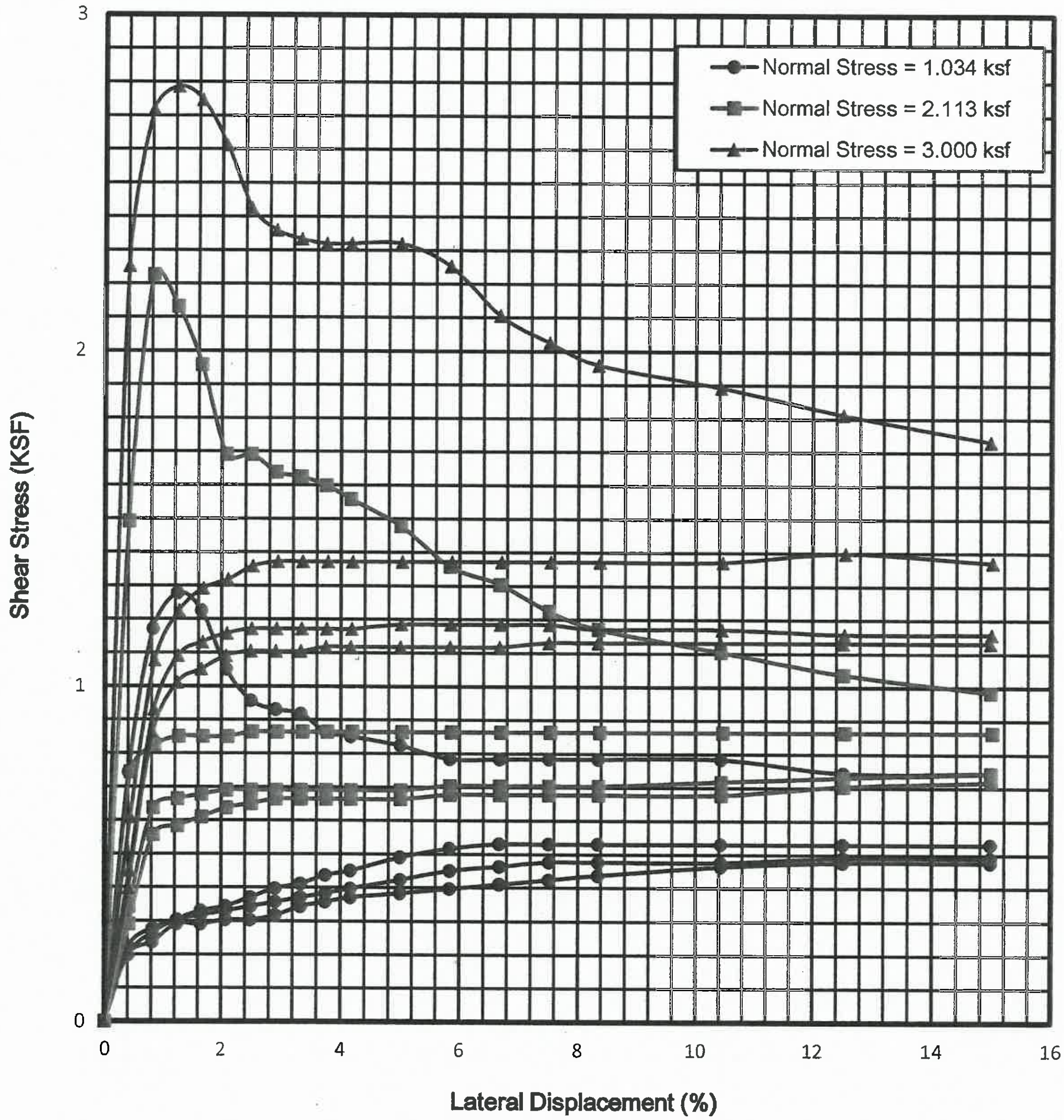


t_{50} (minute) =	0.5
t_f ($50t_{50}$) =	25
Estimated displacement at failure (in.) (d_f)	0.019328 (0.8% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001
Estimated displacement at failure (in.) (d_f)	0.028992 (1.2% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001



Boring No.:	BA-2	In-Place Dry Density (PCF):		80.9
Sample No.:	D-2	In-Place Moisture Content (%):		24.8
Sample Depth :	10.5-11 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	517	101
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	38	18

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.:	BA-2	Sample No.:	D-2	Depth (ft):	10.5-11 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-2	*Sample No.:*	D-2	*Depth:*	10.5-11 Feet	*Date:*	6/20-6/27/2017
Soil Description:	Pale Brown (10YR, 6/3) Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		492.51	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:		127.98	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9979	0.9961	0.9779
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-4	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	318.99	46.85	49.96	43.98
Saturated(x):	X		Dry Weight and Tare, gr:	304.91	33.51	35.76	31.82
Intact(x):	X		Tare Weight, gr:	248.09	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	24.8	39.8	39.7	38.2
@, %:		Wet Density, pcf:		101.0	113.4	113.5	114.4
Notes:		Dry Density, pcf:		80.9	81.1	81.2	82.7
		Saturation %:	S.G. = 2.70 (Assumed)	61.8	99.6	99.7	99.5

Load 3-1 (KSF): 3.000				Load 3-2 (KSF): 3.000				Load 3-3 (KSF): 3.000				Load 3-4 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0168	2.253	0.011	0.4	0.0045	0.611	0.010	0.4	0.0033	0.450	0.010	0.4	0.0029	0.397
0.020	0.8	0.0203	2.720	0.021	0.9	0.0080	1.078	0.020	0.8	0.0069	0.931	0.020	0.8	0.0064	0.864
0.030	**1.2**	**0.0208**	**2.787**	0.031	1.3	0.0091	1.225	0.030	1.3	0.0081	1.091	0.030	1.2	0.0075	1.011
0.040	1.7	0.0205	2.747	0.041	1.7	0.0096	1.292	0.040	1.7	0.0084	1.131	0.040	1.7	0.0078	1.051
0.050	2.1	0.0195	2.613	0.051	2.1	0.0098	1.318	0.051	2.1	0.0086	1.158	0.050	2.1	0.0081	1.091
0.060	2.5	0.0181	2.426	0.061	2.5	0.0101	1.358	0.061	2.5	0.0087	1.171	0.060	2.5	0.0082	1.105
0.070	2.9	0.0176	2.360	0.071	2.9	0.0102	1.372	0.071	2.9	0.0087	1.171	0.070	2.9	0.0082	1.105
0.080	3.3	0.0174	2.333	0.081	3.4	0.0102	1.372	0.081	3.3	0.0087	1.171	0.080	3.3	0.0082	1.105
0.091	3.7	0.0173	2.320	0.091	3.8	0.0102	1.372	0.091	3.8	0.0087	1.171	0.091	3.7	0.0083	1.118
0.101	4.2	0.0173	2.320	0.101	4.2	0.0102	1.372	0.101	4.2	0.0087	1.171	0.101	4.2	0.0083	1.118
0.121	5.0	0.0173	2.320	0.122	5.0	0.0102	1.372	0.121	5.0	0.0088	1.185	0.121	5.0	0.0083	1.118
0.141	5.8	0.0168	2.253	0.142	5.9	0.0102	1.372	0.141	5.9	0.0088	1.185	0.141	5.8	0.0083	1.118
0.161	6.7	0.0157	2.106	0.162	6.7	0.0102	1.372	0.162	6.7	0.0088	1.185	0.161	6.7	0.0083	1.118
0.181	7.5	0.0151	2.026	0.182	7.5	0.0102	1.372	0.182	7.5	0.0088	1.185	0.181	7.5	0.0084	1.131
0.202	8.3	0.0146	1.959	0.202	8.4	0.0102	1.372	0.202	8.4	0.0087	1.171	0.202	8.3	0.0084	1.131
0.252	10.4	0.0141	1.892	0.253	10.5	0.0102	1.372	0.252	10.4	0.0087	1.171	0.252	10.4	0.0084	1.131
0.303	12.5	0.0135	1.812	0.303	12.6	0.0104	1.398	0.303	12.5	0.0086	1.158	0.303	12.5	0.0084	1.131
0.362	15.0	0.0129	1.732	0.363	15.0	0.0102	1.372	0.362	15.0	0.0086	1.158	0.362	**15.0**	**0.0084**	**1.131**

Max. Shear Stress, ksf: 2.787

Lat. Displmt@Max Stress,%.: 1.2

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-2	*Sample No.:*	D-2	*Depth:*	10.5-11 Feet	*Date:*	6/20-6/27/2017
Soil Description:	Pale Brown (10YR, 6/3) Fat Clay (CH)					*Tested By:*	LT

				Initial	After Consolidation		
					Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		492.51	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:		127.98	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9979	0.9961	0.9779
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-4	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	318.99	46.85	49.96	43.98
Saturated(x):	X		Dry Weight and Tare, gr:	304.91	33.51	35.76	31.82
Intact(x):	X		Tare Weight, gr:	248.09	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	24.8	39.8	39.7	38.2
@, %:		Wet Density, pcf:		101.0	113.4	113.5	114.4
Notes:		Dry Density, pcf:		80.9	81.1	81.2	82.7
		Saturation %:	S.G. = 2.70 (Assumed)	61.8	99.6	99.7	99.5

Load 2-1 (KSF): 2.113				Load 2-2 (KSF): 2.113				Load 2-3 (KSF): 2.113				Load 2-4 (KSF): 2.113			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0111	1.492	0.010	0.4	0.0055	0.744	0.010	0.4	0.0025	0.344	0.010	0.4	0.0021	0.290
0.020	**0.8**	**0.0166**	**2.226**	0.020	0.8	0.0061	0.824	0.020	0.8	0.0047	0.637	0.020	0.8	0.0041	0.557
0.030	1.2	0.0159	2.133	0.031	1.3	0.0063	0.851	0.030	1.2	0.0049	0.664	0.030	1.2	0.0043	0.584
0.040	1.7	0.0146	1.959	0.041	1.7	0.0063	0.851	0.040	1.7	0.0050	0.677	0.040	1.7	0.0045	0.611
0.050	2.1	0.0126	1.692	0.051	2.1	0.0063	0.851	0.050	2.1	0.0051	0.691	0.050	2.1	0.0047	0.637
0.060	2.5	0.0126	1.692	0.061	2.5	0.0064	0.864	0.060	2.5	0.0051	0.691	0.060	2.5	0.0048	0.651
0.070	2.9	0.0122	1.639	0.071	2.9	0.0064	0.864	0.070	2.9	0.0051	0.691	0.070	2.9	0.0049	0.664
0.080	3.3	0.0121	1.625	0.081	3.4	0.0064	0.864	0.081	3.3	0.0051	0.691	0.081	3.3	0.0049	0.664
0.091	3.7	0.0119	1.599	0.091	3.8	0.0064	0.864	0.091	3.8	0.0051	0.691	0.091	3.8	0.0049	0.664
0.101	4.2	0.0116	1.559	0.101	4.2	0.0064	0.864	0.101	4.2	0.0051	0.691	0.101	4.2	0.0049	0.664
0.121	5.0	0.0110	1.478	0.121	5.0	0.0064	0.864	0.121	5.0	0.0051	0.691	0.121	5.0	0.0049	0.664
0.141	5.8	0.0101	1.358	0.142	5.9	0.0064	0.864	0.141	5.8	0.0052	0.704	0.141	5.8	0.0050	0.677
0.161	6.7	0.0097	1.305	0.162	6.7	0.0064	0.864	0.161	6.7	0.0052	0.704	0.161	6.7	0.0050	0.677
0.181	7.5	0.0091	1.225	0.182	7.5	0.0064	0.864	0.182	7.5	0.0052	0.704	0.182	7.5	0.0050	0.677
0.202	8.3	0.0087	1.171	0.202	8.4	0.0064	0.864	0.202	8.3	0.0052	0.704	0.202	8.3	0.0050	0.677
0.252	10.4	0.0082	1.105	0.253	10.5	0.0064	0.864	0.252	10.4	0.0053	0.717	0.252	10.4	0.0050	0.677
0.303	12.5	0.0077	1.038	0.303	12.5	0.0064	0.864	0.303	12.5	0.0054	0.731	0.303	12.5	0.0052	0.704
0.362	15.0	0.0073	0.984	0.362	15.0	0.0064	0.864	0.362	15.0	0.0055	0.744	0.362	**15.0**	**0.0053**	**0.717**

Max. Shear Stress, ksf: 2.226

Lat. Displmt@Max Stress,%.: 0.8

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive				*Project No.:*	IR17166570.0002
Boring No.:	BA-2	*Sample No.:* D-2	*Depth:*	10.5-11 Feet	*Date:*	6/20-6/27/2017
Soil Description:	Pale Brown (10YR, 6/3) Fat Clay (CH)				*Tested By:*	LT

			Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:	492.51	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:	127.98	---	---	---
Over-burdened @, pcf:		Height of Sample, in:	3.00	0.9979	0.9961	0.9779
Shear Rate, in/min:	0.001	Moisture- Tare No.:	R-4	---	---	---
Natural Moisture(x):		Wet Weight and Tare, gr:	318.99	46.85	49.96	43.98
Saturated(x):	X	Dry Weight and Tare, gr:	304.91	33.51	35.76	31.82
Intact(x):	X	Tare Weight, gr:	248.09	0.00	0.00	0.00
Remolded to, pcf:		Moisture Content, %:	24.8	39.8	39.7	38.2
@, %:		Wet Density, pcf:	101.0	113.4	113.5	114.4
Notes:		Dry Density, pcf:	80.9	81.1	81.2	82.7
		Saturation %: S.G. = 2.70 (Assumed)	61.8	99.6	99.7	99.5

Load 1-1 (KSF): 1.034

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0055	0.744
0.020	0.8	0.0087	1.171
0.030	**1.2**	**0.0095**	**1.278**
0.040	1.7	0.0091	1.225
0.050	2.1	0.0078	1.051
0.060	2.5	0.0071	0.958
0.070	2.9	0.0069	0.931
0.080	3.3	0.0068	0.918
0.091	3.7	0.0064	0.864
0.101	4.2	0.0063	0.851
0.121	5.0	0.0061	0.824
0.141	5.8	0.0058	0.784
0.161	6.7	0.0058	0.784
0.181	7.5	0.0058	0.784
0.202	8.3	0.0058	0.784
0.252	10.4	0.0058	0.784
0.303	12.5	0.0055	0.744
0.362	15.0	0.0055	0.744

Load 1-2 (KSF): 1.034

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0014	0.197
0.020	0.8	0.0019	0.263
0.030	1.2	0.0022	0.303
0.040	1.7	0.0024	0.330
0.050	2.1	0.0025	0.344
0.060	2.5	0.0027	0.370
0.070	2.9	0.0029	0.397
0.080	3.3	0.0030	0.410
0.090	3.7	0.0032	0.437
0.101	4.2	0.0033	0.450
0.121	5.0	0.0036	0.490
0.141	5.8	0.0038	0.517
0.161	6.7	0.0039	0.530
0.181	7.5	0.0039	0.530
0.201	8.3	0.0039	0.530
0.252	10.4	0.0039	0.530
0.302	12.5	0.0039	0.530
0.362	15.0	0.0039	0.530

Load 1-3 (KSF): 1.034

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0016	0.223
0.020	0.8	0.0020	0.277
0.030	1.2	0.0022	0.303
0.040	1.7	0.0023	0.317
0.050	2.1	0.0024	0.330
0.060	2.5	0.0025	0.344
0.070	2.9	0.0026	0.357
0.080	3.3	0.0027	0.370
0.091	3.7	0.0028	0.384
0.101	4.2	0.0029	0.397
0.121	5.0	0.0031	0.424
0.141	5.8	0.0033	0.450
0.161	6.7	0.0034	0.464
0.181	7.5	0.0035	0.477
0.202	8.3	0.0035	0.477
0.252	10.4	0.0035	0.477
0.303	12.5	0.0036	0.490
0.362	15.0	0.0036	0.490

Load 1-4 (KSF): 1.034

Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0014	0.197
0.020	0.8	0.0017	0.237
0.030	1.2	0.0021	0.290
0.040	1.7	0.0021	0.290
0.050	2.1	0.0022	0.303
0.060	2.5	0.0022	0.303
0.070	2.9	0.0023	0.317
0.080	3.3	0.0025	0.344
0.090	3.7	0.0026	0.357
0.101	4.2	0.0027	0.370
0.121	5.0	0.0028	0.384
0.141	5.8	0.0029	0.397
0.161	6.7	0.0030	0.410
0.181	7.5	0.0031	0.424
0.201	8.3	0.0032	0.437
0.252	10.4	0.0034	0.464
0.302	12.5	0.0035	0.477
0.362	**15.0**	**0.0035**	**0.477**

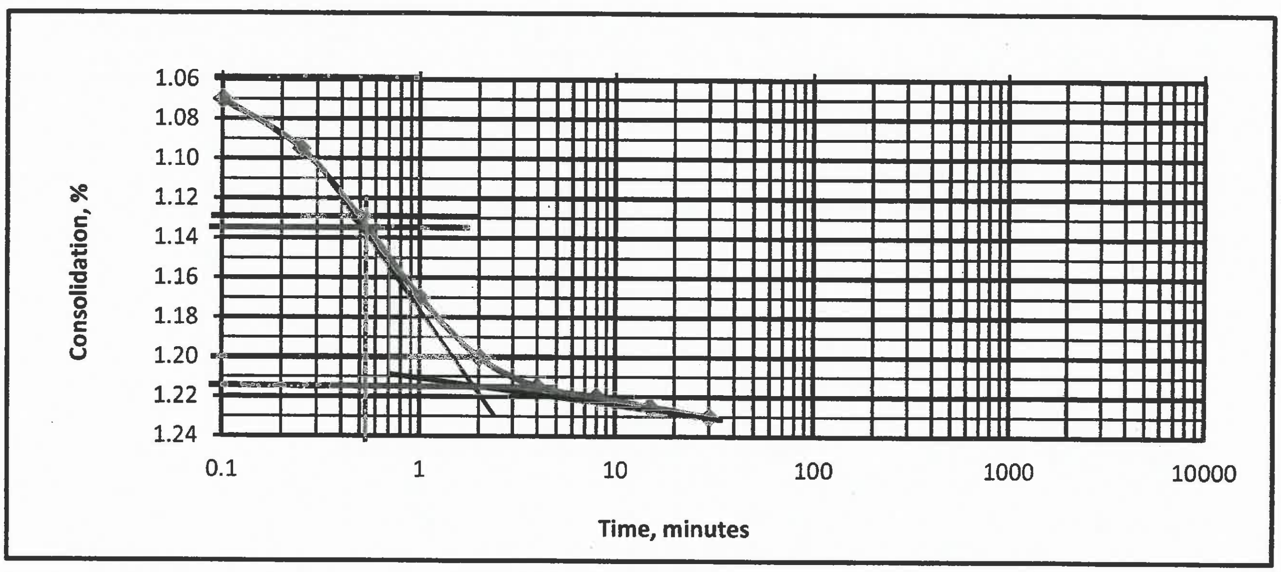
Max. Shear Stress, ksf: 1.278

Lat. Displmt@Max Stress,%.: 1.2

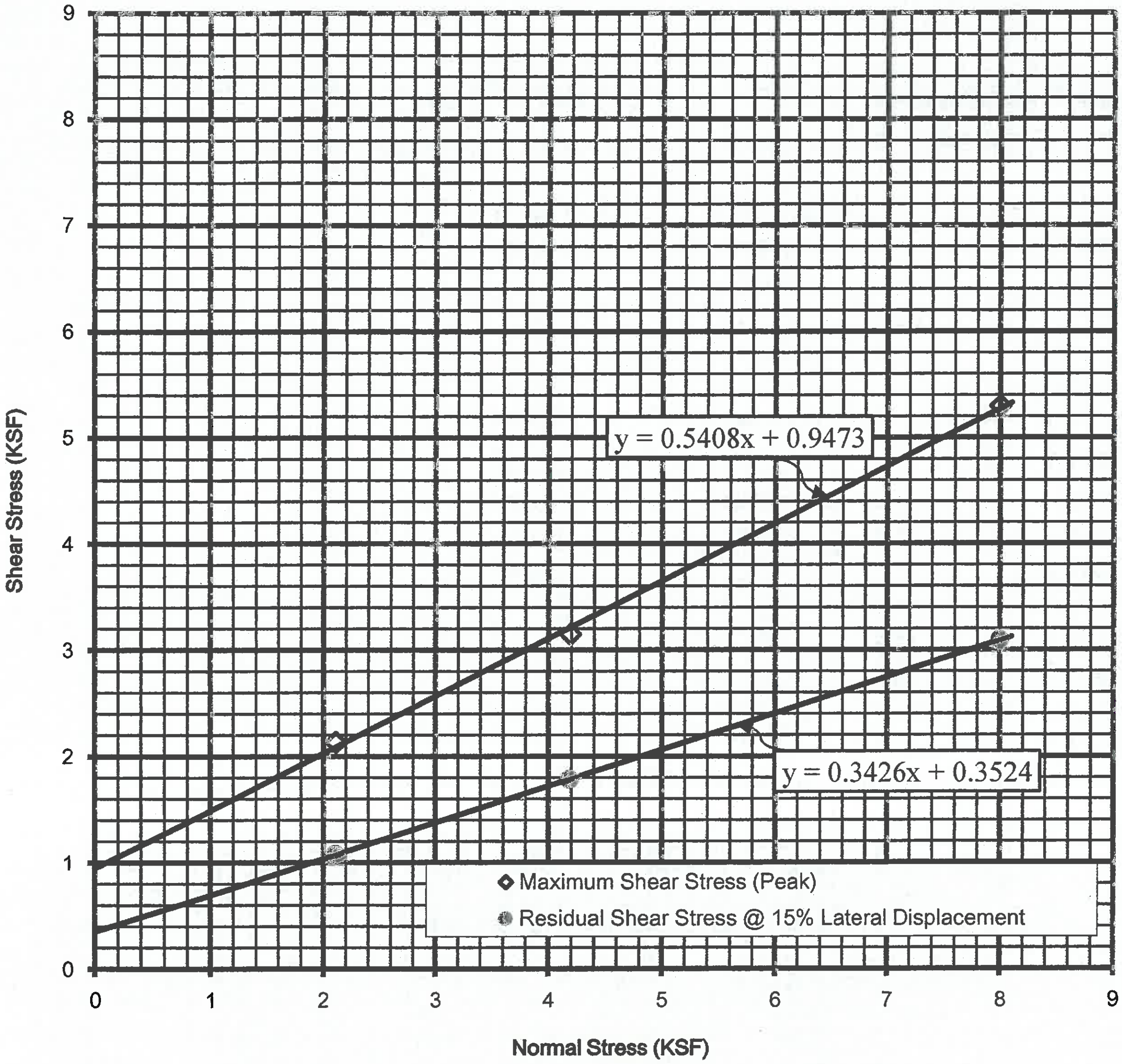
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-1
Sample Depth:	50.5-51 Feet
Normal Load:	2.113 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.2000	0.00
0:00:06	0.1	0.2107	1.07
0:00:15	0.25	0.2110	1.10
0:00:30	0.5	0.2113	1.13
0:01:00	1	0.2117	1.17
0:02:00	2	0.2120	1.20
0:04:00	4	0.2122	1.22
0:08:00	8	0.2122	1.22
0:15:00	15	0.2123	1.23
0:30:00	30	0.2123	1.23
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		



t_{50} (minute) =	0.52	
t_f ($50t_{50}$) =	26	
Estimated displacement at failure (in.) (d_f)	0.028992	(1.2% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001	
Estimated displacement at failure (in.) (d_f)	0.0604	(2.5% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002	



Boring No.:	BA-1	In-Place Dry Density (PCF):		73.2
Sample No.:	D-7	In-Place Moisture Content (%):		44.6
Sample Depth :	50.5-51 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	947	352
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	28	19

amec foster wheeler

DIRECT SHEAR TEST

SHEAR STRESS VS. NORMAL STRESS

EDLEEN DRIVE

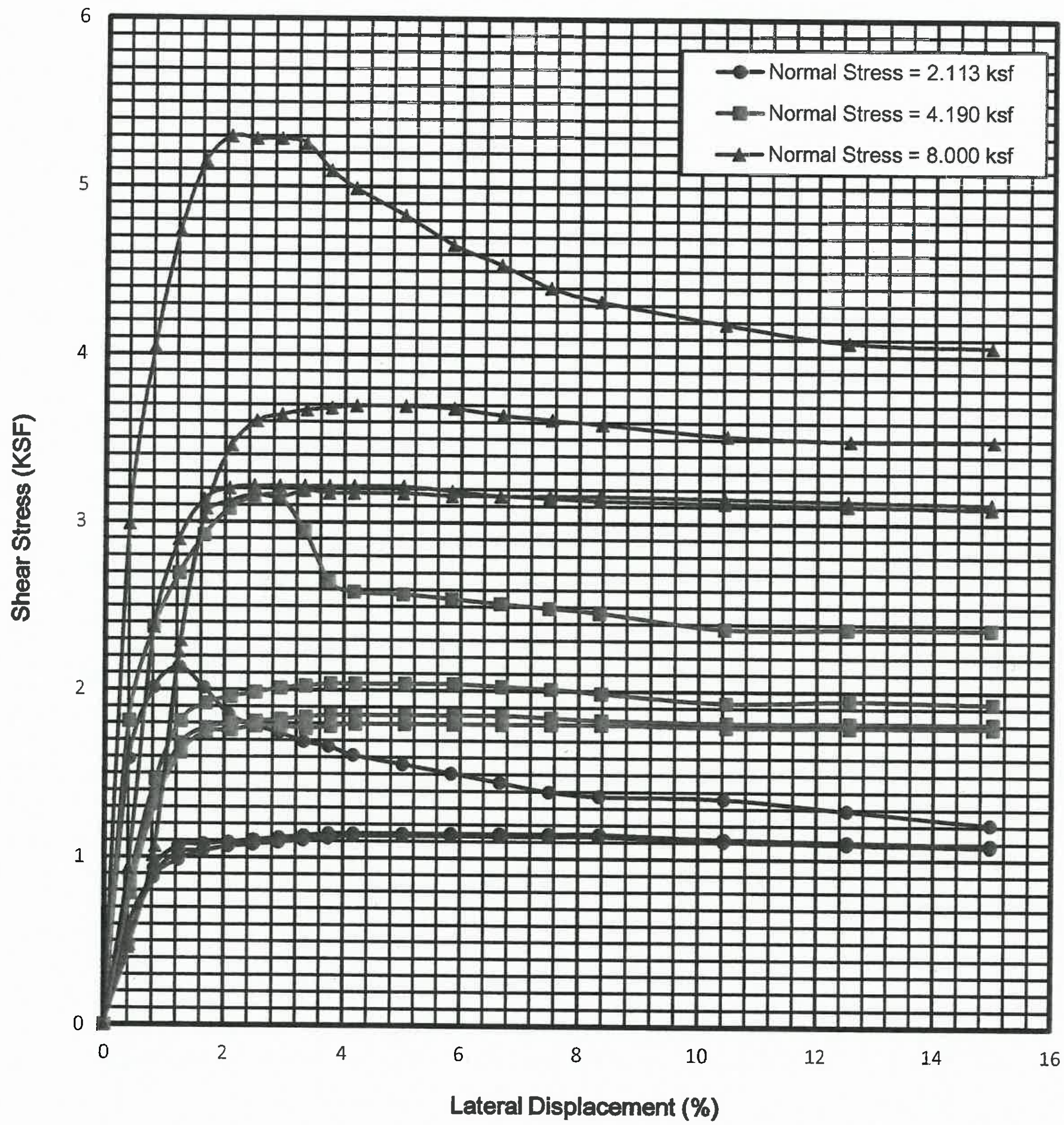
Tarzana, Los Angeles, California

Project No.

IR17166570

Phase

0002



Boring No.:	BA-1	Sample No.:	D-7	Depth (ft):	50.5-51 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570
		Phase 0002

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-1	*Sample No.:*	D-7	*Depth:*	50.5-51 Feet	*Date:*	6/20-6/26/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation		
					Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		512.05	---	---	---
Normal Stress, ksf:	2, 4, 8	Weight of Ring, gr:		129.91	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9877	0.9840	0.9578
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-1	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	333.61	55.56	57.58	50.91
Saturated(x):	X		Dry Weight and Tare, gr:	307.28	37.76	39.23	35.21
Intact(x):	X		Tare Weight, gr:	248.24	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	44.6	47.1	46.8	44.6
@, %:		Wet Density, pcf:		105.9	109.1	109.2	110.5
Notes:		Dry Density, pcf:		73.2	74.1	74.4	76.4
		Saturation %:	S.G. = 2.70 (Assumed)	92.4	99.9	99.8	99.9

Load 3-1 (KSF): 8.000				Load 3-2 (KSF): 8.000				Load 3-3 (KSF): 8.000				Load 3-4 (KSF): 8.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0223	2.987	0.011	0.4	0.0035	0.477	0.010	0.4	0.0069	0.931	0.010	0.4	0.0034	0.464
0.020	0.8	0.0302	4.042	0.021	0.9	0.0079	1.065	0.020	0.8	0.0177	2.373	0.020	0.8	0.0075	1.011
0.030	1.2	0.0354	4.736	0.031	1.3	0.0171	2.293	0.030	1.2	0.0216	2.894	0.030	1.2	0.0166	2.226
0.040	1.7	0.0385	5.150	0.041	1.7	0.0230	3.081	0.040	1.7	0.0234	3.134	0.040	1.7	0.0226	3.027
0.050	**2.1**	**0.0396**	**5.297**	0.051	2.1	0.0258	3.454	0.050	2.1	0.0239	3.201	0.050	2.1	0.0233	3.121
0.060	2.5	0.0395	5.284	0.061	2.5	0.0269	3.601	0.060	2.5	0.0240	3.214	0.060	2.5	0.0236	3.161
0.070	2.9	0.0395	5.284	0.071	2.9	0.0272	3.641	0.070	2.9	0.0240	3.214	0.070	2.9	0.0235	3.147
0.080	3.3	0.0393	5.257	0.081	3.4	0.0274	3.668	0.080	3.3	0.0240	3.214	0.080	3.3	0.0238	3.187
0.091	3.7	0.0381	5.097	0.091	3.8	0.0275	3.681	0.091	3.7	0.0240	3.214	0.091	3.7	0.0237	3.174
0.101	4.2	0.0373	4.990	0.101	4.2	0.0276	3.695	0.101	4.2	0.0240	3.214	0.101	4.2	0.0237	3.174
0.121	5.0	0.0361	4.830	0.122	5.0	0.0276	3.695	0.121	5.0	0.0240	3.214	0.121	5.0	0.0237	3.174
0.141	5.8	0.0348	4.656	0.142	5.9	0.0275	3.681	0.141	5.8	0.0238	3.187	0.141	5.8	0.0236	3.161
0.161	6.7	0.0339	4.536	0.162	6.7	0.0272	3.641	0.161	6.7	0.0236	3.161	0.161	6.7	0.0236	3.161
0.181	7.5	0.0329	4.402	0.182	7.5	0.0270	3.615	0.181	7.5	0.0236	3.161	0.181	7.5	0.0235	3.147
0.202	8.3	0.0323	4.322	0.202	8.4	0.0268	3.588	0.202	8.3	0.0236	3.161	0.202	8.3	0.0234	3.134
0.252	10.4	0.0313	4.189	0.253	10.5	0.0263	3.521	0.252	10.4	0.0235	3.147	0.252	10.4	0.0233	3.121
0.303	12.5	0.0305	4.082	0.303	12.6	0.0261	3.495	0.303	12.5	0.0234	3.134	0.303	12.5	0.0232	3.107
0.362	15.0	0.0303	4.055	0.363	15.0	0.0261	3.495	0.362	15.0	0.0233	3.121	0.362	**15.0**	**0.0231**	**3.094**

Max. Shear Stress, ksf: 5.297

Lat. Displmt@Max Stress,%.: 2.1

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-1	*Sample No.:*	D-7	*Depth:*	50.5-51 Feet	*Date:*	6/20-6/26/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		512.05	---	---	---
Normal Stress, ksf:	2, 4, 8	Weight of Ring, gr:		129.91	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9877	0.9840	0.9578
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-1	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	333.61	55.56	57.58	50.91
Saturated(x):	X		Dry Weight and Tare, gr:	307.28	37.76	39.23	35.21
Intact(x):	X		Tare Weight, gr:	248.24	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	44.6	47.1	46.8	44.6
@, %:		Wet Density, pcf:		105.9	109.1	109.2	110.5
Notes:		Dry Density, pcf:		73.2	74.1	74.4	76.4
		Saturation %:	S.G. = 2.70 (Assumed)	92.4	99.9	99.8	99.9

Load 2-1 (KSF): 4.190				Load 2-2 (KSF): 4.190			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0135	1.812	0.010	0.4	0.0064	0.864
0.020	0.8	0.0177	2.373	0.021	0.9	0.0109	1.465
0.030	1.2	0.0201	2.693	0.031	1.3	0.0135	1.812
0.040	1.7	0.0218	2.920	0.041	1.7	0.0143	1.919
0.050	2.1	0.0230	3.081	0.051	2.1	0.0146	1.959
0.060	**2.5**	**0.0235**	**3.147**	0.061	2.5	0.0148	1.986
0.070	2.9	0.0235	3.147	0.071	2.9	0.0150	2.012
0.080	3.3	0.0220	2.947	0.081	3.4	0.0151	2.026
0.090	3.7	0.0198	2.653	0.091	3.8	0.0152	2.039
0.101	4.2	0.0193	2.587	0.101	4.2	0.0152	2.039
0.121	5.0	0.0192	2.573	0.122	5.0	0.0152	2.039
0.141	5.8	0.0190	2.547	0.142	5.9	0.0152	2.039
0.161	6.7	0.0188	2.520	0.162	6.7	0.0151	2.026
0.181	7.5	0.0186	2.493	0.182	7.5	0.0150	2.012
0.201	8.3	0.0184	2.466	0.202	8.4	0.0148	1.986
0.252	10.4	0.0177	2.373	0.253	10.5	0.0144	1.932
0.302	12.5	0.0177	2.373	0.303	12.6	0.0145	1.946
0.362	15.0	0.0177	2.373	0.362	15.0	0.0144	1.932

Load 2-3 (KSF): 4.190				Load 2-4 (KSF): 4.190			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.011	0.4	0.0061	0.824	0.011	0.4	0.0058	0.784
0.021	0.9	0.0102	1.372	0.021	0.9	0.0098	1.318
0.031	1.3	0.0125	1.679	0.031	1.3	0.0121	1.625
0.041	1.7	0.0132	1.772	0.041	1.7	0.0130	1.745
0.051	2.1	0.0134	1.799	0.051	2.1	0.0131	1.759
0.061	2.5	0.0135	1.812	0.061	2.5	0.0133	1.786
0.071	2.9	0.0136	1.826	0.071	2.9	0.0133	1.786
0.081	3.4	0.0137	1.839	0.081	3.4	0.0132	1.772
0.091	3.8	0.0138	1.852	0.091	3.8	0.0133	1.786
0.101	4.2	0.0138	1.852	0.101	4.2	0.0134	1.799
0.122	5.0	0.0138	1.852	0.122	5.0	0.0134	1.799
0.142	5.9	0.0138	1.852	0.142	5.9	0.0134	1.799
0.162	6.7	0.0138	1.852	0.162	6.7	0.0134	1.799
0.182	7.5	0.0137	1.839	0.182	7.5	0.0134	1.799
0.202	8.4	0.0136	1.826	0.202	8.4	0.0134	1.799
0.253	10.5	0.0135	1.812	0.253	10.5	0.0133	1.786
0.303	12.6	0.0135	1.812	0.303	12.6	0.0133	1.786
0.363	15.0	0.0135	1.812	0.363	**15.0**	**0.0133**	**1.786**

Max. Shear Stress, ksf: 3.147

Lat. Displmt@Max Stress,%.: 2.5

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive	*Project No.:*	IR17166570.0002
Boring No.:	BA-1	*Sample No.:* D-7	*Depth:* 50.5-51 Feet
Date:	6/20-6/26/2017		
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)	*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		512.05	---	---	---
Normal Stress, ksf:	2, 4, 8	Weight of Ring, gr:		129.91	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9877	0.9840	0.9578
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-1	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	333.61	55.56	57.58	50.91
Saturated(x):	X		Dry Weight and Tare, gr:	307.28	37.76	39.23	35.21
Intact(x):	X		Tare Weight, gr:	248.24	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	44.6	47.1	46.8	44.6
@, %:		Wet Density, pcf:		105.9	109.1	109.2	110.5
Notes:		Dry Density, pcf:		73.2	74.1	74.4	76.4
		Saturation %:	S.G. = 2.70 (Assumed)	92.4	99.9	99.8	99.9

Load 1-1 (KSF): 2.113				Load 1-2 (KSF): 2.113				Load 1-3 (KSF): 2.113				Load 1-4 (KSF): 2.113			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0118	1.585	0.010	0.4	0.0043	0.584	0.010	0.4	0.0036	0.490	0.010	0.4	0.0034	0.461
0.020	0.8	0.0150	2.012	0.020	0.8	0.0065	0.878	0.020	0.8	0.0069	0.931	0.020	0.8	0.0065	0.878
0.030	**1.2**	**0.0159**	**2.133**	0.030	1.2	0.0073	0.984	0.030	1.2	0.0079	1.065	0.030	1.2	0.0076	1.024
0.040	1.7	0.0150	2.012	0.040	1.7	0.0077	1.038	0.040	1.7	0.0080	1.078	0.040	1.7	0.0077	1.038
0.050	2.1	0.0138	1.852	0.050	2.1	0.0079	1.065	0.050	2.1	0.0081	1.091	0.050	2.1	0.0079	1.065
0.060	2.5	0.0133	1.786	0.060	2.5	0.0081	1.091	0.060	2.5	0.0082	1.105	0.060	2.5	0.0080	1.078
0.070	2.9	0.0130	1.745	0.070	2.9	0.0082	1.105	0.071	2.9	0.0083	1.118	0.070	2.9	0.0081	1.091
0.080	3.3	0.0126	1.692	0.080	3.3	0.0083	1.118	0.081	3.3	0.0084	1.131	0.080	3.3	0.0082	1.105
0.091	3.7	0.0124	1.665	0.091	3.7	0.0083	1.118	0.091	3.8	0.0085	1.145	0.091	3.7	0.0083	1.118
0.101	4.2	0.0120	1.612	0.101	4.2	0.0084	1.131	0.101	4.2	0.0085	1.145	0.101	4.2	0.0084	1.131
0.121	5.0	0.0116	1.559	0.121	5.0	0.0084	1.131	0.121	5.0	0.0085	1.145	0.121	5.0	0.0084	1.131
0.141	5.8	0.0112	1.505	0.141	5.8	0.0085	1.145	0.141	5.8	0.0085	1.145	0.141	5.8	0.0084	1.131
0.161	6.7	0.0108	1.452	0.161	6.7	0.0085	1.145	0.161	6.7	0.0085	1.145	0.161	6.7	0.0084	1.131
0.181	7.5	0.0104	1.398	0.181	7.5	0.0085	1.145	0.182	7.5	0.0085	1.145	0.181	7.5	0.0084	1.131
0.202	8.3	0.0102	1.372	0.202	8.3	0.0084	1.131	0.202	8.4	0.0085	1.145	0.202	8.3	0.0084	1.131
0.252	10.4	0.0101	1.358	0.252	10.4	0.0083	1.118	0.252	10.4	0.0083	1.118	0.252	10.4	0.0082	1.105
0.303	12.5	0.0096	1.292	0.303	12.5	0.0082	1.105	0.303	12.5	0.0082	1.105	0.303	12.5	0.0081	1.091
0.362	15.0	0.0090	1.211	0.362	15.0	0.0081	1.091	0.362	15.0	0.0081	1.091	0.362	**15.0**	**0.0080**	**1.078**

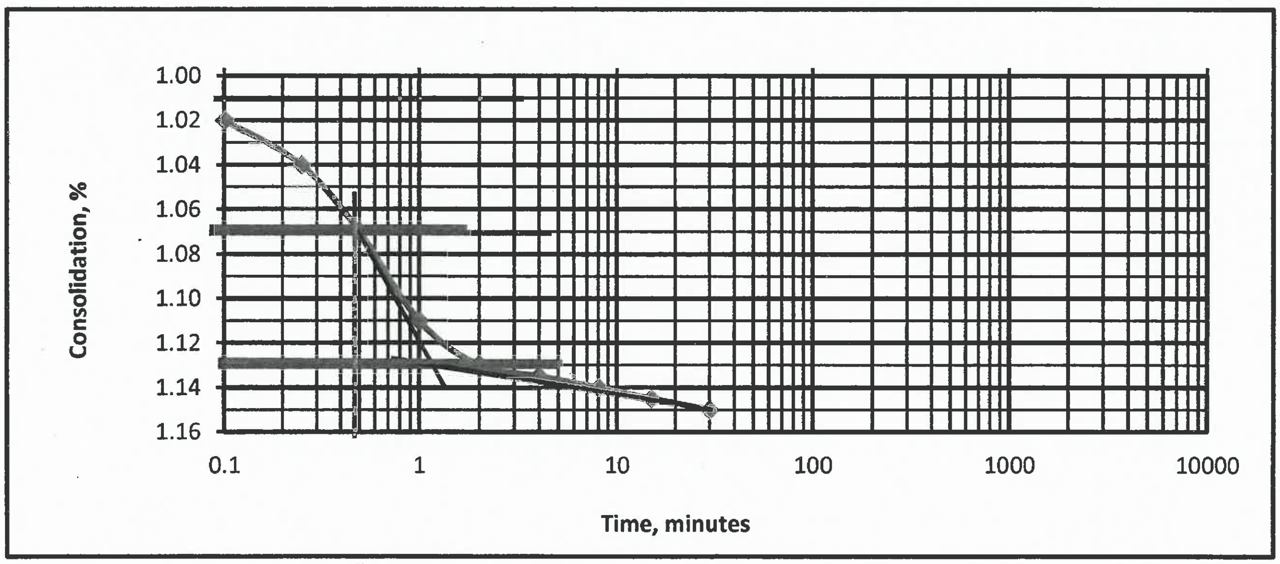
Max. Shear Stress, ksf: 2.133

Lat. Displmt@Max Stress,%.: 1.2

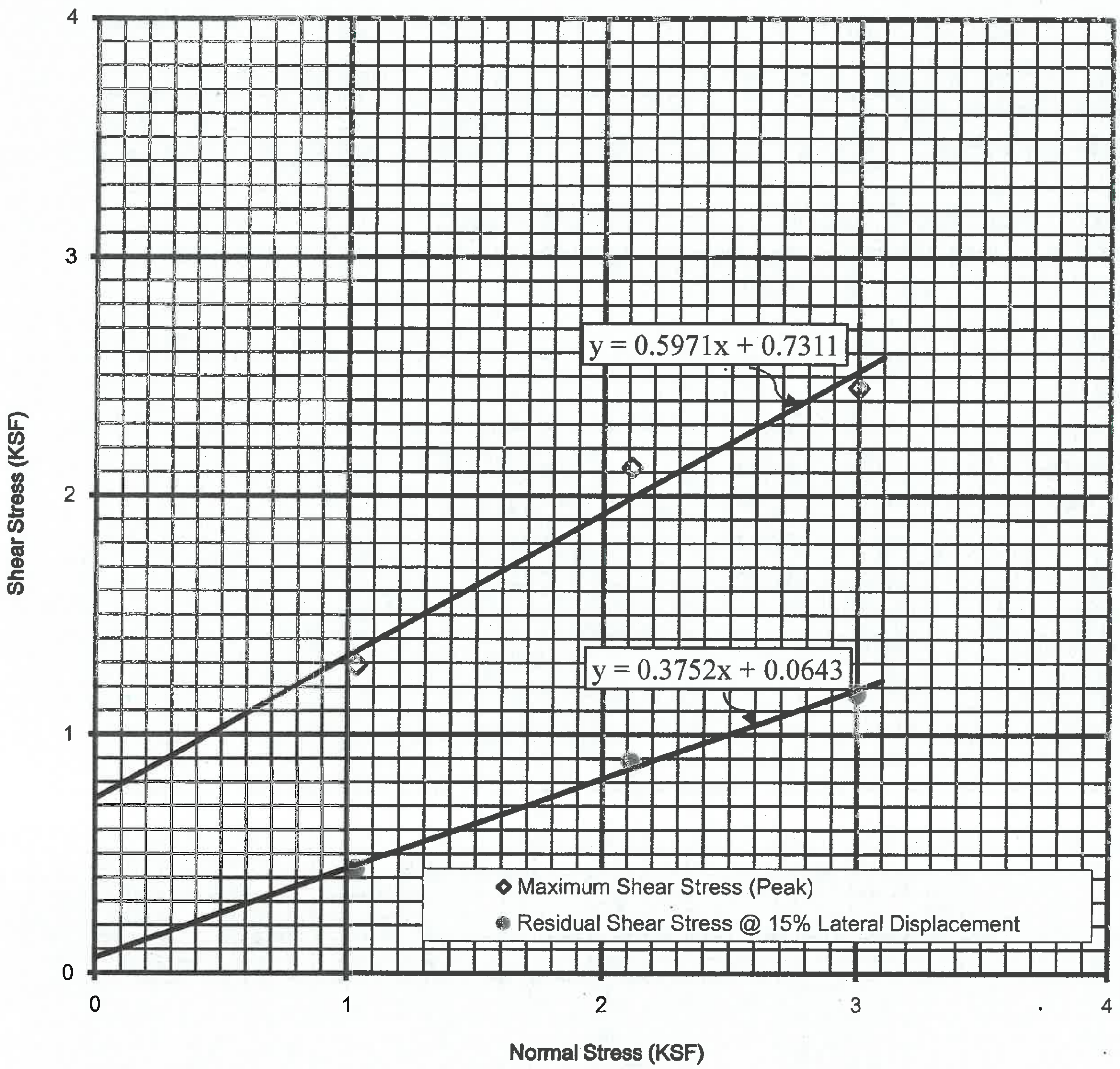
SHEAR RATE CALCULATION WORKSHEET

Project Name:	Edleen Drive
Project No.:	IR17166570.0002
Boring No.:	BA-1
Sample Depth:	20.5-21 Feet
Normal Load:	2.113 KSF

Time (hr:m:s)	Time (minute)	Dial Reading (in)	Consolidation (%)
0:00:00	0	0.2000	0.00
0:00:06	0.1	0.2102	1.02
0:00:15	0.25	0.2104	1.04
0:00:30	0.5	0.2107	1.07
0:01:00	1	0.2111	1.11
0:02:00	2	0.2113	1.13
0:04:00	4	0.2114	1.14
0:08:00	8	0.2114	1.14
0:15:00	15	0.2115	1.15
0:30:00	30	0.2115	1.15
1:00:00	60		
2:00:00	120		
4:00:00	240		
8:00:00	480		
24:00:00	1440		

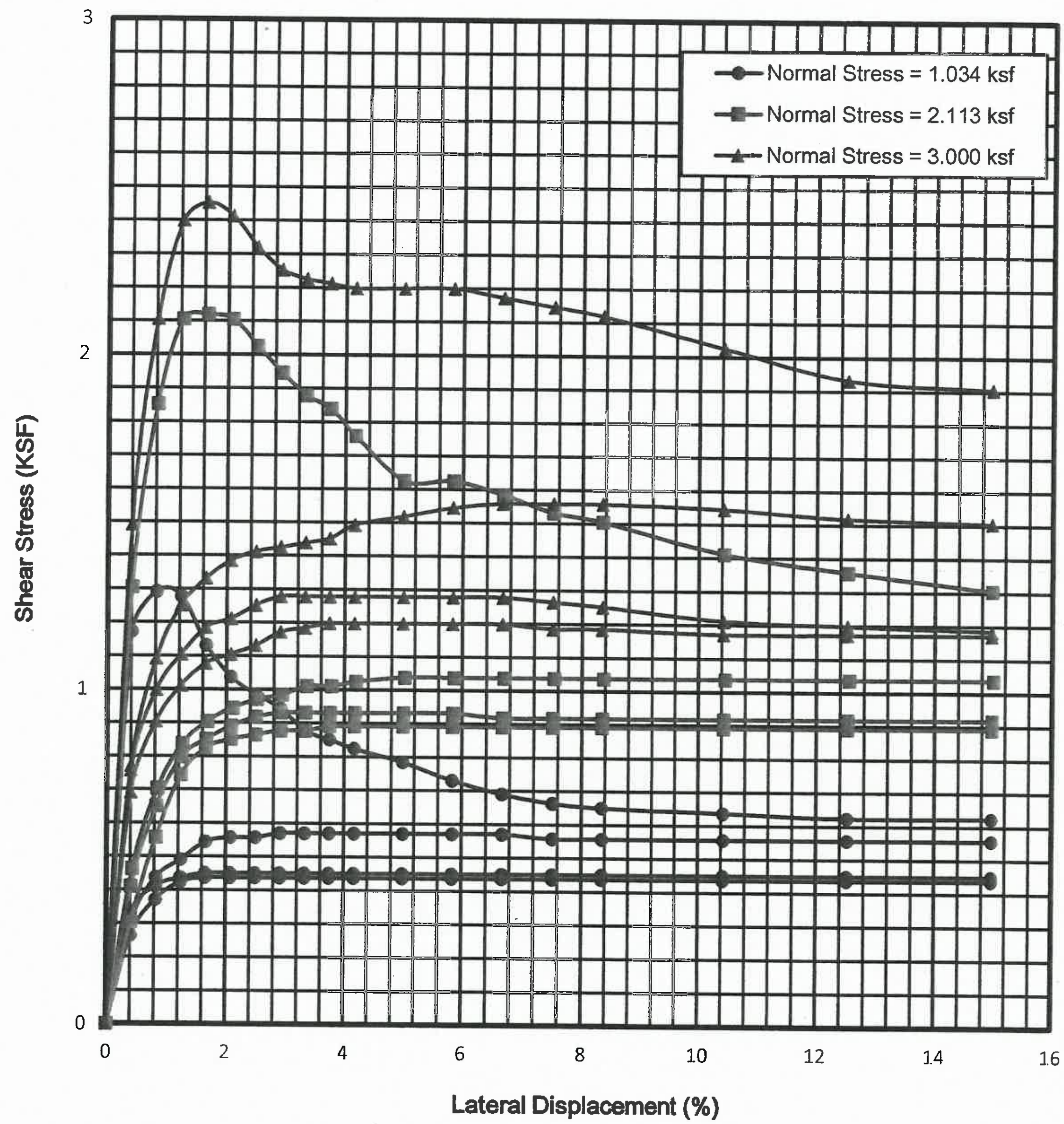


t_{50} (minute) =	0.48
t_f ($50t_{50}$) =	24
Estimated displacement at failure (in.) (d_f)	0.019328 (0.8% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.001
Estimated displacement at failure (in.) (d_f)	0.041072 (1.7% lateral displacement)
Displacement (shear) rate (inch/minute) (d_f/t_f):	0.002



Boring No.:	BA-1	In-Place Dry Density (PCF):		83.2
Sample No.:	D-4	In-Place Moisture Content (%):		34.3
Sample Depth :	20.5-21 Feet			
Soil Type:	CH		◇	●
Sample Conditions:	Intact; Saturated	Cohesion (PSF):	731	64
Shear Rate:	0.001 in./min.	Friction Angle (Degrees):	31	21

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. NORMAL STRESS EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002



Boring No.: BA-1	Sample No.: D-4	Depth (ft): 20.5-21 Feet

amec foster wheeler	DIRECT SHEAR TEST SHEAR STRESS VS. LATERAL DISPLACEMENT EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-1	*Sample No.:*	D-4	*Depth:*	20.5-21 Feet	*Date:*	6/20-6/23/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

Sample Diameter, in:	2.416
Normal Stress, ksf:	1, 2, 3
Over-burdened @, pcf:	
Shear Rate, in/min:	0.001
Natural Moisture(x):	
Saturated(x):	X
Intact(x):	X
Remolded to, pcf:	
@, %:	
Notes:	

		Initial	After Consolidation Load 1	Load 2	Load 3
Weight of Wet Soil & Ring, gr:		531.81	---	---	---
Weight of Ring, gr:		128.55	---	---	---
Height of Sample, in:		3.00	0.9948	0.9885	0.9846
Moisture-	Tare No.:	R-2	---	---	---
	Wet Weight and Tare, gr:	369.43	56.63	55.89	51.47
	Dry Weight and Tare, gr:	338.61	41.16	40.77	37.62
	Tare Weight, gr:	248.75	0.00	0.00	0.00
	Moisture Content, %:	34.3	37.6	37.1	36.8
Wet Density, pcf:		111.7	115.0	115.3	115.6
Dry Density, pcf:		83.2	83.6	84.1	84.5
Saturation %:	S.G. = 2.70 (Assumed)	90.2	99.9	99.8	99.9

Load 3-1 (KSF): 3.000				Load 3-2 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0111	1.492	0.010	0.4	0.0057	0.771
0.020	0.8	0.0157	2.106	0.020	0.8	0.0081	1.091
0.030	1.2	0.0179	2.400	0.030	1.2	0.0093	1.251
0.040	**1.7**	**0.0183**	**2.453**	0.040	1.7	0.0099	1.332
0.050	2.1	0.0180	2.413	0.050	2.1	0.0103	1.385
0.060	2.5	0.0173	2.320	0.060	2.5	0.0105	1.412
0.070	2.9	0.0168	2.253	0.070	2.9	0.0106	1.425
0.080	3.3	0.0166	2.226	0.080	3.3	0.0107	1.438
0.091	3.7	0.0165	2.213	0.091	3.7	0.0108	1.452
0.101	4.2	0.0164	2.199	0.101	4.2	0.0111	1.492
0.121	5.0	0.0164	2.199	0.121	5.0	0.0113	1.518
0.141	5.8	0.0164	2.199	0.141	5.8	0.0115	1.545
0.161	6.7	0.0162	2.173	0.161	6.7	0.0116	1.559
0.181	7.5	0.0160	2.146	0.181	7.5	0.0116	1.559
0.202	8.3	0.0158	2.119	0.202	8.3	0.0116	1.559
0.252	10.4	0.0151	2.026	0.252	10.4	0.0115	1.545
0.303	12.5	0.0144	1.932	0.303	12.5	0.0113	1.518
0.362	15.0	0.0142	1.906	0.362	15.0	0.0112	1.505

Load 3-3 (KSF): 3.000				Load 3-4 (KSF): 3.000			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0056	0.757	0.010	0.4	0.0051	0.691
0.020	0.8	0.0074	0.998	0.020	0.8	0.0067	0.904
0.030	1.2	0.0082	1.105	0.030	1.2	0.0075	1.011
0.040	1.7	0.0088	1.185	0.040	1.7	0.0080	1.078
0.050	2.1	0.0090	1.211	0.050	2.1	0.0082	1.105
0.060	2.5	0.0093	1.251	0.060	2.5	0.0084	1.131
0.070	2.9	0.0095	1.278	0.070	2.9	0.0087	1.171
0.081	3.3	0.0095	1.278	0.080	3.3	0.0088	1.185
0.091	3.8	0.0095	1.278	0.091	3.7	0.0089	1.198
0.101	4.2	0.0095	1.278	0.101	4.2	0.0089	1.198
0.121	5.0	0.0095	1.278	0.121	5.0	0.0089	1.198
0.141	5.8	0.0095	1.278	0.141	5.8	0.0089	1.198
0.161	6.7	0.0095	1.278	0.161	6.7	0.0089	1.198
0.182	7.5	0.0094	1.265	0.181	7.5	0.0088	1.185
0.202	8.3	0.0093	1.251	0.202	8.3	0.0088	1.185
0.252	10.4	0.0090	1.211	0.252	10.4	0.0087	1.171
0.303	12.5	0.0089	1.198	0.303	12.5	0.0087	1.171
0.362	15.0	0.0088	1.185	0.362	**15.0**	**0.0087**	**1.171**

Max. Shear Stress, ksf: 2.453

Lat. Displmt@Max Stress,%.: 1.7

amec foster wheeler

DIRECT SHEAR TEST
(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-1	*Sample No.:*	D-4	*Depth:*	20.5-21 Feet	*Date:*	6/20-6/23/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	After Consolidation Load 2	After Consolidation Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		531.81	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:		128.55	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9948	0.9885	0.9846
Shear Rate, in/min:	0.001	Moisture	Tare No.:	R-2	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	369.43	56.63	55.89	51.47
Saturated(x):	X		Dry Weight and Tare, gr:	338.61	41.16	40.77	37.62
Intact(x):	X		Tare Weight, gr:	248.75	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	34.3	37.6	37.1	36.8
@, %:		Wet Density, pcf:		111.7	115.0	115.3	115.6
Notes:		Dry Density, pcf:		83.2	83.6	84.1	84.5
		Saturation %:	S.G. = 2.70 (Assumed)	90.2	99.9	99.8	99.9

Load 2-1 (KSF): 2.113				Load 2-2 (KSF): 2.113				Load 2-3 (KSF): 2.113				Load 2-4 (KSF): 2.113			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0097	1.305	0.010	0.4	0.0034	0.464	0.010	0.4	0.0030	0.410	0.010	0.4	0.0022	0.303
0.020	0.8	0.0138	1.852	0.020	0.8	0.0052	0.704	0.020	0.8	0.0048	0.651	0.020	0.8	0.0041	0.557
0.030	1.2	0.0157	2.106	0.031	1.3	0.0062	0.838	0.030	1.2	0.0059	0.797	0.030	1.2	0.0055	0.744
0.040	**1.7**	**0.0158**	**2.119**	0.041	1.7	0.0067	0.904	0.040	1.7	0.0063	0.851	0.040	1.7	0.0061	0.824
0.050	2.1	0.0157	2.106	0.051	2.1	0.0070	0.944	0.050	2.1	0.0066	0.891	0.050	2.1	0.0063	0.851
0.060	2.5	0.0151	2.026	0.061	2.5	0.0072	0.971	0.060	2.5	0.0068	0.918	0.060	2.5	0.0064	0.864
0.070	2.9	0.0145	1.946	0.071	2.9	0.0073	0.984	0.070	2.9	0.0069	0.931	0.070	2.9	0.0065	0.878
0.080	3.3	0.0140	1.879	0.081	3.4	0.0075	1.011	0.081	3.3	0.0069	0.931	0.080	3.3	0.0065	0.878
0.091	3.7	0.0137	1.839	0.091	3.8	0.0075	1.011	0.091	3.8	0.0069	0.931	0.091	3.7	0.0066	0.891
0.101	4.2	0.0131	1.759	0.101	4.2	0.0076	1.024	0.101	4.2	0.0069	0.931	0.101	4.2	0.0066	0.891
0.121	5.0	0.0121	1.625	0.121	5.0	0.0077	1.038	0.121	5.0	0.0069	0.931	0.121	5.0	0.0066	0.891
0.141	5.8	0.0121	1.625	0.142	5.9	0.0077	1.038	0.141	5.8	0.0069	0.931	0.141	5.8	0.0066	0.891
0.161	6.7	0.0118	1.585	0.162	6.7	0.0077	1.038	0.161	6.7	0.0068	0.918	0.161	6.7	0.0066	0.891
0.181	7.5	0.0114	1.532	0.182	7.5	0.0077	1.038	0.182	7.5	0.0068	0.918	0.181	7.5	0.0066	0.891
0.202	8.3	0.0112	1.505	0.202	8.4	0.0077	1.038	0.202	8.3	0.0068	0.918	0.202	8.3	0.0066	0.891
0.252	10.4	0.0105	1.412	0.253	10.5	0.0077	1.038	0.252	10.4	0.0068	0.918	0.252	10.4	0.0066	0.891
0.303	12.5	0.0101	1.358	0.303	12.5	0.0077	1.038	0.303	12.5	0.0068	0.918	0.303	12.5	0.0066	0.891
0.362	15.0	0.0097	1.305	0.362	15.0	0.0077	1.038	0.362	15.0	0.0068	0.918	0.362	**15.0**	**0.0066**	**0.891**

Max. Shear Stress, ksf: 2.119

Lat. Displmt@Max Stress,%.: 1.7

amec foster wheeler

DIRECT SHEAR TEST

(ASTM-D3080)

Project Name:	Edleen Drive					*Project No.:*	IR17166570.0002
Boring No.:	BA-1	*Sample No.:*	D-4	*Depth:*	20.5-21 Feet	*Date:*	6/20-6/23/2017
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand (CH)					*Tested By:*	LT

				Initial	After Consolidation Load 1	Load 2	Load 3
Sample Diameter, in:	2.416	Weight of Wet Soil & Ring, gr:		531.81	---	---	---
Normal Stress, ksf:	1, 2, 3	Weight of Ring, gr:		128.55	---	---	---
Over-burdened @, pcf:		Height of Sample, in:		3.00	0.9948	0.9885	0.9846
Shear Rate, in/min:	0.001	Moisture-	Tare No.:	R-2	---	---	---
Natural Moisture(x):			Wet Weight and Tare, gr:	369.43	56.63	55.89	51.47
Saturated(x):	X		Dry Weight and Tare, gr:	338.61	41.16	40.77	37.62
Intact(x):	X		Tare Weight, gr:	248.75	0.00	0.00	0.00
Remolded to, pcf:			Moisture Content, %:	34.3	37.6	37.1	36.8
@, %:		Wet Density, pcf:		111.7	115.0	115.3	115.6
Notes:		Dry Density, pcf:		83.2	83.6	84.1	84.5
		Saturation %:	S.G. = 2.70 (Assumed)	90.2	99.9	99.8	99.9

Load 1-1 (KSF): 1.034				Load 1-2 (KSF): 1.034				Load 1-3 (KSF): 1.034				Load 1-4 (KSF): 1.034			
Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)	Shear Deflec -tion (in)	Lateral Displace -ment (%)	Load Ring Reading	Shear Stress (KSF)
0.010	0.4	0.0087	1.171	0.010	0.4	0.0022	0.303	0.010	0.4	0.0024	0.330	0.010	0.4	0.0019	0.263
0.020	**0.8**	**0.0096**	**1.292**	0.020	0.8	0.0032	0.437	0.020	0.8	0.0030	0.410	0.020	0.8	0.0027	0.370
0.030	1.2	0.0095	1.278	0.030	1.2	0.0036	0.490	0.030	1.2	0.0032	0.437	0.030	1.2	0.0031	0.424
0.040	1.7	0.0084	1.131	0.040	1.7	0.0040	0.544	0.040	1.7	0.0033	0.450	0.040	1.7	0.0032	0.437
0.050	2.1	0.0077	1.038	0.050	2.1	0.0041	0.557	0.050	2.1	0.0033	0.450	0.050	2.1	0.0032	0.437
0.060	2.5	0.0073	0.984	0.060	2.5	0.0041	0.557	0.060	2.5	0.0033	0.450	0.060	2.5	0.0032	0.437
0.070	2.9	0.0070	0.944	0.070	2.9	0.0042	0.571	0.070	2.9	0.0033	0.450	0.070	2.9	0.0032	0.437
0.080	3.3	0.0065	0.878	0.081	3.3	0.0042	0.571	0.080	3.3	0.0033	0.450	0.080	3.3	0.0032	0.437
0.091	3.7	0.0063	0.851	0.091	3.8	0.0042	0.571	0.091	3.7	0.0033	0.450	0.091	3.7	0.0032	0.437
0.101	4.2	0.0061	0.824	0.101	4.2	0.0042	0.571	0.101	4.2	0.0033	0.450	0.101	4.2	0.0032	0.437
0.121	5.0	0.0058	0.784	0.121	5.0	0.0042	0.571	0.121	5.0	0.0033	0.450	0.121	5.0	0.0032	0.437
0.141	5.8	0.0054	0.731	0.141	5.8	0.0042	0.571	0.141	5.8	0.0033	0.450	0.141	5.8	0.0032	0.437
0.161	6.7	0.0051	0.691	0.161	6.7	0.0042	0.571	0.161	6.7	0.0033	0.450	0.161	6.7	0.0032	0.437
0.181	7.5	0.0049	0.664	0.182	7.5	0.0041	0.557	0.181	7.5	0.0033	0.450	0.181	7.5	0.0032	0.437
0.202	8.3	0.0048	0.651	0.202	8.3	0.0041	0.557	0.202	8.3	0.0033	0.450	0.202	8.3	0.0032	0.437
0.252	10.4	0.0047	0.637	0.252	10.4	0.0041	0.557	0.252	10.4	0.0033	0.450	0.252	10.4	0.0032	0.437
0.303	12.5	0.0046	0.624	0.303	12.5	0.0041	0.557	0.303	12.5	0.0033	0.450	0.303	12.5	0.0032	0.437
0.362	15.0	0.0046	0.624	0.362	15.0	0.0041	0.557	0.362	15.0	0.0033	0.450	0.362	**15.0**	**0.0032**	**0.437**

Max. Shear Stress, ksf:	1.292
Lat. Displmt@Max Stress,%.:	0.8

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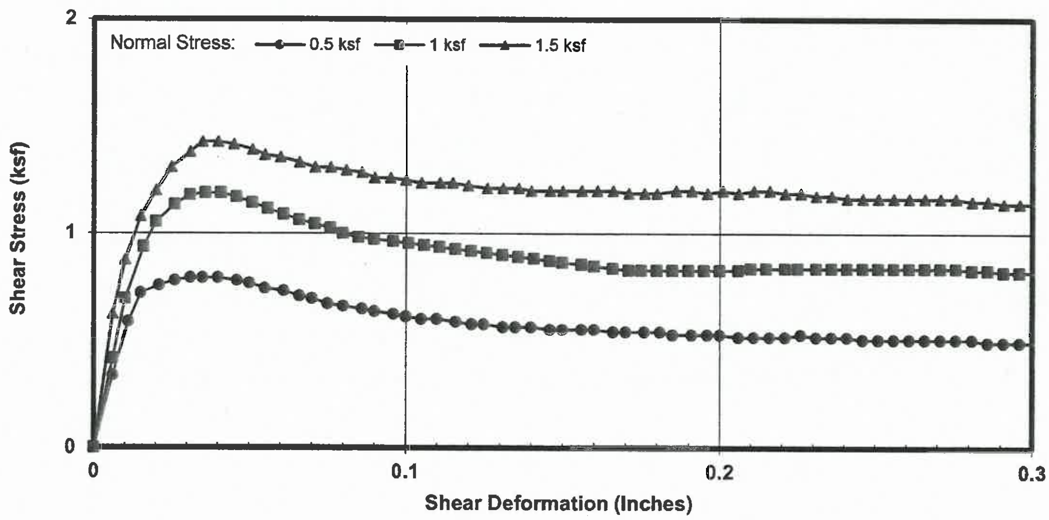
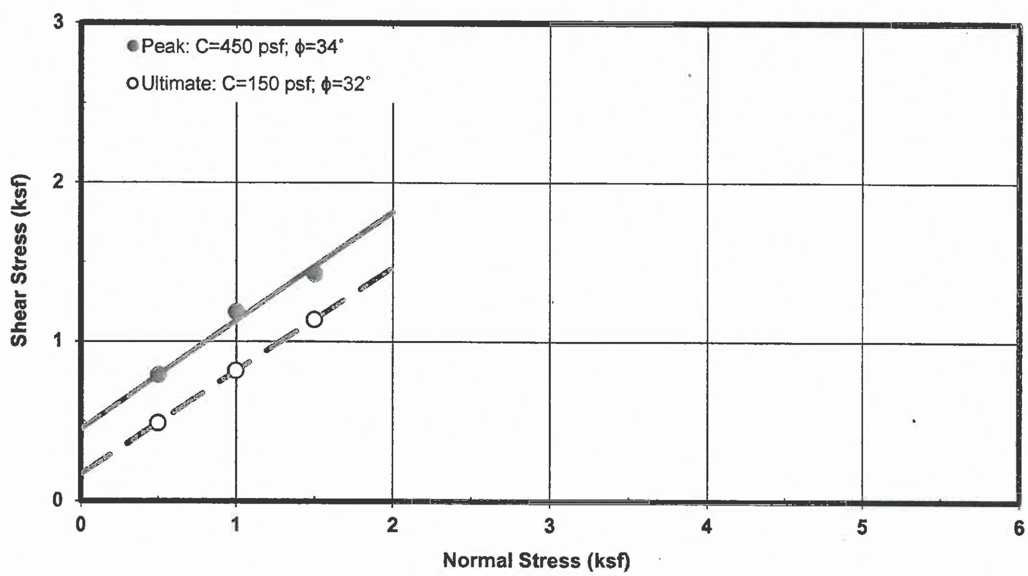
DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name: Edleen Dr.
Project No.: IR17166570
Boring No.: BA-6
Sample No.: D-1 **Depth (ft):** 5.5-6
Sample Type: Mod. Cal.
Soil Description: Sandy Lean Clay
Test Condition: Inundated **Shear Type:** Regular

Tested By: NG **Date:** 06/14/17
Computed By: JP **Date:** 06/15/17
Checked by: AP **Date:** 08/21/17

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
88.7	67.8	30.9	56.0	56	102	0.5	0.792	0.492
						1	1.188	0.819
						1.5	1.428	1.140





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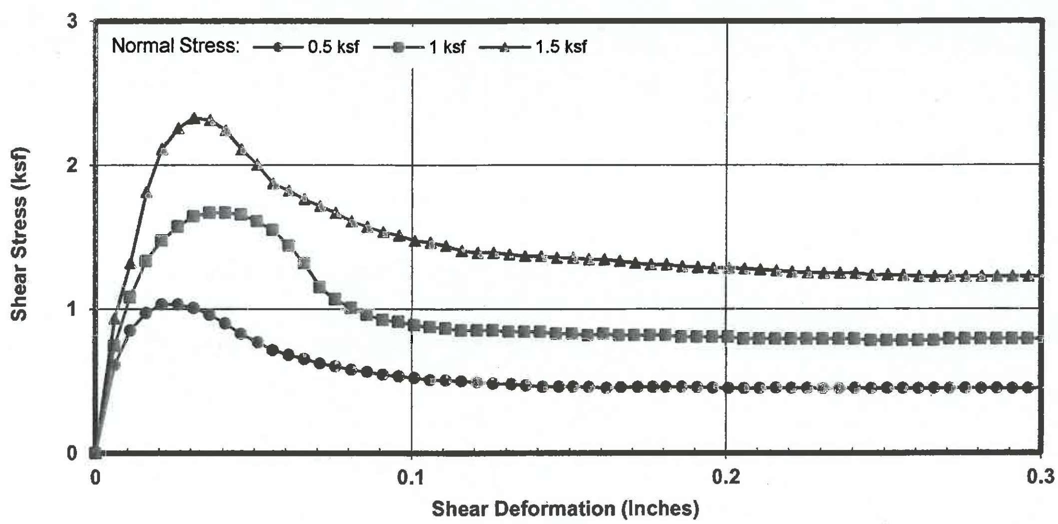
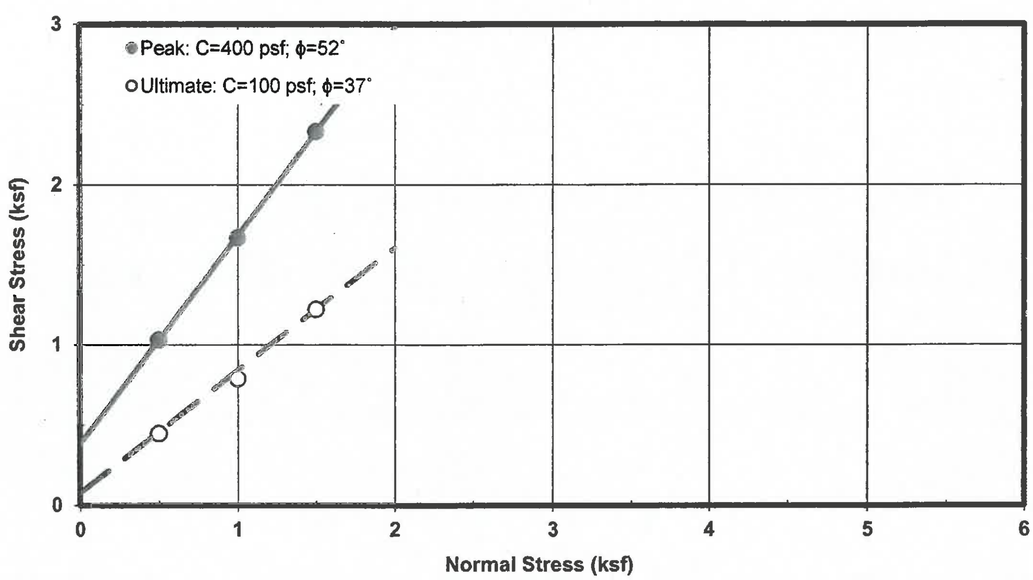
DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name:	Edleen Dr.	**Tested By:** NG	**Date:** 06/14/17
Project No.:	IR17166570	**Computed By:** JP	**Date:** 06/15/17
Boring No.:	BA-4	**Checked by:** AP	**Date:** 08/21/17
Sample No.:	D-1 **Depth (ft):** 5.5-6		
Sample Type:	Mod. Cal.		
Soil Description:	Sandy Silt		
Test Condition:	Inundated **Shear Type:** Regular		

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
101.9	86.1	18.4	35.5	52	100	0.5	1.032	0.451
						1	1.668	0.792
						1.5	2.328	1.224





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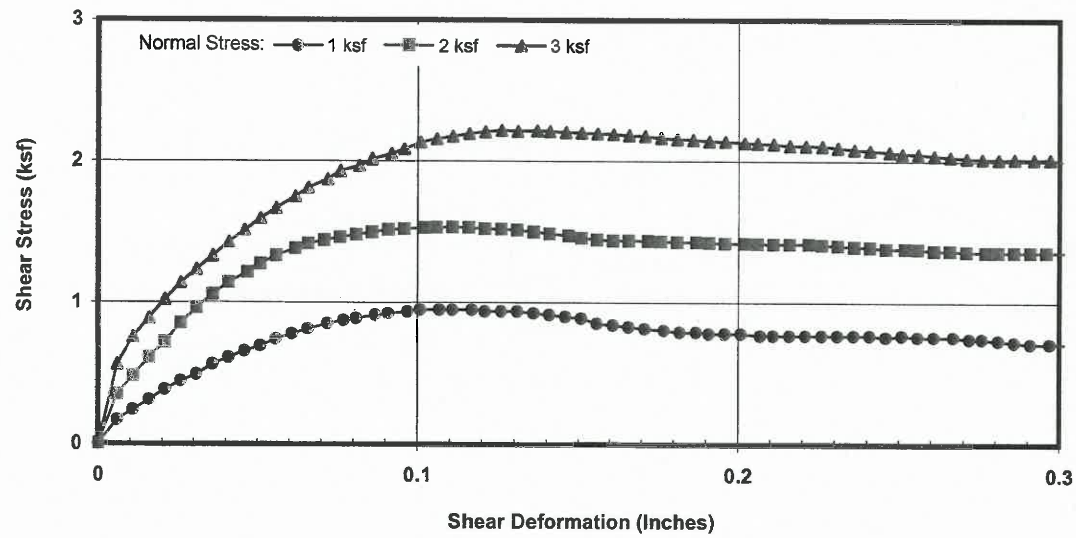
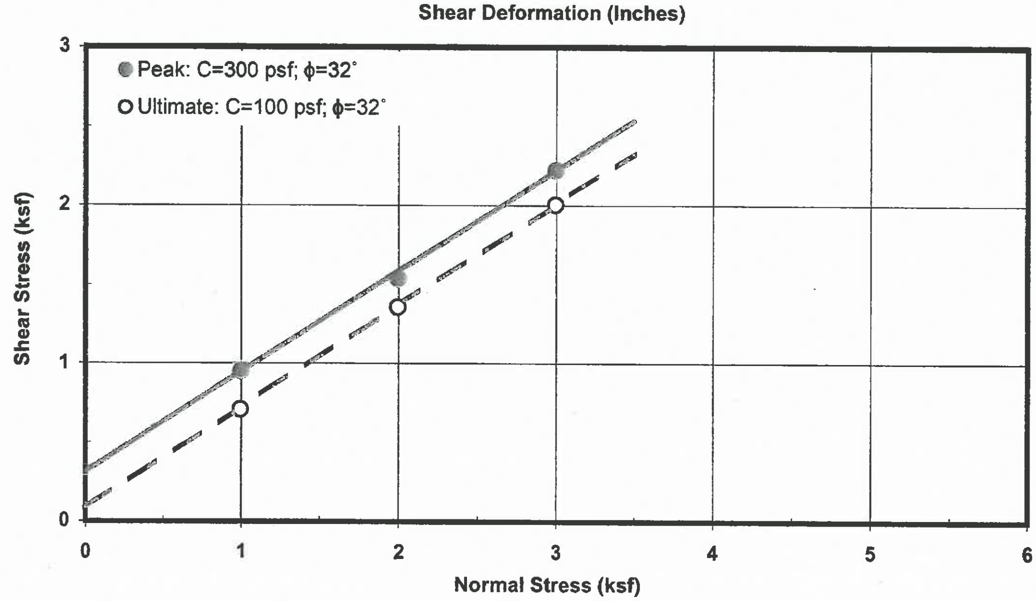
DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name: Edleen Dr.
Project No.: IR17166570
Boring No.: BA-3
Sample No.: D-4 Depth (ft): 20.5-21
Sample Type: Mod. Cal.
Soil Description: Silty Sand
Test Condition: Inundated Shear Type: Regular

Tested By: NG Date: 06/14/17
Computed By: JP Date: 06/15/17
Checked by: AP Date: 06/15/17

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
106.3	99.5	6.8	24.4	26	95	1	0.948	0.708
						2	1.533	1.356
						3	2.220	2.004





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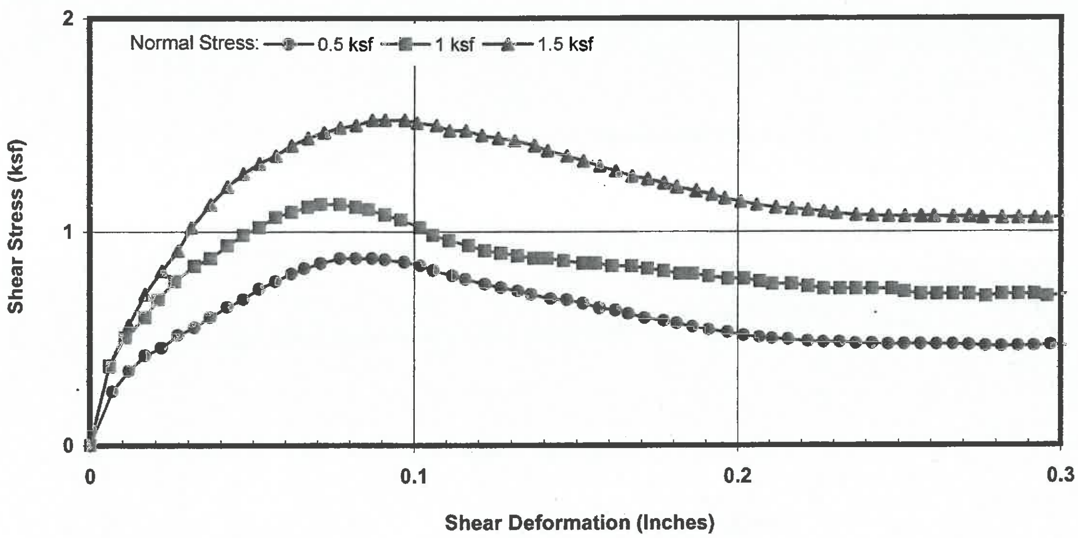
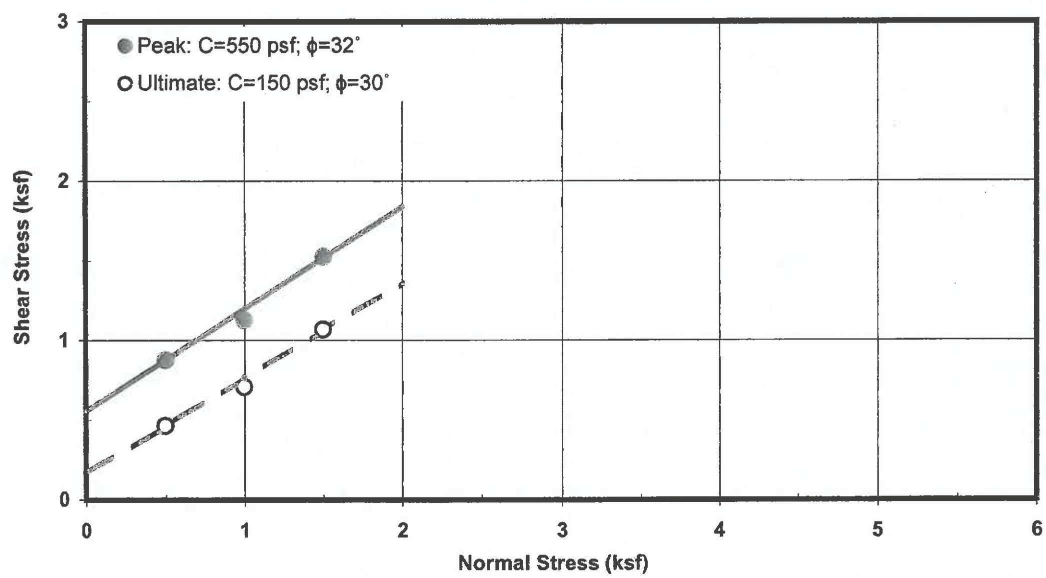
DIRECT SHEAR TEST RESULTS
ASTM D 3080

Project Name: Edleen Dr.	**Tested By:** NG	**Date:** 06/14/17	
Project No.: IR17166570	**Computed By:** JP	**Date:** 06/15/17	
Boring No.: BA-1	**Checked by:** AP	**Date:** 06/15/17	
Sample No.: D-1	**Depth (ft):** 5.5-6		
Sample Type: Mod. Cal.			
Soil Description: Silty Sand			
Test Condition: Inundated	**Shear Type:** Regular		

Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Initial Moisture Content (%)	Final Moisture Content (%)	Initial Degree Saturation (%)	Final Degree Saturation (%)	Normal Stress (ksf)	Peak Shear Stress (ksf)	Ultimate Shear Stress (ksf)
124.4	112.4	10.7	18.5	58	100	0.5	0.876	0.466
						1	1.128	0.708
						1.5	1.524	1.068





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COMPACTION TEST

Client:	AMEC Foster Wheeler			AP Number:	17-0614
Project Name:	Edleen Dr.	Tested By:	NG	Date:	06/28/17
Project No. :	IR17166570	Calculated By:	JP	Date:	06/29/17
Boring No.:	BA-5	Checked By:	AP	Date:	06/29/17
Sample No.:	B-2	Depth(ft.):	10-12		

Visual Sample Description: Silty Sand

Compaction Method: [X] ASTM D1557 [ ] ASTM D698

METHOD: A
MOLD VOLUME (CU.FT): 0.0333

Preparation Method: [ ] Moist [X] Dry

Wt. Comp. Soil + Mold (gm.)	3793	3875	3892	3858		
Wt. of Mold (gm.)	1863	1863	1863	1863		
Net Wt. of Soil (gm.)	1930	2012	2029	1995		
Container No.						
Wt. of Container (gm.)	140.87	144.29	151.14	155.70		
Wet Wt. of Soil + Cont. (gm.)	406.96	384.47	386.38	372.02		
Dry Wt. of Soil + Cont. (gm.)	388.81	362.63	360.05	344.73		
Moisture Content (%)	7.32	10.00	12.60	14.44		
Wet Density (pcf)	127.65	133.07	134.19	131.94		
Dry Density (pcf)	118.94	120.97	119.17	115.30		

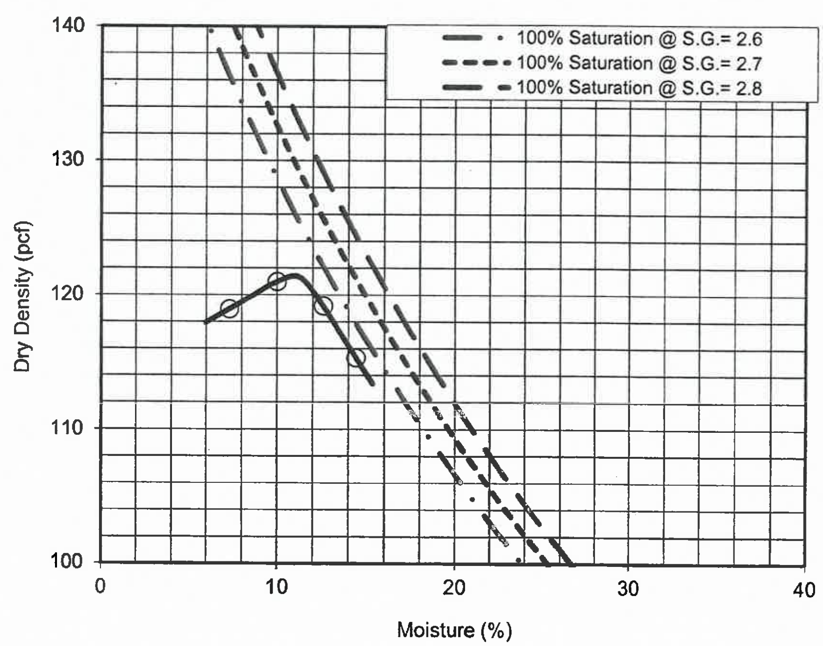
Maximum Dry Density (pcf)	**121.3**	Optimum Moisture Content (%)	**10.8**
Maximum Dry Density w/ Rock Correction (pcf)	**N/A**	Optimum Moisture Content w/ Rock Correction (%)	**N/A**

PROCEDURE USED

[X] *METHOD A: Percent of Oversize:* *0.7%*
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)

[ ] *METHOD B: Percent of Oversize:* N/A
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)

[ ] *METHOD C: Percent of Oversize:* N/A
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)



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COMPACTION TEST

Client: AMEC Foster Wheeler — AP Number: 17-0614
Project Name: Edleen Dr. — Tested By: DK — Date: 06/14/17
Project No. : IR17166570 — Calculated By: JP — Date: 06/15/17
Boring No.: BA-3 — Checked By: AP — Date: 06/15/17
Sample No.: B-3 — Depth(ft.): 21-22.5
Visual Sample Description: Silty Sand

Compaction Method: [X] ASTM D1557 [ ] ASTM D698
Preparation Method: [ ] Moist [X] Dry

METHOD: A
MOLD VOLUME (CU.FT): 0.0333

Wt. Comp. Soil + Mold (gm.)	3798	3842	3702	3820		
Wt. of Mold (gm.)	1863	1863	1863	1863		
Net Wt. of Soil (gm.)	1935	1979	1839	1957		
Container No.						
Wt. of Container (gm.)	148.69	150.20	142.51	140.95		
Wet Wt. of Soil + Cont. (gm.)	362.22	332.53	422.76	433.04		
Dry Wt. of Soil + Cont. (gm.)	337.39	307.81	396.52	388.37		
Moisture Content (%)	13.16	15.68	10.33	18.06		
Wet Density (pcf)	127.98	130.89	121.59	129.43		
Dry Density (pcf)	113.09	113.14	110.21	109.64		

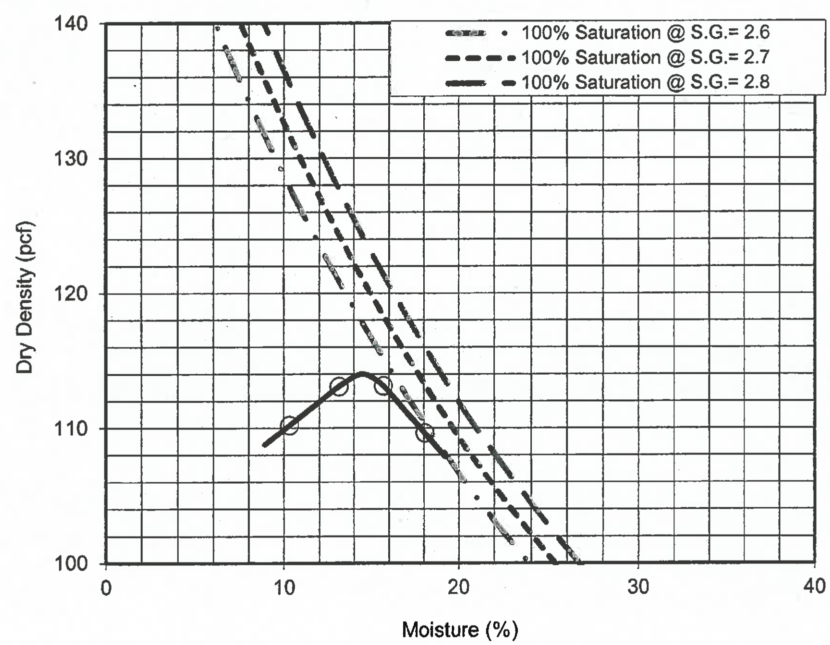
Maximum Dry Density (pcf): **114.0**
Maximum Dry Density w/ Rock Correction (pcf): **N/A**
Optimum Moisture Content (%): **14.5**
Optimum Moisture Content w/ Rock Correction (%): **N/A**

PROCEDURE USED

[X] *METHOD A: Percent of Oversize:* *2.1%*
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)

[ ] *METHOD B: Percent of Oversize:* *N/A*
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)

[ ] *METHOD C: Percent of Oversize:* *N/A*
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)



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COMPACTION TEST

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No. : IR17166570
Boring No.: BA-1
Sample No.: B-1
Visual Sample Description: Silty Sand

AP Number: 17-0614
Tested By: DK Date: 06/14/17
Calculated By: JP Date: 06/15/17
Checked By: AP Date: 06/15/17
Depth(ft.): 1-5

Compaction Method: [X] ASTM D1557 [ ] ASTM D698
Preparation Method: [ ] Moist [X] Dry

METHOD: A
MOLD VOLUME (CU.FT): 0.0333

Wt. Comp. Soil + Mold (gm.)	3893	3860	3813	3674		
Wt. of Mold (gm.)	1863	1863	1863	1863		
Net Wt. of Soil (gm.)	2030	1997	1950	1811		
Container No.						
Wt. of Container (gm.)	187.51	107.14	176.63	146.21		
Wet Wt. of Soil + Cont. (gm.)	499.62	362.57	457.38	397.62		
Dry Wt. of Soil + Cont. (gm.)	467.45	329.87	433.85	381.79		
Moisture Content (%)	11.49	14.68	9.15	6.72		
Wet Density (pcf)	134.26	132.08	128.97	119.78		
Dry Density (pcf)	120.42	115.17	118.16	112.23		

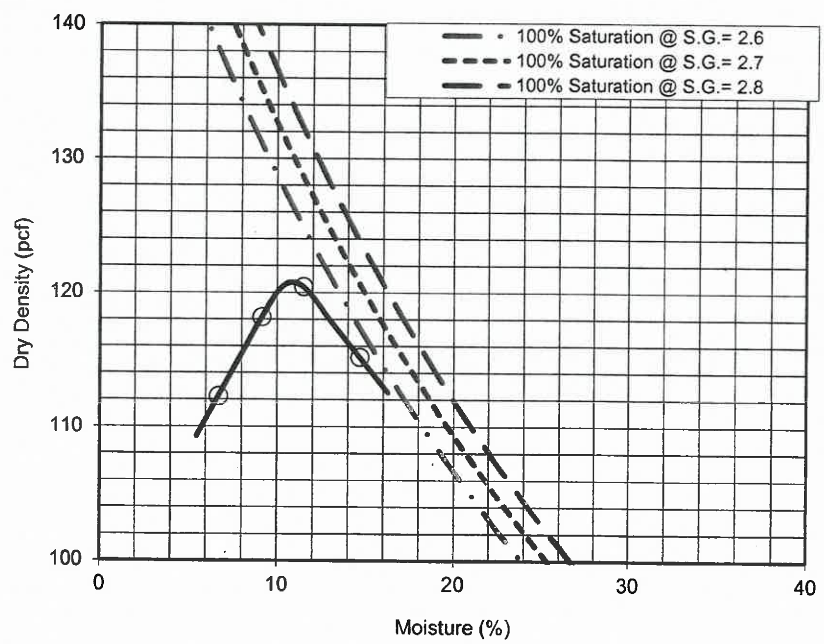
Maximum Dry Density (pcf): **120.6**
Maximum Dry Density w/ Rock Correction (pcf): **N/A**
Optimum Moisture Content (%): **10.8**
Optimum Moisture Content w/ Rock Correction (%): **N/A**

PROCEDURE USED

[X] *METHOD A: Percent of Oversize:* *1.2%*
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)

[ ] *METHOD B: Percent of Oversize:* *N/A*
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)

[ ] *METHOD C: Percent of Oversize:* *N/A*
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)



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EXPANSION INDEX TEST RESULTS

ASTM D 4829

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/13/17

Boring No.	Sample No.	Depth (ft)	Soil Description	Molded Dry Density (pcf)	Molded Moisture Content (%)	Init. Degree Saturation (%)	Measured Expansion Index	Corrected Expansion Index
BA-6	B-1	1-4	Sandy Clay	61.2	32.2	49.6	69	68

ASTM EXPANSION CLASSIFICATION

Expansion Index	Classification
0-20	V. Low
21-50	Low
51-90	Medium
91-130	High
>130	V. High

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EXPANSION INDEX TEST RESULTS

ASTM D 4829

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/13/17

Boring No.	Sample No.	Depth (ft)	Soil Description	Molded Dry Density (pcf)	Molded Moisture Content (%)	Init. Degree Saturation (%)	Measured Expansion Index	Corrected Expansion Index
BA-5	B-1	1-4	Sandy Clay	62.0	30.7	48.3	68	67

ASTM EXPANSION CLASSIFICATION

Expansion Index	Classification
0-20	V. Low
21-50	Low
51-90	Medium
91-130	High
>130	V. High

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EXPANSION INDEX TEST RESULTS
ASTM D 4829

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/13/17

Boring No.	Sample No.	Depth (ft)	Soil Description	Molded Dry Density (pcf)	Molded Moisture Content (%)	Init. Degree Saturation (%)	Measured Expansion Index	Corrected Expansion Index
BA-4	B-1	1-4	Sandy Clay	71.4	24.8	49.4	54	53

ASTM EXPANSION CLASSIFICATION

Expansion Index	Classification
0-20	V. Low
21-50	Low
51-90	Medium
91-130	High
>130	V. High

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EXPANSION INDEX TEST RESULTS

ASTM D 4829

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/13/17

Boring No.	Sample No.	Depth (ft)	Soil Description	Molded Dry Density (pcf)	Molded Moisture Content (%)	Init. Degree Saturation (%)	Measured Expansion Index	Corrected Expansion Index
BA-3	B-1	0.5-4	Sandy Clay	69.9	27.7	53.1	14	15

ASTM EXPANSION CLASSIFICATION

Expansion Index	Classification
0-20	V. Low
21-50	Low
51-90	Medium
91-130	High
>130	V. High

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EXPANSION INDEX TEST RESULTS

ASTM D 4829

Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/13/17

Boring No.	Sample No.	Depth (ft)	Soil Description	Molded Dry Density (pcf)	Molded Moisture Content (%)	Init. Degree Saturation (%)	Measured Expansion Index	Corrected Expansion Index
BA-2	B-1	0.5-4	Sandy Clay	75.6	22.5	49.4	44	44

ASTM EXPANSION CLASSIFICATION

Expansion Index	Classification
0-20	V. Low
21-50	Low
51-90	Medium
91-130	High
>130	V. High

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EXPANSION INDEX TEST RESULTS

ASTM D 4829

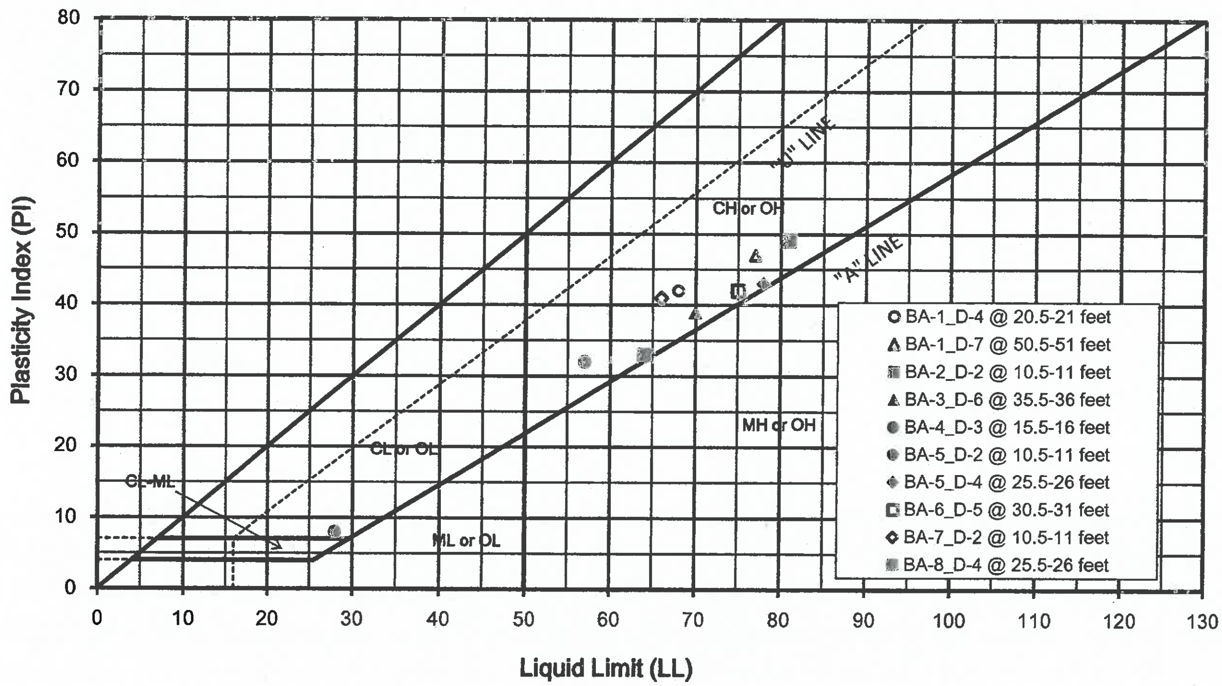
Client Name: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Job No.: 17-0614
Date: 06/13/17

Boring No.	Sample No.	Depth (ft)	Soil Description	Molded Dry Density (pcf)	Molded Moisture Content (%)	Init. Degree Saturation (%)	Measured Expansion Index	Corrected Expansion Index
BA-1	B-1	1-5	Silty Sand	114.4	8.3	47.2	2	1

ASTM EXPANSION CLASSIFICATION

Expansion Index	Classification
0-20	V. Low
21-50	Low
51-90	Medium
91-130	High
>130	V. High



Boring No._Sample No._Depth	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Soil Classification
BA-1_D-4 @ 20.5-21 feet	68	26	42	Fat Clay with Sand (CH)
BA-1_D-7 @ 50.5-51 feet	77	30	47	Fat Clay with Sand (CH)
BA-2_D-2 @ 10.5-11 feet	81	32	49	Fat Clay (CH)
BA-3_D-6 @ 35.5-36 feet	70	31	39	Fat Clay with Sand (CH)
BA-4_D-3 @ 15.5-16 feet	57	25	32	Sandy Fat Clay (CH)
BA-5_D-2 @ 10.5-11 feet	28	20	8	Clayey Sand (SC)
BA-5_D-4 @ 25.5-26 feet	78	35	43	Fat Clay (CH)
BA-6_D-5 @ 30.5-31 feet	75	33	42	Fat Clay (CH)
BA-7_D-2 @ 10.5-11 feet	66	25	41	Fat Clay with Sand (CH)
BA-8_D-4 @ 25.5-26 feet	64	31	33	Fat Clay with Sand (CH)

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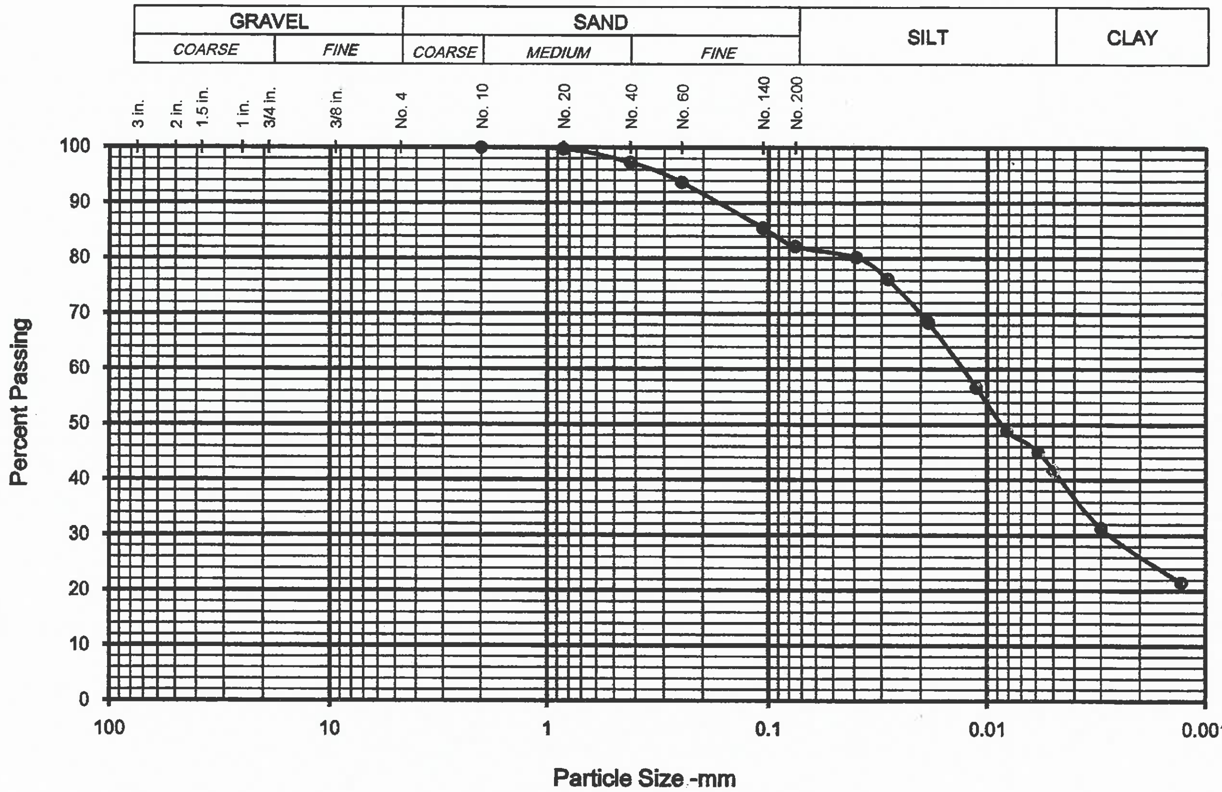
PLASTICITY INDEX (PI)

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570

Phase 0002



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	0.0	0.0391	80.2
2 in.	50.0	---	No. 10	2.00	100.0	0.0281	76.3
1.5 in.	38.1	---	No. 20	0.85	99.7	0.0185	68.4
1 in.	25.0	---	No. 40	0.425	97.3	0.0112	56.7
3/4 in.	19.0	---	No. 60	0.250	93.7	0.0081	48.9
3/8 in.	9.5	---	No. 140	0.106	85.5	0.0058	45.0
			No. 200	0.075	82.2	0.0030	31.3
						0.0013	21.5
% GRAVEL		% SAND				% FINES	
Coarse	Fine	Coarse	Medium	Fine		Silt	Clay
0.0	0.0	0.0	2.7	15.2		40.5	41.7
Coefficients:	C_u = N/A			C_c = N/A			

Boring No.:
BA-8
Sample No.:
D-4
Depth:
25.5-26 feet
Soil Description:
Grayish Brown (10YR, 5/2)
Fat Clay with Sand
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler

PARTICLE SIZE DISTRIBUTION CURVE

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570
Phase 0002

amec foster wheeler

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-8	*Sample No.:*	D-4	*Depth:*	25.5-26 feet
Soil Description:	Grayish Brown (10YR, 5/2) Fat Clay with Sand			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4						
No. 10			0.00		0.0	100.0
No. 20			0.24		0.3	99.7
No. 40			2.41		2.7	97.3
No. 60			5.69		6.3	93.7
No. 140			13.12		14.5	85.5
No. 200			16.09		17.8	82.2

Tare No.:	R-22
Dry wt. and tare, gr.:	339.46
Tare weight, gr.:	249.19
Total dry weight, gr.:	90.27
Tare No., Hydromtr.:	20
Tare No., Hygroscp.:	MC-4
Soaking Container:	H-10
Jar No.:	10

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

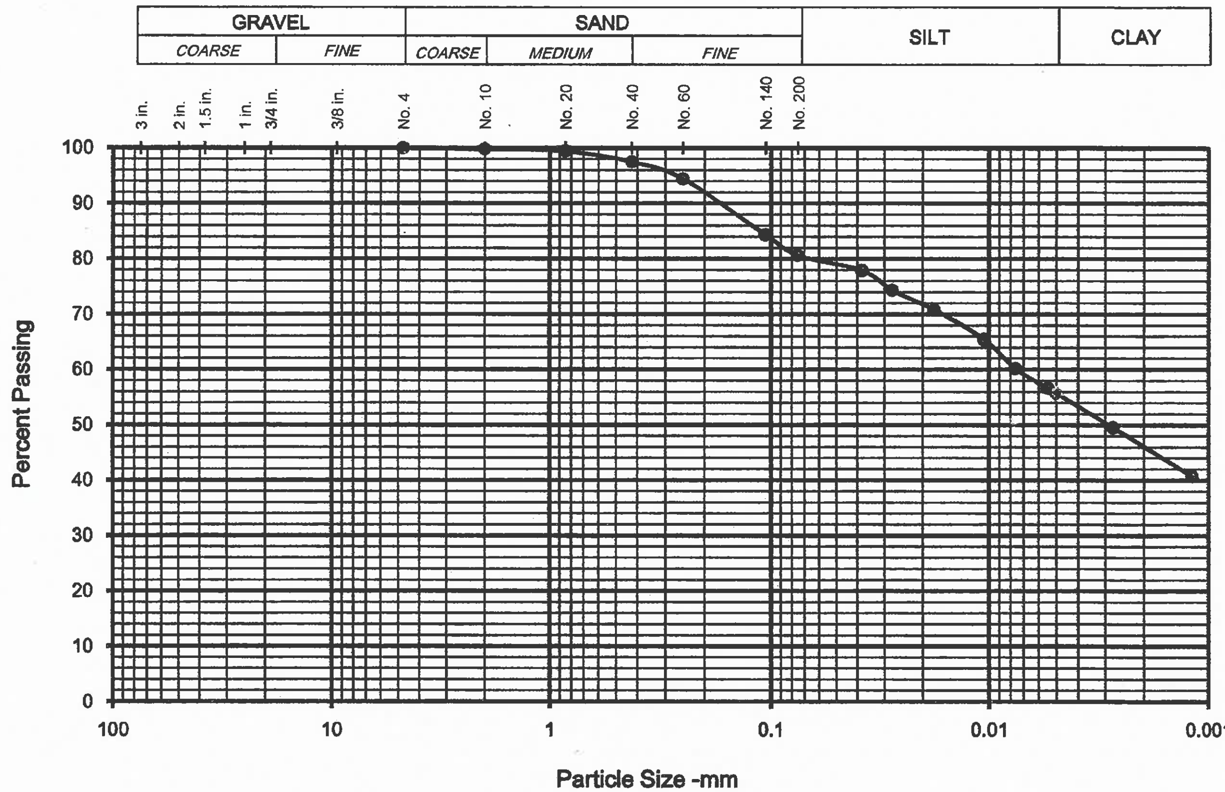
Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	17.97	Air-dry Mass in Test (**W_1**), gr.:	53.11
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	17.13	Oven-dry Mass in Test (W_2),gr.:	50.63
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.953		(W_1xF_C)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	50.63
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/10/17	10:59:33	0	---	---	---	---	---	---	---	---
7/10/17	11:00:33	1	22	45	4	41	80.2	0.01312	8.9	0.0391
7/10/17	11:01:33	2	22	43	4	39	76.3	0.01312	9.2	0.0281
7/10/17	11:04:33	5	22	39	4	35	68.4	0.01312	9.9	0.0185
7/10/17	11:14:33	15	22	33	4	29	56.7	0.01312	10.9	0.0112
7/10/17	11:29:33	30	22	29	4	25	48.9	0.01312	11.5	0.0081
7/10/17	11:59:33	60	22	27	4	23	45.0	0.01312	11.9	0.0058
7/10/17	15:09:33	250	22	20	4	16	31.3	0.01312	13.0	0.0030
7/11/17	10:59:33	1440	22	15	4	11	21.5	0.01312	13.8	0.0013

[1] P = (Ra/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	100.0	0.0380	77.9
2 in.	50.0	---	No. 10	2.00	99.8	0.0275	74.4
1.5 in.	38.1	---	No. 20	0.85	99.4	0.0177	70.8
1 in.	25.0	---	No. 40	0.425	97.5	0.0105	65.5
3/4 in.	19.0	---	No. 60	0.250	94.4	0.0076	60.2
3/8 in.	9.5	---	No. 140	0.106	84.4	0.0055	56.7
			No. 200	0.075	80.6	0.0028	49.6
						0.0012	40.7
% GRAVEL			% SAND			% FINES	
Coarse	Fine		Coarse	Medium	Fine	Silt	Clay
0.0	0.0		0.2	2.4	16.8	24.9	55.7
Coefficients:	C_u = N/A			C_c = N/A			

Boring No.:
BA-7
Sample No.:
D-2
Depth:
10.5-11 feet
Soil Description:
Very Dark Grayish Brown (2.5Y, 3/2) Fat Clay with Sand
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler	PARTICLE SIZE DISTRIBUTION CURVE	Project No.
	EDLEEN DRIVE	IR17166570
	Tarzana, Los Angeles, California	Phase 0002

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-7	*Sample No.:*	D-2	*Depth:*	10.5-11 feet
Soil Description:	Very Dark Grayish Brown (2.5Y, 3/2) Fat Clay with Sand			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4			0.00		0.0	100.0
No. 10			0.12		0.2	99.8
No. 20			0.40		0.6	99.4
No. 40			1.76		2.5	97.5
No. 60			3.87		5.6	94.4
No. 140			10.87		15.6	84.4
No. 200			13.45		19.4	80.6

Tare No.:	R-12
Dry wt. and tare, gr.:	317.24
Tare weight, gr.:	247.76
Total dry weight, gr.:	69.48
Tare No., Hydromtr.:	8
Tare No., Hygroscp.:	MC-14
Soaking Container:	H-9
Jar No.:	9

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

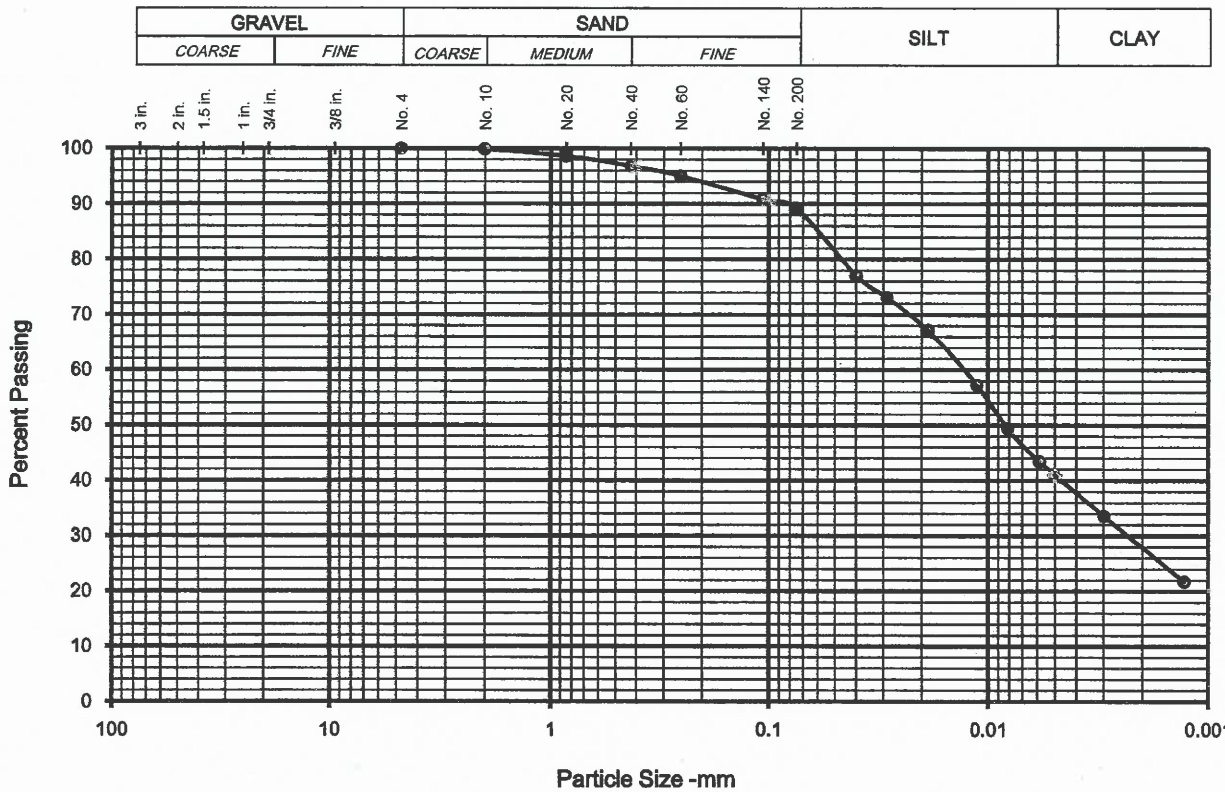
Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	19.15	Air-dry Mass in Test (W_1), gr.:	59.06
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	18.10	Oven-dry Mass in Test (W_2),gr.:	55.82
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.945		(W_1xF_C)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	55.92
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/10/17	10:56:18	0	---	---	---	---	---	---	---	---
7/10/17	10:57:18	1	22	48	4	44	77.9	0.01312	8.4	0.0380
7/10/17	10:58:18	2	22	46	4	42	74.4	0.01312	8.8	0.0275
7/10/17	11:01:18	5	22	44	4	40	70.8	0.01312	9.1	0.0177
7/10/17	11:11:18	15	22	41	4	37	65.5	0.01312	9.6	0.0105
7/10/17	11:26:18	30	22	38	4	34	60.2	0.01312	10.1	0.0076
7/10/17	11:56:18	60	22	36	4	32	56.7	0.01312	10.4	0.0055
7/10/17	15:06:18	250	22	32	4	28	49.6	0.01312	11.1	0.0028
7/11/17	10:56:18	1440	22	27	4	23	40.7	0.01312	11.9	0.0012

[1] P = (R*a*/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	100.0	0.0398	77.0
2 in.	50.0	---	No. 10	2.00	99.9	0.0287	73.1
1.5 in.	38.1	---	No. 20	0.85	98.6	0.0186	67.1
1 in.	25.0	---	No. 40	0.425	96.9	0.0112	57.3
3/4 in.	19.0	---	No. 60	0.250	95.1	0.0081	49.4
3/8 in.	9.5	---	No. 140	0.106	90.9	0.0059	43.4
			No. 200	0.075	89.3	0.0030	33.6
						0.0013	21.7
% GRAVEL			% SAND			% FINES	
Coarse	Fine		Coarse	Medium	Fine	Silt	Clay
0.0	0.0		0.1	3.0	7.6	48.3	41.0
Coefficients:	C_u = N/A				C_c = N/A		

Boring No.:
BA-6
Sample No.:
D-5
Depth:
30.5-31 feet
Soil Description:
Dark Grayish Brown (2.5Y, 4/2) Fat Clay
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler	PARTICLE SIZE DISTRIBUTION CURVE EDLEEN DRIVE Tarzana, Los Angeles, California	Project No. IR17166570 Phase 0002

amec foster wheeler

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-6	*Sample No.:*	D-5	*Depth:*	30.5-31 feet
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4			0.00		0.0	100.0
No. 10			0.09		0.1	99.9
No. 20			1.04		1.4	98.6
No. 40			2.38		3.1	96.9
No. 60			3.72		4.9	95.1
No. 140			6.91		9.1	90.9
No. 200			8.12		10.7	89.3

Tare No.:	R-86
Dry wt. and tare, gr.:	324.50
Tare weight, gr.:	248.94
Total dry weight, gr.:	75.56
Tare No., Hydromtr.:	15
Tare No., Hygroscp.:	MC-2
Soaking Container:	H-8
Jar No.:	8

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

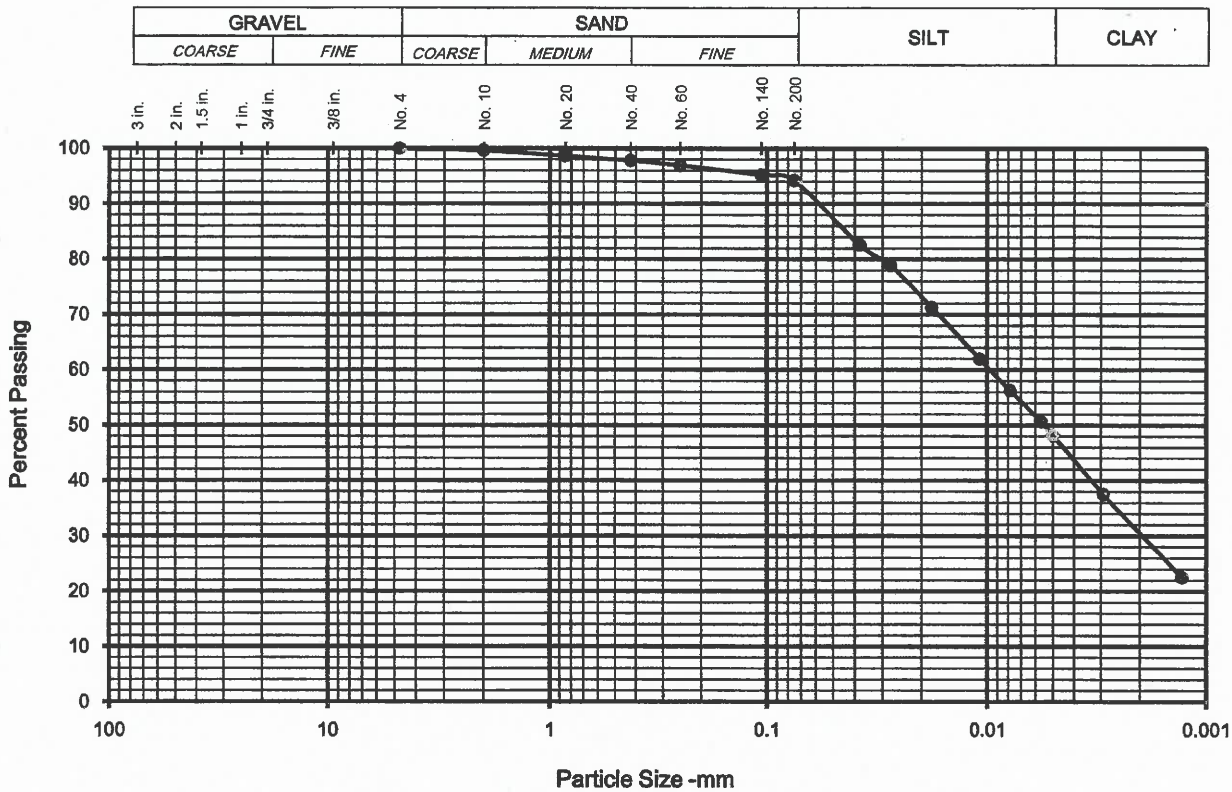
Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	23.40	Air-dry Mass in Test (**W_1**), gr.:	54.22
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	21.61	Oven-dry Mass in Test (W_2),gr.:	50.07
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.924		($W_1 x F_C$)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	50.13
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/10/17	10:53:06	0	---	---	---	---	---	---	---	---
7/10/17	10:54:06	1	22	43	4	39	77.0	0.01312	9.2	0.0398
7/10/17	10:55:06	2	22	41	4	37	73.1	0.01312	9.6	0.0287
7/10/17	10:58:06	5	22	38	4	34	67.1	0.01312	10.1	0.0186
7/10/17	11:08:06	15	22	33	4	29	57.3	0.01312	10.9	0.0112
7/10/17	11:23:06	30	22	29	4	25	49.4	0.01312	11.5	0.0081
7/10/17	11:53:06	60	22	26	4	22	43.4	0.01312	12.0	0.0059
7/10/17	15:03:06	250	22	21	4	17	33.6	0.01312	12.9	0.0030
7/11/17	10:53:06	1440	22	15	4	11	21.7	0.01312	13.8	0.0013

[1] P = (Ra/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	100.0	0.0380	82.6
2 in.	50.0	---	No. 10	2.00	99.6	0.0275	78.8
1.5 in.	38.1	---	No. 20	0.85	98.6	0.0180	71.3
1 in.	25.0	---	No. 40	0.425	97.8	0.0108	61.9
3/4 in.	19.0	---	No. 60	0.250	96.9	0.0078	56.3
3/8 in.	9.5	---	No. 140	0.106	95.2	0.0057	50.7
			No. 200	0.075	94.2	0.0029	37.5
						0.0013	22.5
% GRAVEL			% SAND			% FINES	
Coarse	Fine		Coarse	Medium	Fine	Silt	Clay
0.0	0.0		0.4	1.8	3.6	46.0	48.2
Coefficients:	C_u = N/A			C_c = N/A			

Boring No.:
BA-5
Sample No.:
D-4
Depth:
25.5-26 feet
Soil Description:
Light Olive Brown (2.5Y, 5/3)
Fat Clay
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler

PARTICLE SIZE DISTRIBUTION CURVE

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570
Phase 0002

amec foster wheeler

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-5	*Sample No.:*	D-4	*Depth:*	25.5-26 feet
Soil Description:	Light Olive Brown (2.5Y, 5/3) Fat Clay			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4			0.00		0.0	100.0
No. 10			0.32		0.4	99.6
No. 20			1.22		1.4	98.6
No. 40			1.95		2.2	97.8
No. 60			2.72		3.1	96.9
No. 140			4.24		4.8	95.2
No. 200			5.13		5.8	94.2

Tare No.:	R-68
Dry wt. and tare, gr.:	336.70
Tare weight, gr.:	247.66
Total dry weight, gr.:	89.04
Tare No., Hydromtr.:	3
Tare No., Hygroscp.:	MC-45
Soaking Container:	H-7
Jar No.:	7

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	24.65	Air-dry Mass in Test (**W_1**), gr.:	55.94
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	23.16	Oven-dry Mass in Test (W_2),gr.:	52.56
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.940		(W_1xF_C)

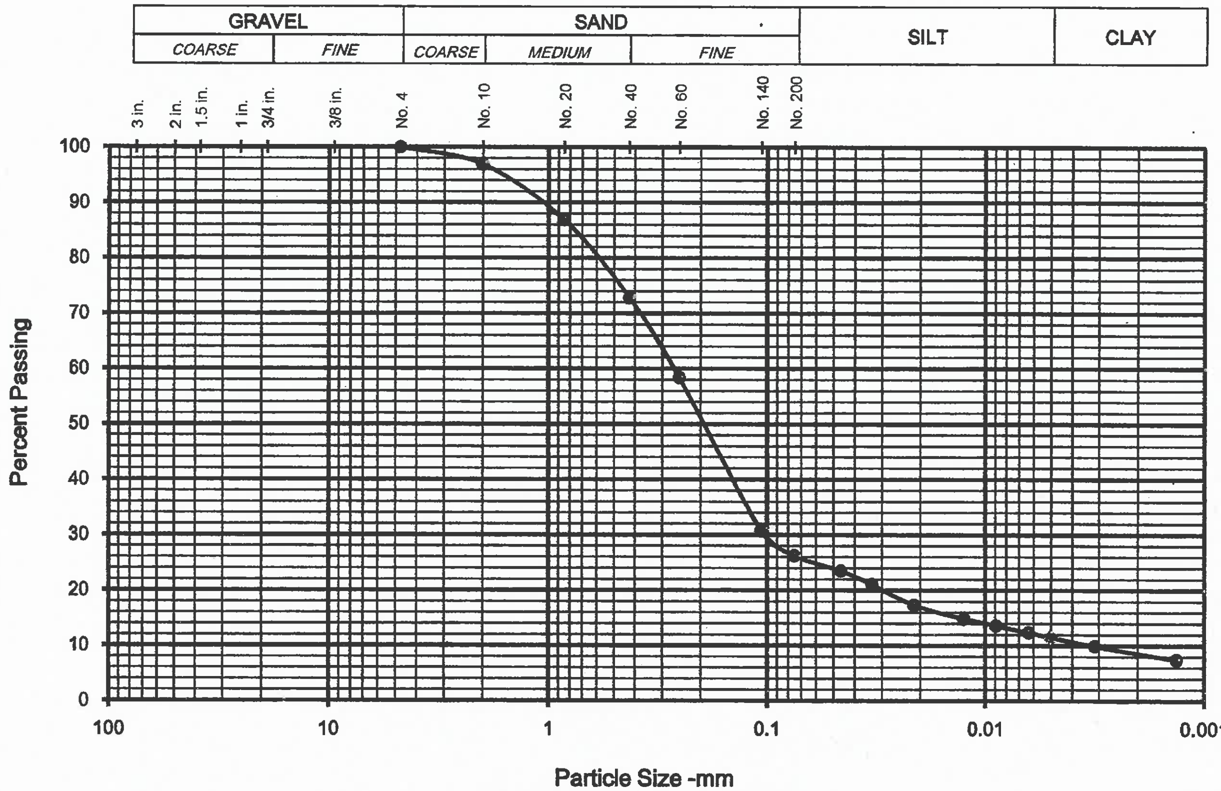
Specific Gravity: 2.70 Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.: 52.75

Correction Factor *a*: 0.99 (W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/10/17	10:49:35	0	---	---	---	---	---	---	---	---
7/10/17	10:50:35	1	22	48	4	44	82.6	0.01312	8.4	0.0380
7/10/17	10:51:35	2	22	46	4	42	78.8	0.01312	8.8	0.0275
7/10/17	10:54:35	5	22	42	4	38	71.3	0.01312	9.4	0.0180
7/10/17	11:04:35	15	22	37	4	33	61.9	0.01312	10.2	0.0108
7/10/17	11:19:35	30	22	34	4	30	56.3	0.01312	10.7	0.0078
7/10/17	11:49:35	60	22	31	4	27	50.7	0.01312	11.2	0.0057
7/10/17	14:59:35	250	22	24	4	20	37.5	0.01312	12.4	0.0029
7/11/17	10:49:35	1440	22	16	4	12	22.5	0.01312	13.7	0.0013

[1] P = (R*a*/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	100.0	0.0464	23.5
2 in.	50.0	---	No. 10	2.00	96.9	0.0333	21.0
1.5 in.	38.1	---	No. 20	0.85	86.9	0.0214	17.3
1 in.	25.0	---	No. 40	0.425	72.8	0.0125	14.9
3/4 in.	19.0	---	No. 60	0.250	58.4	0.0089	13.6
3/8 in.	9.5	---	No. 140	0.106	30.8	0.0063	12.4
			No. 200	0.075	26.2	0.0031	9.9
						0.0013	7.4
% GRAVEL			% SAND			% FINES	
Coarse	Fine		Coarse	Medium	Fine	Silt	Clay
0.0	0.0		3.1	24.1	46.6	14.7	11.5
Coefficients:	C_u = N/A			C_c = N/A			

Boring No.:
BA-5
Sample No.:
D-2
Depth:
10.5-11 feet
Soil Description:
Dark Yellowish Brown (10YR, 4/6) Clayey Sand
Group Symbol:
SC
Note: property of fine-grained particles per PI test

amec foster wheeler

PARTICLE SIZE DISTRIBUTION CURVE

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570
Phase 0002

amec foster wheeler

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-5	*Sample No.:*	D-2	*Depth:*	10.5-11 feet
Soil Description:	Dark Yellowish Brown (10YR, 4/6) Clayey Sand			*Group Symbol:*	SC
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4			0.00		0.0	100.0
No. 10			3.47		3.1	96.9
No. 20			14.57		13.1	86.9
No. 40			30.33		27.2	72.8
No. 60			46.47		41.6	58.4
No. 140			77.25		69.2	30.8
No. 200			82.33		73.8	26.2

Tare No.:	R-13
Dry wt. and tare, gr.:	356.22
Tare weight, gr.:	244.64
Total dry weight, gr.:	111.58
Tare No., Hydromtr.:	7
Tare No., Hygroscp.:	MC-53
Soaking Container:	H-6
Jar No.:	6

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

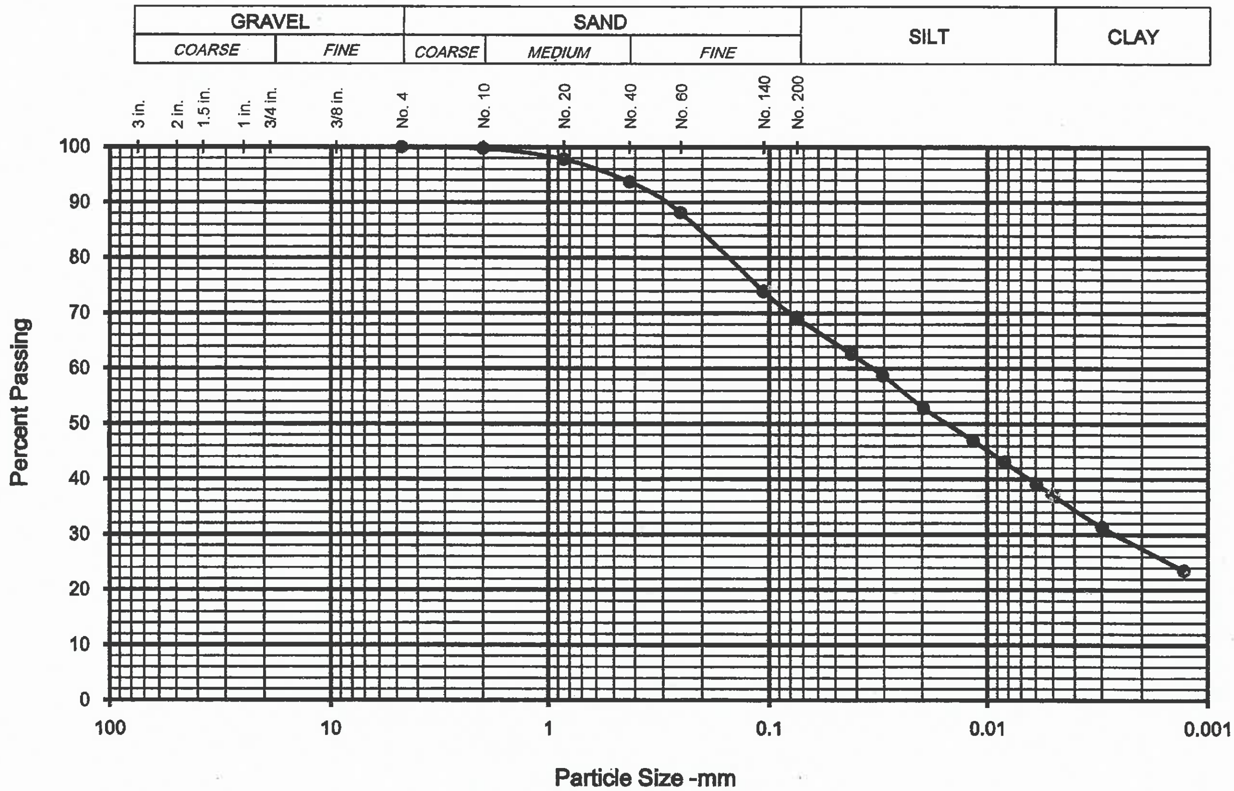
Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	24.19	Air-dry Mass in Test (**W_1**), gr.:	78.96
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	23.74	Oven-dry Mass in Test (W_2),gr.:	77.49
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.981		(W_1xF_C)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	79.98
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/10/17	10:46:45	0	---	---	---	---	---	---	---	---
7/10/17	10:47:45	1	22	23	4	19	23.5	0.01312	12.5	0.0464
7/10/17	10:48:45	2	22	21	4	17	21.0	0.01312	12.9	0.0333
7/10/17	10:51:45	5	22	18	4	14	17.3	0.01312	13.3	0.0214
7/10/17	11:01:45	15	22	16	4	12	14.9	0.01312	13.7	0.0125
7/10/17	11:16:45	30	22	15	4	11	13.6	0.01312	13.8	0.0089
7/10/17	11:46:45	60	22	14	4	10	12.4	0.01312	14.0	0.0063
7/10/17	14:56:45	250	22	12	4	8	9.9	0.01312	14.3	0.0031
7/11/17	10:46:45	1440	22	10	4	6	7.4	0.01312	14.7	0.0013

[1] P = (R*a*/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	100.0	0.0423	62.6
2 in.	50.0	---	No. 10	2.00	99.8	0.0303	58.7
1.5 in.	38.1	---	No. 20	0.85	97.8	0.0196	52.9
1 in.	25.0	---	No. 40	0.425	93.7	0.0116	47.0
3/4 in.	19.0	---	No. 60	0.250	88.2	0.0083	43.1
3/8 in.	9.5	---	No. 140	0.106	74.0	0.0060	39.2
			No. 200	0.075	69.3	0.0030	31.3
						0.0013	23.5

% GRAVEL		% SAND			% FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.2	6.0	24.5	32.1	37.2

Coefficients: C_u = N/A C_c = N/A

Boring No.:
BA-4
Sample No.:
D-3
Depth:
15.5-16 feet
Soil Description:
Grayish Brown (10YR, 5/2)
Sandy Fat Clay
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler

PARTICLE SIZE DISTRIBUTION CURVE

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570
Phase 0002

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-4	*Sample No.:*	D-3	*Depth:*	15.5-16 feet
Soil Description:	Grayish Brown (10YR, 5/2) Sandy Fat Clay			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4			0.00		0.0	100.0
No. 10			0.19		0.2	99.8
No. 20			1.79		2.2	97.8
No. 40			5.14		6.3	93.7
No. 60			9.67		11.8	88.2
No. 140			21.31		26.0	74.0
No. 200			25.16		30.7	69.3

Tare No.:	R-3
Dry wt. and tare, gr.:	327.08
Tare weight, gr.:	245.23
Total dry weight, gr.:	81.85
Tare No., Hydromtr.:	13
Tare No., Hygroscp.:	MC-81
Soaking Container:	H-5
Jar No.:	5

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

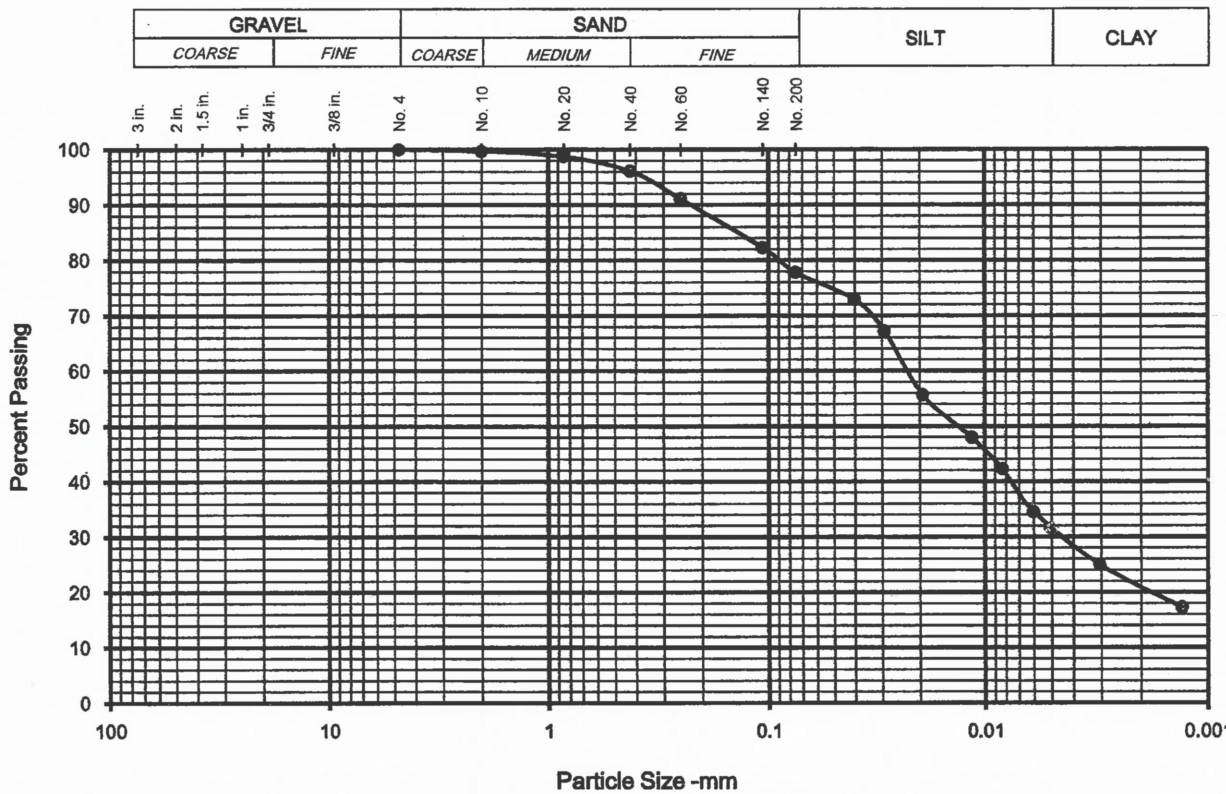
Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	22.10	Air-dry Mass in Test (W_1), gr.:	52.45
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	21.26	Oven-dry Mass in Test (W_2),gr.:	50.46
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.962		(W_1xF_C)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	50.57
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/6/17	11:45:43	0	---	---	---	---	---	---	---	---
7/6/17	11:46:43	1	22	36	4	32	62.6	0.01312	10.4	0.0423
7/6/17	11:47:43	2	22	34	4	30	58.7	0.01312	10.7	0.0303
7/6/17	11:50:43	5	22	31	4	27	52.9	0.01312	11.2	0.0196
7/6/17	12:00:43	15	22	28	4	24	47.0	0.01312	11.7	0.0116
7/6/17	12:15:43	30	22	26	4	22	43.1	0.01312	12.0	0.0083
7/6/17	12:45:43	60	22	24	4	20	39.2	0.01312	12.4	0.0060
7/6/17	15:55:43	250	22	20	4	16	31.3	0.01312	13.0	0.0030
7/7/17	11:45:43	1440	22	16	4	12	23.5	0.01312	13.7	0.0013

[1] P = (R*a*/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	100.0	0.0402	72.9
2 in.	50.0	---	No. 10	2.00	99.7	0.0292	67.2
1.5 in.	38.1	---	No. 20	0.85	98.8	0.0194	55.7
1 in.	25.0	---	No. 40	0.425	96.1	0.0115	48.0
3/4 in.	19.0	---	No. 60	0.250	91.2	0.0083	42.2
3/8 in.	9.5	---	No. 140	0.106	82.3	0.0060	34.5
			No. 200	0.075	77.8	0.0030	24.9
						0.0013	17.3
% GRAVEL		% SAND			% FINES		
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	
0.0	0.0	0.3	3.6	18.3	46.4	31.4	
Coefficients:	C_u = N/A			C_c = N/A			

Boring No.:
BA-3
Sample No.:
D-6
Depth:
35.5-36 feet
Soil Description:
Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler

PARTICLE SIZE DISTRIBUTION CURVE

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570
Phase 0002

amec foster wheeler

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-3	*Sample No.:*	D-6	*Depth:*	35.5-36 feet
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4			0.00		0.0	100.0
No. 10			0.18		0.3	99.7
No. 20			0.74		1.2	98.8
No. 40			2.32		3.9	96.1
No. 60			5.31		8.8	91.2
No. 140			10.65		17.7	82.3
No. 200			13.33		22.2	77.8

Tare No.:	R-5
Dry wt. and tare, gr.:	309.36
Tare weight, gr.:	249.27
Total dry weight, gr.:	60.09
Tare No., Hydromtr.:	12
Tare No., Hygroscp.:	MC-50
Soaking Container:	H-4
Jar No.:	4

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

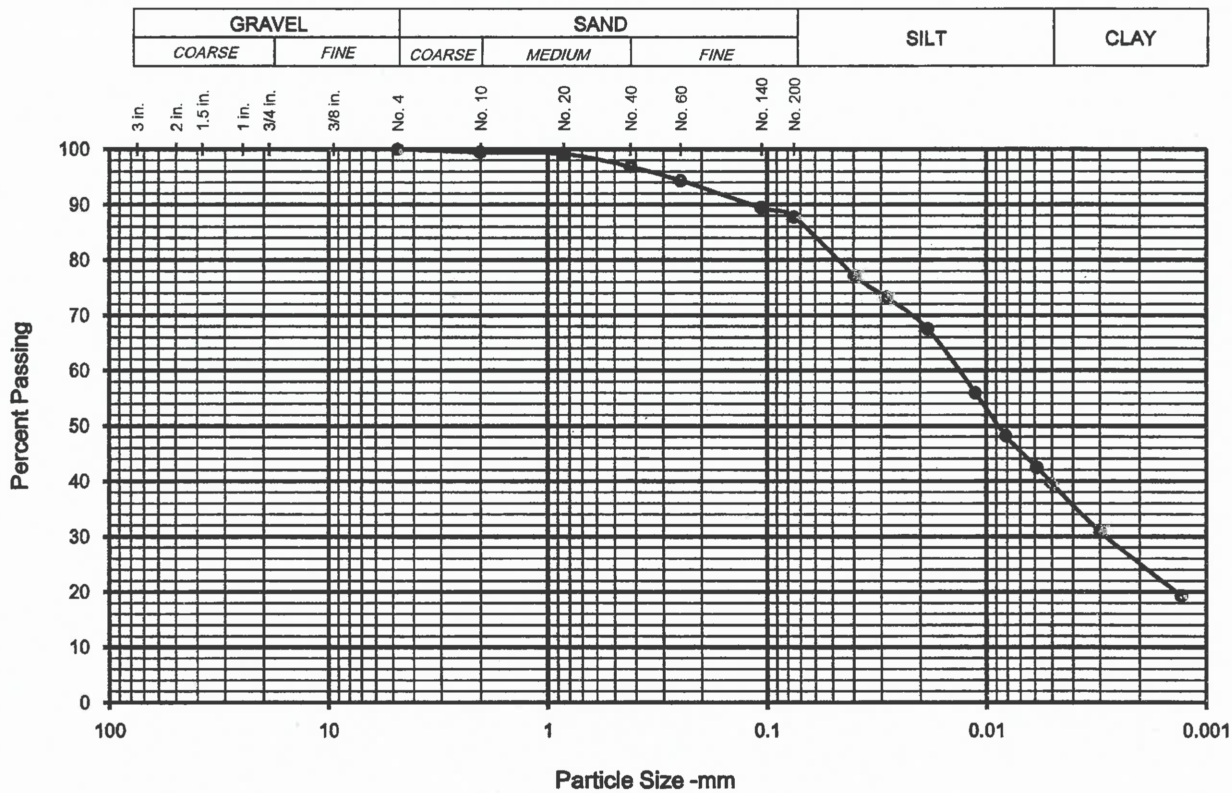
Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	18.96	Air-dry Mass in Test (W_1), gr.:	53.55
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	18.21	Oven-dry Mass in Test (W_2),gr.:	51.43
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.960		(W_1xF_C)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	51.59
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/6/17	11:42:47	0	---	---	---	---	---	---	---	---
7/6/17	11:43:47	1	22	42	4	38	72.9	0.01312	9.4	0.0402
7/6/17	11:44:47	2	22	39	4	35	67.2	0.01312	9.9	0.0292
7/6/17	11:47:47	5	22	33	4	29	55.7	0.01312	10.9	0.0194
7/6/17	11:57:47	15	22	29	4	25	48.0	0.01312	11.5	0.0115
7/6/17	12:12:47	30	22	26	4	22	42.2	0.01312	12.0	0.0083
7/6/17	12:42:47	60	22	22	4	18	34.5	0.01312	12.7	0.0060
7/6/17	15:52:47	250	22	17	4	13	24.9	0.01312	13.5	0.0030
7/7/17	11:42:47	1440	22	13	4	9	17.3	0.01312	14.2	0.0013

[1] P = (Ra/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	100.0	0.0396	77.2
2 in.	50.0	---	No. 10	2.00	99.5	0.0284	73.3
1.5 in.	38.1	---	No. 20	0.85	99.2	0.0185	67.5
1 in.	25.0	---	No. 40	0.425	96.8	0.0112	56.0
3/4 in.	19.0	---	No. 60	0.250	94.4	0.0081	48.2
3/8 in.	9.5	---	No. 140	0.106	89.5	0.0059	42.4
			No. 200	0.075	87.8	0.0030	30.9
						0.0013	19.3
% GRAVEL			% SAND			% FINES	
Coarse	Fine		Coarse	Medium	Fine	Silt	Clay
0.0	0.0		0.5	2.6	9.0	48.3	39.5
Coefficients:	C_u = N/A			C_c = N/A			

Boring No.:
BA-2
Sample No.:
D-2
Depth:
10.5-11 feet
Soil Description:
Pale Brown (10YR, 6/3) Fat Clay
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler

PARTICLE SIZE DISTRIBUTION CURVE

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570
Phase 0002

amec foster wheeler

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-2	*Sample No.:*	D-2	*Depth:*	10.5-11 feet
Soil Description:	Pale Brown (10YR, 6/3) Fat Clay			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4			0.00		0.0	100.0
No. 10			0.30		0.5	99.5
No. 20			0.47		0.8	99.2
No. 40			1.79		3.2	96.8
No. 60			3.20		5.6	94.4
No. 140			5.98		10.5	89.5
No. 200			6.93		12.2	87.8

Tare No.:	R-4
Dry wt. and tare, gr.:	304.91
Tare weight, gr.:	248.09
Total dry weight, gr.:	56.82
Tare No., Hydromtr.:	18
Tare No., Hygroscp.:	MC-25
Soaking Container:	H-3
Jar No.:	3

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

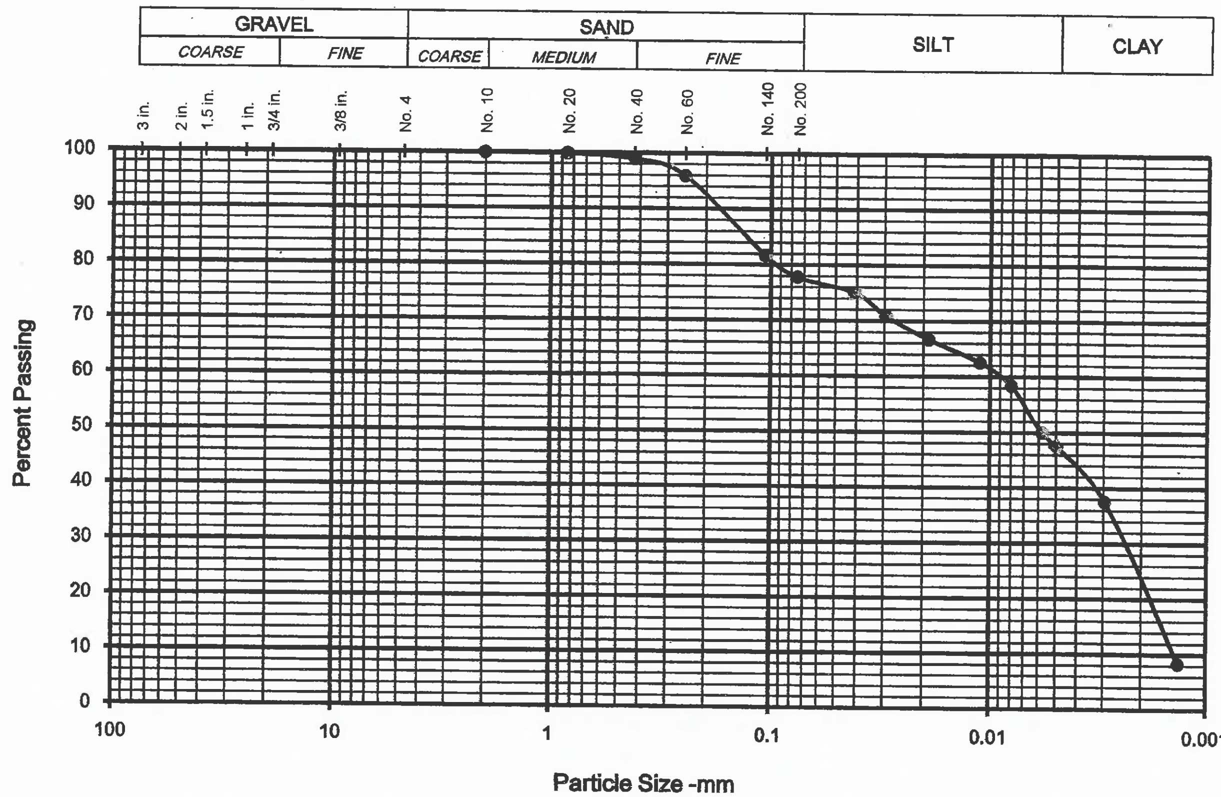
Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	18.98	Air-dry Mass in Test (**W_1**), gr.:	53.76
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	18.02	Oven-dry Mass in Test (W_2),gr.:	51.04
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.949		(W_1xF_C)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	51.31
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/6/17	11:39:42	0	---	---	---	---	---	---	---	---
7/6/17	11:40:42	1	22	44	4	40	77.2	0.01312	9.1	0.0396
7/6/17	11:41:42	2	22	42	4	38	73.3	0.01312	9.4	0.0284
7/6/17	11:44:42	5	22	39	4	35	67.5	0.01312	9.9	0.0185
7/6/17	11:54:42	15	22	33	4	29	56.0	0.01312	10.9	0.0112
7/6/17	12:09:42	30	22	29	4	25	48.2	0.01312	11.5	0.0081
7/6/17	12:39:42	60	22	26	4	22	42.4	0.01312	12.0	0.0059
7/6/17	15:49:42	250	22	20	4	16	30.9	0.01312	13.0	0.0030
7/7/17	11:39:42	1440	22	14	4	10	19.3	0.01312	14.0	0.0013

[1] P = (R*a*/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	---	0.0409	75.0
2 in.	50.0	---	No. 10	2.00	100.0	0.0295	70.9
1.5 in.	38.1	---	No. 20	0.85	99.9	0.0189	66.7
1 in.	25.0	---	No. 40	0.425	98.9	0.0111	62.5
3/4 in.	19.0	---	No. 60	0.250	95.9	0.0080	58.4
3/8 in.	9.5	---	No. 140	0.106	81.6	0.0058	50.0
			No. 200	0.075	77.7	0.0030	37.5
						0.0013	8.3

% GRAVEL		% SAND			% FINES	
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	1.1	21.2	30.2	47.5

Coefficients: C_u = N/A C_c = N/A

Boring No.:
BA-1
Sample No.:
D-7
Depth:
50.5-51 feet
Soil Description:
Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler

PARTICLE SIZE DISTRIBUTION CURVE

EDLEEN DRIVE

Tarzana, Los Angeles, California

Project No.
IR17166570
Phase 0002

amec foster wheeler

PARTICLE SIZE DISTRIBUTION

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-1	*Sample No.:*	D-7	*Depth:*	50.5-51 feet
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4						
No. 10			0.00		0.0	100.0
No. 20			0.07		0.1	99.9
No. 40			0.64		1.1	98.9
No. 60			2.41		4.1	95.9
No. 140			10.85		18.4	81.6
No. 200			13.14		22.3	77.7

Tare No.:	R-1
Dry wt. and tare, gr.:	307.28
Tare weight, gr.:	248.24
Total dry weight, gr.:	59.04
Tare No., Hydromtr.:	10
Tare No., Hygroscp.:	MC-49
Soaking Container:	H-2
Jar No.:	2

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

Composite Correction (C_C) =	7 @ 16°C	*Hygroscopic Moisture:*			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	25.59	Air-dry Mass in Test (W_1), gr.:	50.08
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	24.27	Oven-dry Mass in Test (W_2),gr.:	47.50
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.948		(W_1xF_C)

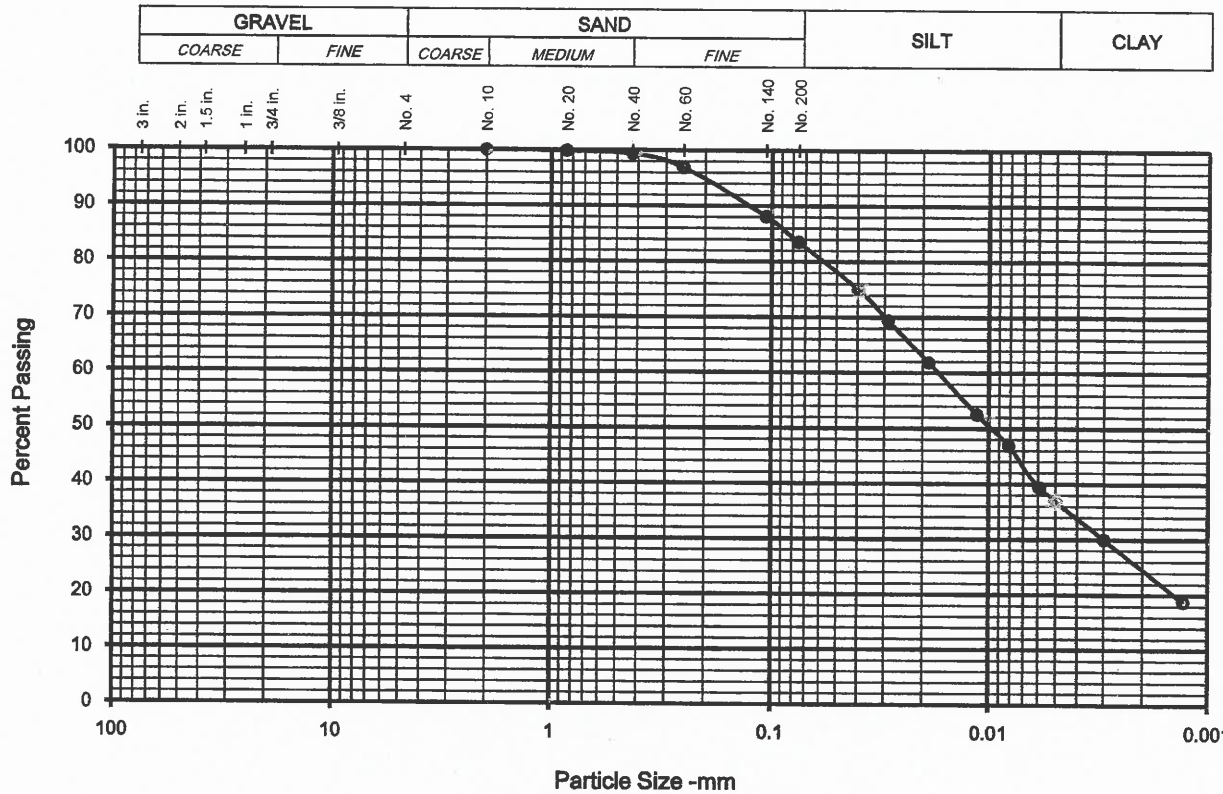
Specific Gravity: 2.70 Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.: 47.50

Correction Factor *a*: 0.99 (W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/6/17	11:36:22	0	---	---	---	---	---	---	---	---
7/6/17	11:37:22	1	22	40	4	36	75.0	0.01312	9.7	0.0409
7/6/17	11:38:22	2	22	38	4	34	70.9	0.01312	10.1	0.0295
7/6/17	11:41:22	5	22	36	4	32	66.7	0.01312	10.4	0.0189
7/6/17	11:51:22	15	22	34	4	30	62.5	0.01312	10.7	0.0111
7/6/17	12:06:22	30	22	32	4	28	58.4	0.01312	11.1	0.0080
7/6/17	12:36:22	60	22	28	4	24	50.0	0.01312	11.7	0.0058
7/6/17	15:46:22	250	22	22	4	18	37.5	0.01312	12.7	0.0030
7/7/17	11:36:22	1440	22	8	4	4	8.3	0.01312	15.0	0.0013

[1] P = (R*a*/W)*100

[2] D = K*SQRT(L/T)



Sieve No.	Opening (mm)	Percent Finer	Sieve No.	Opening (mm)	Percent Finer	Particle Size (mm)	Percent Finer
3 in.	75.0	---	No. 4	4.75	---	0.0396	75.0
2 in.	50.0	---	No. 10	2.00	100.0	0.0287	69.4
1.5 in.	38.1	---	No. 20	0.85	99.9	0.0187	61.9
1 in.	25.0	---	No. 40	0.425	99.4	0.0113	52.5
3/4 in.	19.0	---	No. 60	0.250	96.9	0.0081	46.9
3/8 in.	9.5	---	No. 140	0.106	88.1	0.0059	39.4
			No. 200	0.075	83.5	0.0030	30.0
						0.0013	18.8
% GRAVEL			% SAND			% FINES	
Coarse	Fine		Coarse	Medium	Fine	Silt	Clay
0.0	0.0		0.0	0.6	15.9	46.5	37.0
Coefficients:	C_u = N/A				C_c = N/A		

Boring No.:
BA-1
Sample No.:
D-4
Depth:
20.5-21 feet
Soil Description:
Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand
Group Symbol:
CH
Note: property of fine-grained particles per PI test

amec foster wheeler	PARTICLE SIZE DISTRIBUTION CURVE	Project No.
	EDLEEN DRIVE	IR17166570
	Tarzana, Los Angeles, California	Phase 0002

PARTICLE SIZE DISTRIBUTION

amec foster wheeler

Project Name:	Edleen Drive	*Project No.:*	IR17166570	*Phase:*	0002
Boring No.:	BA-1	*Sample No.:*	D-4	*Depth:*	20.5-21 feet
Soil Description:	Dark Grayish Brown (2.5Y, 4/2) Fat Clay with Sand			*Group Symbol:*	CH
		Date:	6/20-7/12/2017	*By:*	LT

SIEVE ANALYSIS

ASTM-D6913

Sieve Size	Note	Weight Retained		Percent Retained		Percent Passing
U.S. Standard		Individual	Cumulative	Individual	Cumulative	Cumulative
3 in.						
2 in.						
1.5 in.						
1 in.						
3/4 in.						
3/8 in.						
No. 4						
No. 10			0.00		0.0	100.0
No. 20			0.12		0.1	99.9
No. 40			0.56		0.6	99.4
No. 60			2.77		3.1	96.9
No. 140			10.67		11.9	88.1
No. 200			14.84		16.5	83.5

Tare No.:	R-2
Dry wt. and tare, gr.:	338.61
Tare weight, gr.:	248.75
Total dry weight, gr.:	89.86
Tare No., Hydromtr.:	17
Tare No., Hygroscp.:	MC-76
Soaking Container:	H-1
Jar No.:	1

Notes:

HYDROMETER ANALYSIS (152H)

ASTM-D422

Composite Correction (C_C) =	7 @ 16°C	***Hygroscopic Moisture:***			
Composite Correction (C_C) =	5 @ 20°C	Air-dry Mass, gr.:	27.02	Air-dry Mass in Test (W_1), gr.:	55.05
Composite Correction (C_C) =	3 @ 24°C	Oven-dry Mass, gr.:	25.91	Oven-dry Mass in Test (W_2),gr.:	52.79
Composite Correction (C_C) =	@ °C	Correction Factor (F_C):	0.959		(W_1xF_C)

Specific Gravity:	2.70	Total Mass Represented by the Mass Used in the Hydrometer Test (W), gr.:	52.79
Correction Factor *a*:	0.99		(W_2/Percent <#10)

Date	Time	Elapsed Time,min. (T)	Temp. (°C)	Actual Reading (R_1)	Composite Correction (C_C)	Hydrometer Reading (R)	Percent Passing (P) [1]	Value of K	Effective Depth (L)	Diameter of Particle, mm (D) [2]
7/6/17	11:33:27	0	---	---	---	---	---	---	---	---
7/6/17	11:34:27	1	22	44	4	40	75.0	0.01312	9.1	0.0396
7/6/17	11:35:27	2	22	41	4	37	69.4	0.01312	9.6	0.0287
7/6/17	11:38:27	5	22	37	4	33	61.9	0.01312	10.2	0.0187
7/6/17	11:48:27	15	22	32	4	28	52.5	0.01312	11.1	0.0113
7/6/17	12:03:27	30	22	29	4	25	46.9	0.01312	11.5	0.0081
7/6/17	12:33:27	60	22	25	4	21	39.4	0.01312	12.2	0.0059
7/6/17	15:43:27	250	22	20	4	16	30.0	0.01312	13.0	0.0030
7/7/17	11:33:27	1440	22	14	4	10	18.8	0.01312	14.0	0.0013

[1] P = (Ra/W)*100

[2] D = K*SQRT(L/T)

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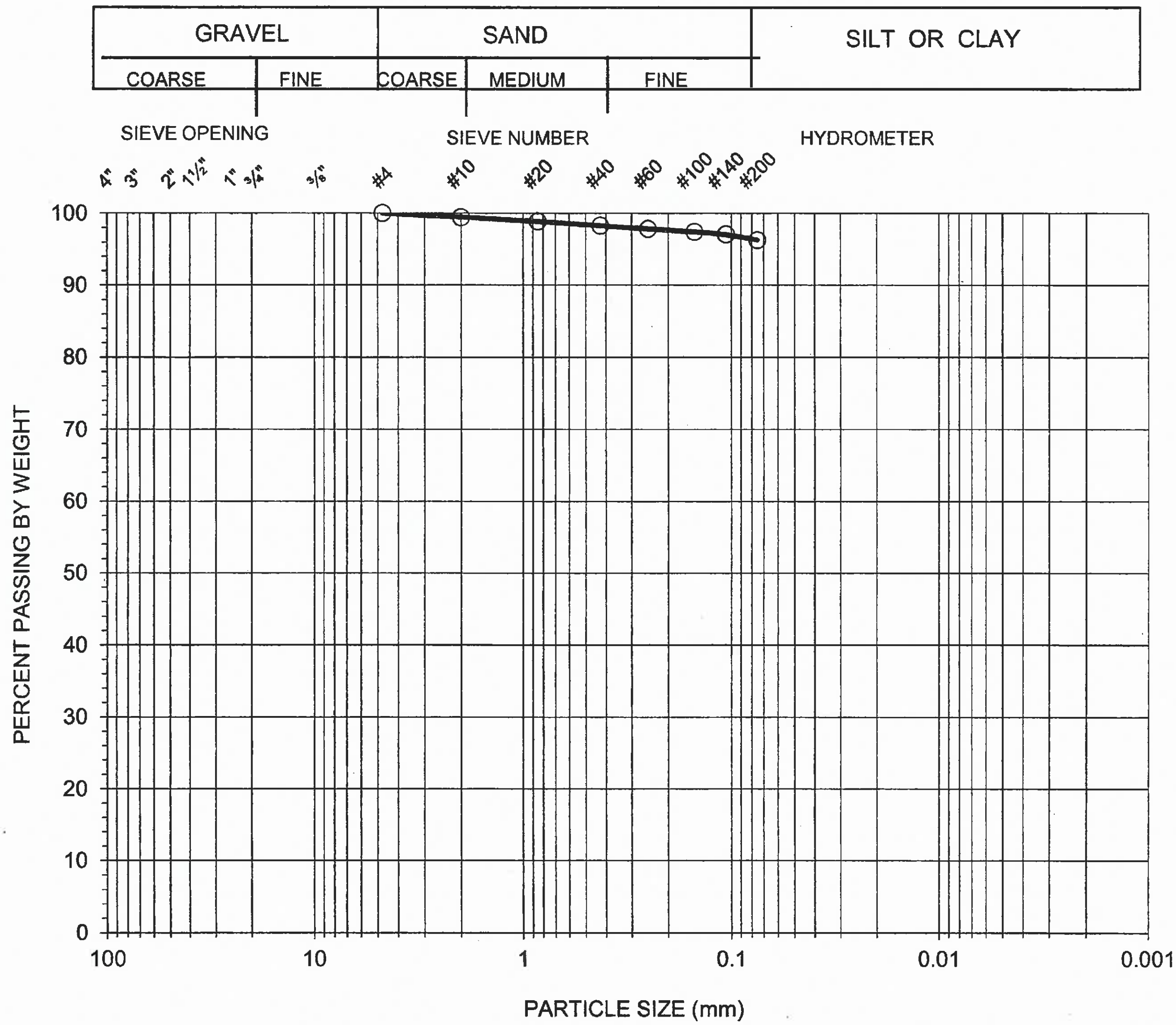
GRAIN SIZE DISTRIBUTION CURVE
ASTM D 6913

Client Name:	AMEC Foster Wheeler	Tested by:	CS	Date:	06/15/17
Project Name:	Edleen Dr.	Computed by:	JP	Date:	06/15/17
Project Number:	IR17166570	Checked by:	AP	Date:	06/15/17



Symbol	Boring No.	Sample No.	Sample Depth (feet)	Percent			Atterberg Limits LL:PL:PI	Soil Type U.S.C.S
				Gravel	Sand	Silt & Clay		
O	BA-8	D-2	10.5-11	0	4	96	N/A	ML

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GRAIN SIZE DISTRIBUTION CURVE
ASTM D 6913

Client Name:	AMEC Foster Wheeler	Tested by:	CS	Date:	06/15/17
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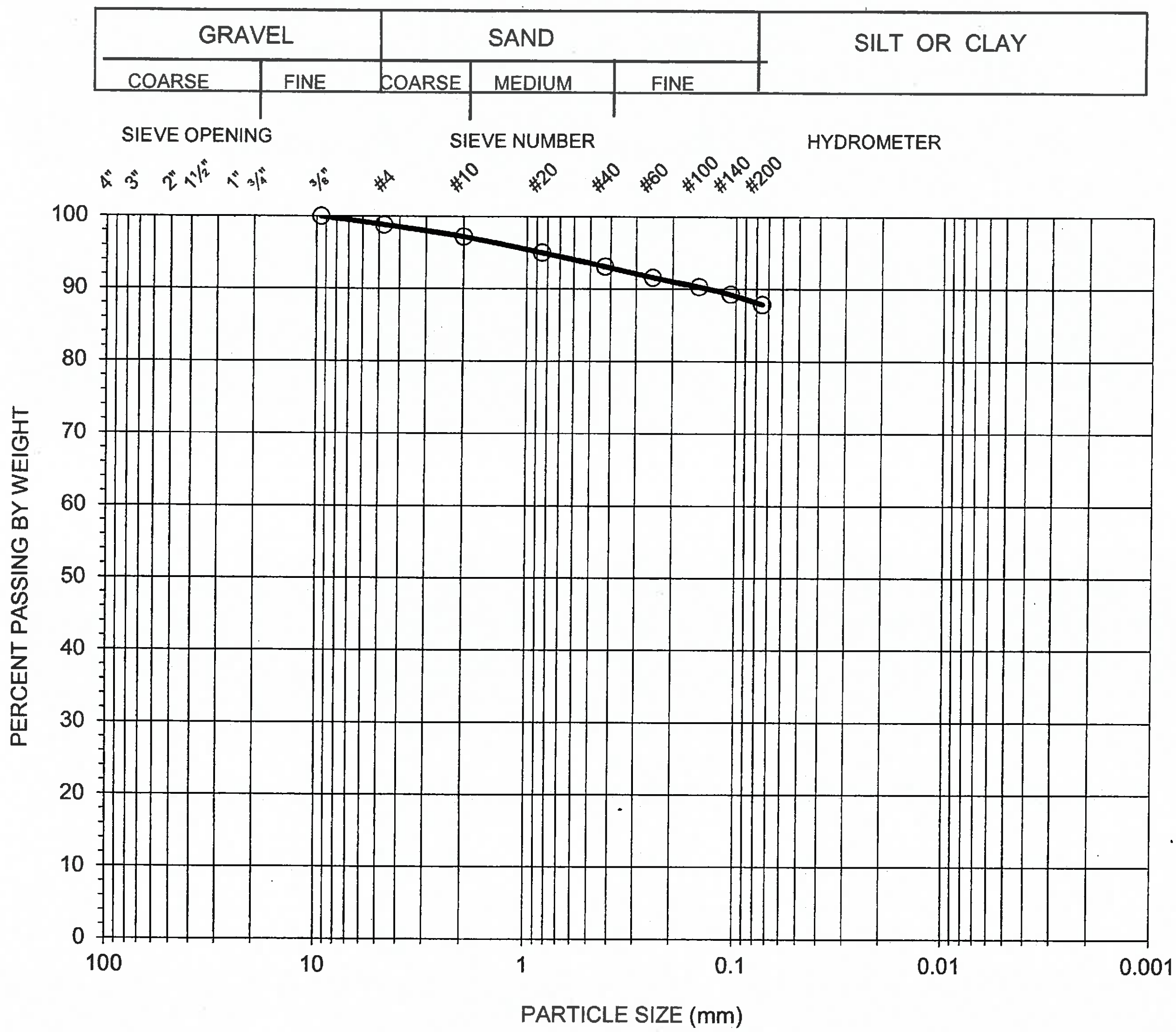

Symbol	Boring No.	Sample No.	Sample Depth (feet)	Percent			Atterberg Limits LL:PL:PI	Soil Type U.S.C.S
				Gravel	Sand	Silt & Clay		
○	BA-5	D-1	5.5-6	1	11	88	N/A	ML

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GRAIN SIZE DISTRIBUTION CURVE
ASTM D 6913

Client Name:	AMEC Foster Wheeler	Tested by:	CS	Date:	06/15/17
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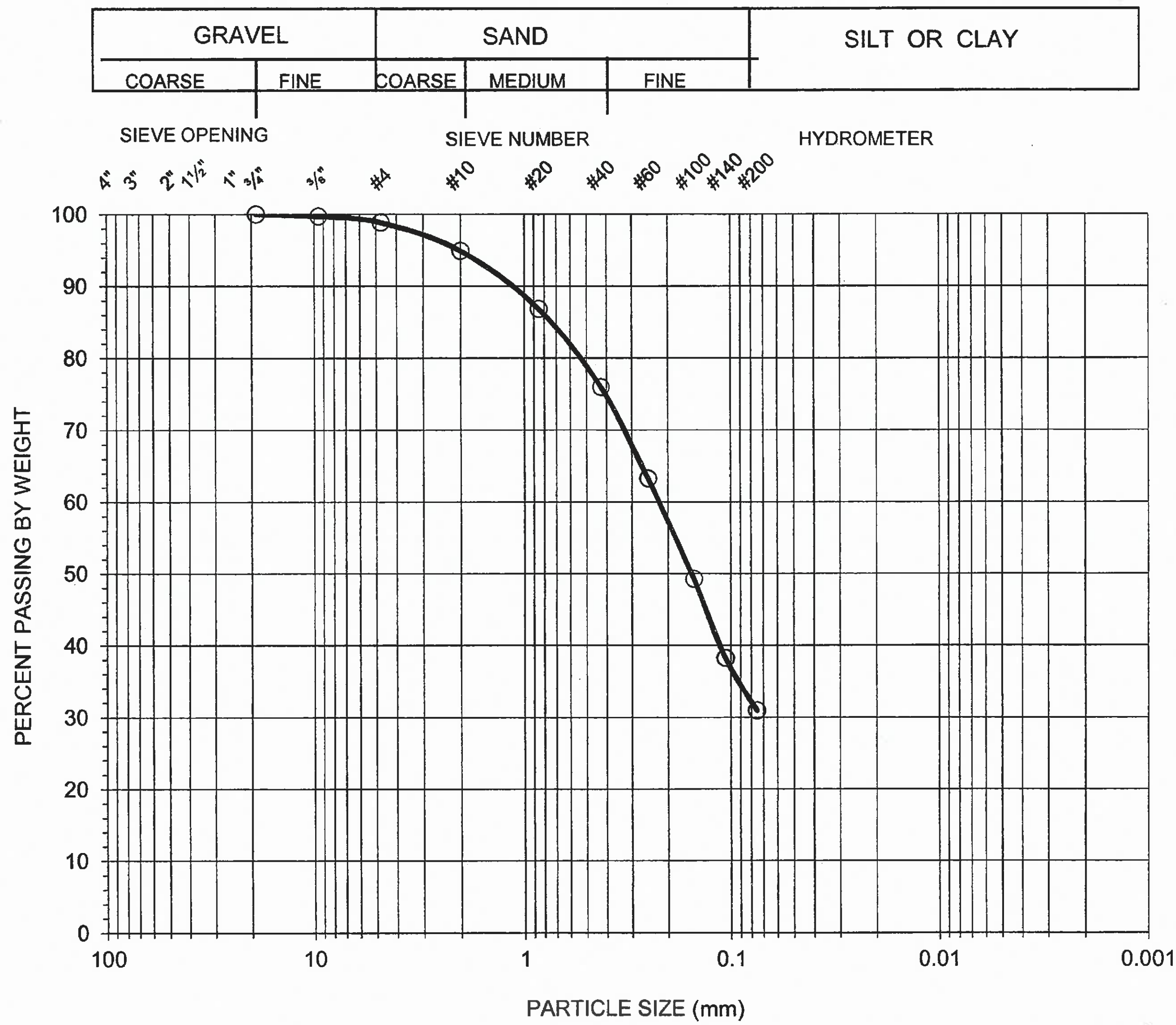
Project Number:	IR17166570	Checked by:	AP	Date:	06/15/17



Symbol	Boring No.	Sample No.	Sample Depth (feet)	Percent			Atterberg Limits LL:PL:PI	Soil Type U.S.C.S
				Gravel	Sand	Silt & Clay		
O	BA-3	B-3	21-22.5	1	68	31	N/A	SM

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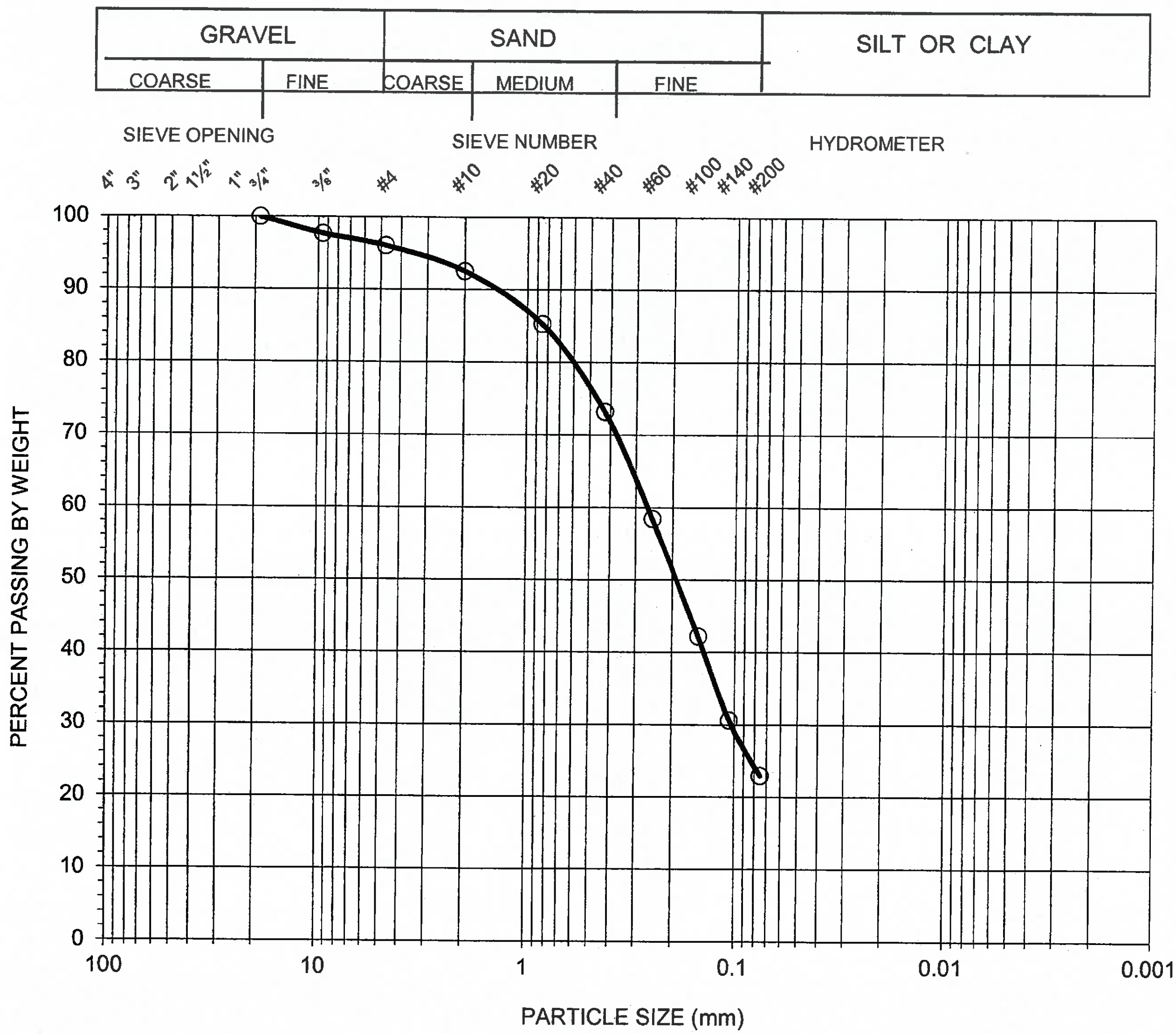
GRAIN SIZE DISTRIBUTION CURVE
ASTM D 6913

Client Name:	AMEC Foster Wheeler	Tested by:	CS	Date:	06/15/17
Project Name:	Edleen Dr.	Computed by:	JP	Date:	06/15/17
Project Number:	IR17166570	Checked by:	AP	Date:	06/15/17



Symbol	Boring No.	Sample No.	Sample Depth (feet)	Percent			Atterberg Limits LL:PL:PI	Soil Type U.S.C.S
				Gravel	Sand	Silt & Clay		
○	BA-1	D-1	5.5-6	4	73	23	N/A	SM

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PERCENT PASSING NO. 200 SIEVE
ASTM D1140

Client:	AMEC Foster Wheeler	AP Lab No.:	17-0614
Project Name:	Edleen Dr.	Test Date:	06/22/17
Project Number:	IR17166570		

Boring No.	Sample No.	Depth (ft)	Percent Fines (%)
BA-4	B-3	43-44	94.2

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PERCENT PASSING NO. 200 SIEVE
ASTM D1140

Client:	AMEC Foster Wheeler	AP Lab No.:	17-0614
Project Name:	Edleen Dr.	Test Date:	06/13/17
Project Number:	IR17166570		

Boring No.	Sample No.	Depth (ft)	Percent Fines (%)
BA-1	B-1	1-5	21.0

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-8	D-1	5.5-6	24.4	70.2
BA-8	D-2	10.5-11	34.1	72.3
BA-8	D-3	15.5-16	38.2	68.2
BA-8	D-5	35.5-36	41.2	74.3
BA-8	D-6	45.5-46	79.0	52.9

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-7	D-1	5.5-6	25.1	70.4
BA-7	D-3	15.5-16	34.2	73.2
BA-7	D-4	25.5-26	54.2	62.1
BA-7	D-5	37.5-38	20.7	118.7

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-6	D-1	5.5-6	30.9	70.7
BA-6	D-2	10.5-11	21.8	59.6
BA-6	D-3	15.5-16	24.5	72.1
BA-6	D-4	20.5-21	20.8	63.3
BA-6	D-6	40.5-41	38.4	81.5
BA-6	D-7	50.5-51	43.7	75.0
BA-6	D-8	60.5-61	29.6	81.7
BA-6	D-9	70.5-71	40.8	75.2
BA-6	D-10	80.5-81	25.1	87.9

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-5	D-1	5.5-6	32.1	58.2
BA-5	D-3	15.5-16	24.4	84.1
BA-5	D-5	35.5-36	46.1	70.0
BA-5	D-6	45.5-46	35.9	77.8
BA-5	D-7	55.5-56	44.1	76.2
BA-5	D-8	65.5-66	42.3	76.3
BA-5	D-9	75.5-76	37.1	76.0
BA-5	D-10	80.5-81	76.6	51.5

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-4	D-1	5.5-6	18.4	88.4
BA-4	D-2	10.5-11	19.3	79.1
BA-4	D-4	20.5-21	23.5	78.3
BA-4	D-5	25.5-26	8.2	106.2
BA-4	D-6	35.5-36	42.8	74.0
BA-4	D-7	45.5-46	34.7	83.1
BA-4	D-8	55.5-56	43.4	74.6
BA-4	D-9	65.5-66	42.2	75.6
BA-4	D-10	75.5-76	79.7	54.8

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-3	D-1	5.5-6	31.3	82.7
BA-3	D-2	10.5-11	18.5	80.5
BA-3	D-3	15.5-16	20.4	73.0
BA-3	D-4	20.5-21	6.8	101.7
BA-3	D-5	25.5-26	51.4	68.3
BA-3	D-7	45.5-46	28.9	82.9
BA-3	D-8	55.5-56	52.1	69.1
BA-3	D-9	65.5-66	30.6	82.8
BA-3	D-10	75.5-76	74.8	51.9
BA-3	D-11	81.5-82	12.9	110.9

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-2	D-1	5.5-6	33.4	79.4
BA-2	D-3	20.5-21	30.1	78.4
BA-2	D-4	30.5-31	28.2	89.3
BA-2	D-5	40.5-41	76.8	52.8
BA-2	D-6	50.5-51	10.0	99.9
BA-2	D-7	60.5-61	41.3	78.3
BA-2	D-8	70.5-71	26.3	87.4
BA-2	D-9	80.5-81	31.1	84.3

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MOISTURE AND DENSITY TEST RESULTS

Client: AMEC Foster Wheeler
Project Name: Edleen Dr.
Project No.: IR17166570

AP Lab No.: 17-0614
Date: 06/09/17

Boring No.	Sample No.	Sample Depth (ft.)	Moisture Content (%)	Dry Density (pcf)
BA-1	D-1	5.5-6	10.7	114.8
BA-1	D-2	10.5-11	14.6	101.8
BA-1	D-3	15.5-16	11.2	99.9
BA-1	D-5	30.5-31	39.0	82.4
BA-1	D-6	40.5-41	38.6	80.3
BA-1	D-8	60.5-61	37.3	81.2
BA-1	D-9	70.5-71	68.2	59.4
BA-1	D-10	80.5-81	51.2	68.2

Direct Shear

Direct shear tests were performed on selected relatively undisturbed ring samples in accordance with ASTM Method D3080. The sample was soaked prior to testing. A different normal stress was applied vertically to each soil sample ring, which was then sheared in a horizontal direction. A new ring was used for each load. Each shear test was performed on a single ring with no multiple re-shearing. Ring samples where large gravels were exposed at the surface were not used for the shear tests. For ring samples containing fine gravel, if the fine gravel pieces were visible at the surfaces of the sample during sample preparation, the gravel was removed and patched with finer soil to achieve smooth and flat conditions of the sample surfaces before placing the sample into the test apparatus. Fine gravels inside a sample that were not visible during sample preparation were left in place. The resulting shear strength for the corresponding normal stress was measured at maximum shear stress and at a shear strain of approximately twenty percent. Results of the direct shear tests are shown graphically on laboratory data sheets included in this appendix.

Repeated Direct Shear

Repeated direct shear tests were performed on selected relatively undisturbed ring samples in accordance with ASTM-D3080, CGS Special Publication 117A, and Blake et. al. (2002). The sample was soaked prior to testing. A different normal stress was applied vertically to each soil sample ring, which was then sheared in a horizontal direction. A new ring was used for each load. Each shear test was performed on a single ring with multiple cycles of shearing until the last two cycles with the same displacement curve results. The sample was manually returned to its original position at the end of each cycle of shearing. Ring samples where large gravels were exposed at the surface were not used for the shear tests. For ring samples containing fine gravel, if the fine gravel pieces were visible at the surfaces of the sample during sample preparation, the gravel was removed and patched with finer soil to achieve smooth and flat conditions of the sample surfaces before placing the sample into the test apparatus. Fine gravels inside a sample that were not visible during sample preparation were left in place. The resulting shear strength for the corresponding normal stress was measured at maximum shear stress, at a shear strain of approximately twenty percent of the first shearing, and at the end of the last re-shearing. Results of the direct shear tests are shown graphically on laboratory data sheets included in this appendix.

Corrosion Potential

Selected bulk samples from the exploratory borings were tested to determine corrosivity of site soils to steel and concrete. The soil was tested for pH and minimum resistivity (Caltrans Test Method 643), soluble sulfate (Caltrans 417), and chloride (Caltrans 422). The results of the corrosion tests are included in this appendix.

Fines Content

Fines content (fraction passing the #200 sieve) was determined to assist in classification and for evaluation of liquefaction potential of the coarse-grained soils. The tests were performed in general accordance with ASTM Test Method D1140. Results of the fines content tests are presented at the corresponding sample location on the boring logs in Appendix A and on a summary laboratory data sheet in this appendix.

Grain Size Distribution

Sieve and hydrometer tests were performed on representative soil samples to quantitatively determine the grain size distribution of the site soils and to assist in their classification. Test procedures were in general accordance with ASTM Test Method D422. The results of the grain size distribution analyses are shown graphically as gradation curves on laboratory data sheets included in this appendix.

Atterberg Limits

Atterberg Limits were performed on representative soil samples to determine the plasticity of fine-grained soils and to assist in their classification. The test procedures were performed in accordance with ASTM D4318. The results are presented on a laboratory test sheet in this appendix and the boring logs in Appendix C.

Expansion Index

Representative soil samples were tested to determine the Expansion Index (EI) of fine grained soils in accordance with UBC 18-2 or ASTM D4829. EI test results are shown on a laboratory data sheet in this appendix and the boring logs in Appendix C.

Compaction

Modified Proctor compaction tests were performed on representative samples. The test establishes the relationship between varying moisture content and dry density when the soil is compacted under standardized conditions. The maximum dry density achievable under these conditions and the corresponding optimum moisture content are then obtained. Test procedures were performed in accordance with ASTM Method D1557 - 90. The results of the compaction tests are presented graphically in this appendix

APPENDIX B

LABORATORY TESTING PROGRAM
GEOTECHNICAL EVALUATION REPORT
18801 to 18825 Edleen Drive
Tarzana, California

Selected soil samples were tested in the laboratory to evaluate their physical characteristics and engineering properties. The following tests were performed in accordance with ASTM standards:

- Moisture content and dry density
- Fines content
- Grain size distribution
- Atterberg Limits
- Expansion index
- Compaction
- Direct shear
- Repeated direct shear
- Corrosion potential

The repeated direct shear tests and other tests on the same sample for repeated direct shear tests (moisture and dry density, grain size distribution, and Atterberg Limits) were performed in the Amec Foster Wheeler laboratory in Irvine, California. Other tests were performed by AP Engineering & Testing, Inc. of Pomona, California.

Test procedures are described herein. The results of all the tests are presented in laboratory data sheets and/or graphs in this appendix. Abbreviations for the above tests and test results of moisture-dry density and Atterberg limits are also given at the corresponding sample locations on the boring logs in Appendix A.

Moisture Content and Dry Density

The field moisture contents, as a percentage of the dry weight of the soils, were determined by weighing samples before and after oven drying. The dry density, in pounds per cubic foot (pcf), was also determined for all relatively undisturbed ring samples collected. These analyses were performed in accordance with ASTM Methods D2216 and D2937. The results of these determinations are shown on a laboratory data sheet in this appendix and the boring logs in Appendix A.

APPENDIX B

Laboratory Testing Program

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-8 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
45	D6		9	@ 45' DIATOMACEOUS SILTSTONE with very thinly interbeds of CLAYSTONE and fine-grained SANDSTONE, very dark gray to very dark grayish brown, moderately indurated	Tm		79.0	52.9	
48				END OF BORING AT 48 FEET		TD at 1155 hours			

NOTES:

Groundwater was not encountered. Downhole logged to 43 feet. Borehole was backfilled with two-sack sand-cement slurry.

*Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing:

4,900-pounds from 0-25 feet

3,900-pounds from 25-48 feet

PID 'headspace' measurements of samples collected from boring ranged from 0.0 to 0.1 ppm

Downhole logged by D.L. Perry CEG on 5/16/2017

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

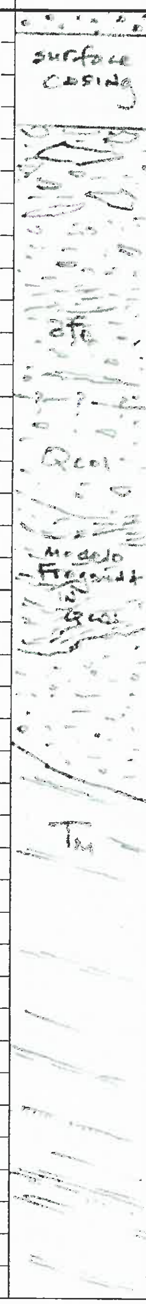
Log of Bucket Auger Boring No. BA-8 (cont'd)

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS Moisture Content (%)	Dry Density (pcf)	Other Tests
20–21				Poorly bedded from 20 to 22 feet	Tm				
22				@ 22': SILTY CLAYSTONE, dark brown and olive brown, with some very thin interbeds of fine-grained Sandstone, from 1/8 to ¼ inch thick, some gypsum along bedding, sandstone has some brown iron-oxide mottles					
24.5	B2	B				@24.0' B:N76W/16NE			
25.5	D4		1				42.9	77.8	GRAD. ATT:, LL=64, PI=33
27				@ 27': SILTY CLAYSTONE, with some very thin layers of gypsifeorous, fine-grained Sandstone to ½ inch, moist, poorly bedded, weakly indurated					
28	B3	B				@28.5' B:N72W/18NE			
29				@ 29': Some interbeds of very fine to fine-grained Sandstone and Siltstone, with gypsum lenses to 3/8-inch thick below 30.5 feet, sandstone is yellowish white					
32	B4	B		@ 32': SILTY CLAYSTONE, very dark grayish brown, unoxidized / fresh below 32 feet, contains about 10-20% interbeds of very fine-grained Sandstone		@33.0' B:N77W/16NE			
35.5	D5		4				41.2	74.3	
37	B5	B		@ 37': Lithology as above, very thin interbeds of Siltstone and fine-grained Sandstone, moderately indurated, moist		@37.0' B:N61W/18NE			
40.3				@ 40.3': Some thin interbeds of Siltstone, grayish brown		@41.0' B:N72W/17NE			
43						@43.0' B:N74W/12NE			

PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana		**Log of Bucket Auger** **Boring No. BA-8**	
BORING LOCATION: Brewster Drive: N6397805.83, E1880383.14		ELEVATION AND DATUM: , NAVD 88	
DRILLING CONTRACTOR: Roy Brothers		DATE STARTED: 05/16/2017	DATE FINISHED: 05/16/2017
DRILLING METHOD: Bucket Auger: 24" diameter		TOTAL DEPTH (ft.): 48.0	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: EZ Bore Bucket Auger		DEPTH TO WATER — FIRST: N/E	COMPL.: N/E — 24 HRS.:
SAMPLING METHOD: 12-inch Cal Mod		LOGGED BY: D.L. Perry CEG, 2040	
HAMMER WEIGHT: See Notes	DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry	REG. NO. CEG 2040

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0				5½-inch thick Asphalt Concrete Road Pavement				
0.5				**ARTIFICIAL FILL (afe)** SILTY CLAY (CL-ML) to SANDY LEAN CLAY (CL), dark grayish brown, dry to slightly moist, slightly porous, with large fragments of shale, siltstone and dolomite sandstone to approximately 12 inches in length, some roots				
3.5	B1	B						
5.5	D1		3			24.4	70.2	
6				**COLLUVIUM (Qcol)** SILT (ML) with lenses of SILTY CLAY (CL-ML), brown to yellowish brown, with shale and siltstone fragments, randomly oriented rock fragments @ 7.5' to 10': large 'block' of bedrock consisting of interbedded diatomaceous siltstone and clayey Siltstone, bedding appeared contorted (possible creep affected displaced block of bedrock in colluvium)				
10.5	D2		3	@ 10' Silty Clay (CL- Ml), with angular shale and Siltstone fragments		34.1	72.3	GRAD
12				**BEDROCK- MODELO FORMATION (Tm)** DIATOMACEOUS SILTSTONE with interbedded CLAYEY SILTSTONE and fine-grained Sandstone, yellowish brown, moist, very thinly bedded to laminated, moderately well bedded	@12.5' B:N76W/16NE			
15.5	D3		2			38.2	68.2	
16				@ 16': SILTY CLAYSTONE with thin laminae of Diatomaceous Siltstone				
17				@ 17': Some gypsum layers to 3/4 inch thick				
18				@ 18': Planar bedding, weakly to moderately indurated, some gypsum layers along bedding	@18.0' B:N73W/17NE			

GRAPHIC LOG

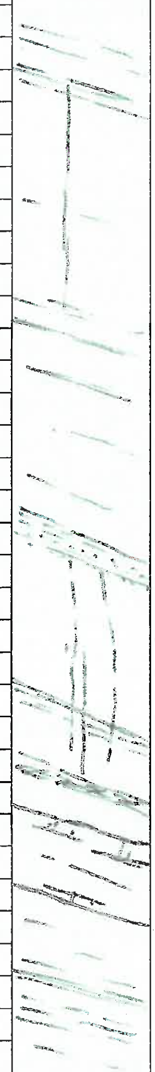


PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-7 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
21–22					@21.6' B: N66W/18NE, moderately well bedded			
22				@ 22': Some Diatomaceous Silty Shale interbeds, increased induration, moist	@22.0' J: N02W/85-90W			
25	D4		3	@ 25': DIATOMACEOUS SILTSTONE with interbeds of CLAYEY SILTSTONE, olive brown, moist, moderately well bedded, planar bedding, weakly to moderately indurated	@25.5' B: N62W/17NE, moderately well bedded	54.2	62.1	
26.5				@26.5': Poorly to moderately well bedded Silty Claystone, weakly indurated				
28				@ 28': Diatomaceous Siltstone with interbeds of Clayey Siltstone and Silty fine-grained Sandstone, very thinly bedded to laminated, moderately well bedded				
29				@ 29': Increased induration	@29.5' J: N05W/90, J:N03W/85NE, very tight sub-parallel joints, tight to slightly open to 1/32 inch, spotty iron-oxide			
31	B4	B		@ 31': DIATOMACEOUS SILTY SHALE with interbeds of CLAYEY SILTSTONE, moderately well indurated				
32.5				@ 32.5': Thin layer of Silicified Shale (1 inch thick)				
33				From 33 to 34.2': strongly cemented zone, very well indurated	Use core barrel at 33 to 34 feet in cemented zone			
35.5	B5	B			@35.5' B: N55W/16NE, moderately bedded			
37	D5		8	@ 37': Interbedded SILTY CLAYSTONE and SILTSTONE, laminated to very thin beds, some interbeds of silty fine-grained Sandstone		20.7	118.7	
39–40				END OF BORING AT 40 FEET NOTES:				
40–44				Groundwater was not encountered. Borehole was backfilled with two-sack sand-cement slurry. *Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing: 4,900-pounds from 0-25 feet; 3,900-pounds from 25-40 feet. PID 'headspace' measurements of samples collected from boring ranged from 0.0 to 0.1 ppm	TD at 1200 hours			

GRAPHIC LOG



PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana	**Log of Bucket Auger Boring No. BA-7**
BORING LOCATION: Brewster Drive: N6397972.51, E1880247.21	ELEVATION AND DATUM: 961 feet, NAVD 88
DRILLING CONTRACTOR: Roy Brothers	DATE STARTED: 05/17/2017 — DATE FINISHED: 05/17/2017
DRILLING METHOD: Bucket Auger: 24" diameter	TOTAL DEPTH (ft.): 40.0 — MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: EZ Bore Bucket Auger	DEPTH TO WATER — FIRST: N/E — COMPL.: N/E — 24 HRS.:
SAMPLING METHOD: 12-inch Cal Mod	LOGGED BY: D.L. Perry CEG, 2040
HAMMER WEIGHT: See Notes — DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry — REG. NO. CEG 2040

DEPTH (feet)	Sample No.	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0			9-inch thick Asphalt Concrete Road Pavement		Set up traffic control at 0830. Core through Asphalt Concrete at 0900 to 0930. Hand auger refusal in rocky fill at 2 feet.			
1			**ARTIFICIAL FILL (afe)** SILT (ML), pale brown, dry to moist, abundant Siltstone, Shale, and Dolostone rock fragments (up to 8 inches in length)	Surface Casing				
2.5	B1							
3.5	B2							
4			Some zones of approximately 30-50% rock fragments	afe				
5–6	D1	1				25.1	70.4	
6			**COLLUVIUM (Qcol)** SILTY CLAY (CL-ML), brown to dark brown, moist, appears stiff, scattered angular to subangular fragments of Dolostone Shale, and Siltstone (up to 5-inches in length), roots up to 3/4 inch in diameter, decrease amount of rock fragments below 8'	Qcol	@6.0' afe/Qcol subhorizontal contact			
7.5	B3							
10–11	D2	1	@ 10': FAT CLAY (CH), dark grayish brown, with angular Siltstone and Shale fragments					DS, GRAD, ATT:, LL=66, PI=41
11			**BEDROCK - MODELO FORMATION (Tm)** CLAYEY SILTSTONE interbedded with DIATOMACEOUS SILTSTONE, grayish white and medium brown, moderately well bedded, planar bedding, highly weathered at 11-12', moderately weathered below, weakly indurated	Tm	@10.5' afe/Tm contact 10.5 feet on south and 11.2 feet on north			
13					@13.0' B: N55W/18NE moderately well bedded			
14			@ 14': very thinly bedded to laminated (from 1/8 to 3/4-inches thick), moderately indurated, moist					
15–16	D3	3				34.2	73.2	
16			@ 16': Some interbedded sandy Siltstone		@16.5' B: N58W/20NE well bedded, planar			
20								

GEO-BUCKETAUGER-W/LAB P:\ 00 OTHER OFFICES\2017\4005 IRVINE\2017 PROJECTS\IR17166570 EDLEEN DRIVE TARZANA\BORING LOGS.GPJ

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
69				@ 68.5': Some gypsum Layers		@68.5 B:N73W/18NE			
70	D9		8	@ 69.5': Lithology similar to above, poorly to moderately bedded, weakly indurated		@70.0' B:N68W/24NE	40.8	75.2	
72	B8			@ 72': DIATOMACEOUS SILTSTONE with few interbeds of fine-grained SILTY SANDSTONE					
74						@74.5' B:E-W/19N			
80	D10		10	BOTTOM OF BORING AT 80 FEET		TD at 1150 hours	25.1	87.9	

NOTES:

Groundwater was not encountered. Borehole was backfilled with one-sack sand-cement slurry.

*Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing:
- 4,900-pounds from 0-25 feet
- 3,900-pounds from 25-50 feet
- 2,200-pounds from 50-81 feet

PID 'headspace' measurements of samples collected from boring were all 0.0 ppm

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-6 (cont'd)

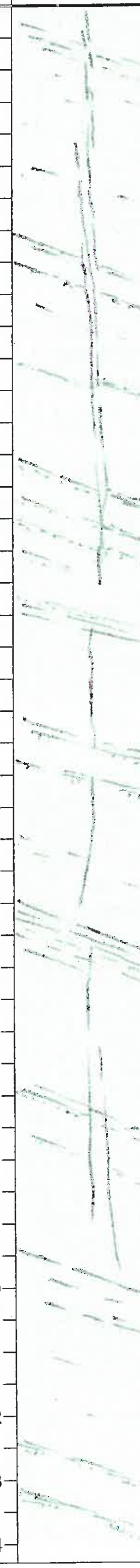
DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
45	B3	B		@ 45': Jointed/ fractured zone at 44.5 feet	@45.0' J:N10E/82SE, 3 inch wide jointed zone, joints sub-parallel and slightly open (1/32-1/16 inch), joint fracture continues to 47.0 feet, no offset along joint fracture @45.5' B:N74W/20NE			
47				@ 47': Predominantly CLAYEY SILTSTONE, with minor interbeds of diatomaceous Siltstone				
49	B4	B		@ 49': SILTY CLAYSTONE, with some interbeds of very fine to fine-grained Silty Sandstone and Gypsum layers, poorly bedded, weakly to moderately indurated, very moist				
50	D7	X	4			43.7	75.0	
52	B5	B		@ 52': Some very thin Gypsum layers at low angle to bedding, and some parallel to bedding				
53				@ 53': Some very thin interbeds of very fine to fine-grained, SILTY SANDSTONE (1/8 to 1/2 inches), few Diatomaceous Siltstone layers	@53.5' B:N72W/21NE			
54				@ 54': DIATOMACEOUS SILTSTONE, with some thin interbeds of Silty Claystone, gypsum layers parallel to bedding, moderately bedded, bottom of diatomaceous interval is 56.0 feet				
56				@ 56': SILTY CLAYSTONE, with some interbeds of Siltstone, olive brown, gypsum layers spaced ½ to 7 inches				
57					@57.0' B:N62W/21NE			
59	B6	B		@ 59': Weakly indurated, very moist, olive brown, some orange mottles				
60	D8	X	5			29.6	81.7	
62				@ 62.2': Bottom of Claystone interval				
62.5				@ 62.5': DIATOMACEOUS SILTSTONE with subordinate interbeds of Claystone, moderately bedded				
63					@63.0' B:N80W/18NE			
65				@ 65': DIATOMACEOUS SILTSTONE with few fine to very fine-grained SILTY SANDSTONE interbeds (¼ inch thick), weakly indurated, moist				
66	B7	B						
68				@ 68': Some interbeds of Siltstone and fine-grained Sandstone				

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-6 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
20	D4	4	@ 20': CLAYEY SILTSTONE, moderately indurated, with interbedded Diatomaceous Siltstone approximately 10 to 20%		20.8	63.3	
22			@ 22': Sub-vertical joint fracture, roots growing along fracture, fracture slightly open (1/16 inch), no displacement apparent	@22.0' J:N5W/85-90NE			
22.5				From 22.5 to 23.5': Sub-parallel joint slightly open (1/8 to ¼ inch), discontinuous, 6 inch wide zone			
24			@ 24': very thin bed of Tuffaceous (?) Siltstone, moderately indurated				
25.5			@ 25.5': Sub-vertical fracture zone continues	@25.5' Fracture zone, orange brown Silty fine-grained Sandstone is offset 3/4-inch on northernmost joint fracture			
27			@ 27': Interbedded DIATOMACEOUS SILTSTONE and very fine-grained SANDSTONE, trace roots (1/32 inch) along fracture zone, moderately indurated, moist				
28.5				@28.5' B:N64W/19NE, fracture zone continues, narrows to 2 inches wide, some fractures slightly open to ¼ inch			
29	B2		@ 29': less Sandstone interbeds, moderately indurated	@29.5' Fracture zone narrows to 1 inch wide jointing is tight			
30	D5	9			32.4	84.5	GRAD, ATT: LL=75, PI=42, DS
30.5			@ 30.5': Interbedded SILTY CLAYSTONE and SILTSTONE, gypsum layers from ¼ to ½ inch thick, mostly parallel to bedding, some intersect bedding				
32.5				@32.5' J:N15E/85NW			
33			@ 33': Weakly indurated, moderately bedded				
34				@34.0' B:N66W/23NE			
34.5			@ 34.5': Interbedded DIATOMACEOUS SILTSTONE and CLAYEY SILTSTONE, very thinly bedded, moderately indurated				
36				@36.0' J:N55E/80-90SE			
37			@ 37': Minor, very thin interbeds of Silty Sandstone, moist, moderately indurated, well bedded				
38				@38.0' J:N16E/90, two subparallel joints in a 3 inch-wide zone, gypsum to 1/16 inch thick, filled joints			
39.5			@ 39.5': SILTY CLAYSTONE/MUDSTONE, poorly bedded, weakly indurated, moist to very moist, olive brown, some gypsum layers	@39.5' B:N76W/18NE			
40	D6	7			38.4	81.5	
43			@ 43': Minor thin interbeds of Diatomaceous Siltstone, gypsum layers, 3/4 inch thick, spaced approximately 7 inches apart, appear parallel to bedding, poorly bedded				
44	B						

GRAPHIC LOG



PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana	**Log of Bucket Auger Boring No. BA-6**
BORING LOCATION: N6397533.62, E1880210.67	ELEVATION AND DATUM: 1090 feet, NAVD 88
DRILLING CONTRACTOR: Roy Brothers	DATE STARTED: 05/10/2017 — DATE FINISHED: 05/10/2017
DRILLING METHOD: Bucket Auger: 24" diameter	TOTAL DEPTH (ft.): 80.0 — MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: EZ Bore Bucket Auger	DEPTH TO WATER — FIRST: N/E — COMPL.: N/E — 24 HRS.:
SAMPLING METHOD: 12-inch Cal Mod	LOGGED BY: D.L. Perry CEG, 2040
HAMMER WEIGHT: See Notes — DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry — REG. NO.: CEG 2040

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0–2				**ARTIFICIAL FILL (afe)** SANDY SILTY CLAY (CL-ML) to SANDY LEAN CLAY (CL), brown, moist, appears stiff, approximately 20 to 30% rock fragments from ¼ to 5 inches in length, subangular to angular	Surface Casing	Start drilling with rig at 0810 hours			CORR, EI
3	B1	B			afe				
5	D1		3	@ 5': Lithology similar to above, light grayish brown			30.9	70.7	DS
8				@ 8': Appears stiff to very stiff					
9				From 9.0 to 10': zone of approximately 30 to 50% Siltstone and Shale fragments up to 7 inches long, slightly moist to moist, very thin roots (1/32 inch thick)					
10	D2		3				21.8	59.6	
12				From 12.0 to 13.0': Scattered rock fragments up to 5 inches in length, subangular to angular					
14				@ 14': Some rootlets	afe				
15	D3		4	**BEDROCK - MODELO FORMATION (Tm)** Interbedded DIATOMACEOUS SILTSTONE and CLAYEY SILTSTONE, pale grayish white and olive brown, moist, thinly bedded, well bedded, 1/8 to 3/4 inch thick beds, scattered roots	Tm	afe/Tm contact at 14.5 feet on south to 15.5 feet on north. Possible subvertical bench at contact.	24.5	72.1	
17.5						@17.5' B:N74W/23NE			
18				@ 18': CLAYEY SILTSTONE with minor interbedded DIATOMACEOUS SILTSTONE, slightly moist, poorly to moderately indurated,					
20									

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-5 (cont'd)

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
69		B		bedded, gypsum along bedding @ 69': DIATOMACEOUS SILTSTONE with interbeds of CLAYSTONE, white and olive, few Sandy Siltstone interbeds					
71				@ 71': CLAYSTONE with very thin interbeds of SILTY SANDSTONE, moderately well bedded, 1/16 inch thick gypsum layers along bedding		@71.0' B:N76W/18NE			
74				@ 74': DIATOMACEOUS SILTSTONE with interbeds of CLAYSTONE, approximately 50% Siltstone and 50% Claystone					
75	D9		6				37.1	76.0	
77						@77.0 B:N50W/19NE			
80	D10		**			TD at 1150 hours	76.6	51.5	

BOTTOM OF BORING AT 80 FEET

NOTES:

Groundwater was not encountered. Borehole was backfilled with one-sack sand-cement slurry.

*Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing:
4,900-pounds from 0-25 feet
3,900-pounds from 25-50 feet
2,200-pounds from 50-80 feet

**Blow counts not recorded

PID 'headspace' measurements of samples collected from boring were all 0.0 ppm

Downhole logged by D.L. Perry, CEG on 05/08/2017

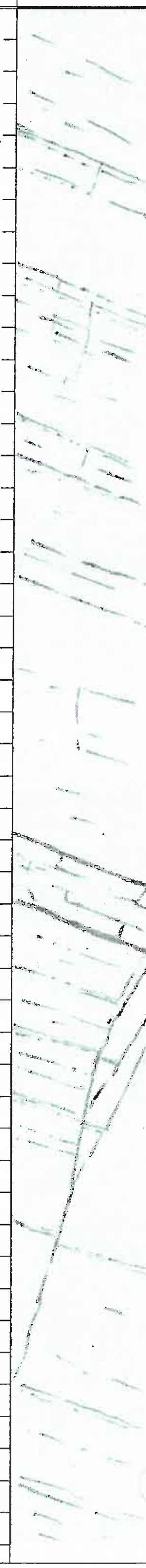
PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-5 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
45	D6		1	@ 45': SILTY CLAYSTONE with some interbeds of very fine to fine-grained SILTY SANDSTONE, Claystone is dark brown with white flakes, moist to very moist, weakly indurated, Sandstone is medium gray	@45.0' B:N61W/22NE, gypsum layer	35.9	77.8	
47	B3	B						
48				@ 48': thinly bedded, weakly indurated, gypsum layers spaced 3 to 12 inches apart, some gypsum lenses cut across bedding, weakly indurated				
50				@ 50': Increased rock induration	@50.5' J:N13E/36SE, gypsum vein along joint			
52				@ 52': gypsum layers parallel to bedding				
52.6				@ 52.6': few fine-grained Sandstone interbeds, up to 1 inch thick, moist, well bedded	@53.0' B:N62W/21NE			
55	D7		3			44.1	76.2	
56.4				@ 56.4': SILTY CLAYSTONE, dark gray				
58				@ 58': Some thin interbeds of Siltstone, gypsum along bedding plane	@58.0' B:N79W/22NW			
60				@ 60': Thin interbeds of Siltstone and fine-grained Sandstone, moist, moderately well bedded, weakly indurated				
61				@ 61': DIATOMACEOUS SILTSTONE with some interbeds of CLAYEY SILTSTONE				
63				@ 63': SILTY CLAYSTONE, poorly to moderately well bedded, 1/2-inch thick gypsum veins parallel to and crossing beds				
65	D8		4	@ 65': Thin interbeds of Diatomaceous Siltstone and fine-grained Sandstone, olive brown to yellowish brown and dark yellowish brown, moist, moderately indurated, ½-inch thick gypsum layers		42.3	76.3	
67					@67.0' B:N61W/22NE			
68	B4	B		@ 68': CLAYSTONE with SILTSTONE interbeds, moist, moderately well				

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
20				@ 20': DIATOMACEOUS SILTSTONE, grayish white, moist, poorly to moderately bedded, moderately indurated				
21.9–22				@ 21.9': CLAYEY SILTSTONE with interbedded fine-grained SANDSTONE	@22.0' B:N63W/23NE			
24				@ 24': DIATOMACEOUS SILTSTONE with interbedded CLAYEY SILTSTONE and fine-grained SANDSTONE, grayish white				
24.8–26	D4		1	@ 24.8': CLAYSTONE, olive brown, moist, poorly bedded, weakly indurated, moderately weathered, tight undulatory joints	@25.7 to 26' J:N49W/85NE	32.2	81.4	GRAD, DS, ATT: LL=78, PI=43
26.5–27				@ 26.5': Sandy Siltstone interbeds, poorly to moderately bedded	@27.0' B:N52W/22NE			
28.5				@ 28.5': Diatomaceous Siltstone and Claystone interbeds, moderately indurated, rootlets along bedding planes				
31–32				@ 31': Rootlets along Joints	@32.0' B:N62W/22NE			
33.8				@ 33.8': DOLOSTONE, strong, well cemented, randomly oriented fractures, blocky joint pattern, about 1.2-foot thick bed/layer	Use core barrel in cemented zone at 0935 to 0950 hours			
35–36	D5		2	@ 35': SILTY CLAYSTONE, dark olive brown to olive brown with white flakes, moist to very moist, poorly bedded, weakly indurated, moderately jointed, undulatory	@36.0' J:N46E/78NW	46.1	70.0	
36.3–37.5				@ 36.3': Minor fault offset, ¼-inch wide fault with sand infill	@37.0' F:N10E/80NW @37.5' B:N78W/18NE			
38–38.4				@ 38': Joint fracture zone	@38.4' Joints dip into fault, subparallel to the fault, 3 inch wide joint zone			
39				@ 39': DIATOMACEOUS SILTSTONE with minor CLAYSTONE interbeds	@39.0' Fault continues and is undulatory, about ½ inch wide, zone infilled with sand, minor stratigraphic offset of about 1 inch along fault			
40.5–41.5				@ 40.5': SILTY CLAYSTONE with fine SANDY SILTSTONE interbeds, olive brown, Claystone is weakly indurated @ 41': ½-inch thick gypsum layers parallel to bedding	@41.5' Fault exits borehole			

GRAPHIC LOG



PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana	**Log of Bucket Auger Boring No. BA-5**
BORING LOCATION: N6397588.95, E1880155.47	ELEVATION AND DATUM: 1086 feet, NAVD 88
DRILLING CONTRACTOR: Roy Brothers	DATE STARTED: 05/09/2017 — DATE FINISHED: 05/09/2017
DRILLING METHOD: Bucket Auger: 24" diameter	TOTAL DEPTH (ft.): 80.0 — MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: EZ Bore Bucket Auger	DEPTH TO WATER — FIRST: N/E — COMPL.: N/E — 24 HRS.:
SAMPLING METHOD: 12-inch Cal Mod	LOGGED BY: D.L. Perry CEG, 2040
HAMMER WEIGHT: See Notes — DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry — REG. NO. CEG 2040

DEPTH (feet)	Sample No.	Sample	Blows/12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0–1				**ARTIFICIAL FILL (afe)** SANDY CLAY (CL) to SILTY CLAY (CL-ML), light brownish gray, dry in the upper 24" to moist below, fragments of angular Shale and Siltstone	Surface Casing	Start drilling at 0815 hours			
3	B1	B			afe				EI
4				@ 4': Angular rock fragments (up to 5½ inches in length), appears stiff to very stiff, moist					
5.5	D1		2	@ 5.5': Dolostone boulder, rock fragments up to 9 inches long			32.1	58.2	GRAD
9				@ 9': Some rootlets					
10.2	D2		4	@ 10.2': SILTY to CLAYEY SAND (SM/SC), yellowish brown (10YR5/6), moist, fine to coarse grained, some angular rock fragments, subhorizontal fill		@10.2' Subhorizontal fill contact	6.2	116.5	DS, ATT: LL=28, PI=8 COMP, CORR
11.5	B2	B							
12.7				@ 12.7': Layer of Silty Clay (CL-ML), approximately ½ foot thick, with siltstone fragments					
13.2				@ 13.2': Layer of Silty Sand (SM), approximately 1 foot thick, fine to coarse grained	afe				
14				**BEDROCK - MODELO FORMATION (Tm)** DIATOMACEOUS SILTSTONE with interbedded CLAYEY SILTSTONE, olive yellow, moist, weakly indurated, moderately to highly weathered	Tm	@14.0 to 14.2' Gently dipping contact			
15.5	D3		3				24.4	84.1	
16				@ 16': SILTY CLAYSTONE, pale light gray, poorly to moderately bedded, tight fractured, randomly oriented, iron oxide staining and white carbonate staining along fractures, rootlets along fractures		@16.0' J:N05E/85E			
18				@ 18': Moderately indurated					
20									

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PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-4 (cont'd)

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS Moisture Content (%)	Dry Density (pcf)	Other Tests
69		B							
70				@ 70': Lithology similar to above, well bedded, planar bedding		@70.5' B:W65W/18NE			
74				@ 74': DIATOMACEOUS SHALE, well bedded, planar bedding, with some thin interbeds of Silty Claystone and Sandstone					
75	D10		**			@75.5 B:N52W/18NE	79.7	54.8	
80	D11		**	BOTTOM OF BORING AT 80 FEET		TD at 1310 hours			

NOTES:

Groundwater was not encountered. Borehole was backfilled with one-sack sand-cement slurry.

*Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing:
4,900-pounds from 0-25 feet
3,900-pounds from 25-50 feet
2,200-pounds from 50-80 feet

**Blow counts not recorded

PID 'headspace' measurements of samples collected from boring were all 0.0 ppm

Downhole logged by D.L. Perry, CEG on 05/08/2017

PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana	Log of Bucket Auger Boring No. BA-4 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
45	D7		3	@ 45': SILTY CLAYSTONE with interbedded SILTY SANDSTONE, yellowish brown, very moist, thinly to very thinly bedded, weakly indurated, dark olive brown, white oval shaped microfossils, gypsum mineralization along bedding			34.7	83.1	
48				@ 48': Interbedded SILTSTONE and CLAYEY SILTSTONE, gypsum mineralization along bedding					
52						@52.0' B:N68W/18NE			
55	D8		3	@ 55': DIATOMACEOUS SILTSTONE with interbedded CLAYEY SILTSTONE, dark olive brown, very moist, weakly indurated, gypsum crystals (up to ½- inch thick) along bedding, some thin interbeds of fine-grained Sandstone, very thinly bedded to laminated			43.4	74.6	
57.5				@ 57.5': CLAYEY SILTSTONE, light olive brown, moderately indurated, some thin interbeds of Sandy Siltstone					
59				@ 59': Increased amount of gypsum mineralization along bedding (1/8-1/4 inches thick) closely spaced zone of gypsum layers		@59.0' B:N60W/21NE			
61				@ 61': SILTY CLAYSTONE, olive brown to yellowish brown and grayish brown, with interbedded CLAYEY SILTSTONE and SILTY fine-grained SANDSTONE, well bedded					
63						@63.0' B:N66W/17NE			
65	D9		3				42.2	75.6	
65.5				@ 65.5': SILTY CLAYSTONE, moist, well bedded, planar beds (¼-1-inch thick), weakly indurated, with interbedded DIATOMACEOUS SILTSTONE and minor laminae of Silty fine-grained Sandstone					
66.5						@66.5' B:N72W/18NE			
68	B4	B							

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-4 (cont'd)

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
20–21	D4		3	**BEDROCK - MODELO FORMATION (Tm)** SILTSTONE - pale brown to yellowish brown, slightly moist, moderately to highly weathered, carbonate staining along bedding, very thinly bedded		Afe/Tm contact at 19.4 to 20.0 feet dipping to North	23.5	78.3	
22–24						@22.5' B: N67W/28NE @23.0' J: N52W/67SW			
25–26	D5		4	@ 25': Interbedded DIATOMACEOUS SILTY SHALE and CLAYEY SILTSTONE, pale brown, moist, weakly to moderately indurated, planar bedding			8.2	106.2	
27						@26.5' B: N50W/22NE (1/4 to 3/4 inch thick)			
28–29				@ 28': DOLOSTONE light gray to very pale brown, lens shaped (8-12-inch thick bed), many discontinuous fractures					
30				@ 29.5': SILTY CLAYSTONE, very fine grained, with very thin interbeds of SILTY SANDSTONE					
32						@31.5' B: N74W/20NE			
33–34				@ 32.5': Very thin bed of Tuffaceous (?) Siltstone (approximately ¼-inch thick) @ 33': Interbedded DIATOMACEOUS SILTSTONE and SILTY SHALE, dark olive brown, moist, slightly weathered					
35–36	D6			@ 35': SILTY CLAYSTONE, moderately well bedded, planar bedding, weakly indurated, with very thin beds of CLAYEY SILTSTONE		@34.5' B:N72W/18NE	42.8	74.0	
40–41				@ 40.5': DIATOMACEOUS SILTY SHALE with some thin to very thin interbeds of CLAYEY SILTSTONE		@40.0' B:N70W/18NE			
42				@ 42': Gypsum mineralization to ¼-inch thick along bedding, some lenses of gypsum cut across beds					
43–44	B3	B							%<#200 =94.2

PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana	**Log of Bucket Auger Boring No. BA-4**
BORING LOCATION: N6397668.85, E1880123.21	ELEVATION AND DATUM: 1079 feet, NAVD 88
DRILLING CONTRACTOR: Roy Brothers	DATE STARTED: 05/08/2017 — DATE FINISHED: 05/08/2017
DRILLING METHOD: Bucket Auger: 24" diameter	TOTAL DEPTH (ft.): 80.0 — MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: EZ Bore Bucket Auger	DEPTH TO WATER — FIRST: N/E — COMPL.: N/E — 24 HRS.:
SAMPLING METHOD: 12-inch Cal Mod	LOGGED BY: D.L. Perry CEG, 2040
HAMMER WEIGHT: See Notes — DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry — REG. NO. CEG 2040

DEPTH (feet)	Sample No.	Sample	Blows/12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0–2				**ARTIFICIAL FILL (afe)** SILTY CLAY (CL-ML) to SANDY LEAN CLAY (CL) - dry in upper 24 inches to moist below, with angular siltstone and shale fragments up to 3-inches in diameter, trace roots	Surface Casing	Hand auger at 0915 to 0925. Start drilling with rig at 0925			CORR, E.I, DS
2–4	B1	B			afe				
4				@ 4': SILTY SAND (SM) - dark yellowish brown, moist, fine to medium grained					
5	D1		3				18.4	88.4	DS
6.8				@ 6.8': SILTY CLAY (CL-ML) to SANDY LEAN CLAY (CL) - light yellowish brown (2.5Y6/3), slightly moist, abundant rock fragments					
9				@ 9': Scattered rootlets					
10	D2		3				19.3	79.1	
15	D3		2	@ 15': SANDY FAT CLAY (CH) - light yellowish brown, slightly most to moist, trace fragments of siltstone fragments, subrounded to subangular, scattered rootlets			15.4	95.4	DS, GRAD, ATT:, LL=57, PI=32
17				@ 17': SILTY CLAY (CL-ML) - light yellowish brown to dark brown, moist, scattered rock fragments to 6-inch in length, slightly porous					
18–19	B2	B			afe				
18.9				@ 18.9': CLAYEY SILT to SILTY CLAY with weathered SILTSTONE fragments, subangular to subrounded, grayish brown (possible reworked colluvium)	25/Qcol; Tm				

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PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-3 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
69				CLAYSTONE and minor very thin interbeds of fine- grained SANDSTONE					
70				@ 70': Interbedded DIATOMACEOUS SILTY SHALE and SILTY CLAYSTONE					
71						@71.0' B:N61W/16NE			
72				@ 72': Interbedded DIATOMACEOUS SILTSTONE and SILTY CLAYSTONE, moderately indurated, gypsum lens, 3/4 inch thick		From 72.0 to 73.0' used "crowds", strong layer			
74				@ 74': DIATOMACEOUS SILTY SHALE, with interbeds of CLAYSTONE, and few thin, fine-grained SANDSTONE beds, gypsum lens		@74.5' J:N40E/90			
75	D10		4	@ 75': Jointed zone, closely spaced joints, tight, gypsum infilling some joints		@75.0' J:N45E/80NW	74.8	51.9	
78						@78.0' B:N20W/15NE, use core barrel from 78 to 80 feet			
81	D11		25	BOTTOM OF BORING AT 81 FEET		TD at 1100 hours	12.9	110.9	

NOTES:

Groundwater was not encountered. Caving from 78 to 80 feet. Borehole was backfilled with one-sack sand-cement slurry.

*Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing:
- 4,900-pounds from 0-25 feet
- 3,900-pounds from 25-50 feet
- 2,200-pounds from 50-75 feet

PID 'headspace' measurements of samples collected from boring ranged from 0.0 to 0.3 ppm

Downhole logged by D.L. Perry, CEG on 05/05/2017

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-3 (cont'd)

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
45	D7		3	From 44.0 to 45.0': Thin Gypsum mineralized layers, approximately ¼ inch thick, parallel to bedding, appears to form along top of fine-grained Sandstone laminae			28.9	82.9	
46				@ 46': Gypsum mineralized layers from 1/8 to ½ inch thick					
47									
48				@ 48': SILTY CLAYSTONE, olive brown to grayish brown, moist From 48.5 to 52': Vertical gypsum vein		@48.0 B:N74W/17NE, Gypsum vein: N45E/90			
49									
50				@ 50': DIATOMACEOUS SILTSTONE, grayish white, moderately indurated, with interbeds of dark grayish brown SILTY CLAYSTONE					
51									
52						@52.0' B:N80W/16NE			
53									
54				@ 54': Some thin interbeds of fine-grained Sandstone, yellowish brown					
55	D8		2				52.1	69.1	
56				@ 56': DIATOMACEOUS SILTSTONE interbedded with SILTY CLAYSTONE, olive brown to light brown, some gypsum layers parallel to bedding along Sandstone laminae		@56.5' B:N71W/17NE			
57				@ 57': Some very thin Clayey Sandstone beds, grayish white, moist, 1/16 inch thick					
58									
59				@ 59': SILTY CLAYSTONE, weakly indurated, some gypsum layers, approximately 15 to 20% fine-grained SANDSTONE interbeds, gypsum along Sandstone beds		@59.8' B:N65W/19NE			
60									
61				@ 61': SILTY CLAYSTONE, dark olive brown, moist, weakly indurated, gypsum lens parallel to bedding (½ inch thick)					
62				@ 62': DIATOMACEOUS SILTSTONE interbedded with SILTY CLAYSTONE, and minor (less than 5%) orange brown, fine-grained Sandstone					
63									
64									
65	D9		4	@ 65': Interbedded SILTY CLAYSTONE and fine-grained SANDSTONE, black indurated organic lens (possible charcoal) above gypsum layer			30.6	82.8	
66						@66.0' B:N70W/15NE			
67				@ 67': SILTY SHALE interbedded with CLAYSTONE, moderately indurated					
68				@ 68': DIATOMACEOUS SILTY SHALE with interbeds of SILTY					

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PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-3 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 12-inch	DESCRIPTION: SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488); BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	Dry Density (pcf)	Other Tests
20.5	D4		3			6.8	101.7	DS
22	B3	B						COMP, CORR, GRAD
22.5				@ 22.5': Silty Clay layer approximately 1' thick, dark brown, appears stiff, with scattered rock fragments 25%				
23.5				@ 23.5': SILTY SAND (SM), 8 inch thick layer				
24.3				@ 24.3': SILTY CLAY (CL-ML), with subangular to subrounded fragments of siltstone and shale, with carbonate filaments	Possible remnant colluvium at 24.3 to 24.8 feet. Top of bedrock contact is at 23.9 to 24.8 feet. Irregular contact dips to NE. End drilling at 25 feet on 5-4-2017. Resume on 5-5-2017.			
25	D5		2	**BEDROCK - MODELO FORMATION (Tm)** SILTSTONE with interbeds of CLAYSTONE and laminae of Silty fine-grained SANDSTONE, olive brown, moderately weathered		51.4	68.3	
27.5				@ 27.5': DIATOMACEOUS SILTSTONE, well bedded, very thinly interbedded with DIATOMACEOUS SILTY SHALE grayish white, moderately indurated, interbeds of Clayey Siltstone	@28.0' B:N66W/16NE			
30.5				@ 30.5': Interbeds of Clayey Siltstone and minor Diatomaceous Siltstone, medium gray				
32					@32.0' B:N71W/19NE			
33				@ 33': SILTY CLAYSTONE, grayish brown to olive brown, thinly to very thinly bedded, well bedded				
35.5	D6		2	@ 35.5': Few Sandstone interbeds, orange brown, very thin beds up to ½ inch thick		35.8	78.5	ATT:, LL=70, PI=39, GRAD, DS
36.5				@36.5': Interbedded DIATOMACEOUS SILTY SHALE and SILTY CLAYSTONE, moist, very thinly bedded				
37.5					@37.5' B:N68W/16NE			
39				@ 39': SILTY CLAYSTONE, moderately to well bedded, thinly to very thinly bedded, weakly to moderately indurated				
41				@ 41': Very thin, cemented Siltstone bed, ½ inch thick				
42					@42.0 B:76W/18NE			
42.5				@ 42.5': Thin fine-grained Sandstone beds, ½ inch thick				

GRAPHIC LOG

GEO-BUCKETAUGER-W/LAB P:_00 OTHER OFFICES\2017\4005 IRVINE\2017 PROJECTS\IR17166570_EDLEEN DRIVE_TARZANA\BORING LOGS.GPJ

PROJECT: LADPW Edleen Drive Geotechnical Evaluation, Edleen Drive, Tarzana	Log of Bucket Auger Boring No. BA-3			
BORING LOCATION: N6397737.44, E1880998.05	ELEVATION AND DATUM: 1074 feet, NAVD 88			
DRILLING CONTRACTOR: Roy Brothers	DATE STARTED: 05/04/2017	DATE FINISHED: 05/05/2017		
DRILLING METHOD: Bucket Auger: 24" diameter	TOTAL DEPTH (ft.): 81.0	MEASURING POINT: Ground Surface		
DRILLING EQUIPMENT: EZ Bore Bucket Auger	DEPTH TO WATER	FIRST N/E	COMPL. N/E	24 HRS.
SAMPLING METHOD: 12-inch Cal Mod	LOGGED BY: D.L. Perry CEG, 2040			
HAMMER WEIGHT: See Notes; DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry	REG. NO. CEG 2040		

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0–1				**ARTIFICIAL FILL (afe)** SANDY LEAN CLAY(CL), light olive brown (2.5Y5/4), moist, appears stiff, scattered shale and siltstone fragments	Surface Casing	Mob drill rig from BA-1 to BA-3 at 1440 to 1500 hours. Hand auger to 5 feet at 1500 to 1510.			EI
3	B1	B			afe				
5	D1		1				31.3	82.7	
7				@ 7.3': Thin layer of Silty Sand, light brown, moist, layer approximately 6 inch thick					
9				@ 9': SANDY LEAN CLAY(CL), brown, moist, appears stiff, with scattered rock fragments of siltstone and shale					
10	D2		1				18.5	80.5	
12	B2	B							
12.5				@ 12.5': Large rock fragments up to 12-inches in length, includes 12-inch Dolostone boulders, matrix is Silty Clay, moist, appears stiff					
15	D3		2				20.4	73.0	
16				@ 16': SILTY to SANDY LEAN CLAY (CL), light yellowish brown (2.5Y6/3), moist, appears very stiff, with shale fragments up to 1 to 2 inches in length					
18				@ 18': SILTY SAND (SM), moist, appears dense, fine to medium grained, with scattered rock fragments					
20									

GEO-BUCKETAUGER-W/LAB P:\ 00 OTHER OFFICES\2017\4005 IRVINE\2017 PROJECTS\IR17166570 EDLEEN DRIVE TARZANA\BORING LOGS.GPJ

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
69				@ 69': Interbedded CLAYSTONE and SILTSTONE, thinly bedded, bedding is smooth and planar		@68.5' B:N72W/16NE			
70	D8		22	@ 70.5': Thin, fine-grained SANDSTONE layer From 70.0 to 72.0' gypsum layers parallel to bedding (approximately ¼ to ½ inches thick) @ 72': Interbedded SILTY SHALE, CLAYEY SILTSTONE, and fine-grained SANDSTONE, moist, moderately indurated		@72.0' B:N68W/20NE	26.3	87.4	
74				@ 74': Some Diatomaceous Siltstone interbeds					
75				@ 75': Well cemented lense shaped layer of Siltstone, some gypsum along bedding		@75.0' B:N62W/21NE, J:N32W/80NE			
80	D9		23	BOTTOM OF BORING AT 80 FEET		TD at 1450 hours	31.1	84.3	

NOTES:

Groundwater was not encountered. Borehole was backfilled with one-sack sand-cement slurry.

*Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing:
- 4,900-pounds from 0-25 feet
- 3,900-pounds from 25-50 feet
- 2,200-pounds from 50-75 feet

PID 'headspace' measurements of samples collected from boring ranged from 0.0 to 1.6 ppm

Downhole logged by D.L. Perry, CEG on 05/03/2017

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-2 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	Dry Density (pcf)	Other Tests
45									
46									
47				@ 47': Alternating grayish white DIATOMACEOUS SILTSTONE, and grayish-brown CLAYSTONE layers, laminated to very thinly bedded (1/8 to 3/4 inch thick), smooth, planar beds		47 feet at 1200, resume at 1235			
48						@48.0' B:N74W/16NE			
49									
50	D6		10*	@ 50.5': Well cemented DOLOMITIC SILTSTONE (DOLOSTONE) layer, 2 feet thick bed, very strong		From 50.0 to 53.0' used core barrel in cemented zone, *recover only part of layer, drove sample only 6 inches	10.0	99.9	DS
51									
52									
53									
54				@ 54': Few very thin, fine-grained SANDSTONE interbeds (about ¼ inch thick)		@54.0' B:N78W/17NE used core barrel			
55									
56									
57									
58				@ 57.5': Medium gray CLAYSTONE with thin fine-grained SANDSTONE interbeds (about 1/8 to ¼ inch thick)		@57.5' N62W/19NE			
59									
60	D7		20	@ 60': Interbedded SILTY SHALE, CLAYEY SILTSTONE, and fine-grained SILTY SANDSTONE, moist, very thinly bedded, well bedded, moderately indurated, some gypsum mineralization along bedding @ 61': Gypsum mineralization layers spaced approximately 2 to 12-inches apart, each layer approximately 1/16 inch thick			41.3	78.3	
61						@61.0' B:N68W/19NE			
62									
63									
64				@ 64': CLAYEY SILTSTONE to CLAYSTONE with some interbeds of fine-grained SANDSTONE, dark gray and orange brown, moist; Sandstone interbeds are approximately 20% of lithology from 64 to 69'					
65						@64.5' B:N71W/17NE			
66									
67									
68									

PROJECT: LADPW Edleen Drive Geotechnical Evaluation
Edleen Drive, Tarzana

Log of Bucket Auger Boring No. BA-2 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
20	D3		4	@ 20': DIATOMACEOUS SILTY SHALE, pale gray, thinly bedded, minor interbeds of very fine grained Silty Sandstone, well bedded, weakly indurated,			30.1	78.4	
22–22.5				@ 22.5': DOLOSTONE, grayish, well cemented, strong, tight closed discontinuous joint fractures, 9-inch thick layer, iron oxide staining on joint surface, gypsum along joint		From 22.0 to 23.0' Drilling increased in difficulty, used crowd in cemented layer			
25						@25.0' J:N64W/80SW			
26				From 26 to 28': Gypsum mineralization layers along bedding, approximately 1/16 inch thick, spaced approximately 4 to 10 inches apart		@26.0' B:N70W/18NE			
30	D4		4	@ 30': Interbedded DIATOMACEOUS SILTY SHALE, CLAYEY SILTSTONE, and CLAYSTONE, pale brown and light gray, moist, thinly to very thinly bedded, weakly indurated		@30.0' J:N16W/85NE, B:N80W/20NE, joint is very tight/closed	28.2	89.3	
34				@ 34': Gypsum layer parallel to bedding about 1/16 inch thick		@34.0' B:N77W/18NE			
38						@38.0' B:N80W/19NE			
40	D5		5	@ 40': Interbedded DIATOMACEOUS SILTSTONE, and CLAYEY SILTSTONE, light brownish gray, moist, very thinly bedded, well bedded, weakly indurated			76.8	52.8	
43						@43.0' B:N75W/18NE			

PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana	Log of Bucket Auger Boring No. BA-2	
BORING LOCATION: N6397785.88, E1880012.46	ELEVATION AND DATUM: 1065 feet, NAVD 88	
DRILLING CONTRACTOR: Roy Brothers	DATE STARTED: 05/02/2017	DATE FINISHED: 05/02/2017
DRILLING METHOD: Bucket Auger: 24" diameter	TOTAL DEPTH (ft.): 80.0	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: EZ Bore Bucket Auger	DEPTH TO WATER — FIRST: N/E	COMPL.: N/E — 24 HRS.:
SAMPLING METHOD: 12-inch Cal Mod	LOGGED BY: D.L. Perry CEG, 2040	
HAMMER WEIGHT: See Notes — DROP: 12-inches	RESPONSIBLE PROFESSIONAL: D.L. Perry	REG. NO. CEG 2040

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
0–3	B1	B		**ARTIFICIAL FILL (afe)** SANDY SILT with CLAY(ML), grayish brown, moist, scattered shale and siltstone fragments	Surface Casing	Hand auger to 5 feet at 0920 to 0940. Start drilling at 0950.			CORR, EI
3				**BEDROCK - MODELO FORMATION (Tm)** SILTSTONE with interbeds of very fine grained SILTY SANDSTONE, siltstone is pale gray with some white (possibly carbonate) staining, sandstone is orange brown, moist, very thinly bedded, well bedded, weakly indurated	afe / Tm	afe/Tm contact dips to North as shown			
5	D1		4				33.4	79.4	
7						@7.0' B:N80W/20NE			
9				@ 9': Some very fine rootlets, bedding from ¼ to 1 inch thick					
10	D2		3	@ 10': Some interbeds of Diatomaceous Silty Shale, pale grayish brown, moist, very thinly bedded			24.8	80.9	ATT: LL=81, PI=49, GRAD, DS
11				@ 11': Thin gypsum mineralization along bedding about 1/16 inch thick					
13						@13.0' B:N70W/19NE			
17				@ 17': Scattered rootlets to 1/16 inches in diameter		@17.0' B:N63W/17NE			
20									

GEO-BUCKETAUGER-W/LAB P:\ 00 OTHER OFFICES\2017\4005 IRVINE\2017 PROJECTS\IR17166570_EDLEEN DRIVE_TARZANA\BORING LOGS.GPJ

DEPTH (feet)	Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	Moisture Content (%)	Dry Density (pcf)	Other Tests
69				@ 69': SILTY CLAYSTONE, dark gray, with minor interbeds of SANDY SILTSTONE, weakly indurated, some very thin gypsum mineralization along bedding					
70	D9		8				68.2	59.4	
75				@ 75': Interbeds of SILTSTONE and CLAYSTONE, white, moist, well bedded, very thinly bedded, planar, weakly to moderately indurated, siltstone beds are possibly tuffaceous		@75.0' B:N81W/22NE			
77						@77.0' B:N73W/19NE			
78				@ 78': Well cemented layer, estimated 1 foot thick bed		@78.0' Strongly cemented layer			
79						Use core barrel at 0915 to 0925			
80	D10		20	BOTTOM OF BORING AT 80 FEET		TD at 0930 hours	51.2	68.2	

NOTES:

Groundwater was not encountered. Borehole was backfilled with one-sack sand-cement slurry.

*Number of blows required to drive the California Modified Sampler 12 inches using kelly bars weighing:
- 4,900-pounds from 0-25 feet
- 3,900-pounds from 25-50 feet
- 2,200-pounds from 50-80 feet

PID 'headspace' measurements of samples collected from boring ranged from 0.0 to 1.5 ppm

Downhole logged by D.L. Perry, CEG on 05/04/2017

PROJECT: LADPW Edleen Drive Geotechnical Evaluation Edleen Drive, Tarzana	**Log of Bucket Auger Boring No. BA-1 (cont'd)**

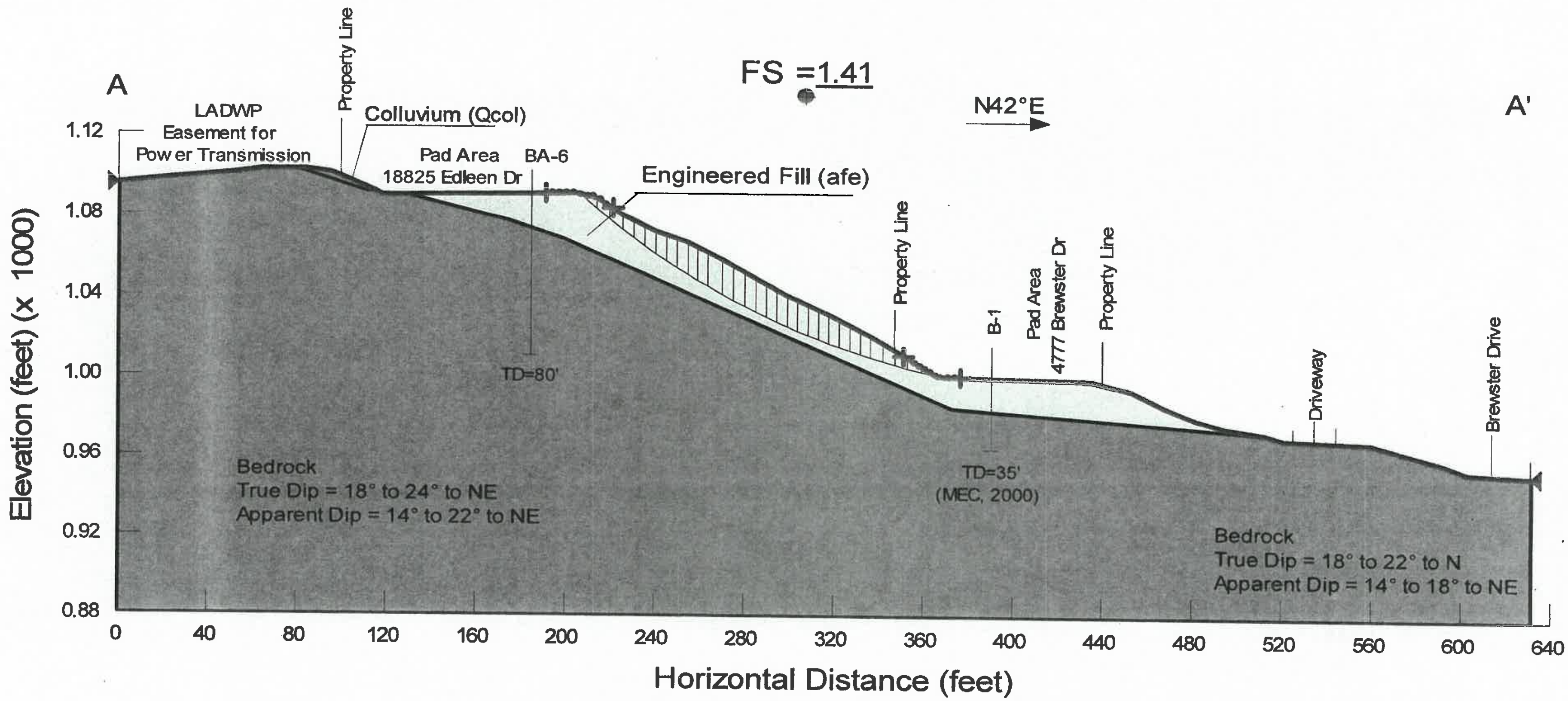
DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GRAPHIC LOG	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	LABORATORY TESTS: Dry Density (pcf)	LABORATORY TESTS: Other Tests
45						@45.0' B:N50W/16NE on Sandstone layer			
46				@ 46': DIATOMACEOUS SILTY SHALE, dark grayish brown, moist, moderately indurated, with interbeds of Claystone and very fine to fine-grained Sandstone		@46.0' to 49.0' J:N26E/82S subvertical joint, tight to slightly open, undulatory			
47									
48									
49									
50	D7		4	@ 52-53': Joint fracture zone, iron oxide staining along zone and some gypsum mineralization, minor offset		@50.0' B:N61W/16SE	44.6	73.2	GRAD, DS, ATT: LL=77, PI=47
51									
52						@52.5' F:N22E/55SE minor offset along joint/fault (approx. 1/4 to 1-inch), some gypsum along joint/fault to 1 inch thick, hairline rootlet, some manganese oxide and iron oxide staining, minor (1/16-inch) clay gouge along joint/fault			
53				@ 53': lithology as above, light grayish white, and olive brown, moist, moderately well bedded					
54									
55				@ 55': Interbeds of SILTY SHALE and CLAYEY SILTSTONE, light grayish white, and olive brown, moist, moderately well bedded					
56									
57									
58				@ 58': 2 feet thick cemented zone of DOLOMITIC SILTSTONE (DOLOSTONE), strong, thick bed, well cemented		Use core barrel from 58.5 to 61 feet in well cemented layer/bed			
59									
60	D8		4	@ 60': Interbedded CLAYSTONE, fine-grained SILTY SANDSTONE and CLAYEY SILTSTONE, very thinly bedded, weakly indurated, minor iron oxide stains, beds commonly 1/4 to 2-inch thick			37.3	81.2	
61						Drilled to 61 feet on 5-3-2017			
62									
63				@ 63': Very thin lenses of Gypsum (1/4 to 1/2 inch thick) along bedding from 63 to 66 feet					
64									
65									
66									
67						@67.0' B:N68W/22NE J:N23E/85NW			
68									

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ 12-inch	DESCRIPTION SOIL NAME (USCS): color, moist, % by wt., plast., other pertinent descriptions (ASTM D2488) BEDROCK: LITHOLOGY: color, bedding, fracturing, hardness, strength, weathering, other pertinent descriptions (Eng. Geo. Field Manual, USBR, 1998)	GEOLOGIC DATA and DRILLING NOTES	LABORATORY TESTS: Moisture Content (%)	Dry Density (pcf)	Other Tests
20–21	D4		3	**BEDROCK - MODELO FORMATION (Tm)** CLAYEY SILTSTONE, grayish brown to orange brown, moist, well bedded, very thinly bedded (1/4 to 3/4 inch thick), with interbeds of Claystone and very fine-grained Sandstone	Subvertical bench at Afe/Tm contact at 20.3 feet on south wall and 21.5 feet on north wall	34.3	83.2	DS, ATT: LL=68, PI=42
22	B3	B						
25					@24.5' B:N60W/17NE, planar, thinly bedded			
26				@ 26': some phosphatic nodules (up to 1 inch in diameter)				
29–30	D5		9	@ 29': DIATOMACEOUS SILTSTONE, moist, very well bedded, weakly to moderately indurated, with interbeds of Claystone and Sandy Siltstone, minor very thin interbeds of very fine to fine-grained Sandstone, gypsum mineralization along bedding (up to 3/4-inch thick)	@30' B:N71W/17NE, gypsum along bedding	39.0	82.4	
33					@33.0' discontinuous gypsum (between 1/2 to 3/4 inch think) along bedding			
35				@ 35': Interbeds of SILTY CLAYSTONE, DIATOMACEOUS SILTSTONE and very fine-grained SANDSTONE, moist, well bedded to very well bedded, very thinly bedded to laminated (1/8 to 3/4-inch thick) weakly to moderately well indurated				
36.5				@ 36.5': thin layer of SANDSTONE, white, medium to fine-grained, possibly tuffaceous; approximately 1½-inch thick				
40–41	D6		2			38.6	80.3	
41–42				@ 41': CLAYSTONE with interbedded SILTSTONE and very fine to fine-grained SANDSTONE, very thinly bedded to laminated, well bedded, planar bedding weakly to moderately indurated	@41.0' B:N66W/15NE J:N35E/78SE			
42.5	B3	B						

K:\IR17166570 -Edleen Dr\Analyses\A static within fill.gsz
Slip Surface Option: Entry and Exit
Method: Morgenstern-Price
Interslice force function option: Half-Sine
Horz Seismic Load: 0

Engineered Fill (afe)
Unit Weight: 123 pcf
Cohesion: 85 psf
Phi: 34 °

Colluvium (Qcol)
Unit Weight: 122 pcf
Cohesion: 195 psf
Phi: 22 °



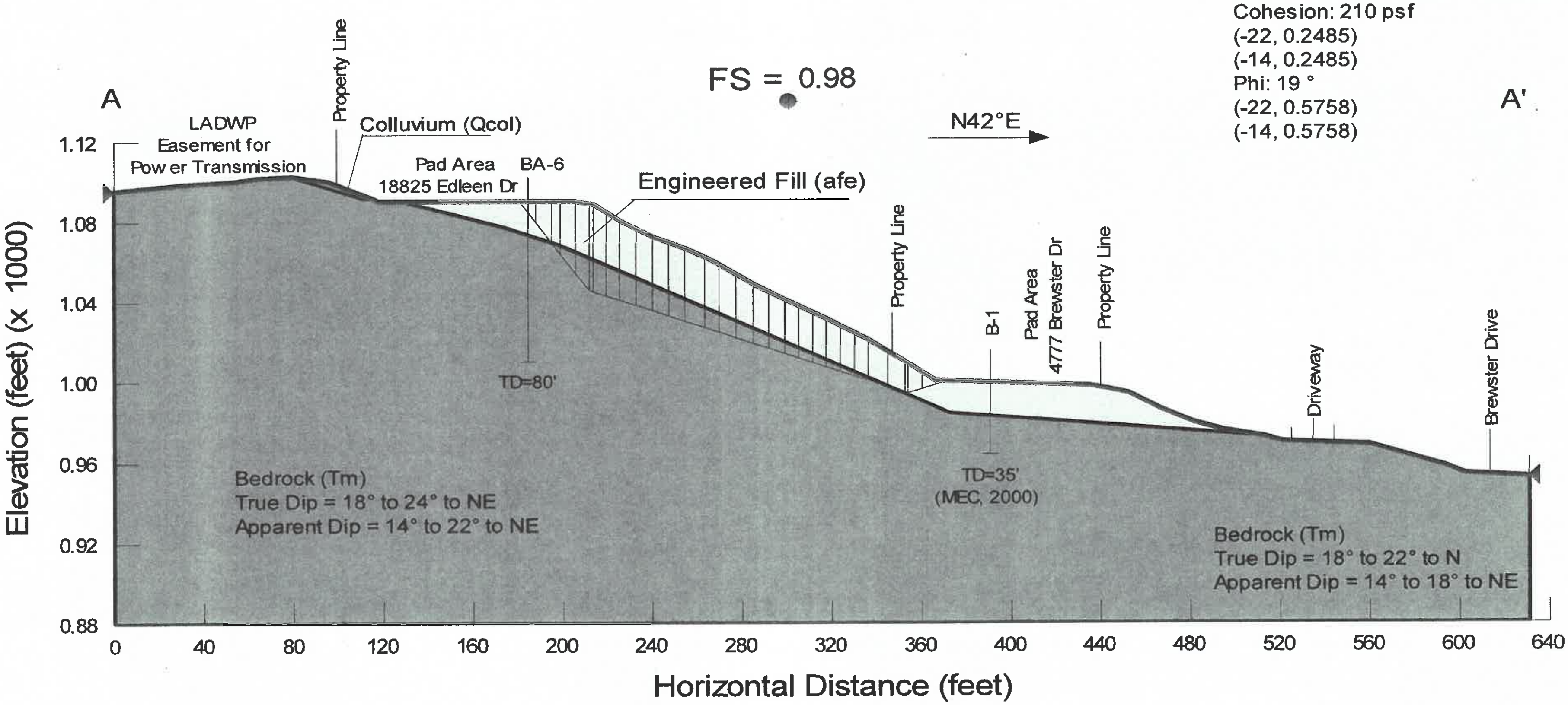
CROSS SECTION A-A' STATIC SLOPE STABILITY - SLIP SURFACE WITHIN FILL Geotechnical Evaluation Report 18825 Edleen Drive Tarzana, California		amec foster wheeler
Date: 07/25/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	C2

K:\IR17166570 -Edleen Dr\Analyses\A seismic.gsz
Slip Surface Option: Fully-Specified
Method: Morgenstern-Price
Interslice force function option: Half-Sine
Horz Seismic Load: 0.15

Engineered Fill (afe)
Unit Weight: 123 pcf
Cohesion: 350 psf
Phi: 38 °

Colluvium (Qcol)
Unit Weight: 122 pcf
Cohesion: 165 psf
Phi: 37 °

Bedrock (Tm)
Unit Weight: 115 pcf
Cross Bedding:
Cohesion: 845 psf
Phi: 33 °
Along Bedding:
(bedding angle, modifier factor)
Cohesion: 210 psf
(-22, 0.2485)
(-14, 0.2485)
Phi: 19 °
(-22, 0.5758)
(-14, 0.5758)



CROSS SECTION A-A' SEISMIC SLOPE STABILITY
Geotechnical Evaluation Report
18825 Edleen Drive
Tarzana, California

amec foster wheeler

Date: 07/25/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	C3

amec foster wheeler

APPENDIX D

JTM Geotechnical Engineering Addendum Geotechnical Letter

66482-0

JTM
GEOTECHNICAL
ENGINEERING

ADDENDUM LETTER NO.1
PROPOSED SINGLE FAMILY RESIDENCE
4777 BREWSTER DRIVE
CITY OF LOS ANGELES (TARZANA), CALIFORNIA

Prepared for:

Mr. VARUZH AVEDISIAN
1019 Screenland Dr.
Burbank, CA 91505

Project No. JTM-2009-376

September 14, 2009

OTY

September 14, 2009
Project No. JTM-2009-376

To: Mr. Varuzh Avedisian
1019 Screenland Drive
Burbank, CA 91505

Subject: Addendum Geotechnical Letter No. 1, Change of Soils Engineer of Record and Response to LADBS Comments, Proposed Single Family Residences, 4777 Brewster Drive, Tarzana, California.

INTRODUCTION

At your request and authorization, JTM Geotechnical Engineering (JTM) had reviewed the referenced reports, and generally agrees with the findings, conclusions and recommendations included in them, and accepts the responsibility for using data included in these reports. Accordingly, JTM presents this addendum letter No. 1 accepting the role of Soils Engineer of Record for the subject project.

JTM presents responses to comments presented in the Correction Letter issued by the Grading Division of the Department of Building and Safety of the City of Los Angeles (LADBS) dated February 25, 2009 (copy attached in Appendix 5).

Unless specifically superceded in this Addendum Letter No. 1, recommendations presented in referenced reports, prepared by previous geotechnical consultants remain applicable.

RECORD RESEARCH

Our research indicates that the area was initially graded "over a gentle slope" in the 1960s, and, as such, no geotechnical records were retrieved, save for a compliance statement by William T. Corum, R.C.E 6207 of Lawmaster & Co., dated June 26, 1964. The document states that the grading of Lots 1 thru [sic] 53 was done "in accordance with the requirements of the City of Los Angeles Building Code,..".

Other later references have been made to geotechnical testing by Lawmaster and Frankian & Associates during the "boom" times of Los Angeles hillside grading circa 1960s.

G. S. Kovacs stated in 1976 that their record research indicates that the upslope property at 18821 Edleen Drive was "underlain by well compacted fill. The high fill slope has remained stable since its placement in 1963/1964." However, some landsliding occurred here during the late 60s and late 70s.

Kenneth Pitcher, RCE of Frankian & Associates stated in 1975 that "grading was accomplished in 1963 .." at 18817 Edleen Drive and that "The fill was compacted under engineering supervision, as indicated in our report of August 11, 1964 (no such report was discovered during our research).

RESPONSE TO COMMENTS

Responses are presented in the same order the comments appear in the Correction Letter.

Response to Comment No. 1

A copy of MEC referenced reports are attached.

Response to Comment No. 2:

JTM was able to perform a research for the upslope properties which also includes some of the other nearby lots; copies of these reports are appended to this Addendum Letter No. 1.

Response to Comment No. 3:

JTM was able to recover most boreholes performed by previous consultants; however, JTM was unable to retrieve documents illustrating three additional boreholes on the upslope City property. Perhaps one or more earlier consultants may have misinterpreted the numeration of Boring #3 as to indicate three individual borings. JTM believes the referenced sentence may have been misstated.

Response to Comment No. 4:

JTM included the MEC/Eastman exploration on the updated Drawing A.

Response to Comment No. 5:

We have plotted the geologic data from the 2002 MEC/Eastman report which correlates to the 2001 MEC and Eastman reports. As mentioned in the previous correction letter, the MEC reports indicate approximately 21 feet of fill; however, the AES report documents 42 feet of fill in their Boring B-1, and our research indicates that previous consultants recall a maximum depth of fill on the order of about 40 feet,(see Frankian, #4275-P, 1975). The MEC/Eastman reports indicated slightly deeper fill in the proposed house area. Conservatively, we have revised the AES sections to illustrate deeper fill where documented by MEC/Eastman borehole data.

Response to Comment No. 6:

An itemized response to LADBS correction letter of 4/26/2002 Log #34094-01 is included in Appendix 2.

Response to Comment No. 7:

We have appended all retrieved documents relevant to the property at 4777 N. Brewster drive (appended herein).

Lots 1 through 53 were graded per Code 1963(?)-1964 and certified per the retrieved Engineer's Certification of Compliance by Lawmaster dated May 11, 1964 (see appended).

Other geotechnical consultants have stated (in the 70s) that this area was graded over a gentle slope, under engineering supervision, in the early 60s. it appears that detailed grading records and soils reports were not often required or documented during this time period.

At 4777 Brewster Drive, an Order To Comply (OTC) regarding a small 1-foot deep, 15 feet wide and 30 feet long slump was issued in April 1978. Non-response precipitated a letter from the City threatening legal action in August 1978. The landslide was apparently "fixed" when a house was graded on the lot, according to photocopied inspector's log, which stated "Job signed off" in April 1981.

The house was proposed to be enlarged in 1985. According to the "update" preliminary soils report by Baca Associates, the City had permitted the building of the retaining wall, building pad, and construction of a new residence in 1978. The report indicated that previous mudflows and slumps caused by intense storms had been repaired. An illegal retaining wall footing had also caused some sloughing problems.

It is unclear whether any new construction was done at the site subsequent to the 1985 Baca report. A correction letter was issued and Baca responded; however, we found no evidence of grading, compaction testing or approval letters.

The current "era" of geotechnical exploration, analysis and review was initiated with the June 2001 MEC/Ray Eastman reports (appended).

Regarding the demolition of upslope homes on Edleen Drive, no "massive" slope failures or damage to buildings resulting from landslides was discovered in our research.

During the 1960s and 1970s, deep canyon fills and thick fills associated with hillside grading were common. It was general practice to assume that these thick fills would not appreciably settle or consolidate as long as 90% compaction was achieved and proper grading techniques were followed.

However, many of these certified deep fill areas have shown subsidence over time. It is now generally acknowledged, by most geotechnical consultants, that even properly compacted/certified fill may experience secondary consolidation caused by its own relentless "self-weight". It is reasonable to expect vertical settlement, resulting from self-weight of deep fill soils, on the order of 1% of fill thickness. Therefore, a 40' thick section of fill could be expected to vertically settle about 5", with 2" - 3" of differential settlement, in addition to the primary settlement caused by building loads. It is reasonable to suggest that this settlement could have been mistaken as slope instability by some of the homeowners along Edleen and Brewster Drives.

All landslides documented in our research were 3 feet or less in thickness, most with volumes of less than 200 cubic yards. No evidence of significant landslides after 1985 was retrieved. A detailed area history follows:

LOTS IMMEDIATELY UPSLOPE FROM 4777 N. BREWSTER DRIVE:

18801 Edleen Drive

An Order To Comply (OTC) document was issued by The City in April 1978. The property owner was required to mitigate a small landslide 2.0' thick x 60' wide by 35' long, characterized a "mudflow". A Failure to Comply (FTC) letter was issued in August 1978. No later documents were retrieved exclusive to this property.

18807 Edleen Drive

An Order T Comply (OTC) document was issued by The City in August 1968. The property owner was ordered to mitigate a minor 3' deep landslide (dimensions illegible).

18813 Edleen Drive

In February 1969, a landslide 3' deep 30' wide x 40' long was documented. A document dated July 1978 appears to declare that the landslide had been "corrected".

18817 Edleen Drive

This property appears to have had the most problems historically. Some of the slope failures also affected adjacent lots.

In December 1963, an OTC was issued to remediate a 2' deep x 25' wide x 25' long landslide between terrace drains. A permit to repair this was issued in 1964. This was apparently a failure of the recently completed grading of this lot.

In December 1969, an OTC was issued for a 2' thick, 40' wide x 20' long slide characterized as a "surface slump" in compacted fill. A permit to repair this slide was apparently issued in May 1972. The slide was repaired as described in a report by Pacific Soils dated August 1978. This grading also included some areas of 18821 Edleen and 18825 Edleen.

A swimming pool was proposed in 1975. A report by Frankian & Assoc. stated that this lot had been graded under their engineering supervision per Code and that the lot had a maximum of 40' thick compacted fill. The firm predicted "negligible differential settlement" although some cracks had appeared in a terrace sidewalk.

In April 1978, an OTC was issued to require mitigation of a 3' thick x 80' wide x 30' long "slump", probably caused by the heavy winter rains. An August 1978 report by Pacific Soils documented and certified the slope repair.

18821 Edleen Drive

There was a small slope repair ordered in October 1972. The repair is documented in a Pacific Soils Report dated November 1972 which apparently included some areas of 18817 Edleen and 18825 Edleen, though documentation is scarce and often illegible. There is a City Approval letter for this repair dated November 1972.

In June 1978 another OTC was issued regarding a 3' deep, 30' wide x 20' long slide which apparently "enlarged" to 60' wide x 50' long. In October 1978 the City threatened legal action if the problem was not addressed. Later documents for this property were not discovered.

18825 Edleen Drive

In December 1969 the site was impacted by a large slide originating from 4890 La Montana Circle. The slide was 3' thick x 80' wide x 40' long in compacted fill. The cause of the slide was stated as "slope saturation".

In October 1972 three small slumps, which also impacted 11817 Edleen and 18825 Edleen, were repaired under the supervision of Pacific Soils Engineering. The City Approval Letter was issued in November 1972.

In March 1978 a slide was observed caused by "over saturation". The slide was apparently described as "slope repaired, job completed" by the Grading Inspector in December 1978.

LOTS UPSLOPE FROM 4777 BREWSTER DRIVE SOUTH OF EDLEEN DRIVE:

18812 Edleen Drive

In July 1978 an OTC was issued regarding a 3' deep, 50' wide x 40' long slide estimated to be 116 cu. yards in volume. The apparent cause of this slide was an "unsupported cut" due to possible illegal grading at the toe of the slope. This area apparently enlarged to also affect 18800, 18806 and 18808 Edleen. The slide was noted as being caused by "major erosion" and grew to 150' wide x 60' long.

18818 Edleen Drive

In June 1978 an OTC issued for a 2' deep x 10' wide x 10' long slump in fill. "Case closed" later in 1978.

18824 Edleen Drive

In February 1969, a "loose" 3' deep, 50' wide x 25' long minor slide was documented. In January 1970 an OTC was issued.

In July 1978 AN OTC was filed describing a 3' deep, 40 cu. yd. slump caused by saturated. An apparent inspection note described the "slope repaired, job completed". No compaction report was retrieved.

18830 Edleen Drive

In June 1978 a 3' thick small slide was observed. An OTC was issued.

Response to Comment No. 8:

A list of referenced documents follows. Please note that not all recovered documents were annotated; some sections were illegible. All recovered documents are appended herein.

4777 N. Brewster Drive

LADBS Grading, Geology and Soils Report Correction Letter, Log #66482, LADBS Grading, 2/25/09

Applied Earth Sciences (AES),Geotechnical Investigation, 4777 Brewster Drive, #07-485-02, 01/16/09

LADBS Grading, Geology and Soils Report Correction Letter, Log #34094-01, LADBS Grading, 4/26/02

MEC/Geotechnical Engineers, Inc. (MEC), Addendum No. 1 to Preliminary Geotechnical Engineering and Engineering Geology Investigation, #0ESM142, 3/26/02

LADBS Grading, Geology and Soils Report Correction Letter, Log #34094, LADBS Grading, 8/03/01

MEC/Geotechnical Engineers, Inc. (MEC), Preliminary Geotechnical Engineering and Engineering Geology Investigation, #0ESM142, 6/18/01

"The Geologic Outfit", Interim Engineering Geologic Investigation by Ray Eastman, #3206, 6/2/01

OTC, LADBS, 4/19/78

LADBS Grading Storm & Slope Failure Damage Report, 4/17/78

Engineer's Certification of Compliance, 4777 Brewster Drive, Lawmaster & Co., Inc., 5/11/64

Baca & Associates, Proposed Retaining Wall, #A-0177-C, 4777 Brewster Drive, 2/4/85

LADBS Grading, Correction Letter, Log #34094-01, LADBS Grading, 4/26/02

Baca & Associates, Proposed Retaining Wall, Response to Correction Letter, 4777 Brewster Drive, 5/10/85

Adjacent/Nearby Properties

3/26/78, Storm & Slope Failure Damage Report, LADBS Grading, 18800-18812 Edleen Drive.

5/22/78, Storm & Slope Failure Damage Report, LADBS Grading, 18801 Edleen Drive.
4/19/78, LADBS Grading, OTC, "slope failure", 18801 Edleen Drive.
?/?/69, Storm & Slope Failure Damage Report, LADBS Grading, 18801 Edleen Drive.

7/6/78, LADBS Grading, OTC, "slope failure", 18806 Edleen Drive.
6/20/78, Storm & Slope Failure Damage Report, LADBS Grading, 18806 Edleen Drive.

8/8/69, LADBS Grading, OTC, "major erosion damage", 18807 Edleen Drive.

6/20/78, Storm & Slope Failure Damage Report, LADBS Grading, 18812 Edleen Drive.

6/17/78, Order to Repair Letter, LADBS Grading, 18813 Edleen Drive.
4/17/78, Storm & Slope Failure Damage Report, LADBS Grading, 18813 Edleen Drive.
2/28/69, Storm & Slope Failure Damage Report, LADBS Grading, 18813 Edleen Drive.

8/2/78 PSE, Slope Repair, report #10385, 18817 Edleen Drive.
10/12/76 Kovacs-Byer and Assoc., (KVA), Addendum Soil Engineering Report #KB-2572-S,18817 Edleen Drive.
10/2/78 Pacific Soils Engineering (PSE) Slope Repair compaction report), #9778, 18817 Edleen Drive.
8/14/78 Grading Approval Letter, City of Los Angeles, 18817 Edleen Drive.
5/12/78, Storm & Slope Failure Damage Report, LADBS Grading, 18817 Edleen Drive.
4/17/78, LADBS Grading, OTC, "slope failure", 18817 Edleen Drive.
10/12/76 Kovacs-Byer and Assoc., (KVA), Swimming Pool and Deck Recommendations, 18817 Edleen Drive.
5/2/75 Conditional Approval Letter for Pool, 18817 Edleen Drive, LADBS Grading.
4/15/1975 R. T. Frankian & Associates, Proposed Swimming Pool, 18817 Edleen Drive.
10/21/74 Grading Permit, LADBS Grading, 18817 Edleen Drive.
10/10/71 Grading Approval Letter , City of Los Angeles, 18817 Edleen Drive.
12/10/69, Storm & Slope Failure Damage Report, LADBS Grading, 18817 Edleen Drive.

6/20/78, Storm & Slope Failure Damage Report, LADBS Grading, 18818 Edleen Drive.

10/17/78, Order to Repair Letter, LADBS Grading, 18821 Edleen Drive.
5/6/78, LADBS Grading, OTC, "slope failure", 18821 Edleen Drive.
12/10/69, Storm & Slope Failure Damage Report, LADBS Grading, 18821 Edleen Drive.

7/5/78, LADBS Grading, OTC, "slope failure", 18824 Edleen Drive.

?/8/69, LADBS Grading, OTC, "major erosion damage", 18824 Edleen Drive.
3/3/69, LADBS Grading, OTC, "major erosion damage", 18824 Edleen Drive.
2/28/69, Storm & Slope Failure Damage Report, LADBS Grading, 18824 Edleen Drive.

1/25/70 LADBS Letter of Violation, 18825 Edleen Drive.
12/10/69, Storm & Slope Failure Damage Report, LADBS Grading, 18825 Edleen Drive.

12/??/69, Storm & Slope Failure Damage Report, LADBS Grading, 4890 La Montana Circle.

Response to Comment No. 9:

As stated at the beginning of this Addendum Letter No. 1, JTM as the current geotechnical engineer of record, reviewed the reports listed above, and concurs with the findings included in them.

Response to Comment No. 10:

It is JTM's opinion, and to the best of their knowledge, that this Addendum Letter No. 1 contains necessary exploration data, calculations, and recommendations, for the subject property to be developed with permanent protection from geologic hazards and in conformance with the 2008 Building Code of the City of Los Angeles.

As shown in Appendix 3, slope stability analyses were performed for global failure to reflect the impact of adverse bedding in the Modelo Formation bedrock (Tm) on the proposed development. JTM selected the highest effective fluid pressure values that are required, by the 2008 Los Angeles Building Code (LABC), to meet a minimum of 1.5 and 1.1 factors of safety for static and pseudostatic conditions; respectively.

It is JTM's opinion, from a geotechnical standpoint, that the potential for the proposed development to be susceptible to slope failure-induced structural damage is considered low provided that two rows of cast-in-place reinforced concrete skin-friction piles are installed as shown on Drawing A in Appendix 1. The 24-inch minimum diameter and 8-foot maximum spacing piles should have a minimum embedment of 5 feet in competent bedrock, or as shown in Table III in Appendix 3; whichever is deeper, and the point of fixity is approximately 1½ times the pile diameter, but not less than 3 feet into competent bedrock. Details of the piles are presented below:

- Row 1 piles: Recommended to be installed along the proposed along the east side of the proposed driveway. The upper 30 feet of the pile, measured from highest adjacent finish grade, should be designed to resist a minimum equivalent fluid pressure of 250 pcf per lineal foot length of the slope. The 10-foot segment of the pile below that should be designed to resist a minimum equivalent fluid pressure of 100 pcf per lineal foot length of the slope.

- Row 2 Piles: Recommended to be installed along close proximity to the proposed west property line/retaining wall. The upper 25 feet of the pile, measured from highest adjacent finish grade, should be designed to resist a minimum equivalent fluid pressure of 160 pcf per lineal foot length of the slope. The 25-foot segment of the pile below that should be designed to resist a minimum equivalent fluid pressure of 35 pcf per lineal foot length of the slope.

The project structural engineer may design these piles, wherever applicable, to resist bearing loads as well as lateral loads. The piles should be designed to resist a minimum of 1000 pounds per lineal foot of pile for creep effect.

As mentioned in Appendix 2, it is recommended that a minimum 3-foot high freeboard, along with a V-ditch, be installed for the entire length of the proposed west side retaining wall. The freeboard should be designed as an impact wall that will withstand a lateral earth pressure of up to 125 pcf. Drainage will be southwardly into the existing concrete swale along the west property line.

LIMITATIONS

Unless specifically noted in this letter, relevant and applicable approved recommendations presented in the referenced reports remain applicable. These recommendations are subject to revisions depending on the exposed conditions in the site that should be observed by a California Certified Engineering Geologist.

The geotechnical consultant has prepared this letter in accordance with generally accepted engineering practices and makes no other warranties either expressed or implied as to the provided professional advice.

We appreciate the opportunity to be of continued service to this project. If you have any questions, please do not hesitate to call the undersigned.

Respectfully submitted,
JTM GEOTECHNICAL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
NIDHAM H. AL-RAYES
No. 65487
Exp: 09/09
CIVIL
STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST
DREW HANEY
No. 2091
CERTIFIED ENGINEERING GEOLOGIST
09/11
STATE OF CALIFORNIA

Nidham Al-Rayes, PE
RCE No. C65487

Drew Haney
CEG 2091

ATTACHMENTS:

Appendix 1 – AGM-1; Area Geomap, SR-1; Approved Slope Repair Areas, WG-1; Proposed Wall Extension and Regrading, Drawing A; Revised Geologic Map and Site Plan, and Cross-Sections A-A', B-B' and C-C'.
Appendix 2 – Response to Comments of LADBS letter dated 04/26/2002; Log # 34094-01.
Appendix 3 – Slope Stability Analyses.
Appendix 4 – Copies of the referenced February 25, 2009, April 26, 2002, and August 3, 2001 LADBS Correction Letters

Distribution: (4)

REFERENCES

Applied Earth Sciences, 2009, Report of Geotechnical Investigation, Proposed Single Family Residence, Lot 68 of Tract No. 2605, 4777 Brewster Drive, Los Angeles (Tarzana), California. Project No. 07-485-02, dated January 16, 2009.

City of Los Angeles - Department of Building and Safety (LADBS), 2001, Tract 2605, Portion of Lots 66 and 68, 4777 Brewster Drive. Log # 34094, Dated August 3, 2001.

_____, 2002, Geology And Soils Report Approval Letter, Tract 2605, Portion of Lots 66 and 68, 4777 Brewster Drive. Log # 34094-01, Dated April 26, 2002.

_____, 2009, Geology And Soils Report Correction Letter, Tract 2605, Lot 68 (arb 2), 4777 Brewster Drive. Log # 66482, Dated February 25, 2009.

MEC Geotechnical Engineers, Inc., 2001, Preliminary Geotechnical Engineering and Engineering Geology Investigation for 4777 Brewster Drive, Tarzana. MEC File Number 0ESM142, dated June 18, 2001.

_____, Addendum No. 1 to Preliminary Geotechnical Engineering and Engineering Geology Investigation for 4777 Brewster Drive, Tarzana. MEC File Number 0ESM142, dated March 26, 2002.

FORM GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

January 2, 2018

TO: David L. Roberts, Assistant Director
Real Estate Services Division
Department of General Services
ATTN: Armando Parra

FROM: Craig Weber, Principal City Planner CW
Policy Planning Bureau
Department of City Planning

SUBJECT: **Proposed Sale of 18825 W Edleen Drive, APN 2176-026-904**

We have received your request for comment regarding the sale of an approximately 19,410-square-foot piece of property located at 18825 W Edleen Drive, alternately identified as assessor parcel number 4261-007-900. The subject property is located within the Encino-Tarzana Community Plan area, and is designated for Very Low I Residential use, with a corresponding zone of RA-1, a Residential Agricultural zone.

It is our understanding that the subject site was originally subdivided for residential use in the early 1960s, improved with a single family house in 1972, and that the subject property, as well as five neighboring properties were purchased by the City, and the houses were demolished in the late 1990s, leaving all six properties vacant. It is also our understanding that while the neighboring properties were sold at public auction to the general public in November, 2017, the subject property is proposed for direct sale to the Santa Monica Mountains Conservancy (Mountains Recreation and Conservation Authority-MRCA).

Any sale of the subject property, either for use as a single family residence, or as general open space, would be consistent with the general intent of the City's General Plan, and the Encino-Tarzana Community Plan. In the event that the MRCA does purchase the property with the intent of establishing either long-term open space, or a recreation facility, future coordination may be needed with the Department of City Planning to ensure that the most appropriate land use designation and zone are applied to the property.

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

CITY OF LOS ANGELES

CALIFORNIA

ERIC GARCETTI
MAYOR

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX NO. (213) 928-9515

September 11, 2017

Honorable Eric Garcetti
Mayor, City of Los Angeles
Room 303, City Hall

Attention: Miguel Sangalang, Deputy Mayor

PROPOSED SALE OF SURPLUS CITY-OWNED PROPERTY
18825 WEST EDLEEN DRIVE – COUNCIL DISTRICT 3

The Real Estate Services Division (RES) is processing the City-owned property identified on the attached assessor map, to be declared surplus for sale to the Santa Monica Mountains Conservancy, to expand their green space in that area. The Property, a vacant lot, is located at 18825 W. Edleen Drive, Tarzana, CA 91356; Assessor Parcel Number (APN) 2176-026-904.

Your comments are invited, on the attached form, relative to the proposed sale. Also, your response within 30 days of this letter is sincerely appreciated. Please return a signed copy of this letter to Room 201 City Hall South, Real Estate Services Division, Mail Stop 706, attention: Property Manager. If we do not hear from you within this time frame, we will assume you have no objections to the proposed sale.

Should you need additional information, contact RES staff member Senior Management Analyst Enid Gomez, at (213) 922-8547 or via e-mail at Enid.Gomez@lacity.org.

Tony M. Royster
General Manager

Attachments

SUBJECT: **PROPOSED SALE OF CITY-OWNED SURPLUS PROPERTY**

Property: 18825 W. Edlleen Drive, Tarzana, CA 90002 (APN: 2176-026-904)

Please check one:

1. Lisa Hansen ✓ I have no objections to the proposed sale.

Comments:

____

____

2. ______________ I object to the proposed sale.

Comments:

____

____

Lisa Hansen Chief of Staff CD3 Blumenfield
Print Name and Title

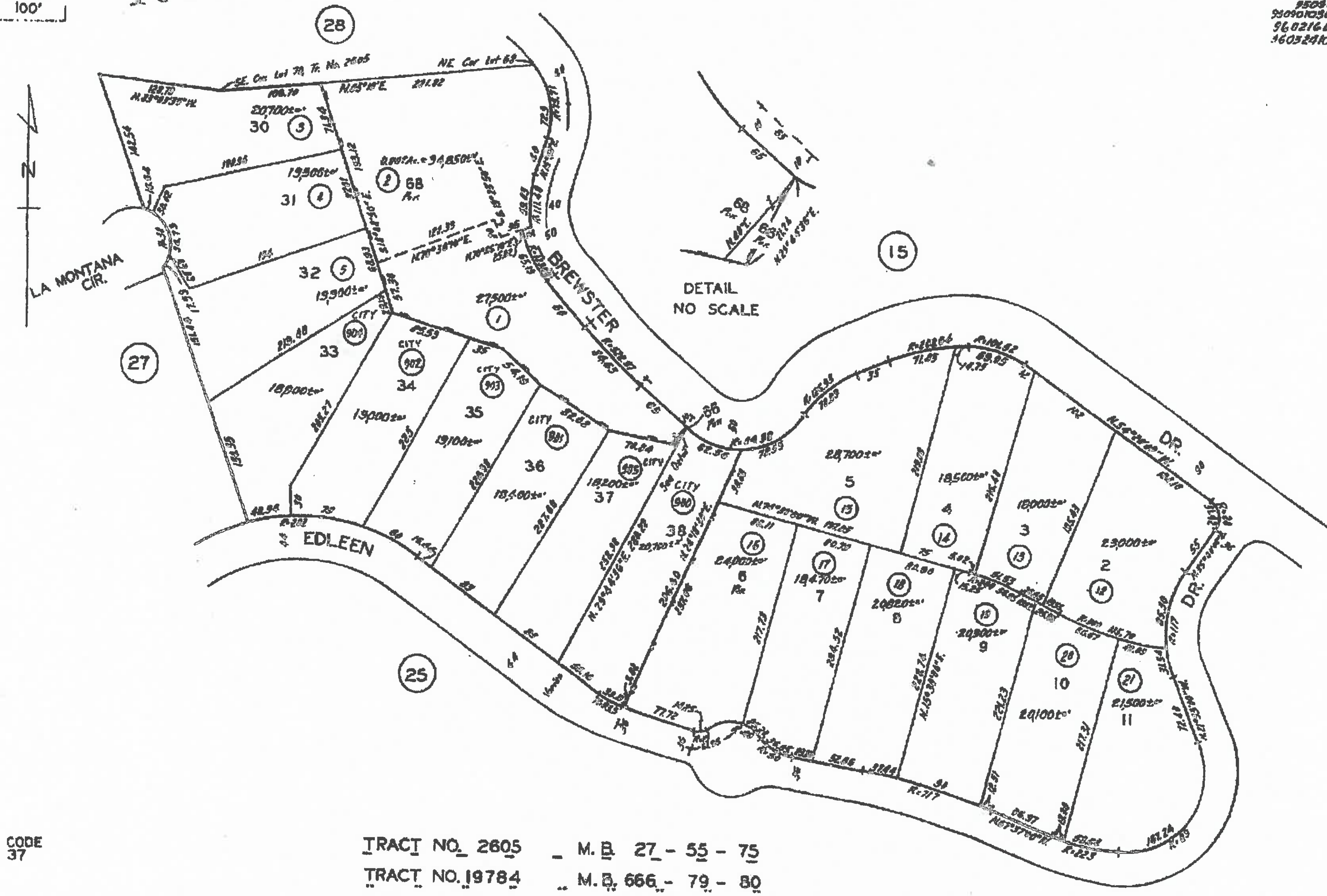
[signature]
Signature

8/18/19
Date

2176 | 26

SCALE 1" = 100'

1997



CODE
37

TRACT NO. 2605 — M. B. 27 - 55 - 75
TRACT NO. 19784 — M. B. 666 - 79 - 80
TRACT NO. 26541 — M. B. 722 - 45 - 49

FOR PREV. ASSM'T SEE:
2176 - 26

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

CITY OF LOS ANGELES

CALIFORNIA

TONY M. ROYSTER
GENERAL MANAGER
AND
CITY PURCHASING AGENT

DEPARTMENT OF
GENERAL SERVICES
ROOM 701
CITY HALL SOUTH
111 EAST FIRST STREET
LOS ANGELES, CA 90012
(213) 928-9555
FAX NO. (213) 928-9515

ERIC GARCETTI
MAYOR

September 11, 2017

Honorable Eric Garcetti
Mayor, City of Los Angeles
Room 303, City Hall

Attention: Miguel Sangalang, Deputy Mayor

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Should you need additional information, contact RES staff member Senior Management Analyst Enid Gomez, at (213) 922-8547 or via e-mail at Enid.Gomez@lacity.org.

Tony M. Royster
General Manager

Attachments

SUBJECT: **<u>PROPOSED SALE OF CITY-OWNED SURPLUS PROPERTY</u>**

Property: 18825 W. Edlleen Drive, Tarzana, CA 90002 (APN: 2176-026-904)

Please check one:

1. ______________ I have no objections to the proposed sale.

Comments:

____

____

2. ______________ I object to the proposed sale.

Comments:

____

____

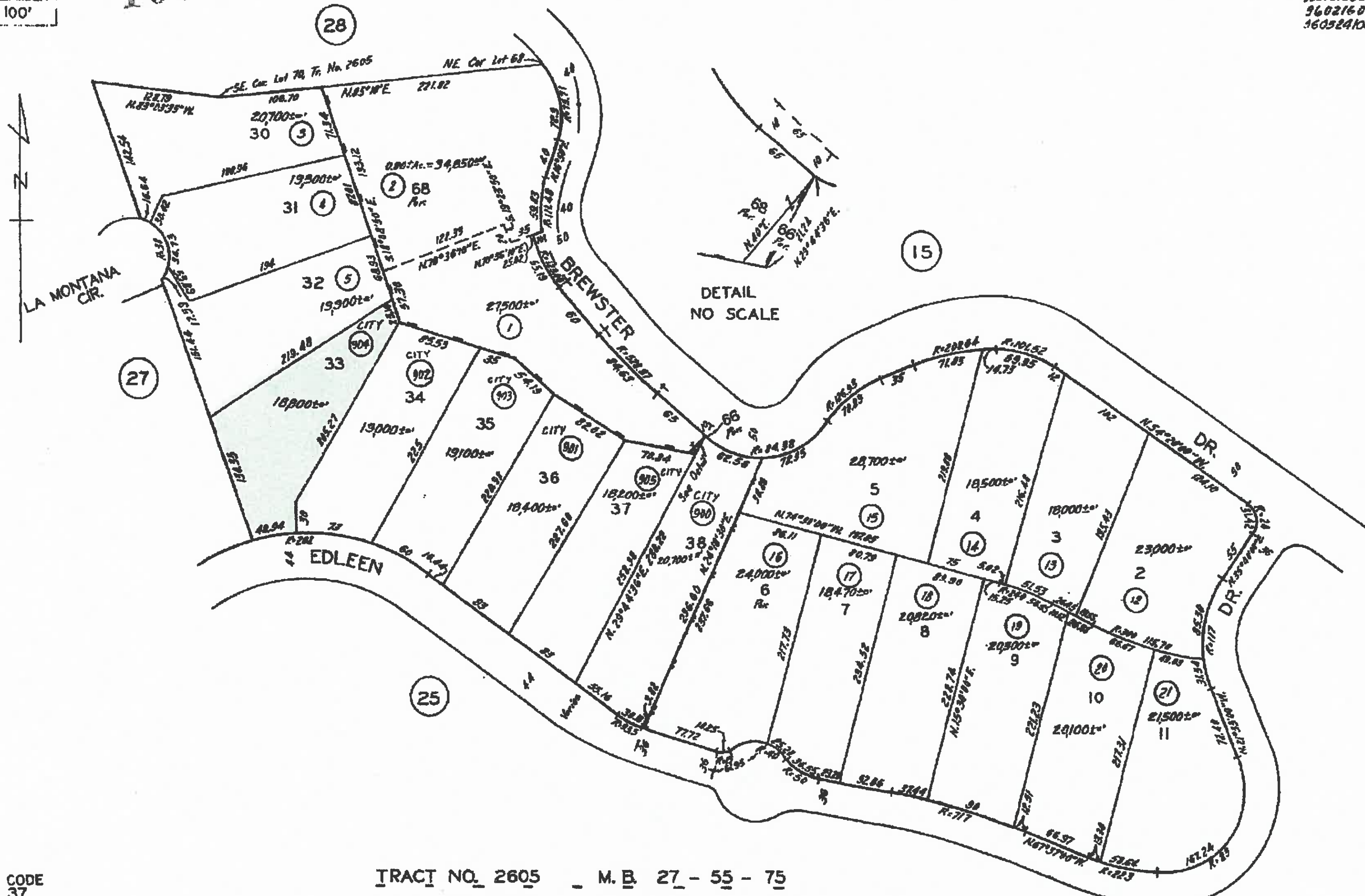
____
Print Name and Title

______________________________ ______________________________
Signature Date

2176 | 26

SCALE 1" = 100'

1997



CODE
37

TRACT NO. 2605 - M. B. 27 - 55 - 75
TRACT NO. 19784 - M. B. 666 - 79 - 80
TRACT NO. 26541 M. B. 722 - 45 - 49

FOR PREV. ASSM'T SEE:
2176 - 26

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

APPRAISAL REPORT

Six (6) Single-Family Residential-Zoned (RA-1) Lots
18801 to 18825 Edleen Drive
Tarzana, California 91356
Los Angeles County Assessor Parcel Numbers 2176-026-900 to 905

PREPARED FOR

City of Los Angeles
111 East First Street, Room 201, City Hall South
Los Angeles, California 90012

PREPARED BY:

GRIBIN, KAPADIA & ASSOCIATES
22551 Ventura Boulevard, Suite 201
Woodland Hills, California, 91364

DATE OF VALUATION

August 09, 2017

DATE OF INSPECTION

August 09, 2017

DATE OF REPORT

November 10, 2017

GRIBIN, KAPADIA & ASSOCIATES

Real Estate Consultants & Valuation Advisors

22551 Ventura Boulevard, Suite 201, Woodland Hills, CA 91364 - Tel (818) 225-0097 / Fax (818) 225-0098

November 10, 2017

Mr. David Roberts
City of Los Angeles
Asset Management Division, Department of General Services
111 East First Street, Room 201, City Hall South
Los Angeles, CA 90012

Regarding: **Six (6) Single-Family Residential-Zoned (RA-1) Lots**
18801 to 18825 Edleen Drive, Tarzana, California 91356
Los Angeles County Assessor Parcel Numbers 2176-026-900 to 905

GKA File No.: 17-245

Dear Mr. Roberts:

In accordance with your request and authorization, we have conducted the research and analyses necessary to form an opinion as to the **Market Value** of the fee simple estate in the above-referenced property, as of **August 09, 2017.**

The subject property is an irregular-shaped mid-block parcel of single-family residential-zoned (RA-1) land consisting of six (6) adjacent and contiguous lots ranging in size from 18,200 to 20,700 square feet (per Los Angeles County Assessor Plat Map) with buildable pads estimated from 6,000 to 7,000 square feet (+/- 33%) and backyard "jetliner" views of the San Fernando Valley.

This appraisal report is subject to a <u>Hypothetical Condition</u> (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

22551 Ventura Boulevard, Suite 201, Woodland Hills, CA 91364 - Tel (818) 225-0097 / Fax (818) 225-0098

The six lots were previously improved with six single-family homes, built from 1968 to 1975, ranging in size from 2,602 to 3,490 square feet (per public records). The homes were removed after a landslide in 1993 and the lots were acquired by the City of Los Angeles in 1995 for an undisclosed amount. For sale listings of the subject property were not found or reported within the last three years.

We have reviewed a title report for the subject property prepared by First American Title Insurance Company, dated July 24, 2017 (copy in Addendum). For purposes of this report, we have assumed no adverse encumbrances or environmental hazards that would affect the utility or market value of the subject property.

The subject property is located in the Tarzana community of the City of Los Angeles in the southwestern portion of the San Fernando Valley. The residential hillside area is situated 1.25 miles south of the Ventura Freeway (101), one mile south of Ventura Boulevard (main east-west commercial street), one-half mile west of the El Caballero Country Club Golf Course and three-quarters of a mile north of the Braemar Country Club Golf Course. The subject's immediate neighborhood consists of one and two-story single-family dwellings, primarily built in the 1950s and 1960s, with recent sale prices ranging from $920,000 to $4,625,000 (median is $1,300,000 ($428/sf)).

The purpose of this letter is to transmit the following narrative appraisal report, which describes the properties, their environment, the work carried out in this assignment, our analysis and supporting data. The definition of market value as used in this report can be found in the Introduction section of this report and is subject to the certification of the appraisers and the assumptions and limiting conditions. This document represents an "appraisal report" which is intended to comply with the reporting requirements set forth under Standards Rule 2-2 (a) of the 2016-2017 Uniform Standards of Professional Appraisal Practice (USPAP).

Market Value

The term Market Value is from regulations published by federal regulatory agencies pursuant to Title XI of the Financial Institutions Reform, Recover and Enforcement Act (FIRRE) of 1989 between July 5, 1990 and August 24, 1990, by the Federal Reserve System (FRS), National Credit Union Administration (NCUA), Federal Insurance Corporation (FDIC), the Office of Thrift Supervision (OTS), and the Office of Comptroller of the Currency (OCC), is shown below.

"Market Value means the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated;
2. both parties are well informed or well advised and acting in what they consider their own interest.
3. a reasonable time is allowed for exposure in the open market;
4. payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."

Fee Simple Estate

The fee simple estate represents an absolute ownership interest unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power and escheat.

GRIBIN, KAPADIA & ASSOCIATES
Real Estate Consultants & Valuation Advisors
22551 Ventura Boulevard, Suite 201, Woodland Hills, CA 91364 - Tel (818) 225-0097 / Fax (818) 225-0098

Market Value Estimate – August 09, 2017

Based on our independent research, analysis and inspection, the estimated market value of the fee simple estate in the subject property, consisting of six (6) adjacent and contiguous lots ranging in size from 18,200 to 20,700 square feet (per Los Angeles County Assessor Plat Map) with buildable pads estimated from 6,000 to 7,000 square feet (+/- 33%) and backyard "jetliner" views of the San Fernando Valley, as of August 09, 2017, as detailed below.

Address	Parcel Number	Land SF	Value Per SF	Market Value
18801 Edleen Drive, Tarzana	2176-026-900	20,700	$43	$900,000
18807 Edleen Drive, Tarzana	2176-026-905	18,200	$49	$900,000
18813 Edleen Drive, Tarzana	2176-026-901	18,400	$49	$900,000
18817 Edleen Drive, Tarzana	2176-026-903	19,100	$47	$900,000
18821 Edleen Drive, Tarzana	2176-026-902	19,000	$47	$900,000
18825 Edleen Drive, Tarzana	2176-026-904	18,800	$48	$900,000
--	**Totals**	**114,200**	**$47**	**$5,400,000**

This appraisal report is subject to a Hypothetical Condition (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

Respectfully submitted,
GRIBIN, KAPADIA & ASSOCIATES

David Gribin, MAI, CPM
CA Certified General Appraiser
AG 004809 - Expires 9/29/2018
david.gribin@gmail.com

Rodd H. Hitch
CA Certified General Appraiser
AG 003107 – Expires 12/10/2018
roddhitch@gmail.com

GRIBIN, KAPADIA & ASSOCIATES

Real Estate Consultants & Valuation Advisors

22551 Ventura Boulevard, Suite 201, Woodland Hills, CA 91364 - Tel (818) 225-0097 / Fax (818) 225-0098

Bulk Value Estimate – August 09, 2017

Based on our independent research, analysis and inspection, the estimated bulk market value (assumes a single-buyer) of the fee simple estate in the subject property, consisting of six (6) adjacent and contiguous lots ranging in size from 18,200 to 20,700 square feet (per Los Angeles County Assessor Plat Map) with buildable pads estimated from 6,000 to 7,000 square feet (+/- 33%) and backyard "jetliner" views of the San Fernando Valley, as of August 09, 2017, as detailed below.

6 lots at $475,000 per lot = $2,850,000

This appraisal report is subject to a Hypothetical Condition (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

Respectfully submitted,
GRIBIN, KAPADIA & ASSOCIATES

David Gribin, MAI, CPM
CA Certified General Appraiser
AG 004809 - Expires 9/29/2018
david.gribin@gmail.com

Rodd H. Hitch
CA Certified General Appraiser
AG 003107 – Expires 12/10/2018
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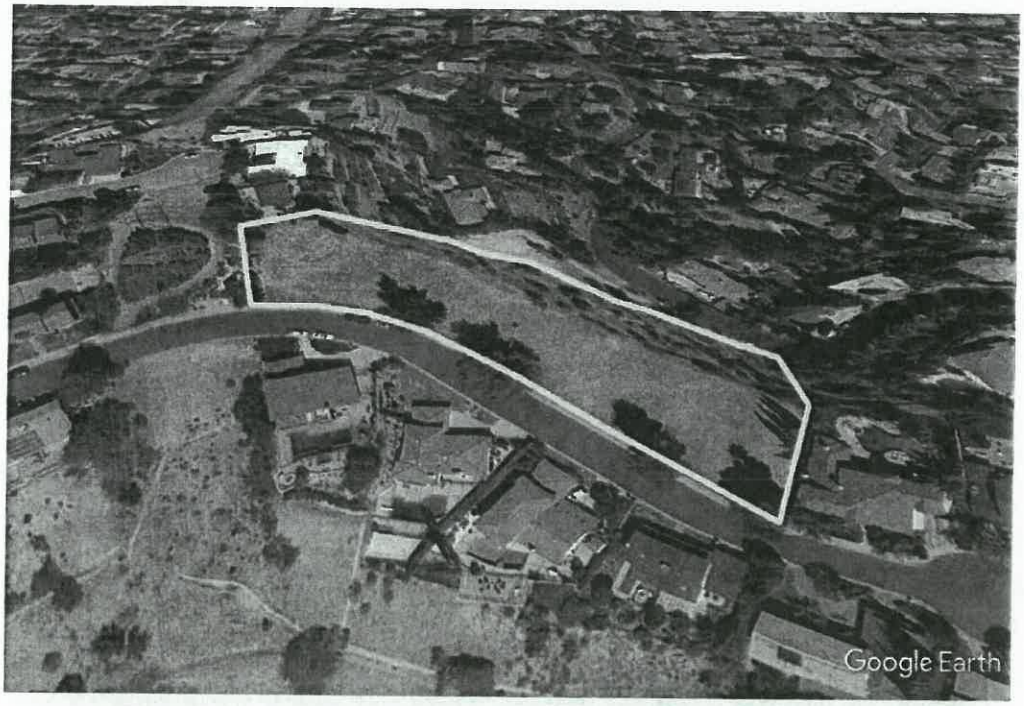
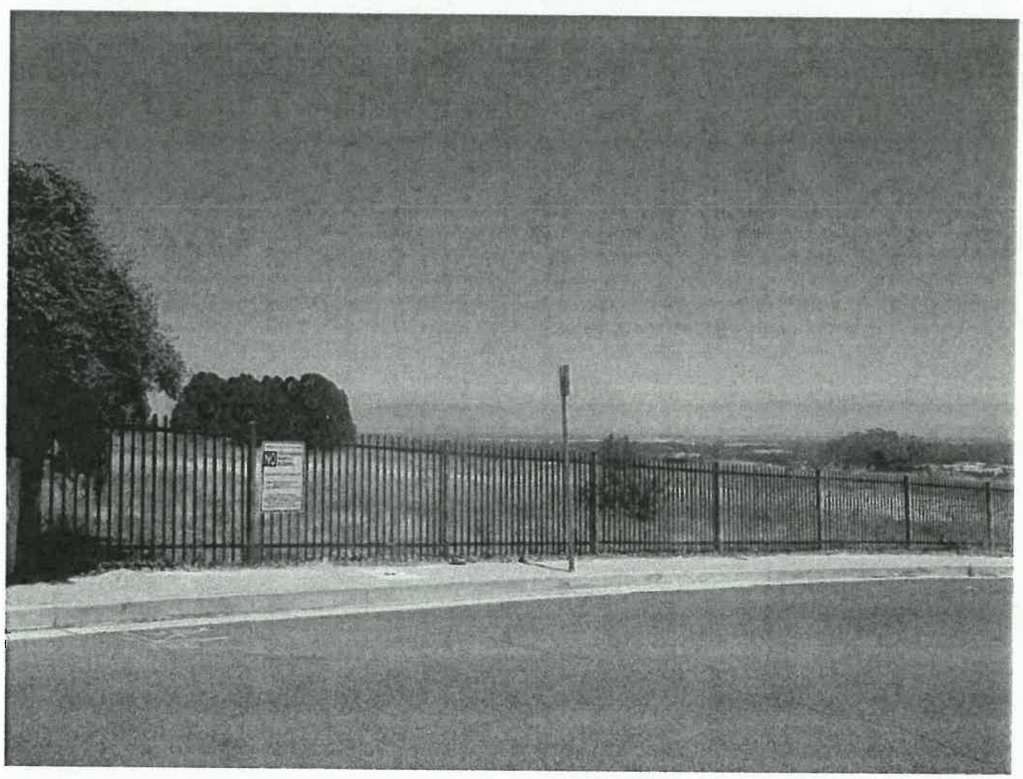
Aerial Picture of Subject Property

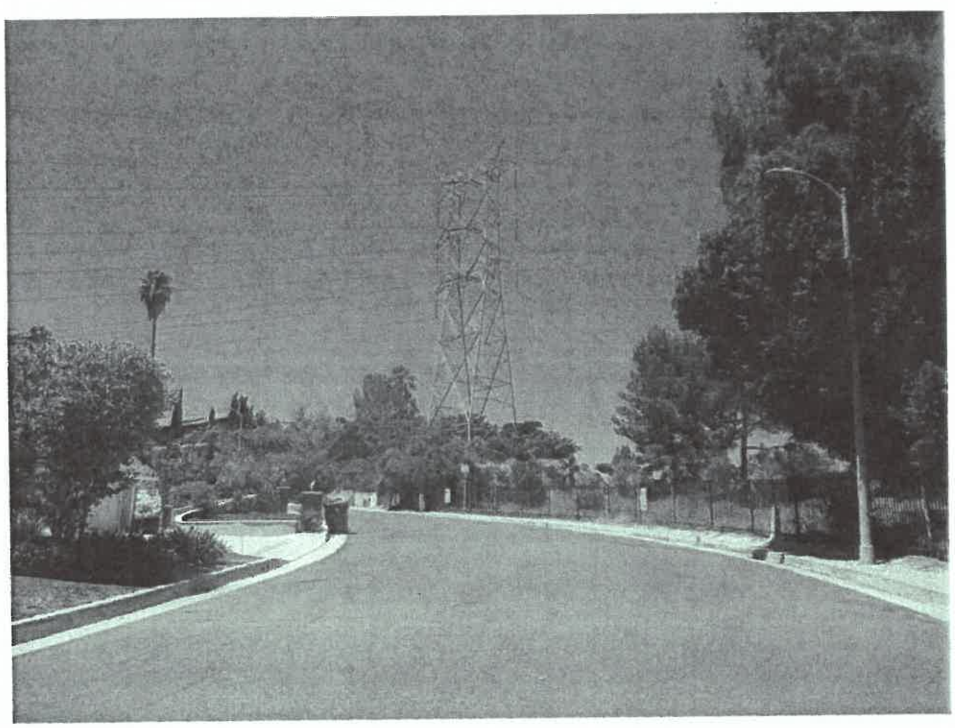


Front View of Subject Property from Edleen Drive



View East on Edleen Drive

View West on Edleen Drive



APPRAISAL DEVELOPMENT & REPORTING PROCEDURES

According to the new (2016-2017) USPAP cycle, the Self-Contained Report and Summary Appraisal Report options are eliminated for appraisals with a date of report on or after January 01, 2014. This report falls into this category. As a result, this is an **"Appraisal Report"**, prepared in accordance with USPAP Standards Rule 2-2(a). The following is a summary of the two new appraisal formats.

APPRAISAL REPORT	RESTRICTED APPRAISAL REPORT
I. State the identity of the client and any intended users, by name or type;	I. State the identity of the client, by name or type; and state a prominent use restriction that limits use of the report to the client and warns that the appraiser's opinions and conclusions set forth in the report may not be understood properly without additional information in the appraiser's workfile.
ii. State the intended use of the appraisal.	ii. State the intended use of the appraisal.
iii. Summarize information sufficient to identify the real estate, or personal property involved in the appraisal, including the physical and economic property characteristics relevant to the assignment.	iii. State information sufficient to identify the real estate or personal property involved in the appraisal.
iv. State the real property interest appraised;	iv. State the real property interest appraised.
v. State the type and definition of value and cite the source of the definition:	v. State the type of value and cite the source of definition:
vi. State the effective date of the appraisal and the date of the report;	vi. State the effective date of the appraisal and the date of the report;
vii. Summarize the scope of work used to develop the appraisal;	vii. State the scope of work used to develop the appraisal;
viii. Summarize the information analyzed, the appraisal methods and techniques employed, and the reasoning that supports the analyses, opinions, and conclusions; exclusion of the sales comparison approach, cost approach, or income approach must be explained;	viii. State the appraisal methods and techniques employed, state the value opinion(s) and conclusion(s) reached and reference the workfile; exclusion of the sales comparison approach, cost approach, or income approach must be explained;
ix. State the use of the property existing as of the date of value and the use of the real estate or personal property reflected in the appraisal; and, when an opinion of highest and best use was developed by the appraiser, summarize the support and rationale for that opinion;	ix. State the use of the property existing as of the date of value and the use of the real estate or personal property reflected in the appraisal; and, when an opinion of highest and best use was developed by the appraiser, state the opinion;
x. clearly and conspicuously state all extraordinary assumptions and hypothetical conditions; and that their use might have affected the assignment results; and	x. clearly and conspicuously state all extraordinary assumptions and hypothetical conditions; and that their use might have affected the assignment results;
xi. Include a signed certification in accordance with Standards Rule 2-3 or 8-3.	xi. Include a signed certification in accordance with Standards Rule 2-3 or 8-3.

TABLE OF CONTENTS

SUMMARY OF SALIENT DATA AND CONCLUSIONS

Property Addresses:	18801-18825 Edleen Drive, Tarzana, CA 91356
Parcel Numbers:	2176-026-900 to 905
Thomas Brothers Map Guide:	Los Angeles County, Page 560, Coordinate H-4
As Is Property Type:	Unimproved Land
Purpose of Appraisal:	Market Value and Bulk Value
Property Rights:	Fee Simple Estate
Date of Valuation:	August 09, 2017
Date of Inspection:	August 09, 2017
Date of Report:	November 10, 2017
Owner of Record:	City of Los Angeles
Property Description:	
Land Area:	114,200 square feet or 2.62 acres among six lots
Shape/Orientation:	Irregular / Mid-block
Topography:	Level Pad / Steep downslope
Zoning:	RA-1 (single-family residential)
Utilities:	All available to site
Flood Zone:	060137C1295F, Zone X, dated 9/26/2008 Flood insurance is not a mandatory requirement
Earthquake Zone:	No
Improvements:	Terraced drainage improvements
Highest & Best Use:	Construct six (6) single-family dwellings
Exposure Time:	6 Months
Sales Comparison Approach:	$5,400,000 = $900,000 per lot
Bulk Value:	$2,850,000 = $475,000 per lot (53% of Retail Value)

CERTIFICATION

We, David Gribin, MAI, CPM and Rodd H. Hitch certify:

That we have not previously appraised the property that is the subject of this assignment within a three-year period immediately preceding acceptance of this appraisal assignment, as appraisers or in any other capacity.

That we do not have any current or prospective interest in the subject property or to the parties involved.

That Rodd H. Hitch performed a street view inspection of the subject property on August 09, 2017 and we have considered all of the pertinent facts affecting the values represented in this appraisal report. David Gribin did not inspect the subject property.

That all market data pertaining to the value estimates has been accumulated from various sources, where possible, personally examined and verified as to the details, motivations and validity.

That we have no present or contemplated future interest in the property appraised and neither is there any personal interest or bias with respect to the subject matter or to the principals involved.

That our analyses, opinions and conclusions were developed, and this report was prepared, in conformity with the Uniform Standards of Professional Appraisal Practice ("USPAP") and in accordance with the regulations developed by the Lender's Federal Regulatory Agency as required by FIRREA.

That our compensation is not contingent upon the reporting of a predetermined value or direction in value the favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.

That this appraisal assignment was not based on a requested minimum valuation, a specific valuation or the approval of a loan.

That to the best of our knowledge and beliefs, the statements of fact contained in this report, upon which the analyses, opinions and conclusions are based, are true and correct, subject to the Statement of Basic Assumptions and Limiting Conditions herein set forth.

That this appraisal report sets forth all limiting conditions (imposed by the terms of the assignment of by the undersigned) affecting the analyses, opinions and conclusions expressed.

The appraisers have not given consideration to any on-site personal property either owned or leased by the tenants and/or the owner of the subject property.

No one other than the undersigned persons have provided assistance in preparing the report.

That our analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the Appraisal Institute.

This appraisal report has been prepared in its entirety and without bias, and in conformity with and subject to the requirements of the Code of Ethics of the Appraisal Institute. The appraisers are competent to complete this report in accordance with the competency provision in USPAP.

The use of this appraisal report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

Disclosure of the contents of the appraisal report is governed by the bylaws and regulations of the Appraisal Institute. In furtherance of the arms of the Institute to members, we may be required to submit authorized committees of said Institute, copies of this report and any subsequent changes or modifications thereof.

As of the date of this report, David Gribin, MAI, CPM has completed the requirements of the continuing education program of the Appraisal Institute.

Respectfully submitted,

GRIBIN, KAPADIA & ASSOCIATES

David Gribin, MAI, CPM
CA Certified General Appraiser
AG 004809 - Expires 9/29/2018
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CA Certified General Appraiser
AG 003107 – Expires 12/10/2018
roddhitch@gmail.com

ASSUMPTIONS AND LIMITING CONDITIONS

1. No responsibility is assumed for legal descriptions or for matters including legal or title consideration. Title is assumed to be good and marketable unless otherwise stated.

2. The property is appraised as though free and clear of any or all liens or encumbrances unless otherwise stated.

3. We have reviewed a title report for the subject property prepared by First American Title Insurance Company, dated July 24, 2017 (copy in Addendum) and a Geotechnical Evaluation Report prepared by Amec Foster Wheeler Environment & Infrastructure, dated August 22, 2017 (copy in Addendum). For purposes of this report, we have assumed no adverse encumbrances or environmental hazards that would affect the utility or market value of the subject property.

4. Based on the Los Angeles County Assessor's Plat Map (page 31), the subject property contains six (6) adjacent and contiguous lots ranging in size from 18,200 to 20,700 square feet (total of 114,200 square feet or 2.62 acres).

5. Responsible ownership and competent property management are assumed.

6. It is assumed that there is full compliance with all applicable federal, state and local environmental regulations and laws unless noncompliance is stated, defined and considered in the appraisal report.

7. It is assumed that all applicable zoning and use regulations have been complied with, unless nonconformity has been stated, defined and considered in the appraisal report.

8. It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimates contained in this report are based.

9. The information furnished by others is believed to be reliable. No warranty is expressed or implied as to its accuracy.

10. All engineering is assumed to be correct. The plot plans and illustrative material in this report are included to assist the reader in visualizing the property.

11. It is assumed that there are no hidden or unapparent conditions of the property's subsoil that render it more or less valuable. No responsibility is assumed for such conditions or for arranging engineering studies that may be necessary to discover them.

12. It is assumed that the utilization of land is within the boundaries of property lines of the property described and that there are no encroachments or trespass unless noted in the report.

13. Statement of Policy:

    The following statement represents official policy of the Appraisal Institute with respect to neighborhood analysis and the appraisal of real estate:

    a) It is improper to base a conclusion or opinion of value upon the premise that the racial, ethnic or religious homogeneity of the inhabitants of an area or of a property is necessary for maximum value.

    b) Racial, religious, and ethnic factors are deemed unreliable predictors of value trends or price variance.

    c) It is improper to base a conclusion or opinion of value, or a conclusion with respect to neighborhood trends, upon stereotyped or biased presumptions relating to race, color, religion, sex, or national origin or upon unsupported presumptions relating to the effective age or remaining life of the property or the life expectancy of the neighborhood in which it is located.

14. Flood zone data was obtained from National Data Collective. The appraiser has no responsibility as to the accuracy of this data. The owner or lender should be aware of the potential for flooding in low lying areas and the responsibility to purchase flood insurance, if needed, for the protection of the property.

15. The subject site lies in an area of very frequent geological activity, particularly earthquakes, along with an overwhelming majority of Southern California. As such, earthquakes can occur at the subject's location at any time. The possible future effect of earthquake damage to the subject property has not been considered in the value set forth in this report, except as measured by comparable sales of properties that may be subject to the same hazard.

16. **This report has been made with the following general limiting conditions:**

1) The distribution, if any, of the total valuation in this report between land and improvements applies only under the stated program of utilization. The separate allocations for land / buildings must not be used in conjunction with any other appraisal.

2) Possession of this report, or a copy thereof, does not carry with it the right to publication. It may not be used for any purpose by any person other than the party to whom it is addressed without the consent of the appraisers, and in any event, only with proper written qualification and only in its entirety.

3) The appraisers herein by reason of this appraisal are not required to give further consultation, testimony or be in attendance in court with reference to the properties in question unless arrangements have been previously made.

4) Neither all of any part of the contents of this report (especially any conclusions as to value or the identity of the appraisers) shall be disseminated to the public through advertising, public relations, news, sales, or other media without the prior written consent and approval of the appraisers.

17. **This report has been made with the following specific limiting condition:**

This appraisal report is subject to a Hypothetical Condition (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

PART A

INTRODUCTION

APPRAISAL INTRODUCTION

Identification of Property

The subject property is an irregular-shaped mid-block parcel of single-family residential-zoned (RA-1) land consisting of six (6) adjacent and contiguous lots ranging in size from 18,200 to 20,700 square feet (per Los Angeles County Assessor Plat Map) with buildable pads estimated from 6,000 to 7,000 square feet (+/- 33%) and backyard "jetliner" views of the San Fernando Valley. The remaining portions of the lots are situated on a steep downslope which appears to have been adequately graded and supported with water drainage improvements.

The six lots were previously improved with six single-family homes, built from 1968 to 1975, ranging in size from 2,602 to 3,490 square feet (per public records). The homes were removed after a landslide 1993 and the lots were acquired by the City of Los Angeles in 1995 for an undisclosed amount.

This appraisal report is subject to a Hypothetical Condition (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

The Los Angeles County Assessor's Office identifies the subject property by parcel numbers 2176-026-900 to 905. The subject property can be found by referencing the Thomas Brothers Map Guide for Los Angeles County, page 560, coordinate H-4.

Purpose of the Report

The purpose of this appraisal report is to determine the **Market Value** of the subject property, as of **August 09, 2017.**

Intended Use / Users of the Report

This appraisal is intended for the exclusive use of the **City of Los Angeles** and its duly authorized representatives. The use of this appraisal by others is prohibited. The intended use of this appraisal is to assist the **City of Los Angeles** in a potential sale.

Scope of the Report

The scope of this report included data gathering, data analysis and valuation. The data gathering phase of this assignment included obtaining information from the following sources:

- The CoStar Group, a real estate sales information service
- Loopnet multiple listing service
- TheMLS.com multiple listing service
- National Data Collective, a Real Estate Information Service
- Los Angeles County Assessor
- Various internet sites, including City of Los Angeles
- Physical inspection on August 09, 2017
- Title Report prepared by First American Title Insurance Company
- Geotechnical Report prepared by Amec Foster Wheeler Environment & Infrastucture

Data Analysis: Initially, overall factors relating to interest rates, employment and demographics were explored and encompassed in the overall valuation process. Market data (sales) was adjusted for physical and locational equivalence to the subject property thereby developing an indication of market value via the Sales Comparison.

Sales Comparison Approach

Valuation of the subject property is based on sales of similar properties in the marketplace. The pertinent unit of comparison is the price per lot.

Property Rights Appraised

The subject property has been appraised as a fee simple estate which represents an absolute ownership interest unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power and escheat.

Historic and Current Ownership

The six lots were previously improved with six single-family homes, built from 1968 to 1975, ranging in size from 2,602 to 3,490 square feet (per public records). The homes were removed after a landslide 1993 and the lots were acquired by the City of Los Angeles in 1995 for an undisclosed amount. For sale listings of the subject property were not found or reported within the last three years.

Exposure Time / Marketing Period

The Uniform Standards of Professional Appraisal Practice requires an analysis of exposure period. According to the Dictionary of Real Estate Appraisal, Sixth Edition, published by the Appraisal Institute, exposure time* is defined as:

> "The time a property remains on the market. The estimated length of time the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal; a retrospective estimated based upon an analysis of past events assuming a competitive and open market. Exposure time is always presumed to occur prior to the effective date of the appraisal. The overall concept of reasonable exposure encompasses not only adequate, sufficient and reasonable time, but also adequate, sufficient and reasonable effort. Exposure time is different for various types of real estate and value ranges and under various market conditions."

According to the Dictionary of Real Estate Appraisal, Sixth Edition, published by the Appraisal Institute, marketing period is defined as:

> "The time is takes an interest in real property to sell on the market subsequent to the date of an appraisal. It is an estimate of the amount of time it might take to sell an interest in real property at its estimated market value during the period immediately after the effective date of appraisal; the anticipated time required to expose the property to a pool of prospective purchasers and to allow appropriate time for negotiation, the exercise of due diligence, and the consummation of a sale at a price supportable by concurrent market conditions."

Marketing time differs from exposure period, which is always presumed to precede the effective date of appraisal. Since the definition of Market Value, implies that an adequate marketing effort and reasonable time for exposure occurred prior to the effective date of the appraisal, an estimate of exposure time is necessary.

The comparable sales had marketing times from one day to 14 months. Based on our analysis, we have estimated a six-month marketing time and exposure time period for the subject property, as of August 09, 2017.

DEFINITION OF TERMS

Market Value

The term Market Value is from regulations published by federal regulatory agencies pursuant to Title XI of the Financial Institutions Reform, Recover and Enforcement Act (FIRREA) of 1989 between July 5, 1990 and August 24, 1990, by the Federal Reserve System (FRS), National Credit Union Administration (NCUA), Federal Insurance Corporation (FDIC), the Office of Thrift Supervision (OTS), and the Office of Comptroller of the Currency (OCC), is shown below.

"Market Value means the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale of a specified date and the passing of title from seller to buyer under conditions whereby:

1. buyer and seller are typically motivated;
2. both parties are well informed or well advised and acting in what they consider their own interest.
3. a reasonable time is allowed for exposure in the open market;
4. payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."

Fee Simple Estate

The fee simple estate represents an absolute ownership interest unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power and escheat.

Effective Date of Appraisal

USPAP requires that each appraisal report specifies the effective date of the appraisal and the date of the report. The date of the report indicates the perspective from which the appraiser is examining the market. The effective date of the appraisal establishes the context for the value opinion. Three categories of effective dates, retrospective, current or prospective, may be used according to the intended use of the appraisal assignment.

Exposure Time

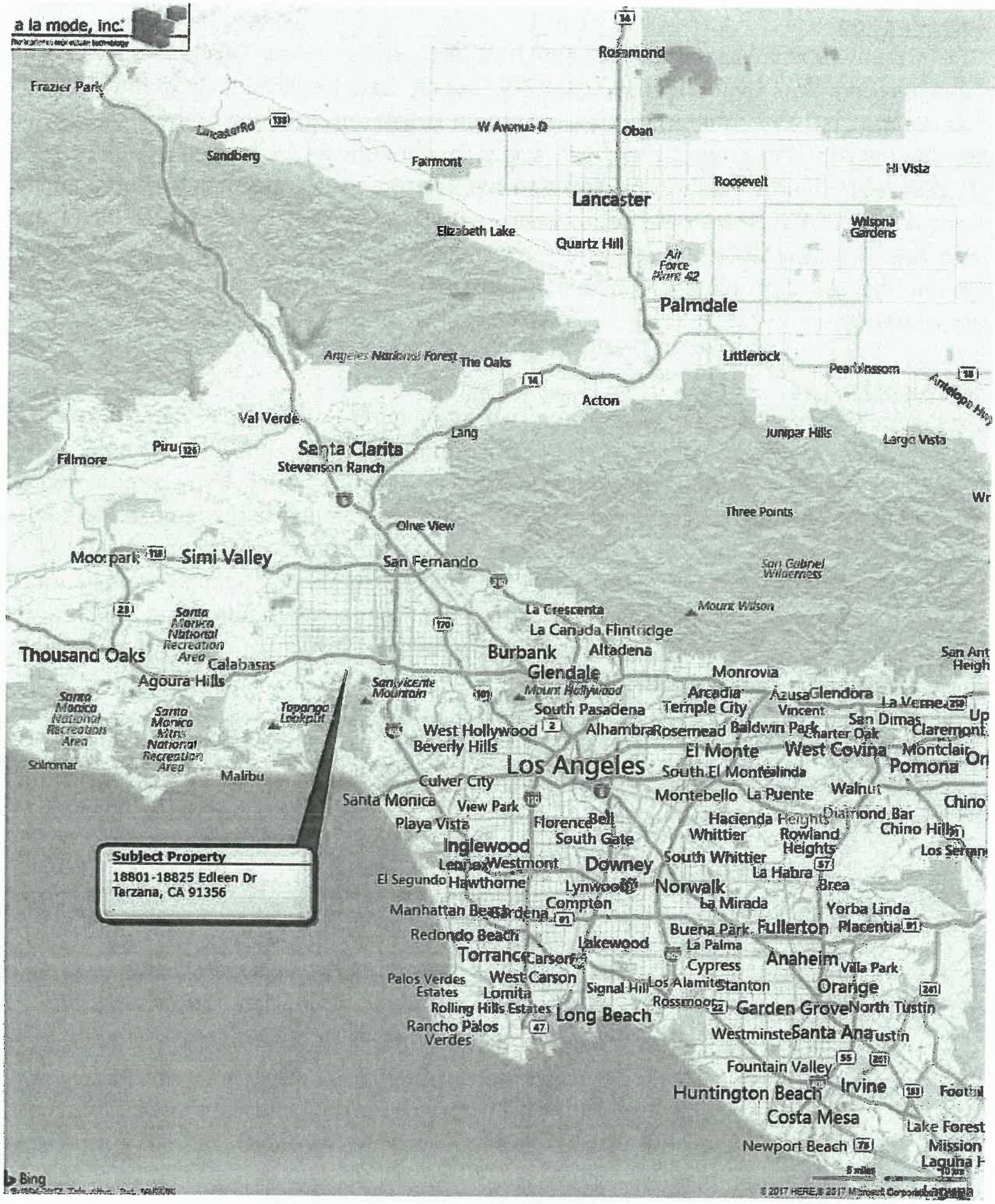
As defined in USPAP, the estimated length of time the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal. Exposure time is always presumed to precede the effective date of the appraisal. Exposure time is a function of price, time and use – not an isolated opinion of time alone.

Extraordinary Assumption / Condition
An assumption directly related to the specific assignment, which if found to be false, could alter the appraiser's opinions or conclusions.

Hypothetical Condition
That which is contrary to what exists, but is supposed for the purpose of the analysis.

* The Dictionary of Real Estate Appraisal 6th Edition; Appraisal Institute
** The Appraisal of Real Estate, 14th Edition; Appraisal Institute
*** 2010 Interagency Appraisal & Evaluation Guidelines
**** 2016-2017 Uniform Standards of Professional Appraisal Practice ("USPAP")

REGIONAL LOCATION MAP



REGIONAL OVERVIEW – LOS ANGELES COUNTY

Introduction

The County encompasses approximately 4,083 square miles (excluding the Santa Catalina and San Clemente Islands). The county can be divided into three distinct natural regions. The southern region is a broad coastal plain interspersed with hills and low mountains; the central region is a rugged mountain belt reaching elevations of 10,000 feet; and the northern region is a high desert plain. The county's metropolitan area lies almost entirely in the coastal plain between the mountains and Pacific Ocean, and has relatively easy access to the mountains and desert regions. There are four general forces that influence values in real estate: physical, social, economic and governmental.

Physical Forces

The county's mild desert climate attracts a large number of people from all over the United States as well as immigrants from numerous countries, which constantly add to the current large and diverse population. The topography varies from level to rugged terrain. Most level areas of the county, in close proximity to the urban centers, have been developed. Many of the rugged and steep slopes present challenges to design and building developments, and concern over the destruction of ridge lines and erosion have resulted in lower potential densities by the planning and zoning authorities. Much of the sloping land in the County is reserved for low-density residential developments, which provide attractive settings and view amenities.

Social Forces

According to the State Department of Finance, Los Angeles County has experienced the following population growth trend.

Year	Population	Annual % Change
2006	9,618,780	0.78%
2007	9,662,261	0.45%
2008	9,746,077	0.86%
2009	9,789,149	0.44%
2010	9,818,605	0.30%
2011	9,847,712	0.30%
2012	9,884,632	0.37%
2013	10,017,068	1.34%
2014	10,041,797	0.25%
2015	10,170,292	1.28%
2016	10,229,245	0.58%

Economic Forces
Area employment trends are important indicators of demand for real estate. With some exceptions, population will continue to grow only while industry generates new employment to support added population.

A breakdown of the employment sectors in Los Angeles County are detailed in the following table.

Government	15%	Retail Trade	10%
Business Services	14%	Health Care	9%
Goods Producing	14%	Finance	6%
Manufacturing	10%	Wholesale Trade	5%
Leisure & Hospitality	10%	Information	5%

Los Angeles County's unemployment rate for the past 10 years is detailed below.

Year	Average Annual Unemployment Rate
2006	4.5%
2007	5.7%
2008	8.2%
2009	11.4%
2010	12.6%
2011	12.0%
2012	10.2%
2013	9.2%
2014	7.5%
2015	5.9%
2016	5.5%

Overall, the economy of Los Angeles County expanded from 2005 through 2007 and then contracted from 2008 through 2010, as the financial crisis triggered a global recession. Since 2010, the Los Angeles County economy has experienced measured improvement.

The largest employers in Los Angeles County are summarized below.

Company	Employees
Walt Disney Company	133,000
Northrup Grumman Corporation	122,200
Hilton Hotels Corporation	105,000
County of Los Angeles	96,895
Computer Sciences Corporation	79,000
Los Angeles Unified School District	78,085
Federal Government	56,100
University of California Los Angeles (UCLA)	36,354
City of Los Angeles	35,895
Kaiser Permanente	34,179
State of California	32,300

Governmental Forces

The County of Los Angeles is governed by an elected supervisorial board comprised of five districts. The County's 2017-2018 annual budget is 30.0 billion, a 5% increase from the 2016-2017 annual budget of 28.7 billion. Services provided by the County include public health protection, public building safety, judicial administration and police protection, flood control and water conservation, public social services, and cultural and recreational services.

Transportation

The Los Angeles County transportation network is dominated by an extensive freeway system. Major north/south routes include the San Diego Freeway (Interstate 405), the Golden State Freeway (Interstate 5), the Pasadena/Harbor Freeway (State Highway 110), the Long Beach Freeway (Interstate 710), and the San Gabriel River Freeway (Interstate 605). The primary north/south route is the Golden State Freeway, which traverses the entire length of the state of California.

Major east/west routes include the Foothill Freeway (Interstate 210), the Ventura Freeway (State Highway 134/US Highway 101), the Hollywood Freeway (US Highway 101), the Santa Monica-San Bernardino Freeway (Interstate 10), the Pomona Freeway (State Highway 60), the Century Freeway (Interstate 105), and the Artesia Freeway (State Highway 91). The primary east/west route is the Santa Monica-San Bernardino Freeway, which extends from the Pacific Ocean to the Arizona state line and beyond.

The Los Angeles County Metropolitan Transportation Authority (MTA) is in the process of constructing freeway and mass transit projects in order to alleviate growth-related congestion. Projections by the MTA are that the average speed on most area freeways during peak morning commuting hours will decline from 34 to 20 (or less) miles per hour over the next two decades.

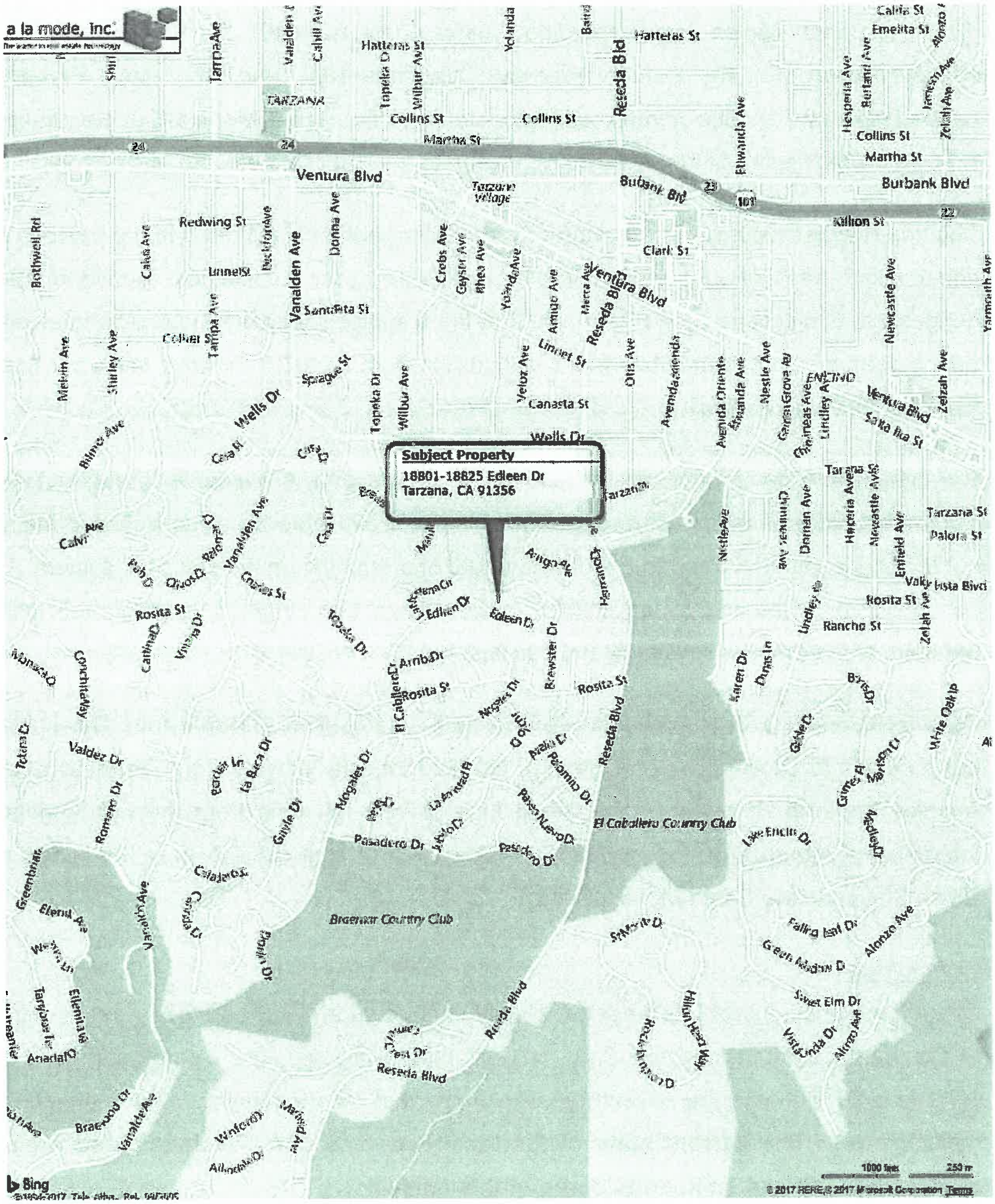
Rail freight service is provided by numerous carriers and is available throughout the Southern California region. Passenger rail service is available on a more limited basis, but is being expanded through the development of a regional passenger train system. All commuter rail lines use Union Station in Downtown Los Angeles as their hub (with transfers to the other rail systems and bus lines).

Completed portions of this system are: the Blue Line (a light rail train from Downtown Los Angeles to Downtown Long Beach); the Red Line (a subway from Downtown Los Angeles to North Hollywood); the Green Line (a light rail train from the Los Angeles International Airport area to Norwalk); the Gold Line (a light rail line from Pasadena to Union Station to the Santa Monica Pier).

<u>Conclusion</u>

Overall, the economy of Los Angeles County contracted in 2009 and 2010, as did most of Southern California and the State of California. However, the County stabilized in 2011 and 2017 marks the seventh year in a row that most economists have projected minor growth. **The current state of the local economy and the anticipated future economic trend has been considered in this analysis.**

LOCATION MAP OF IMMEDIATE AREA



IMMEDIATE AREA

The subject property is located in the Tarzana community of the City of Los Angeles in the southwestern portion of the San Fernando Valley. The residential hillside area is situated 1.25 miles south of the Ventura Freeway (101), one mile south of Ventura Boulevard (main east-west commercial street), one-half mile west of the El Caballero Country Club Golf Course and three-quarters of a mile north of the Braemar Country Club Golf Course. The subject's immediate neighborhood consists of one and two-story single-family dwellings, primarily built in the 1950s and 1960s, with recent sale prices ranging from $920,000 to $4,625,000 (median is $1,300,000 ($428/sf)).

East adjacent to the subject property (18777 Edleen Drive) is a two-story single-family dwelling, built in 1974, containing 6,467 square feet, that was sold on October 25, 2016 for $3,100,000 ($479/sf). West adjacent to the subject property are high-wire electrical power lines.

Market Trend

The following table was compiled from the TheMLS.com and summarizes single-family home sales in the Tarzana marketplace.

Year	Number Sales	Median Days on Market	Median Year Built	Median Square Feet	Median Sale Price	Median Price Per SF	Percentage Change From Prior Year
2017	150	54	1963	2,738	$1,161,000	$424	+2%
2016	245	61	1962	2,790	$1,155,000	$414	+6%
2015	216	70	1962	2,686	$1,045,000	$389	+5%
2014	200	56	1962	2,823	$1,050,000	$372	+10%
2013	248	54	1962	2,579	$869,000	$337	+17%
2012	232	65	1962	2,631	$755,000	$287	-1%

Conclusions

The median single-family home sale price has increased 48% on a price-per-square-foot ($424/$287) in the last five years, but appears to be slowing in the last year.

PART B

FACTUAL DATA OF PROPERTY

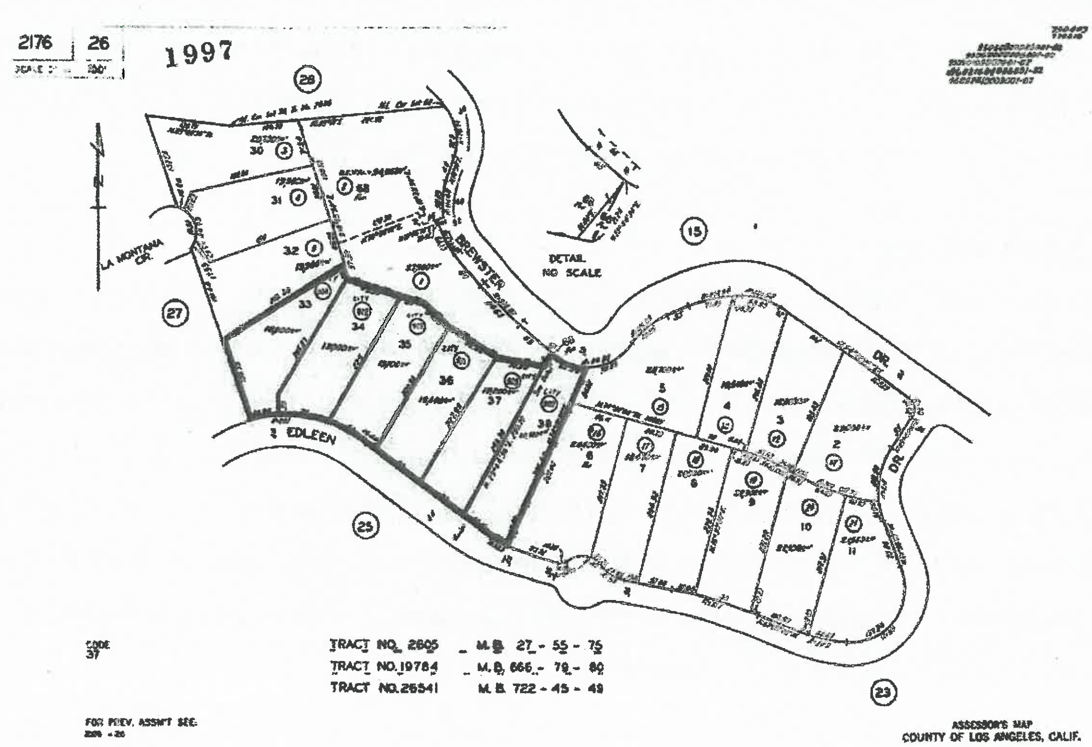
SITE DESCRIPTION

Site Data

The following table summarizes the site's attributes.

Parcel Numbers	2176-026-900 to 905
Land Area	114,200 square feet or 2.62 acres
Topography	Level pads (+/- 33%) and steep downslope
Orientation	Mid-block
Frontage	51 to 85 feet
Depth	219 to 297 feet
Shape	Mostly rectangular
Zoning	RA-1 = single-family residential; minimum lot size of 17,500 sf
Utilities	Public electricity, water, sewer, natural gas, telephone/cable

Los Angeles County Assessor's Plat Map



Street Access

The subject property has frontage on the north side of Edleen Drive which has 44 feet of right-of-way with one lane in each direction and is fully-improved with asphalt paving, concrete curbs, gutters and sidewalks and street lights.

Zoning

The subject property is under the zoning jurisdiction of the City of Los Angeles which reported a zoning of RA-1; a single-family zoning designation that allows one single-family dwelling for each 17,500 square feet of land. Development standards state a minimum lot width of 70 feet, a maximum building height of 45 feet and a minimum parking requirement of two covered parking spaces.

Topography & Drainage

The topography of the subject property is relatively level pad, at street frontage with a steep downslope, and drainage appears to be adequate. The subject property is located in Zone X which is an area of undetermined hazard from the principal sources of floods in the area. Although this zone is outside the 100-year flood zone, buildings in this zone could be flooded by severe, concentrated rainfall coupled with inadequate drainage systems. The subject property does not appear to be located in a flood hazard area in which mandatory flood insurance requirements apply.

Soils & Geology

This appraisal report is subject to a Hypothetical Condition (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

Earthquake Zone

The Earthquake Fault Zone (originally called the Alquist-Priolo Special Studies Zone) was enacted by the Alquist Priolo Special Studies Act which was signed into law on December 23, 1972 and went into effect on March 7, 1973. The purpose of this act was to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby, the hazards of fault ruptures. The subject property is not located in an Earthquake Fault Zone. However, it should be noted that the entire Southern California region is earthquake prone.

Utilities

All the usual and necessary public utilities are available to the subject property, including electricity, water, sewer and natural gas.

Easements / Encroachments

According to the Title Report prepared by First American Title Insurance Company (copy in Addendum), dated July 24, 2017, the subject property is encumbered by typical utility easements. It is our opinion the utility easements do not affect the development potential or market value of the subject property. Encroachments were not apparent during the August 09, 2017 physical inspection. For purposes of this report, we have assumed there are no adverse easements, encroachments or other special hazards that might affect the use, development potential or market value of the subject property.

Nuisances & Hazards

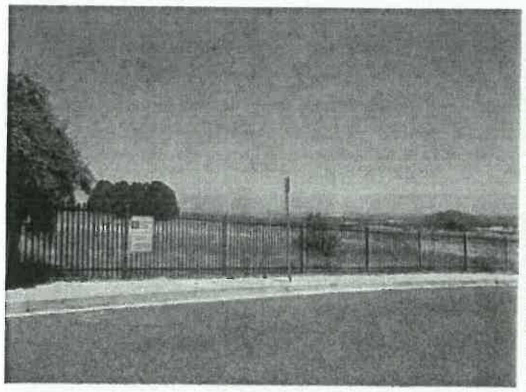
As per the Appraisal Institutes' Guide Note 8 of the Uniform Standards of Professional Appraisal Practice, the appraiser must note any hazardous substances or materials which may be present at the subject property and consider them in the appraisal valuation process. For purposes of this report, we have assumed there are no adverse nuisances and/or hazards that might affect the use, development potential or market value of the subject property. However, the subject property is west-adjacent to high-wire electrical power lines which primarily affect the appeal of the subject lot located at 18825 Edleen Drive (parcel number 2176-026-904).

Real Property Tax Assessments and Taxes

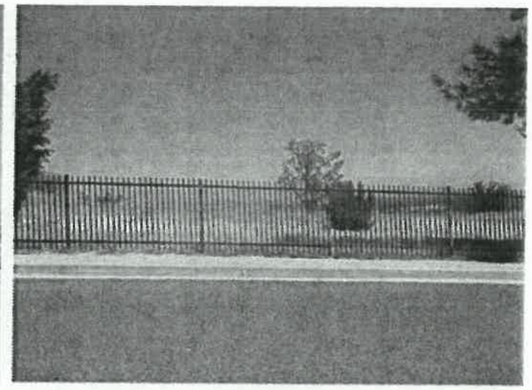
The subject property is owned by the City of Los Angeles, and thus, is not subject to real estate tax assessments and annual real estate taxes. However, the base tax rate for the immediate area is 1.191849% of assessed value.

The Jarvis/Gann Tax initiative was passed in 1978 and limited taxes to 1% of the market value of the property. Although assessments can be increased 2% per year, no major change in the assessment can be made unless the property transfers ownership. At that time, the property may be re-assessed at the then existing market value.

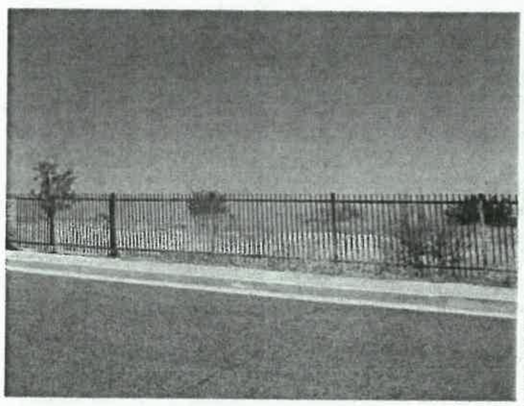
Pictures of Subject Property



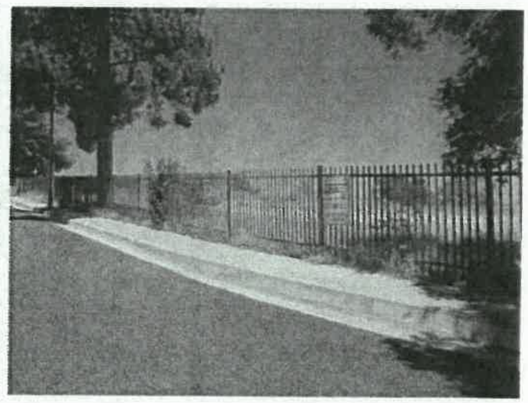
Street View



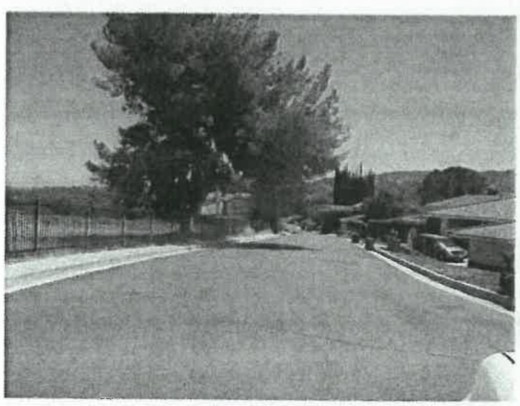
Street View



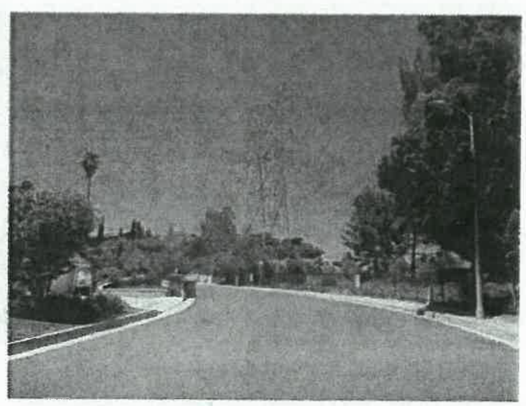
Street View



Street View



East on Edleen Drive



West on Edleen Drive

PART C

ANALYSIS OF DATA AND OPINIONS OF THE APPRAISERS

HIGHEST AND BEST USE ANALYSIS

Highest and Best Use

According to the Dictionary of Real Estate Appraisal, a publication of the Appraisal Institute, the highest and best use may be defined as:

- The reasonable and probable use that supports the highest present value of vacant land or improved property, as defined, as of the date of appraisal.

- The reasonable, probable and legal use of land or sites as though vacant, found to be physically possible, appropriately supported, financially feasible and that results in highest present land value.

- The most profitable use.

The highest and best use of a specific parcel of land does not depend on subjective analysis by the property owner, the developer, or the appraiser. Rather, the highest and best use is shaped by the competitive forces within the market where the property is located.

Therefore, the analysis and interpretation of highest and best use is an economic study of market forces focused on the subject property. Implied within this definition is recognition of the contribution of that specific use to the community environment or to the community's development goals, in addition to wealth maximization of individual property owners. In appraisal practice, the concept of highest and best use represents the premise upon which value is based.

In the analysis of the highest and best use of a property, consideration is given to the physically possible uses of the site, the legally permissible uses, the financially feasible uses and the maximally productive alternatives that would provide the greatest net return to the owner under the current or projected market conditions. The first issue pertains to the physical characteristics of the site, such as size, dimensions, topography, the availability of utilities and soil conditions. The lack or impairment of any of these facts may make certain types of developments impossible. The second issue relates to the legality of an intended use. As indicated above, the community's environmental or development goals may prevent certain forms of use. The third issue pertains to the notion of economic viability. The fourth issue asks whether a proposed or existing use produces the greatest net return to the land.

<u>Highest and Best Use "As Vacant"</u>

According to the <u>Dictionary of Real Estate Appraisal</u>, published by the Appraisal Institute, the highest and best use of a site, as vacant is:

> *"Among all reasonable, alternative uses, the use that yields the highest present land value, after payments are made for labor, capital and coordination. The use of a property is based on the assumption that the parcel of land is vacant or can be made vacant by demolishing any improvements."*

Physically Possible

For purposes of this appraisal, it is assumed that the subject property could physically support any number of uses. The subject's irregular mid-block site contains a total of 114,200 square feet or 2.62 acres divided among six (6) lots with 51 to 85 feet of frontage on a quiet residential street (Edleen Drive). The site has a relatively level pad (33%) with a steep downslope and drainage is assumed to be adequate.

This appraisal report is subject to a <u>Hypothetical Condition</u> (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

Legally Permissible

The subject property is under the zoning jurisdiction of the City of Los Angeles which reported a zoning of RA-1; a single-family zoning designation that allows one single-family dwelling for each 17,500 square feet of land. Development standards state a minimum lot width of 70 feet, a maximum building height of 45 feet and a minimum parking requirement of two covered parking spaces.

Financial Feasible

The third criterion concerns financial feasibility. In the absence of a detailed feasibility study, the determination of the highest and best use is based on the optimal combination of factors which create a maximum land value. The financial feasibility of a specific property is market driven.

The subject's immediate neighborhood consists of one and two-story single-family dwellings, primarily built in the 1950s and 1960s, with recent sale prices ranging from $920,000 to $4,625,000 (median is $1,300,000 ($428/sf)).

Based on these facts, we are of the opinion six (6) single-family dwelling are financially feasible at this point in time.

Maximally Productive

The fourth criterion seeks to determine which use is maximally productive. The subject property is divided into six (6) single-family home sites ranging in size from 18,200 square feet to 20,700 square feet with backyard "jetliner" views of the San Fernando Valley. We are of the opinion that six (6) single-family dwellings are maximally productive on the subject property.

Highest & Best Use Conclusion "As Vacant"

The highest and best use of the property "as vacant", is to construct six (6) single-family dwellings.

APPRAISAL METHODOLOGY

In theory there are several approaches to value unimproved or partially improved property, as detailed below.

The **Sales Comparison Approach** involves direct comparison of similar properties that have sold or are available for sale. The data from these properties are converted to pertinent units of comparison that are analyzed and adjusted for differences which are considered significant, leading to a value indication for the subject property. The pertinent unit of comparison used in this analysis is the price per lot.

The **Abstraction or Allocation** method involves apportioning the total value of the property between land and improvements. This may be accomplished either on a ratio basis or by subtracting a figure representing the improvement value from the estimated value of the total property to provide an indication of market value of the land.

The **Land Residual Technique** capitalizes the residual income imputed to the land. This approach is applicable primarily to income-producing properties.

The **Cost Build-Up Method** is usually employed in finished lot analysis when there are no definite sales to justify a retail estimate. It simply begins with the value of a raw or mapped subdivision lot and adds the hard, soft, and profit costs of land development.

The **Anticipated Use Method,** also known as the **Development Method,** estimates the value of vacant land improved with public improvements such as water, sewers, sidewalks, etc.. The usual application is to raw, unsubdivided land by deducting from the estimated gross selling price, the direct expenses of development such as the cost of streets, utilities, sales, advertising, and overhead (taxes, carrying costs, inspections). Profit and interest are also deducted, after which, the land value is indicated.

For purposes of this appraisal, the Sales Comparison Approach is considered the most reliable indicator of market value.

SALES COMPARISON APPROACH

The Sales Comparison Approach to value involves comparing the subject properties to similar properties which have sold or are available for sale and have the same general characteristics. According to the Appraisal Institute, the Sales Comparison Approach is defined as:

"A method of estimating market value whereby a subject property is compared with comparable properties that have sold recently. One premise of the Sales Comparison Approach is that the market will determine a price for the property being appraised in the same manner that it determines the price of comparable, competitive properties."

Price Per Square Foot A common unit of comparison in appraising single-family lots is the price per lot. The price per lot is derived by dividing the sale price of a property by the number of potential lots.

Market Analysis

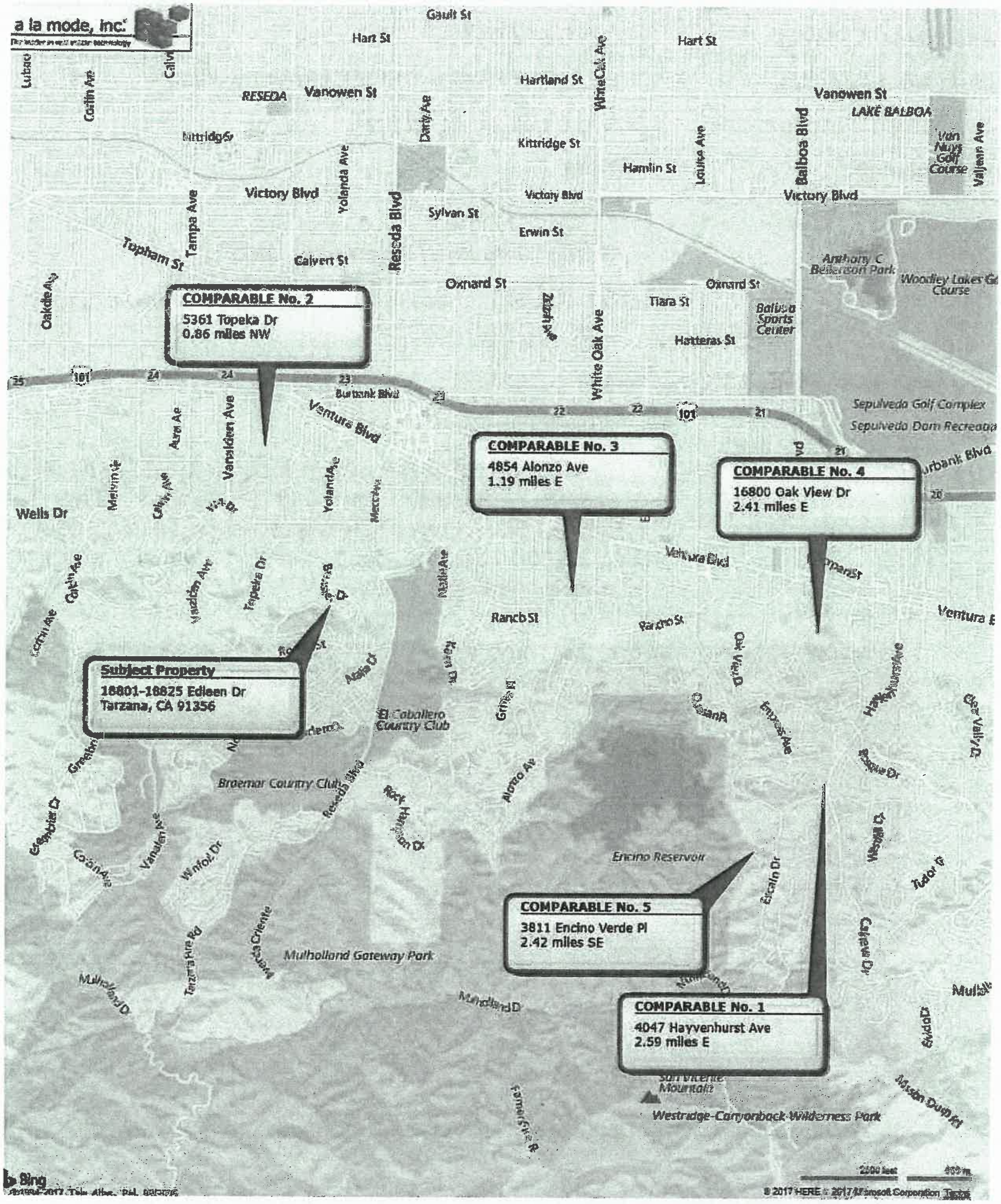
The Sales Comparison Approach reflects actual market behavior of typical buyers and sellers under market conditions, in addition to, meaningful data from which to compare similar properties to the subject property. In order to find comparable properties, our investigative efforts included searching sales through TheMLS.com, CoStar Group, National Data Collective, Loopnet internet multiple listing service, and an inspection of the subject's market area for properties available for sale.

We have summarized comparable properties in the following table which are located in the subject's marketplace and are believed to be relevant to this valuation problem. These properties are described in detailed on following pages.

Comparable Sales

No	Location Parcel Number	Sale Date	Land Square Feet	Zoning	Sale Price	Price Per SF
1	4047 Hayvenhurst Avenue Encino, CA 913436 2291-012-043	Apr-16	21,200	RA-1	$1,200,000	$57
2	5361 Topeka Drive Tarzana, CA 91356 2163-022-017	Sept-16	18,600	RA-1	$1,110,000	$60
3	4854 Alonso Avenue Encino, CA 91316 2182-004-013	Aug-16	12,900	RA-1	$980,000	$76
4	16800 Oak View Drive Encino, CA 91436 2289-022-011	Mar-17	13,940	RA-1	$700,000	$50
5	3811 Encino Verde Place Encino, CA 91436 2292-018-030	Mar-17	29,995	RE15-1-H	$450,000	$15
S	**18801-18825 Edleen Dr Tarzana, CA 91356 2176-026-900 to 905**	**---**	**18,200 to 20,700**	**RA-1**	**---**	**---**

Location Map of Comparable Sales

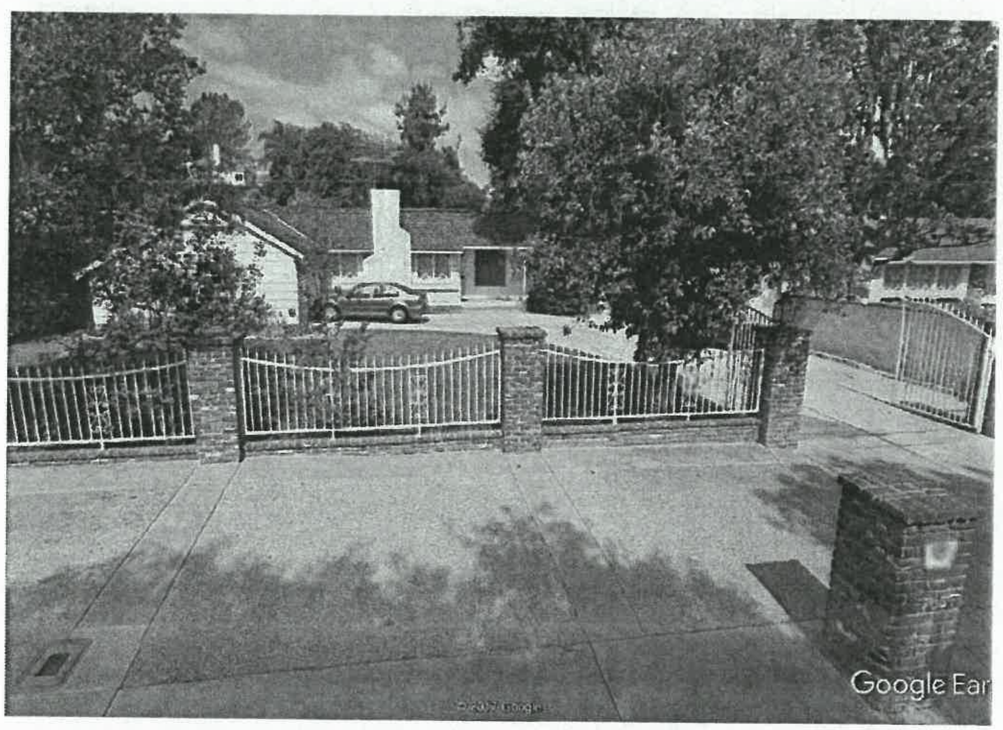


Land Sale No. 1

Property Address:	4047 Hayvenhurst Avenue, Encino, CA 91346
Assessment Parcel:	2291-012-043
Land Area / Zoning:	21,200 sf / RA-1 = single-family dwellingl
Orientation / Topography:	Mid-block / Mild upslope
Improvements:	None
Sale Date:	April 14, 2016
Buyer / Seller:	Derrick Johnson / Jina Kohanzadeh
Sale Price:	$1,200,000
Terms:	100% cash
Price Per Land Square Foot:	$57
Verification:	TheMLS.com and NDC
Comments:	The property was on the market for 177 days (6 months), originally at $1,499,000 and later at $1,299,000. It was fully-approved for development of a 7,500 square foot dwelling which is being constructed by the buyer.

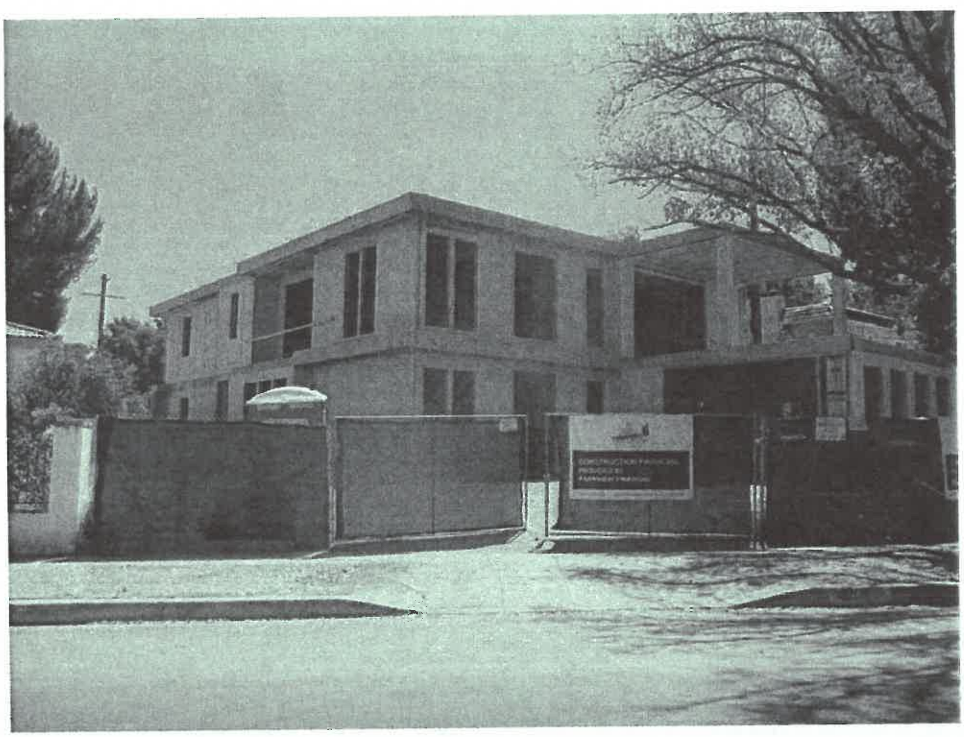
Land Sale No. 2

Property Address:	5361 Topeka Drive, Tarzana, CA 91356
Assessment Parcel:	2163-022-017
Land Area / Zoning:	18,600 sf / RA-1 = single-family residential
Orientation / Topography:	Mid-block / Level
Improvements:	1,892 square foot dwelling, built in 1952
Sale Date:	September 20, 2016
Buyer / Seller:	Farshad Azarroush / Kathy An Trust
Sale Price:	$1,110,000
Terms:	23% cash, 77% private loan
Price Per Square Foot:	$60
Verification:	The.MLS.com and NDC
Comments:	The property was on the market for four days at $1,050,000 as a "fixer" and received multiple offers that increased the sale price to $1,110,000. The buyer filed an application on February 15, 2017 to remove the existing dwelling and construct a new two-story dwelling with a three-car garage.



Sale No. 3

Property Address:	4854 Alonso Avenue, Encino, CA 91316
Assessment Parcel:	2182-004-013
Land Area / Zoning:	12,900 sf / RA-1 = single-family dwelling
Orientation / Topography:	Mid-block / Level
Improvements:	1,750 sf dwelling, built in 1951
Sale Date:	August 12, 2016
Buyer / Seller:	Cathy Muller / Anne Colgan
Sale Price:	$980,000
Terms:	100% cash
Price Per Land Square Foot:	$76
Verification:	TheMLS.com and NDC
Comments:	The property was on the market for one day at $980,000. The buyer removed the existing dwelling and is constructing a new two-story dwelling containing 5,626 square feet.



Sale No. 4

Property Address:	16800 Oak View Drive, Encino, CA 91436
Assessment Parcel:	2289-022-011
Land Area / Zoning:	13,940 sf / RA-1 = single-family dwelling
Orientation / Topography:	Mid-block / Moderate downslope
Improvements:	None
Sale Date:	March 06, 2017
Buyer / Seller:	Aiello Trust / William Borges
Sale Price:	$700,000
Terms:	25% cash, 75% new loan from Banner Bank
Price Per Land Square Foot:	$50
Verification:	TheMLS.com, NDC and Emerson Gee (listing agent)
Comments:	The property was on the market for 187 days (6 months) at $825,000. The property included conceptual plans (not approved) for a 4,000 square foot dwelling. However, the site requires significant grading and improvements to create a buildable pad.

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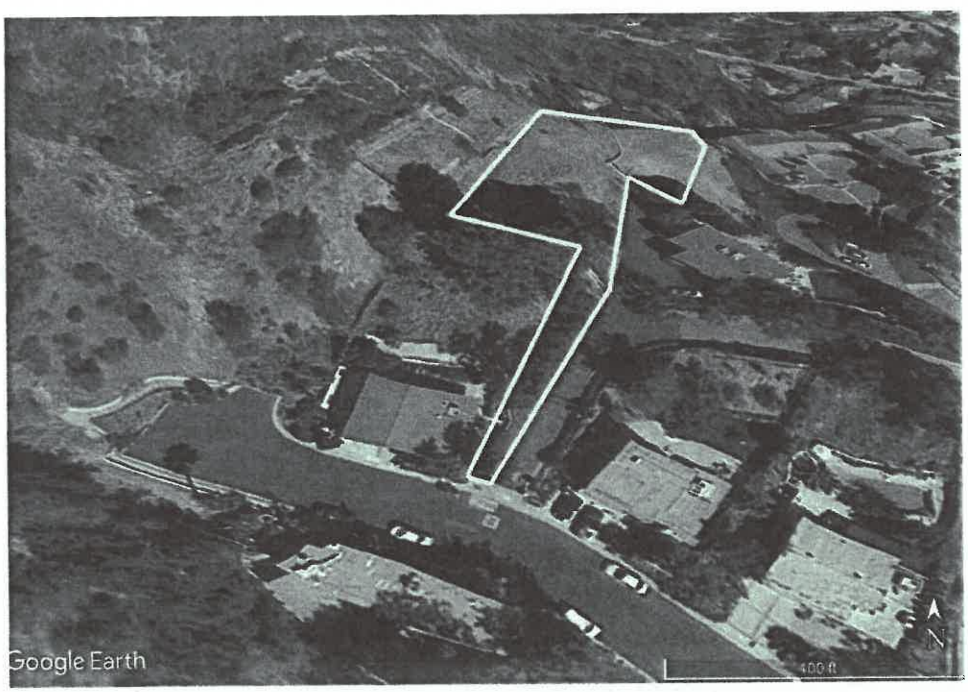
Sale No. 5

Property Address:	3811 Encino Verde Place, Encino, CA 91436
Assessment Parcel:	2292-018-030
Land Area / Zoning:	29,995 sf / RE15-1-H = single-family dwelling
Orientation / Topography:	Flag Lot / Level pad and moderate downslope
Improvements:	None
Sale Date:	March 08, 2017
Buyer / Seller:	Jordan Biener / Encino Verde LLC
Sale Price:	$450,000
Terms:	100% cash
Price Per Land Square Foot:	$15
Verification:	TheMLS.com, NDC and Gitty Ruehman (listing agent)
Comments:	The property was on the market for 14 months, originally at $1,275,000 and later at $798,000. It was in escrow at $1,000,000, but did not close when it was discovered the site requires significant improvements, including caissons.



Land Sales Adjustment Grid

Characteristic	Subject	1	2	3	4	5
Date of Sale	--	Apr-16	Sept-16	Aug-16	Mar-17	Mar-17
Sale Price	--	$1,200,000	$1,110,000	$980,000	$700,000	$450,000
Square Feet	18,200 to 20,700	21,200	18,600	12,900	13,940	29,995
Zoning	RA-1	RA-1	RA-1	RA-1	RA-1	RE15-1-H
Price / SF	--	$57	$60	$76	$50	$15
Financing	--	--	--	--	--	--
Conditions of Sale	--	--	--	--	--	--
Market Conditions	Aug-17	+2%	+2%	+2%	--	--
Adj. Price / Lot	--	$1,224,000	$1,132,000	$1,000,000	$700,000	$450,000
Location	--	+100,000	--	--	--	--
Pad Area	33%	-448,000	-370,000	-199,000	+250,000	--
View	--	+100,000	+100,000	+100,000	+50,000	--
Plans/Permits	--	-100,000	--	--	--	--
Demolition	--	+10,000	+10,000	+10,000	--	--
Total Adjustment	--	-338,000	-260,000	-89,000	+300,000	--
Indicated Value	--	**$886,000**	**$872,000**	**$911,000**	**$900,000**	**$450,000**

Explanation of Adjustments

Market Conditions (Time)

As previously discussed in **Market Trend** on page 29 of this report, the median single-family dwelling price in Tarzana has increased 2% from 2016 on a price-per-square-foot-basis ($424/$414) and 14% ($424/$372) from 2014. Based on these facts, Sale No. 1, No. 2 and No. 3 (2016 sales) are adjusted upward by 2%. Sale No. 4 and No. 5 are not adjusted as they are 2017 sales.

Location

No. 1 is located on a moderately traveled street (Hayvenhurst Avenue) and is adjusted upward by $100,000 (8% of its $1,200,000 sale price) based on the adjusted values of the comparable sales and our experience as real estate appraisers in the subject marketplace.

Pad Area

The subject lots have relatively level pads estimated at 33% (average of 6,281 square feet per lot) of their gross lot sizes (18,200 to 20,700 square feet). All the comparable sales, except No. 4 and No. 5, have lots that are 100% usable. Based on the adjusted values of the comparable sales, interviews with local agents and our experience as real estate appraisers in the subject marketplace, differences in usable area are adjusted at $30 per square foot.

Sale No. 4 has a moderate downslope topography which requires significant grading and site improvements. Based on the adjusted values of the comparable sales, interviews with local agents and our experience as real estate appraisers in the subject marketplace, No. 4 is adjusted by $250,000 to create a buildable pad.

Sale No. 5 is considered to have a similar pad area when compared to the subject lots.

View

The subject property's six lots have backyard "jetliner" views of the San Fernando Valley. Sale No. 1, No. 2 and No. 3 do not have views, and Sale No. 4 has an average mountain view. Based on the adjusted values of the comparable sales, interviews with local agents and our experience as real estate appraisers in the subject marketplace, differences in view are adjusted from $50,000 to $100,000. Sale No. 5 was not adjusted as it has a similar "jetliner" view from the backyard.

Plans/Permits

Sale No. 1 sold with approved plans for development of a 7,500 square foot single-family dwelling. The remaining comparable sales were sold without approved development plans. Based on the adjusted values of the comparable sales, interviews with local agents and our experience as real estate appraisers in the subject marketplace, Sale No. 1 is adjusted downward by $100,000 for approved development plans.

Demolition

All the comparable sales, except No. 4 and No. 5, were purchased with existing dwellings that the buyer's had to remove to construct new dwellings. Based on our experience as real estate appraisers in the subject marketplace, all the comparable sales, except No. 4 and No. 5, are adjusted upward by $10,000 for the estimated to cost to remove existing dwellings.

Value Conclusion

Price Per Lot

Four of the five comparable sales indicate an adjusted value range from $872,000 to $911,000. One comparable (No. 5) indicates a value of $450,000. This sale was previously in escrow at $1,000,000, but it was subsequently discovered to require significant site improvement costs, including caissons.

Based on our independent research, analysis and inspection, the estimated market value of the fee simple estate in the subject property, consisting of six (6) adjacent and contiguous lots ranging in size from 18,200 to 20,700 square feet (per Los Angeles County Assessor Plat Map) with buildable pads estimated from 6,000 to 7,000 square feet (+/- 33%) and backyard "jetliner" views of the San Fernando Valley, as of August 09, 2017, as detailed below.

Address	Parcel Number	Land SF	Value Per SF	Market Value
18801 Edleen Drive, Tarzana	2176-026-900	20,700	$43	$900,000
18807 Edleen Drive, Tarzana	2176-026-905	18,200	$49	$900,000
18813 Edleen Drive, Tarzana	2176-026-901	18,400	$49	$900,000
18817 Edleen Drive, Tarzana	2176-026-903	19,100	$47	$900,000
18821 Edleen Drive, Tarzana	2176-026-902	19,000	$47	$900,000
18825 Edleen Drive, Tarzana	2176-026-904	18,800	$48	$900,000
--	**Totals**	**114,200**	**$47**	**$5,400,000**

This appraisal report is subject to a Hypothetical Condition (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

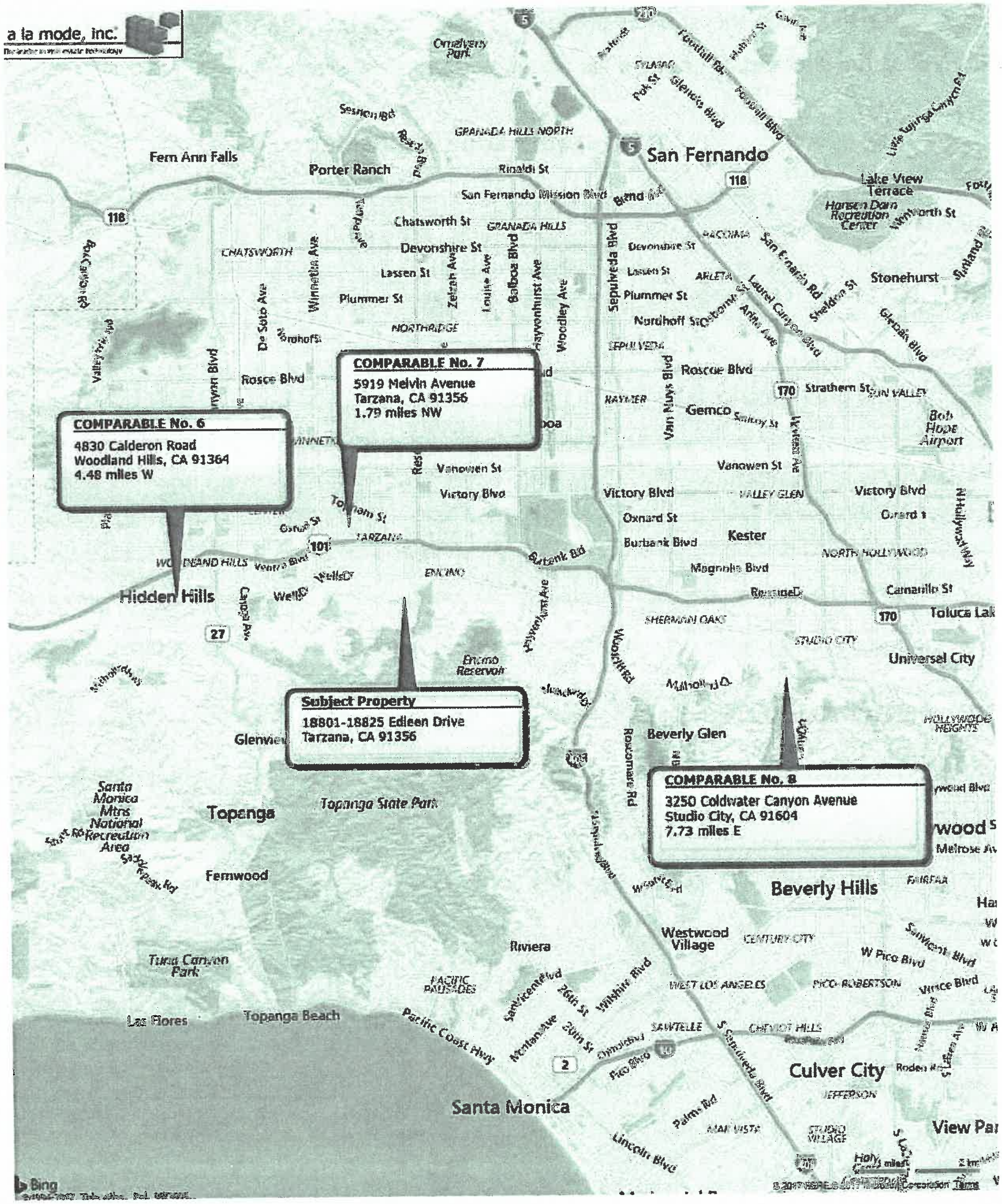
Bulk Value

Bulk value assumes the subject property is sold to a single-buyer who will in turn sell the individual lots and/or develop six (6) single-family dwellings.

Comparable Bulk Lot Sales

No	Location Parcel Number	Sale Date	Land Square Feet	Lots	Sale Price	Price Per Lot
6	4830 Calderon Road Woodland Hills, CA 91364 2076-004-021, 022, 025	Aug-16	22,450 to 30,600	3	$1,400,000	$466,667
7	5919 Melvin Avenue Tarzana, CA 91356 2153-024-036 and 037	Sep-17	22,239 to 22,242	2	$760,000	$380,000
8	3250 Coldwater Cyn Ave Studio City, CA 91604 2384-024-029	Listing	7,580 to 82,764	3	$2,600,000	$337,800 to $1,439,200
S	**18801-18825 Edleen Dr Tarzana, CA 91356 2176-026-900 to 905**	**---**	**18,200 to 20,700**	**6**	**---**	**---**

Location Map of Bulk Comparable Sales

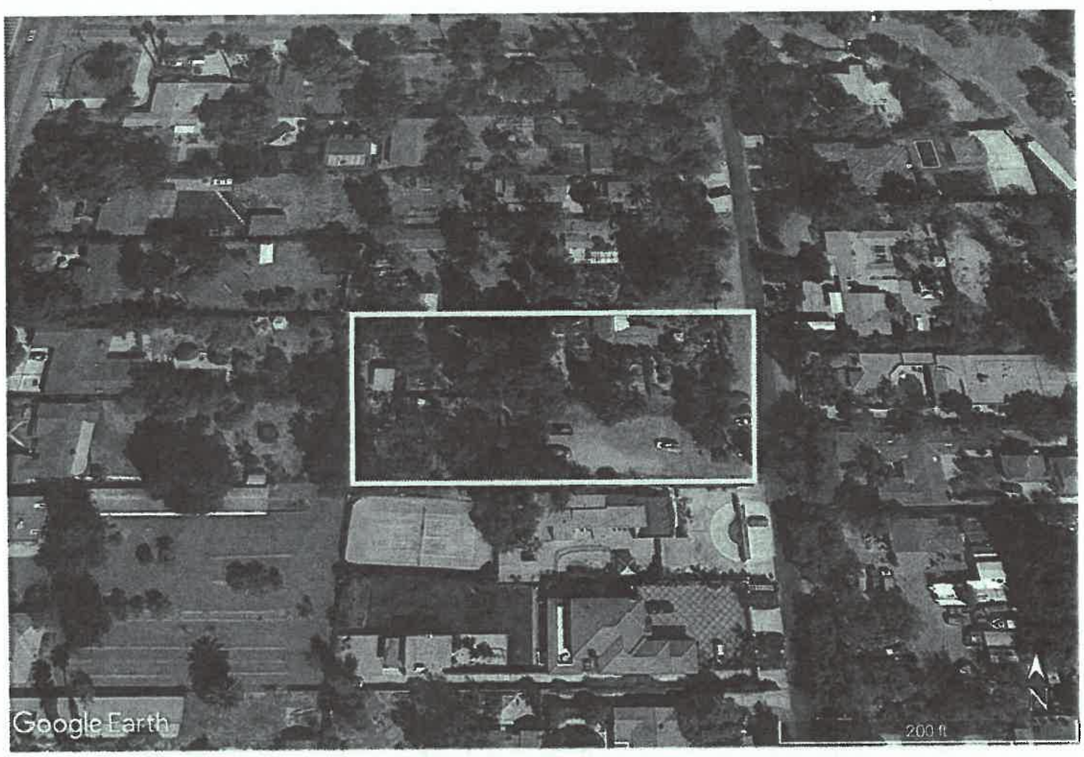


Land Sale No. 6

Property Address:	4830 Calderon Road, Woodland Hills, CA 91364
Assessment Parcel:	2076-004-021, 022 and 025
Land Area / Zoning:	22,450 to 30,600 sf / RE40 = single-family dwellingl
Orientation / Topography:	Mid-block / 50% pads and moderate slopes
Number of Lots / View:	3 / West San Fernando Valley
Sale Date:	August 18, 2016
Buyer / Seller:	Meir Leven / Javid Somekih
Sale Price:	$1,400,000
Terms:	100% cash
Price Per Lot:	$466,667
Verification:	TheMLS.com, NDC, Charles Monroe/Coldwell Banker
Comments:	The property was previously on the market for 476 days (16 months) from April 24, 2014 to August 13, 2015 at $1,635,000. The buyer is constructing three homes from 4,357 to 6,238 square feet. Prior to construction (September 08, 2016 to January 08, 2017) they were listed for sale with Charles Monroe from $2,550,000 ($585/sf) to $2,750,000 ($441/sf). He believes the homes will sell from $1,700,000 ($390/sf) to $2,300,000 ($369/sf).

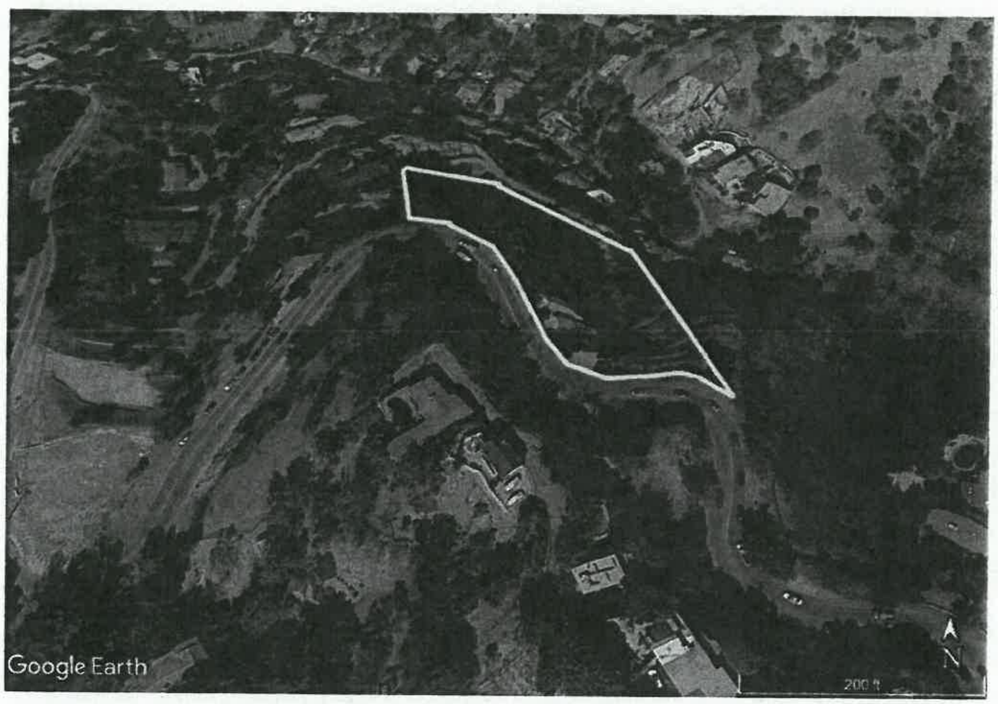
Land Sale No. 7

Property Address:	5919 Melvin Avenue, Tarzana, CA 91356
Assessment Parcel:	2153-024-036 and 037
Land Area / Zoning:	22,239 and 22,242 sf / RA = single-family dwellingl
Orientation / Topography:	Mid-block / Level
Number of Lots / View:	2 / None
Sale Date:	September 08, 2017
Buyer / Seller:	N/A / Donald and Anna Hubka
Sale Price:	$760,000
Terms:	100% cash
Price Per Lot:	$380,000
Verification:	TheMLS.com, NDC, Roy Sulka of Rodeo Realty
Comments:	The property was on the market for 47 days at $799,000.



Sale No. 8

Property Address:	3250 Coldwater Canyon Ave, Studio City, CA 91604
Assessment Parcel:	2384-024-016, 029 and 030
Land Area / Zoning:	7,580 to 82,764 sf / RE40 = single-family dwellingl
Orientation / Topography:	Mid-block / Moderate upslope
Number of Lots / View:	3 / Canyon
Sale Date:	Listing
Buyer / Seller:	N/A / International Investors
Sale Price:	$2,600,000 ($337,800 to $1,439,200)
Terms:	100% cash
Price Per Lot:	$337,800 to $1,439,200
Verification:	TheMLS.com, NDC, Nerses Ananyan
Comments:	The property has been on the market for 104 days.



Bulk Land Sales Adjustment Grid

Characteristic	Subject	1	2	3
Date of Sale	--	Aug-16	Sept-17	Listing
Sale Price	--	$1,400,000	$760,000	$2,600,000
Square Feet	18,200 to 20,700	22,450 to 30,600	22,239 to 22,242	7,580 to 82,764
Number of Lots	6	3	2	3
Price per Lot	--	$466,667	$380,000	$866,667
Financing	--	--	--	--
Conditions of Sale	--	--	--	-20%
Market Conditions	Aug-17	+2%	--	--
Adj. Price / Lot	--	$476,000	$380,000	$693,334
Location	--	+8%	--	-30%
View	--	--	+25%	--
Plans/Permits	--	-8%	--	--
Total Adjustment	--	--	+25%	-30%
Indicated Value	--	**$476,000**	**$475,000**	**$485,000**

Explanation of Adjustments

Conditions of Sale

No. 8 is a current listing that has been on the market for 104 days. Based on the adjusted values of the remaining comparable sales, No. 8 is adjusted downward by 20% for being an active listing.

Market Conditions (Time)

As previously discussed in **Market Trend** on page 29 of this report, the median single-family dwelling price in Tarzana has increased 2% from 2016 on a price-per-square-foot-basis ($424/$414) and 14% ($424/$372) from 2014. Based on these facts, Sale No. 6 is adjusted upward by 2%.

Location

No. 6 is located in the Woodland Hills mailing zip code 91364 which has a lower median home sale price ($825,000 ($394/sf)) than the subject property ($1,161,000 ($424/sf). Based on the differences on a price-per-square-foot-basis ($424/$394), No. 6 is adjusted upward by 8%.

No. 8 is located in the Studio City mailing zip code 91364 which has a higher median home sale price ($1,450,000 ($616/sf)) than the subject property ($1,161,000 ($424/sf). Based on the differences on a price-per-square-foot-basis ($424/$616), No. 6 is adjusted downward by 31%.

Plans/Permits

Sale No. 6 was sold with approved plans for construction of three single-family dwellings ranging in size from 4,357 to 6,238 square feet. Based on the adjusted values of the comparable sales, interviews with local agents and our experience as real estate appraisers in the subject marketplace, Sale No. 6 is adjusted downward by 8% for approved development plans.

Bulk Value Conclusion

Sale No. 6 and Sale No. 7 are closed sales that indicate an adjusted value range from $475,000 to $476,000. Additional support is provided by a current listing (Sale No. 8).

Based on our independent research, analysis and inspection, the estimated bulk market value of the fee simple estate in the subject property, consisting of six (6) adjacent and contiguous lots ranging in size from 18,200 to 20,700 square feet (per Los Angeles County Assessor Plat Map) with buildable pads estimated from 6,000 to 7,000 square feet (+/- 33%) and backyard "jetliner" views of the San Fernando Valley, as of August 09, 2017, as detailed below.

6 lots at $475,000 per lot = $2,850,000

This appraisal report is subject to a Hypothetical Condition (that which is contrary to what exists, but is supposed for the purpose of the analysis) that the six (6) lots can be improved with six (6) single-family dwellings without significant site improvement costs. A Geotechnical Evaluation Report, dated August 22, 2017, prepared by Amec Foster Wheeler Environment & Infrasture (copy in Addendum) states the subject lots did not satisfy critical slip surface analysis for development of new single-family homes. However, a cost to cure this deficiency was not available at time of appraisal.

ADDENDUM

Property Location

Address:	18801 EDLEEN DR	**City:**	TARZANA	**Zip:**	91356-4810
APN#:	2176-026-900	**Use Code:**	Vacant Residential	**County:**	Los Angeles
Tract:	26541	**Census Tract:**	1398.01	**Zone:**	LARA
Map Page/Grid:	560/ H4	**Legal Desc:**	TR=26541 LOT 38		
Total Assessed Value:	199,456	**Tax Amount:**	0.00		
Percent Improvement:	0.00	**Tax Year:**	2016		

Current Owner Information

Current Owner:	L A CITY	**Owner Address:**	18801 EDLEEN DR
City, State, Zip:	TARZANA, CA, 91356-4810	**Owner Occupied:**	Yes
Last Transaction:	02/27/1995	**Deed Type:**	high liability
Amount:		**Document:**	0000305639

Last sale Information

Transferred From:		**Seller Address:**	
Recording / Sale Date:	02/27/1995 /	**Prior Recording / Sale Date:**	/
Most Recent Sale Price:		**Prior Sale Price:**	
Document Number:		**Prior Document No.:**	
Document Type:	high liability	**Prior Document Type:**	

Lender Information

Lender:		**Full/Partial:**	
Loan Amount / 2nd Trust Deed:	/	**Loan Type:**	

Physical Information

Building Area:	3,165	**# of Bedrooms:**	3	**Lot Size:**	21,383
Additional:	0	**# of Bathrooms:**	3.00	**Year Built / Effective:**	1968 / 0
Garage:	0	**# of Stories:**	2	**Heating:**	
First Floor:	0	**Total Rooms:**	11	**Cooling:**	
Second Floor:	0	**# of Units:**	1	**Roof Type:**	
Third Floor:	0	**Garage/Carport:**	Yes /	**Construction/Quality:**	Primary Material Unlisted / 0
Basement Finished:	0	**Fireplaces:**	0	**Building Shape:**	
Basement Unfinished:	0	**Pool/Spa:**	Yes	**View:**	

Property Location

Address:	18813 EDLEEN DR	**City:**	TARZANA	**Zip:**	91356-4810
APN#:	2176-026-901	**Use Code:**	Vacant Residential	**County:**	Los Angeles
Tract:	26541	**Census Tract:**	1398.01	**Zone:**	LARA
Map Page/Grid:	560/ H4	**Legal Desc:**	TR=26541 LOT 36		
Total Assessed Value:	44,359	**Tax Amount:**	0.00		
Percent Improvement:	0.00	**Tax Year:**	2016		

Current Owner Information

Current Owner:	L A CITY	**Owner Address:**	18813 EDLEEN DR
City, State, Zip:	TARZANA, CA, 91356-4810	**Owner Occupied:**	Yes
Last Transaction:	10/03/1967	**Deed Type:**	
Amount:		**Document:**	

Last sale Information

Transferred From:		**Seller Address:**	
Recording / Sale Date:	10/03/1967 /	**Prior Recording / Sale Date:**	/
Most Recent Sale Price:		**Prior Sale Price:**	
Document Number:		**Prior Document No.:**	
Document Type:	grant deed/deed of trust	**Prior Document Type:**	

Lender Information

Lender:		**Full/Partial:**	
Loan Amount / 2nd Trust Deed:	/	**Loan Type:**	

Physical Information

Building Area:	3,490	**# of Bedrooms:**	3	**Lot Size:**	18,471
Additional:	0	**# of Bathrooms:**	2.50	**Year Built / Effective:**	1968 / 0
Garage:	0	**# of Stories:**	2	**Heating:**	
First Floor:	0	**Total Rooms:**	11	**Cooling:**	
Second Floor:	0	**# of Units:**	1	**Roof Type:**	
Third Floor:	0	**Garage/Carport:**	Yes /	**Construction/Quality:**	Primary Material Unlisted / 0
Basement Finished:	0	**Fireplaces:**	0	**Building Shape:**	
Basement Unfinished:	0	**Pool/Spa:**	No	**View:**	

Property Location

Address:	18821 EDLEEN DR	City:	TARZANA	Zip:	91356-4810
APN#:	2176-026-902	Use Code:	Vacant Residential	County:	Los Angeles
Tract:	26541	Census Tract:	1398.01	Zone:	LARA
Map Page/Grid:	560/ H4	Legal Desc:	TR=26541 LOT 34		
Total Assessed Value:	77,000	Tax Amount:	0.00		
Percent Improvement:	0.00	Tax Year:	2016		

Current Owner Information

Current Owner:	L A CITY	Owner Address:	18821 EDLEEN DR
City, State, Zip:	TARZANA, CA, 91356-4810	Owner Occupied:	Yes
Last Transaction:	09/01/1983	Deed Type:	
Amount:		Document:	

Last sale Information

Transferred From:		Seller Address:	
Recording / Sale Date:	09/01/1983 /	Prior Recording / Sale Date:	/
Most Recent Sale Price:		Prior Sale Price:	
Document Number:		Prior Document No.:	
Document Type:		Prior Document Type:	

Lender Information

Lender:		Full/Partial:	
Loan Amount / 2nd Trust Deed:	/	Loan Type:	

Physical Information

Building Area:	2,602	# of Bedrooms:	3	Lot Size:	18,795
Additional:	0	# of Bathrooms:	2.75	Year Built / Effective:	1975 / 0
Garage:	0	# of Stories:	1	Heating:	
First Floor:	0	Total Rooms:	11	Cooling:	
Second Floor:	0	# of Units:	1	Roof Type:	
Third Floor:	0	Garage/Carport:	Yes /	Construction/Quality:	Primary Material Unlisted / 0
Basement Finished:	0	Fireplaces:	0	Building Shape:	
Basement Unfinished:	0	Pool/Spa:	No	View:	

Property Location

Address:	18817 EDLEEN DR	City:	TARZANA	Zip:	91356-4810
APN#:	2176-026-903	Use Code:	Single Family Residence	County:	Los Angeles
Tract:	26541	Census Tract:	1398.01	Zone:	LARA
Map Page/Grid:	560/ H4	Legal Desc:	TR=26541 LOT 35		
Total Assessed Value:	43,164	Tax Amount:	0.00		
Percent Improvement:	0.00	Tax Year:	2016		

Current Owner Information

Current Owner:	L A CITY	Owner Address:	18817 EDLEEN DR
City, State, Zip:	TARZANA, CA, 91356-4810	Owner Occupied:	Yes
Last Transaction:	10/10/1967	Deed Type:	
Amount:		Document:	

Last sale Information

Transferred From:		Seller Address:	
Recording / Sale Date:	10/10/1967 /	Prior Recording / Sale Date:	/
Most Recent Sale Price:		Prior Sale Price:	
Document Number:		Prior Document No.:	
Document Type:	grant deed/deed of trust	Prior Document Type:	

Lender Information

Lender:		Full/Partial:	
Loan Amount / 2nd Trust Deed:	/	Loan Type:	

Physical Information

Building Area:	3,148	# of Bedrooms:	3	Lot Size:	18,433
Additional:	0	# of Bathrooms:	4.00	Year Built / Effective:	1975 / 1975
Garage:	0	# of Stories:	2	Heating:	Central
First Floor:	0	Total Rooms:	14	Cooling:	Central Air
Second Floor:	0	# of Units:	1	Roof Type:	
Third Floor:	0	Garage/Carport:	Yes /	Construction/Quality:	Primary Material Unlisted / 0
Basement Finished:	0	Fireplaces:	0	Building Shape:	
Basement Unfinished:	0	Pool/Spa:	Yes	View:	

Property Location

Address:	18825 EDLEEN DR	**City:**	TARZANA	**Zip:**	91356-4810
APN#:	2176-026-904	**Use Code:**	Single Family Residence	**County:**	Los Angeles
Tract:	26541	**Census Tract:**	1398.01	**Zone:**	LARA
Map Page/Grid:	560/ H4	**Legal Desc:**	TR=26541 LOT 33		
Total Assessed Value:	128,281	**Tax Amount:**	0.00		
Percent Improvement:	0.00	**Tax Year:**	2016		

Current Owner Information

Current Owner:	L A CITY	**Owner Address:**	18825 EDLEEN DR
City, State, Zip:	TARZANA, CA, 91356-4810	**Owner Occupied:**	Yes
Last Transaction:	06/08/1992	**Deed Type:**	quitclaim/deed of trust
Amount:		**Document:**	0001035457

Last sale Information

Transferred From:		**Seller Address:**	
Recording / Sale Date:	06/25/1985 /	**Prior Recording / Sale Date:**	/
Most Recent Sale Price:		**Prior Sale Price:**	
Document Number:		**Prior Document No.:**	
Document Type:		**Prior Document Type:**	

Lender Information

Lender:		**Full/Partial:**	
Loan Amount / 2nd Trust Deed:	/	**Loan Type:**	

Physical Information

Building Area:	2,798	**# of Bedrooms:**	3	**Lot Size:**	19,419
Additional:	0	**# of Bathrooms:**	3.00	**Year Built / Effective:**	1972 / 1972
Garage:	0	**# of Stories:**	1	**Heating:**	Central
First Floor:	0	**Total Rooms:**	12	**Cooling:**	Central Air
Second Floor:	0	**# of Units:**	1	**Roof Type:**	
Third Floor:	0	**Garage/Carport:**	Yes /	**Construction/Quality:**	Primary Material Unlisted / 0
Basement Finished:	0	**Fireplaces:**	0	**Building Shape:**	
Basement Unfinished:	0	**Pool/Spa:**	No	**View:**	

Property Location

Address:	18807 EDLEEN DR	**City:**	TARZANA	**Zip:**	91356-4810
APN#:	2176-026-905	**Use Code:**	Single Family Residence	**County:**	Los Angeles
Tract:	26541	**Census Tract:**	1398.01	**Zone:**	LARA
Map Page/Grid:	560/ H4	**Legal Desc:**	TR=26541 LOT 37		
Total Assessed Value:	220,567	**Tax Amount:**	0.00		
Percent Improvement:	0.00	**Tax Year:**	2016		

Current Owner Information

Current Owner:	L A CITY	**Owner Address:**	18807 EDLEEN DR
City, State, Zip:	TARZANA, CA, 91356-4810	**Owner Occupied:**	Yes
Last Transaction:	09/19/1990	**Deed Type:**	deed of trust
Amount:		**Document:**	0001608240

Last sale Information

Transferred From:	OWNER NAME UNAVAILABLE	**Seller Address:**	
Recording / Sale Date:	06/23/1989 /	**Prior Recording / Sale Date:**	12/19/1986 /
Most Recent Sale Price:		**Prior Sale Price:**	410,000
Document Number:	0001005594	**Prior Document No.:**	0001769589
Document Type:	high liability	**Prior Document Type:**	grant deed/deed of trust

Lender Information

Lender:		**Full/Partial:**	
Loan Amount / 2nd Trust Deed:	328,000 / 0	**Loan Type:**	conventional

Physical Information

Building Area:	2,772	**# of Bedrooms:**	3	**Lot Size:**	18,030
Additional:	0	**# of Bathrooms:**	3.00	**Year Built / Effective:**	1968 / 1968
Garage:	0	**# of Stories:**	2	**Heating:**	Central
First Floor:	0	**Total Rooms:**	13	**Cooling:**	Central Air
Second Floor:	0	**# of Units:**	1	**Roof Type:**	
Third Floor:	0	**Garage/Carport:**	Yes /	**Construction/Quality:**	Primary Material Unlisted / 0
Basement Finished:	0	**Fireplaces:**	0	**Building Shape:**	
Basement Unfinished:	0	**Pool/Spa:**	Yes	**View:**	

First American Title Insurance Company
National Commercial Services

777 South Figueroa Street, Suite 400
Los Angeles, CA 90017

August 08, 2017

Jose L. Ramirez
City of Los Angeles Dept. of General Services
Room 213, City Hall South, 111 East First Street
Los Angeles, CA 90012
Phone: (213)922-8548
Fax: (213)922-8511

Customer Reference: Edleen Drive

Title Officer: Anthony Rivera
Phone: (213)271-1723
Fax No.: (877)461-2081
E-Mail: arivera@firstam.com

Buyer:

Property: 18801 - 18825 Edleen Drive, Los Angeles, CA

PRELIMINARY REPORT

In response to the above referenced application for a policy of title insurance, this company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage and Limitations on Covered Risks of said policy or policies are set forth in Exhibit A attached. *The policy to be issued may contain an arbitration clause. When the Amount of Insurance is less than that set forth in the arbitration clause, all arbitrable matters shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties.* Limitations on Covered Risks applicable to the CLTA and ALTA Homeowner's Policies of Title Insurance which establish a Deductible Amount and a Maximum Dollar Limit of Liability for certain coverages are also set forth in Exhibit A. Copies of the policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

First American Title Insurance Company

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Dated as of July 24, 2017 at 7:30 A.M.

The form of Policy of title insurance contemplated by this report is:

Prelim

A specific request should be made if another form or additional coverage is desired.

Title to said estate or interest at the date hereof is vested in:

The City of Los Angeles, a municipal corporation

The estate or interest in the land hereinafter described or referred to covered by this Report is:

Fee Simple

The Land referred to herein is described as follows:

(See attached Legal Description)

At the date hereof exceptions to coverage in addition to the printed Exceptions and Exclusions in said policy form would be as follows:

1. General and special taxes and assessments for the fiscal year 2017-2018, a lien not yet due or payable.

2. General and special taxes and assessments for the fiscal year 2016-2017 are exempt. If the exempt status is terminated an additional tax may be levied. A.P. No.: 2176-026-900 and 2176-026-901 and 2176-026-902 and 2176-026-903 and 2176-026-904 and 2176-026-905.

3. The lien of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

4. Water rights, claims or title to water, whether or not shown by the public records.

5. An easement for public utilities and incidental purposes in the document recorded as in Book 12603 Page 325 of Official Records.

   An easement as contained in the above document.
   For: public utilities and incidental purposes.

6. The terms, provisions and easement(s) contained in the document entitled "Covenant Affecting Land" recorded July 07, 1960 as Instrument No. 1855, in Book D-902 Page 628 of Official Records.

   Document(s) declaring modifications thereof recorded September 19, 1961 as Instrument No. 4592, in Book M-855 Page 73 of Official Records.

7. Covenants, conditions, restrictions and easements in the document recorded May 22, 1964 as Instrument No. 5426, in Book M-1528 Page 67 of Official Records, which provide that a violation thereof shall not defeat or render invalid the lien of any first mortgage or deed of trust made in good faith and for value, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status, national origin, sexual orientation, marital status, ancestry, source of income or disability, to the extent such covenants, conditions or restrictions violate Title 42, Section 3604(c), of the United States Codes or Section 12955 of the California Government Code. Lawful restrictions under state and federal law on the age of occupants in senior housing or housing for older persons shall not be construed as restrictions based on familial status.

8. An easement for public utilities and incidental purposes, recorded August 25, 1964 as Instrument No. 5061 of Official Records.

In Favor of:	The Pacific Telephone and Telegraph Company
Affects:	as described therein

9. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230147 of Official Records.

10. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230148 of Official Records.

11. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230152 of Official Records.

12. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230153 of Official Records.

13. The terms, provisions and easement(s) contained in the document entitled "Certificate of Substandard Property" recorded November 12, 1993 as Instrument No. 93-2230154 of Official Records.

14. The terms, provisions and easement(s) contained in the document entitled "Notice of Building Structures or Premises Classified as Either Hazardous, Substances or a Nuisance – Abatement Proceedings" recorded September 08, 1994 as Instrument No. 94-1645763 of Official Records.

15. The terms, provisions and easement(s) contained in the document entitled "Notice of Building Structures or Premises Classified as Either Hazardous, Substances or a Nuisance – Abatement Proceedings" recorded September 25, 1995 as Instrument No. 95-1554097 of Official Records.

16. The terms, provisions and easement(s) contained in the document entitled "Notice of Building Structures or Premises Classified as Either Hazardous, Substances or a Nuisance – Abatement Proceedings" recorded September 25, 1995 as Instrument No. 95-1554098 of Official Records.

17. The terms, provisions and easement(s) contained in the document entitled "Notice of Building Structures or Premises Classified as Either Hazardous, Substances or a Nuisance – Abatement Proceedings" recorded September 25, 1995 as Instrument No. 95-1554099 of Official Records.

18. The terms, provisions and easement(s) contained in the document entitled "Notice of Building Structures or Premises Classified as Either Hazardous, Substances or a Nuisance – Abatement Proceedings" recorded September 29, 1995 as Instrument No. 95-1591352 of Official Records.

19. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded January 10, 1996 as Instrument No. 96-52777 of Official Records.

20. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded January 10, 1996 as Instrument No. 96-52778 of Official Records.

21. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded January 10, 1996 as Instrument No. 96-52779 of Official Records.

22. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded April 05, 1996 as Instrument No. 96-553452 of Official Records.

23. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded April 05, 1996 as Instrument No. 96-553453 of Official Records.

24. The terms, provisions and easement(s) contained in the document entitled "Notice of Fire Hazards on Property are a Public Nuisance and that Abatement has been or will be done by the City and Property Assessed." recorded April 05, 1996 as Instrument No. 96-553454 of Official Records.

25. The terms, provisions and easement(s) contained in the document entitled "Notice of Special Tax Lien" recorded January 23, 2013 as Instrument No. 20130110801 and recorded January 13, 2017, as Instrument No. 20170055097, both of Official Records.

    Document(s) declaring modifications thereof recorded August 02, 2013 as Instrument No. 20131141559 of Official Records.

26. A certified copy of a judgment or an abstract thereof, recorded February 19, 2010 as Instrument No. 20100229982 of Official Records.

Court:	Superior Court
Case No.:	BC399524
Debtor:	City of Los Angeles
Creditor:	Robert Christopher c/o Geragos & Geragos
Amount:	$1,160,000.00, and any other amounts due thereunder.

27. A lien for unsecured property taxes, evidenced by a certificate recorded by the tax collector of Los Angeles County, recorded April 23, 2013, as Instrument No. 20130603321 of Official Records.

Debtor:	City of Los Angeles

Year & No.:	12/7310/227476/L
Amount:	$1,490.00, and any other amounts due thereunder.

28. A certified copy of a judgment or an abstract thereof, recorded October 21, 2013 as Instrument No. 20131502649 of Official Records.

Court:	Small Claims
Case No.:	07M04726
Debtor:	City of Los Angeles
Creditor:	Ogun Femi dba: Gold Coast Investment Trust
Amount:	$5,090.00, and any other amounts due thereunder.

29. A lien for unsecured property taxes, evidenced by a certificate recorded by the tax collector of Los Angeles County, recorded November 13, 2013, as Instrument No. 20131611313 of Official Records.

Debtor:	City of Los Angeles
Year & No.:	13/47051712
Amount:	$18,826.74, and any other amounts due thereunder.

30. A certified copy of a judgment or an abstract thereof, recorded February 03, 2014 as Instrument No. 20140116267 of Official Records.

Court:	Small Claims
Case No.:	13M00544
Debtor:	City of Los Angeles
Creditor:	Melissa Balin
Amount:	$250.00, and any other amounts due thereunder.

31. A lien for unsecured property taxes, evidenced by a certificate recorded by the tax collector of Los Angeles County, recorded March 25, 2014, as Instrument No. 20140296412 of Official Records.

Debtor:	City of Los Angeles
Year & No.:	13/7310/227476/L
Amount:	$2,250.00, and any other amounts due thereunder.

32. Rights of parties in possession.

INFORMATIONAL NOTES

33. According to the latest available equalized assessment roll in the office of the county tax assessor, there is located on the land a(n) Commercial Structure known as 18801 - 18825 Edleen Drive, Los Angeles, California.

34. According to the public records, there has been no conveyance of the land within a period of twenty-four months prior to the date of this report, except as follows:

    None

II. If this preliminary report/commitment was prepared based upon an application for a policy of title insurance that identified land by street address or assessor's parcel number only, it is the responsibility of the applicant to determine whether the land referred to herein is in fact the land that is to be described in the policy or policies to be issued.

36. We find no open deeds of trust. Escrow please confirm before closing.

1. Should this report be used to facilitate your transaction, we must be provided with the following prior to the issuance of the policy:

   A. WITH RESPECT TO A CORPORATION:
      1. A certificate of good standing of recent date issued by the Secretary of State of the corporation's state of domicile.
      2. A certificate copy of a resolution of the Board of Directors authorizing the contemplated transaction and designating which corporate officers shall have the power to execute on behalf of the corporation.
      3. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
      4. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

   B. WITH RESPECT TO A CALIFORNIA LIMITED PARTNERSHIP:
      1. A certified copy of the certificate of limited partnership (form LP-1) and any amendments thereto (form LP-2) to be recorded in the public records;
      2. A full copy of the partnership agreement and any amendments;
      3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the contemplated transaction;
      4. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
      5. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

   C. WITH RESPECT TO A FOREIGN LIMITED PARTNERSHIP:
      1. A certified copy of the application for registration, foreign limited partnership (form LP-5) and any amendments thereto (form LP-6) to be recorded in the public records;
      2. A full copy of the partnership agreement and any amendment;
      3. Satisfactory evidence of the consent of a majority in interest of the limited partners to the

contemplated transaction;

4. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
5. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

D. WITH RESPECT TO A GENERAL PARTNERSHIP:

1. A certified copy of a statement of partnership authority pursuant to Section 16303 of the California Corporation Code (form GP-I), executed by at least two partners, and a certified copy of any amendments to such statement (form GP-7), to be recorded in the public records;
2. A full copy of the partnership agreement and any amendments;
3. Requirements which the Company may impose following its review of the above material required herein and other information which the Company may require.

E. WITH RESPECT TO A LIMITED LIABILITY COMPANY:

1. A copy of its operating agreement and any amendments thereto;
2. If it is a California limited liability company, a certified copy of its articles of organization (LLC-1) and any certificate of correction (LLC-11), certificate of amendment (LLC-2), or restatement of articles of organization (LLC-10) to be recorded in the public records;
3. If it is a foreign limited liability company, a certified copy of its application for registration (LLC-5) to be recorded in the public records;
4. With respect to any deed, deed of trust, lease, subordination agreement or other document or instrument executed by such limited liability company and presented for recordation by the Company or upon which the Company is asked to rely, such document or instrument must be executed in accordance with one of the following, as appropriate:
   (i) If the limited liability company properly operates through officers appointed or elected pursuant to the terms of a written operating agreement, such documents must be executed by at least two duly elected or appointed officers, as follows: the chairman of the board, the president or any vice president, and any secretary, assistant secretary, the chief financial officer or any assistant treasurer;
   (ii) If the limited liability company properly operates through a manager or managers identified in the articles of organization and/or duly elected pursuant to the terms of a written operating agreement, such document must be executed by at least two such managers or by one manager if the limited liability company properly operates with the existence of only one manager.
5. A certificate of revivor and a certificate of relief from contract voidability issued by the Franchise Tax Board of the State of California.
6. Requirements which the Company may impose following its review of the above material and other information which the Company may require.

F. WITH RESPECT TO A TRUST:

1. A certification pursuant to Section 18100.5 of the California Probate Code in a form satisfactory to the Company.
2. Copies of those excerpts from the original trust documents and amendments thereto which designate the trustee and confer upon the trustee the power to act in the pending transaction.
3. Other requirements which the Company may impose following its review of the material require herein and other information which the Company may require.

G. WITH RESPECT TO INDIVIDUALS:

1. A statement of information.

The map attached, if any, may or may not be a survey of the land depicted hereon. First American Title Insurance Company expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

******To obtain wire instructions for deposit of funds to your escrow file please contact your Escrow Officer.******

LEGAL DESCRIPTION

Real property in the City of Los Angeles, County of Los Angeles, State of California, described as follows:

LOTS 33 THROUGH 38, INCLUSIVE OF TRACT NO. 26541, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 722 PAGES 45 THROUGH 49, INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM ONE-HALF OF ALL OIL, GAS, MINERAL AND HYDROCARBON SUBSTANCES IN AND UNDER SAID LAND BELOW A DEPTH OF 500 FEET, WITH NO RIGHT OF SURFACE ENTRY THEREON, TOGETHER WITH ONE-HALF OF ALL RENTS, ISSUES AND PROFITS THEREFROM, AS RESERVED BY WALLACE INVESTMENT, INC., A DELAWARE CORPORATION, IN DEED RECORDED MAY 24, 1963, IN BOOK D-2041 PAGE 88, OF OFFICIAL RECORDS.

APN: 2176-026-900 and 2176-026-901 and 2176-026-902 and 2176-026-903 and 2176-026-904 and 2176-026-905

The First American Corporation
First American Title Company
Privacy Policy

We Are Committed to Safeguarding Customer Information
In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

Applicability
This Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its Fair Information Values, a copy of which can be found on our website at www.firstam.com.

Types of Information
Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

Use of Information
We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies, and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

Former Customers
Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

Confidentiality and Security
We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's Fair Information Values. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

CLTA/ALTA HOMEOWNER'S POLICY OF TITLE INSURANCE (02-03-10)
EXCLUSIONS

In addition to the Exceptions in Schedule B, You are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of those portions of any law or government regulation concerning:
   (a) building;
   (b) zoning;
   (c) land use;
   (d) improvements on the Land;
   (e) land division; and
   (f) environmental protection.

   This Exclusion does not limit the coverage described in Covered Risk 8.a., 14, 15, 16, 18, 19, 20, 23 or 27.
2. The failure of Your existing structures, or any part of them, to be constructed in accordance with applicable building codes. This Exclusion does not limit the coverage described in Covered Risk 14 or 15.
3. The right to take the Land by condemning it. This Exclusion does not limit the coverage described in Covered Risk 17.
4. Risks:
   (a) that are created, allowed, or agreed to by You, whether or not they are recorded in the Public Records;
   (b) that are Known to You at the Policy Date, but not to Us, unless they are recorded in the Public Records at the Policy Date;
   (c) that result in no loss to You; or
   (d) that first occur after the Policy Date - this does not limit the coverage described in Covered Risk 7, 8.e., 25, 26, 27 or 28.
5. Failure to pay value for Your Title.
6. Lack of a right:
   (a) to any land outside the area specifically described and referred to in paragraph 3 of Schedule A; and
   (b) in streets, alleys, or waterways that touch the Land.

   This Exclusion does not limit the coverage described in Covered Risk 11 or 21.
7. The transfer of the Title to You is invalid as a preferential transfer or as a fraudulent transfer or conveyance under federal bankruptcy, state insolvency, or similar creditors' rights laws.

LIMITATIONS ON COVERED RISKS

Your insurance for the following Covered Risks is limited on the Owner's Coverage Statement as follows: For Covered Risk 16, 18, 19, and 21 Your Deductible Amount and Our Maximum Dollar Limit of Liability shown in Schedule A.

Your Deductible Amount	**Our Maximum Dollar Limit of Liability**
Covered Risk 16: 1% of Policy Amount or $2,500.00 (whichever is less)	$10,000.00
Covered Risk 18: 1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 19: 1% of Policy Amount or $5,000.00 (whichever is less)	$25,000.00
Covered Risk 21: 1% of Policy Amount or $2,500.00 (whichever is less)	$5,000.00

ALTA RESIDENTIAL TITLE INSURANCE POLICY (6-1-87)
EXCLUSIONS

In addition to the Exceptions in Schedule B, you are not insured against loss, costs, attorneys' fees, and expenses resulting from:

1. Governmental police power, and the existence or violation of any law or government regulation. This includes building and zoning ordinances and also laws and regulations concerning:
   (a) and use
   (b) improvements on the land
   (c) and division
   (d) environmental protection

   This exclusion does not apply to violations or the enforcement of these matters which appear in the public records at Policy Date.
   This exclusion does not limit the zoning coverage described in Items 12 and 13 of Covered Title Risks.
2. The right to take the land by condemning it, unless:
   (a) a notice of exercising the right appears in the public records on the Policy Date
   (b) the taking happened prior to the Policy Date and is binding on you if you bought the land without knowing of the taking

3. Title Risks:
   (a) that are created, allowed, or agreed to by you
   (b) that are known to you, but not to us, on the Policy Date -- unless they appeared in the public records
   (c) that result in no loss to you
   (d) that first affect your title after the Policy Date -- this does not limit the labor and material lien coverage in Item 8 of Covered Title Risks
4. Failure to pay value for your title.
5. Lack of a right:
   (a) to any land outside the area specifically described and referred to in Item 3 of Schedule A OR
   (b) in streets, alleys, or waterways that touch your land

   This exclusion does not limit the access coverage in Item 5 of Covered Title Risks.

2006 ALTA LOAN POLICY (06-17-06)
EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

      i. the occupancy, use, or enjoyment of the Land;
      ii. the character, dimensions, or location of any improvement erected on the Land;
      iii. the subdivision of land; or
      iv. environmental protection;

      or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

2006 ALTA OWNER'S POLICY (06-17-06)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to

   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.

   b.Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters
   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
6. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 13(b) of this policy.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage:

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) that arise by reason of:

1. (a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.
3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.
4. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b), or (c) are shown by the Public Records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

ALTA EXPANDED COVERAGE RESIDENTIAL LOAN POLICY (07-26-10)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy, and the Company will not pay loss or damage, costs, attorneys' fees, or expenses that arise by reason of:

1. a. Any law, ordinance, permit, or governmental regulation (including those relating to building and zoning) restricting, regulating, prohibiting, or relating to
   i. the occupancy, use, or enjoyment of the Land;
   ii. the character, dimensions, or location of any improvement erected on the Land;
   iii. the subdivision of land; or
   iv. environmental protection;

   or the effect of any violation of these laws, ordinances, or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.

   b. Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 5, 6, 13(c), 13(d), 14 or 16.
2. Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
3. Defects, liens, encumbrances, adverse claims, or other matters

   a. created, suffered, assumed, or agreed to by the Insured Claimant;
   b. not Known to the Company, not recorded in the Public Records at Date of Policy, but Known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;
   c. resulting in no loss or damage to the Insured Claimant;
   d. attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27 or 28); or
   e. resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
4. Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with applicable doing-business laws of the state where the Land is situated.
5. Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law. This Exclusion does not modify or limit the coverage provided in Covered Risk 26.
6. Any claim of invalidity, unenforceability or lack of priority of the lien of the Insured Mortgage as to Advances or modifications made after the Insured has Knowledge that the vestee shown in Schedule A is no longer the owner of the estate or interest covered by this policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11.
7. Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching subsequent to Date of Policy. This Exclusion does not modify or limit the coverage provided in Covered Risk 11(b) or 25.
8. The failure of the residential structure, or any portion of it, to have been constructed before, on or after Date of Policy in accordance with applicable building codes. This Exclusion does not modify or limit the coverage provided in Covered Risk 5 or 6.
9. Any claim, by reason of the operation of federal bankruptcy, state insolvency, or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is
   a. a fraudulent conveyance or fraudulent transfer, or
   b. a preferential transfer for any reason not stated in Covered Risk 27(b) of this policy.

Recorded at Request of
City of Los Angeles

Mail to:

Department of Building and Safety
Room 460-A, City Hall
Los Angeles, California 90012

93-2230154

RECORDED/FILED IN OFFICIAL RECORDS
RECORDER'S OFFICE
LOS ANGELES COUNTY
CALIFORNIA

21 MIN. PAST 3 P.M. NOV 12 1993

FREE 1 Z

space above this line for recorders's use

CERTIFICATE OF SUBSTANDARD PROPERTY

Notice is hereby given that, pursuant to the provisions of Section 91.0203.1 of the Los Angeles Municipal Code, 1992 Edition, the Superintendent of Building has determined by inspection that the property described below is substandard because of Landslide ;and has notified and ordered the owner of such property to correct the conditions causing same within a prescribed period of time.

Reference is made to Order to Comply No. L88720 on file in the office of the said Superintendent and to any subsequent orders made with respect to said property.

This notice will continue in force until the Superintendent of Building records a certificate of correction. For further information concerning this notice, contact the Department of Building and Safety, City of Los Angeles.

LOT 35 BLOCK ______ TRACT 26541

as per map recorded in Book MP 722 Pages 45 records of Los Angeles County and known as 18817 Edleen Dr.

V.N. CD-11

DATED: This ______ day of ______ 168 B 121

Superintendent of Building
By

OWNERS:
Samuel Ram & Lucille Ram Family Trust
18817 Edleen Dr.
Tarzana, CA 91356

LEGAL ✓
OK
F. Smith DATE 11-9-93
FRANK A. SMITH JR. CARTOGRAPHER DEPT. OF BLDG. & SAFETY

Chief ~~(Acting Chief)~~ of Building Bureau

State of CALIFORNIA
County of LOS ANGELES

On OCT 29 1993 (DATE) before me, ~~ARTHUR F. TAGATAC~~ (NAME, TITLE OF OFFICER - I.E., "JANE DOE, NOTARY PUBLIC")
personally appeared ARTHUR DEVINE (NAME(S) OF SIGNER(S))

☒ personally known to me - OR - ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

OFFICIAL SEAL
Arthur Tagatac
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My Comm. Expires Sept. 22, 1995

Witness my hand and official seal.

(SEAL) (SIGNATURE OF NOTARY)

RIGHT THUMBPRINT (OPTIONAL)
TOP OF THUMB HERE

CAPACITY CLAIMED BY SIGNER(S)
☐ INDIVIDUAL(S)
☐ CORPORATE OFFICER(S) (TITLE(S))
☐ PARTNER(S)
☐ ATTORNEY IN FACT
☐ TRUSTEE(S)
☐ GUARDIAN/CONSERVATOR
☒ OTHER: Chief of Building Bureau

SIGNER IS REPRESENTING: (NAME OF PERSON(S) OR ENTITY(IES))
City of Los Angeles
Bldg. and Safety

amec
foster
wheeler

GEOTECHNICAL EVALUATION REPORT

18801 Edleen Drive

Tarzana District, City of Los Angeles, California

Prepared for:

City of Los Angeles Department of Public Works
Geotechnical Engineering Group
1149 South Broadway, Suite 120
Los Angeles, California 90015

Prepared by:

Amec Foster Wheeler Environment & Infrastructure, Inc.
121 Innovation Drive, Suite 200
Irvine, California 92617-3094
(949) 642-0245

August 22, 2017

Project No. IR17166570

amec foster wheeler

GEOTECHNICAL EVALUATION REPORT
18801 Edleen Drive
Tarzana District, City of Los Angeles, California

August 22, 2017
Project IR17166570

This report was prepared by the staff of Amec Foster Wheeler Environment & Infrastructure, Inc., under the supervision of the Engineer(s) and/or Geologist(s) whose seal(s) and signature(s) appear hereon.

The findings, recommendations, specifications, or professional opinions are presented within the limits described by the client, in accordance with generally accepted professional engineering and geologic practice. No warranty is expressed or implied.

CERTIFIED ENGINEERING GEOLOGIST
DAVID LOWELL PERRY
No. 2040
STATE OF CALIFORNIA

David L. Perry, CEG
Associate Engineering Geologist

REGISTERED PROFESSIONAL ENGINEER
LIANGCAI HE
GE 3033
EXP. 12/31/18
GEOTECHNICAL
STATE OF CALIFORNIA

Liangcai He, PhD, PE, GE
Associate Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
ANTHONY BLANC
No. GE 2615
Exp. 12/31/18
GEOTECHNICAL
STATE OF CALIFORNIA

Anthony Blanc, PE, GE
Senior Associate Engineer

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GEOTECHNICAL EVALUATION REPORT
18801 Edleen Drive
Tarzana District, City of Los Angeles, California

1.0 INTRODUCTION

This report presents the results of a geotechnical evaluation performed by Amec Foster Wheeler for the Edleen Drive Geotechnical Evaluation project. The project site is located at 18801 Edleen Drive in the Tarzana District of Los Angeles, California, as shown on Figure 1.

This geotechnical evaluation was prepared to evaluate the geologic conditions, engineering properties of the subsurface materials, and the slope stability at the subject site, which is one of six contiguous lots that were evaluated as part of this investigation (i.e., 18801, 18807, 18813, 18817, 18821, and 18825 Edleen Drive, Plate 1). The scope of the investigation included reviewing existing data, meetings and coordination with the City of Los Angeles Bureau of Engineering (LABOE) Geotechnical Group (GEO) staff, conducting field exploration and laboratory testing programs, performing geologic and engineering analyses, and preparing this geotechnical evaluation report.

As summarized below, the six lots included in this investigation were constructed as part of mass grading operations for Tract No. 26451. Although there are minor variations between the lots, the overall topographic, geologic, soil, and associated stability conditions across the lots do not vary significantly. As such, the investigative approach and this summary report primarily address the overall conditions of the six contiguous lots, with appropriate site-specific descriptions and evaluations of the subject lot at 18801 Edleen Drive.

2.0 PROJECT DESCRIPTION

Six single family residential properties located at 18801, 18807, 18813, 18817, 18821, and 18825 Edleen Drive were damaged as a result of a slope failure that was claimed (Plaintiff Compliant, 1994) to have occurred in April, 1993 within the buttress fill. The 1994 Northridge Earthquake resulted in severe structural damage to the six single family dwellings and caused additional slope failure. The City subsequently purchased these properties and removed the structures in 1996. The project site location is shown on a U.S. Geological Survey topographic base map, Figure 1.

Task Order Solicitation (TOS) issued on January 3, 2017 by the Geotechnical Engineering Group (GEO) of the Bureau of Engineering (BOE) of Los Angeles Department of Public Works, stated that the City of Los Angeles plans to sell the six properties at an auction. The goal of the project is to generate a geotechnical evaluation report for each property that will be used as part of a real estate disclosure. Additional geotechnical investigations and analysis will be required to develop geotechnical parameters to be used in support of potential future site development.

3.0 GEOTECHNICAL EVALUATION

This geotechnical evaluation included reviewing available data, performing field exploration, conducting laboratory testing, performing engineering analyses, and preparing this report. The scope of work was performed in accordance with the January 3, 2017 TOS and the approved Amec Foster Wheeler proposal (February 22, 2016).

3.1 DATA REVIEW

Amec Foster Wheeler reviewed published and unpublished information, reports, maps, and drawings relevant to the site, including information on topography, geology, faults, landslides, and geologic hazard zones. Relevant information garnered from the data reviewed has been incorporated in the analyses contained in this report.

Geologic maps, reports and documents reviewed included the following. Full references are presented in Section 8 of the report.

- Geologic and seismic hazard maps and reports prepared by the U. S. Geological Society (USGS), California Geological Society (CGS), Association of Engineering Geologists (AEG), and the Dibblee Foundation

- Landslide Maps and Reports by the CGS

- Aerial photographs flown in 1938 and 1959 of the site vicinity

- Documents and reports pertaining to the development of Tract 26541 consisting of: geologic maps, geologic reports, soil engineering reports, and soil test compaction reports

3.2 FIELD EXPLORATION

Amec Foster Wheeler's field exploration program included pre-drilling activities, drilling eight 24-inch diameter bucket auger borings, downhole logging of the bucket auger borings, and collecting soil samples. The field exploration program is summarized in Table 1. Field activities were conducted between May 2 and May 17, 2017 under the supervision of an Amec Foster Wheeler engineer and a certified engineering geologist. The boring locations are shown on Plate 1. Key aspects of the field investigation program are described in the following subsections.

3.2.1 Pre-Drilling Activities

Prior to beginning drilling, Amec Foster Wheeler conducted a site reconnaissance to evaluate site access and to mark boring locations. Amec Foster Wheeler utilized a hand-held Global Positioning System (GPS) device with an accuracy of approximately 3 feet to locate the boring locations in the field. The borings were located in coordination with a GEO representative. GEOVision was subcontracted to provide geophysical services for utility locations and borehole clearance. Underground Service Alert (USA) was notified at least two working days before drilling to locate buried utilities in the vicinity of the proposed borings. The GEO coordinated with LABOE for obtaining excavation permits in the city right-of-way for the two borings drilled on Brewster Drive.

3.2.2 Exploratory Drilling

Eight bucket auger borings (designated BA-1 through BA-8, were drilled to explore subsurface conditions and obtain samples for laboratory testing. Six borings were drilled on six contiguous properties located at 18801 to 18825 Edleen Drive (one boring per residential lot) and two borings were drilled on Brewster Drive at the locations shown on Plate 1. Drilling services were provided by Roy Brothers Drilling of Malibu, California. The borings on the properties located at 18801 to 18825 Edleen Drive were each drilled to a depth of approximately 80 to 81 feet below ground surface (bgs) using an EZ Bore truck-mounted bucket-auger drill rig. A Certified Engineering Geologist (CEG) from Amec Foster Wheeler classified the soils and bedrock materials encountered during drilling and collected soil/bedrock samples for laboratory testing. Relatively undisturbed soil/bedrock samples were obtained by driving a Modified California sampler using the weight of the Kelly bar.

Following completion of the bucket auger drilling, our CEG was lowered into the borehole to perform downhole geologic observations of the soil and bedrock and to take measurements of the bedrock structure (i.e., strike and dip of bedding, joints and/or small faults). The information obtained from the downhole observations was used to develop geologic cross-sections, and to evaluate the slope stability.

Soil/bedrock samples from the bucket auger borings were subsequently delivered to the laboratory for further examination and testing. Final boring logs were prepared based on the field logs, examination of samples in the laboratory, and laboratory test results. A more detailed description of the field exploration program, including logs of the borings, is presented in Appendix A.

3.2.3 Geologic Mapping

Following downhole logging of the bucket auger borings, Amec Foster Wheeler's CEG performed reconnaissance level geologic mapping of limited geologic exposures along Edleen

Drive and Brewster Drive. Bedding attitudes measured during the mapping are shown on Plate 1.

4.0 DISCUSSION OF FINDINGS

The following discussion of findings for the project is based on the results of the field exploration and laboratory testing programs.

4.1 REGIONAL AND LOCAL GEOLOGY

The site is located on the north flank of the Santa Monica Mountains within the Transverse Ranges structural/geomorphic provinces. This province is one of the most seismically active regions in California. The Transverse Ranges is a composite structural block bounded by the Big Pine fault on the north, the San Andreas Fault zone along the northeast, the Channel Islands on the west, and the Santa Monica, Hollywood, Raymond, Sierra Madre, and Cucamonga faults on the south. Large-scale geologic structures in the Transverse Ranges include predominantly westerly-trending folds and faults that were formed primarily by north-south compression and associated left-lateral, strike-slip and reverse faulting. The major geomorphic elements in the province consist of west-trending mountain ranges (Santa Ynez, Santa Monica, San Gabriel, and San Bernardino Mountains) and associated intermontane valleys. The regional geology in the site vicinity is shown on Figure 2, Regional Geologic Map. This geologic map was adapted from the Preliminary Geologic Map of the Los Angeles 30' by 60' Quadrangle (CGS, 2014).

The Santa Monica Mountains are situated along the southern boundary of the east-west trending Transverse Range Province. The northern flank of the Santa Monica Mountains is largely comprised of Cretaceous- and Tertiary-age sedimentary formations that depositionally on-lap against a core of older Jurassic to Cretaceous-age metasedimentary and granitic rocks as shown on Figure 2. The north flank of the Santa Monica Mountains in the vicinity of the site is underlain primarily by a Miocene-age marine formation assigned to the Modelo Formation by Hoots (1931) and subsequently reassigned to the Monterey Formation within the Santa Monica Mountains by Dibblee (1992). We have retained the original assignment to the Modelo Formation in this report. The Modelo Formation has been subdivided into a lower and upper member based on distinct lithologic rock units in each member. The geologic contact between the two members was mapped approximately 100 feet south of the site by Hoots (1931), AEG (1982), and Dibblee (1992). The local geology is shown on Figure 3, Local Geologic Map, which was excerpted from the Geologic map of the Topanga and Canoga Park (south ½) quadrangles (Dibblee, 1992). The lower member of the Modelo Formation is largely comprised of thinly bedded, platy siliceous shale alternating with massive units of sandstone whereas the upper member mapped at the subject site is largely comprised of diatomaceous shale and siltstone. Bedding planes in the Modelo Formation dip approximately 10 to 30 degrees to the North in the site vicinity.

4.2 Site History

The six residential lots at 18801 to 18825 Edleen Drive were constructed as part of the mass grading of Tract No. 26541 during 1963 to 1964. Prior to grading operations, the lots consisted of moderately sloping hillside terrain that sloped to the northeast from a northwesterly-trending ridgeline (i.e., from the top of the ridge where Edleen Drive is now located down to Brewster Drive). Topographic maps of the Santa Monica Mountains prepared by the City of Los Angeles in 1960 (prior to development of Tract 26541 indicate that the pre-development slopes at 18801 to 18825 Edleen Drive were inclined at a gradient of approximately 2:1 to 3:1 (horizontal to vertical).

In preparation for grading of Tract No. 26451, a geologic report and map were prepared by Dr. Richard Merriam (1961) and a preliminary soil investigation was prepared by the Donald Warren Co. (1961). Merriam (1961) reported that the northern portion of the Tract was underlain by diatomaceous shale of the Upper Modelo Formation. Several attitudes were measured by Merriam along the ridgeline and near the toe of slope along Brewster Drive. The strike of bedding shown on the geologic map ranged from East-West to North 75° West and the dip angle ranged from 16 to 28 North to Northeast. It was noted by Merriam (1961) that a buttress fill would be necessary to stabilize adversely oriented bedding for the planned grading. Stability analyses were performed by H.V. Lawmaster and Co. in 1963 for the design of a buttress fill between Brewster Drive and the future Edleen Drive. The stability section for the buttress design showed a keyway to be excavated 10 feet deep below the Brewster Drive grade and extending 60 feet horizontally into or towards the previously existing slope face from the future curb line along Brewster Drive. The stability section (Lawmaster and Co., 1963) also indicated a series of continuous benches to be cut into the slope for the fill placement and a series of sub-drains to be installed at every approximately 20 vertical feet in height along the slope.

A final report of soil compaction tests was prepared by H.V. Lawmaster and Co., dated March 27, 1964. H.V. Lawmaster and Co. reported that they continuously observed and tested the placement of compacted fill for Tract 26541 from June 26, 1963 to March 13, 1964 (H. V. Lawmaster and Co. Inc., 1964). The Final Report stated that in areas of natural slopes, benches were cut into firm natural soil and that the buttress fills were constructed in accordance with the recommendations of the engineering geologist and in accordance with design recommendations. The keyway for the buttress fill located at the toe of Brewster Drive exposed diatomaceous shale and no free water was observed according to an interim geologic report by Dr. Merriam, dated December 19, 1963. Dr. Richard Merriam prepared a Final Geologic Report for Tract No. 26451, dated May 16, 1964. In the Final Geologic Report, Dr.

Merriam stated that the keys for the buttress fills were excavated into bedrock and approved by Dr. Merriam and a City inspector before fill placement commenced. No areas of excess moisture were found in any cuts or areas to receive fill as reported by Merriam (1964). All geological recommendations made by the engineering geologist were reportedly complied with during the grading operations.

Surficial slope failures have been reported by the City of Los Angeles Department of Building and Safety in the descending slope portions of the properties at 18801, 18807, 18813, 18817, and 18825 Edleen Drive as summarized by JTM Geotechnical Engineering (JTM) in an Addendum Geotechnical Letter dated September 14, 2009). A copy of this addendum letter is presented in Appendix D. The slide dimensions were reportedly less than 3 feet deep and ranged from 25 to 60 feet wide and 20 to 35 feet in length. The slides reportedly occurred in 1968, 1969, and 1978 after heavy winter storm events.

According to a complaint report prepared by the previous owners of five of the six contiguous lots, a slope failure occurred within the buttress fill slope in April 1993 (prior to the Northridge Earthquake) and caused damage to the 18801 through 18825 Edleen Drive properties (Plaintiffs versus the City of Los Angeles, 1994). The complaint report states that the contiguous lots were further damaged and destabilized as a result of the January 17 Northridge Earthquake.

4.3 LOT-SPECIFIC SITE CONDITIONS – 18801 EDLEEN DRIVE

The subject lot is located on a graded pad adjacent to the north side of Edleen Drive in the foothills of the Santa Monica Mountains. A residential structure was located on the property until 1996 when the structure was demolished by the City of Los Angeles. The site is presently vacant with a wrought iron fence bordering the southern perimeter.

Site topography consists of a relatively level graded pad area in the southern third of the property adjacent to Edleen Drive and a northeast-facing fill slope that descends to Brewster Drive in the northern portion of the property as shown on the Site Plan/Geologic Map, Plate 1. The graded pad area slopes very gently to the southeast from Elevation 1062 feet above mean sea level (msl) to Elevation 1056 msl. The descending slope is inclined at an overall gradient of approximately 1.5:1 to 1-¾:1 (horizontal to vertical) with two concrete-lined v-ditch drains that transverse slope at approximately the one-third points on the slope face. The overall slope height is approximately 98 to 100 feet from the pad area to Brewster Drive (Section F-F', Plate 1 and Plate 7).

Vegetation on the slope consists of grasses and various trees. Drainage on the descending slope is directed by the v-ditch drains to inlets that discharge into a buried storm drain/drainage easement along the eastern property line of 18801 Edleen Drive.

4.4 GEOLOGIC UNITS

Geologic units within and near the subject lot consist of artificial fill and bedrock of the Modelo Formation. A colluvial unit was encountered underlying artificial fill in the two borings drilled on Brewster Drive. No geologic evidence of a landslide slip surface was observed in the borings drilled as part of this evaluation for the six contiguous lots, nor was a landslide slip surface reported in the prior borings drilled in the adjacent lot to the north at 4777 Brewster Drive. The following presents a general description of the geologic materials encountered in the borings along with the map unit designations used on the Site Plan / Geologic Map, attached as Plate 1. Geologic Cross-Section F-F' was prepared for 18801 Edleen Drive and is presented on Plate 7.

4.4.1 Artificial Fill (afe)

Engineered artificial fill (designated as symbol "afe" on the Geologic Map and Section F-F') underlies the pad area to depths that ranged from an estimated 3 feet below pad grade in the southerly portion of the pad to an estimated 35 feet below the pad grade at the northern edge of the pad. The compacted/engineered fill was placed during the mass grading of Tract 26541. The fill depth was estimated based on the fill-bedrock contact encountered in Boring BA-1, projection of the contact encountered in Boring BA-2, which was drilled on the adjacent property, located at 18807 Edleen Drive, and prior borings and test pits excavated by others for the adjacent property located at 4777 Brewster Drive. The fill - bedrock contact beneath the slope area was estimated assuming that the keyway at the toe of slope was 60 feet wide per the H.V. Lawmaster Co. (1963) buttress design and geologic data from Test pit TP-1, which was excavated by others near the toe of slope on adjacent property at 4777 Brewster Drive. Test pit TP-1 was excavated to a depth of 15 feet and encountered artificial fill to the full depth of the test pit as shown on Geologic Section F-F'. The fill encountered in Boring BA-1 was variable in composition. It consisted of variably thick layers of sandy lean clay with rock fragments, silty sand, and sandy to clayey silt. The sandy lean clay and silt appeared generally stiff and the silty sand appeared generally dense. The contact at the base of the fill appeared to overlie bedrock with an apparent subvertical bench at the contact as shown on the log of Boring BA-1.

Apparently undocumented artificial fill (designated as symbol "af" on Section F-F') was encountered in Boring BA-7, located on Brewster Drive, to a depth of approximately 6 feet below the ground surface. The fill in Boring BA-7 consisted of silt with abundant rock fragments.

4.4.2 Colluvium (Qcol)

Colluvium (designated as symbol "Qcol" on Section F-F) was encountered beneath artificial fill at a depth of 6 feet in Boring BA-7. It was approximately 5 feet thick and consisted of silty lean clay and fat clay with subangular to angular fragments of siltstone and shale. The colluvium appeared generally stiff.

4.4.3 Modelo Formation (Tm)

The site is underlain at shallow to moderate depths by sedimentary bedrock assigned to the Miocene-age Modelo Formation (designated as symbol "Tm" on the Geologic Map and Section F-F'). Bedrock was encountered beneath artificial fill at a depth of approximately 20 to 21.5 feet in Boring BA-1. Projection of the fill-bedrock contact from the depth encountered in adjacent boring BA-2 indicates that the depth to bedrock is relatively shallow adjacent to Edleen Drive and is greater at the northern edge of the pad area.

The lithologic composition of the bedrock encountered in the Boring BA-1 consisted of a thinly to very thinly interbedded sequence of silty claystone, diatomaceous siltstone, clayey siltstone, and diatomaceous silty shale with subordinate interbeds and laminae of very fine to fine-grained sandstone. A two-foot thick, well-cemented dolomitic siltstone (i.e., dolostone) was encountered at a depth of 58 feet in Boring BA-1 and a similarly thick dolostone bed was encountered in Boring BA-2, located on the adjacent property to the west.

The strata comprising the bedrock were typically very thinly to thinly interbedded, with well-defined planar bedding and weak to moderate induration. The bedrock color varied from grayish brown for most of the silty claystone intervals to very light gray for the diatomaceous beds. No geologic evidence of a landslide slip surface was observed in Boring BA-1.

4.5 GEOLOGIC STRUCTURE

The regional dip of the Modelo Formation in the site vicinity is relatively consistent and is inclined approximately 10 to 30 degrees toward the North to Northeast as shown on geologic maps by Hoots (1931), AEG (1982), Yerkes and Campbell (1992), and Dibblee (1992). The onsite slopes descend moderately to the northeast, and thus, the regional bedding dip is oriented in the same general direction as the overlying northeast-facing slopes (approximating a "dip-slope" condition).

The strike and dip of bedding planes exposed in limited roadcuts along Edleen Drive and Brewster Drive to the west and northwest ranged from striking North 68° West to East-West and dipping 16 to 24 degrees to the northeast.

Subsurface observations and measurements of bedding attitudes were performed in the six bucket auger borings located on the 18801 to 18825 Edleen Drive lots and in two bucket auger borings located on Brewster Drive.

The strike of bedding in boring BA-1 on the subject lot ranged from North 50° West to North 81° West and bedding dip angles ranged from 15 to 22 degrees to the northeast. The apparent dip in the line of geologic section, drawn perpendicular to slope contours, also ranged from 15 to 22 degrees to the northeast. In Boring BA-7, near the toe of the subject slope/lot, the strike of bedding ranged from North 55° West to North 66° West and bedding dip angles ranged from 14 to 20 degrees to the northeast. The apparent dip in the line of geologic section also ranged from 14 to 20 degrees to the northeast.

Joint and fracture spacing appear to be closely to moderately-spaced in Borings BA-1 and BA-7. The bedrock appears to be cut by at least two distinct joint sets. An apparent joint set in Boring BA-1 strikes approximately perpendicular to bedding planes at North 23° East to North 33° East and dips from 78 to 85 degrees to the southeast. A joint set in Boring BA-7 strikes about North-South with very steep dips of 85 to 90 degrees to the west and east. A relatively narrow fault (less than 1-inch wide) with relatively minor stratigraphic offset of about ¼ to 1-inches was encountered in Boring BA-1. The fault strikes N 22° East and dips 55 degrees to the southeast. This strike trend is perpendicular to slope contours and has a similar strike orientation to two nearby faults in the upper member of the Modelo Formation, as shown on geologic maps prepared by AEG (1982).

4.6 Groundwater Conditions

Groundwater was not encountered in any of the eight borings to a maximum explored depth of approximately 81 feet bgs. Seepage was also not encountered in any of the eight borings. The project site elevations are approximately 100 to 150 feet above the elevation of alluvial drainages to the west and east of the project site.

5.0 LABORATORY TESTING AND MATERIAL PROPERTIES

Laboratory testing was performed to evaluate engineering properties of subsurface soils and rock. The laboratory testing program and material properties are discussed in the following sections. The discussions are based on test results on samples from all six properties (18801, 18807, 18813, 18817, 18821, and 18825 Edleen Drive).

5.1 Laboratory Testing

Selected samples obtained from the borings were tested in the laboratory to evaluate the physical characteristics and engineering properties of subsurface soils and rock. Physical tests performed included moisture content and dry density, fines content, grain size distribution, Atterberg limits, expansion index, compaction, direct shear, repeated direct shear, and corrosion potential. Procedures for these tests are described in Appendix B. Test results for moisture content and dry density, fines content, Atterberg Limits, and expansion index are summarized on the boring logs in Appendix A and individual sheets for all the laboratory tests are provided in Appendix B.

5.2 ENGINEERING PROPERTIES

Engineering properties of undocumented fill, engineered fill, colluvium, and bedrock are discussed in the following sections.

5.2.1 Undocumented Fill (af)

Test results on two relatively undisturbed samples from the undocumented fill indicate similar moisture contents (24.4 and 25.1 percent) and similarly low in-situ dry densities (70.2 and 70.4 pounds per cubic foot or pcf). No other tests were performed on the undocumented fill as its extent is limited and it is expected to have negligible effects on slope stability analysis results.

5.2.2 Engineered Fill (afe)

Test results on relatively undisturbed samples from the engineered fill indicate moisture contents ranging from 6.2 to 32.1 percent, and in-situ dry densities ranging from approximately 59.6 to 116.5 pcf. The in-situ total unit weight was found to vary from 73 to 124 pcf, with an average of 100 pcf. The total wet densities in the direct shear tests were found to range from 106 to 137 pcf, with an average of 123 pcf.

Based on grain size distribution tests, the engineered fill material is variable, and consists of silty sand, clayey sand, silt, and clay. Fines content of the material ranges from approximately 21 to 88 percent. Based on sieve analyses and hydrometer tests on a sample of the clayey sand material, the clay-size fraction (CF), i.e., quantity of particles smaller than 0.002 millimeters as defined by Stark et al. (2005), is about 9 percent. The results of Atterberg Limits on the sample indicate that the fines can be classified as lean clay (CL), with a liquid limit (LL) of 28 and a plasticity index (PI) of 8.

The results of expansion index (EI) tests on the engineered fill indicate that the EI values range from 1 to 68, and based on these values, the expansion potential is considered to be very low to medium.

Results of compaction tests on the engineered fill indicate maximum dry densities ranging from 114 to 121.3 pcf and optimum moisture contents ranging from 10.8 to 14.5%.

Finally, direct shear tests were performed on relatively undisturbed samples of the engineered fill. A repeated shear test was also performed on a relatively undisturbed sample of the engineered fill. Based on results of the first cycle of the repeated direct shear tests, this material was found to have an ultimate friction angle ranging from 31 to 38 degrees, ultimate cohesion ranging from 0 to 169 pounds per square foot (psf), a peak friction angle between 32 and 52 degrees, and peak cohesion between 59 and 528 psf. The average ultimate friction angle and cohesion values are about 34 degrees and 85 psf, respectively. The average peak friction angle and cohesion value are about 38 degrees and 350 psf, respectively. Based on results of the last cycle of the repeated direct tests, the residual friction angle and peak cohesion of the material were found to be 31 degrees and 23 psf, respectively. Friction angle and cohesion values from individual tests are summarized in Table 2. The ultimate and peak shear strength test results for the fill and their average values are presented in Figure 4.

5.2.3 Colluvium (Qcol)

Test results indicate the colluvium has moisture contents ranging from approximately 18.7 to 34.1 percent, and in-situ dry densities ranging from 72.3 to 92.2 pcf. The in-situ total unit weight was found to vary from 97 to 109 pcf, with an average of 103 pcf. The total wet density in the repeated direct shear tests on the colluvium was found to be 122 pcf.

Based on grain size distribution and Atterberg Limits tests, the colluvium consists of silt and fat clay. Fines content of the material ranges from approximately 80.6 to 96 percent. Based on sieve analyses and hydrometer tests on a sample of the material, the CF is about 46 percent. The results of Atterberg Limits on the sample indicate that the fines content can be classified as fat clay (CH), with an LL of 66 and a PI of 41.

Finally, repeated direct shear tests were performed on the relatively undisturbed sample of the colluvium from boring BA-7. Based on results of the first cycle of the repeated direct shear tests, this material was found to have an ultimate friction angle of 22 degrees, an ultimate cohesion value of 195 psf, a peak friction angle of 37 degrees, and a peak cohesion value of 165 psf. Based on results of the last cycle of the repeated direct shear tests, the residual friction angle and peak cohesion of the material were found to be 19 degrees and 31 psf, respectively. These friction angle and cohesion values are shown in Table 2 and Figure 5.

5.2.4 Bedrock – Modelo Formation (Tm)

Test results indicate the bedrock (Tm) has moisture contents ranging from approximately 8.2 to 79.7 percent, and in-situ dry densities ranging from approximately 51.5 to 118.7 pcf. The in-situ total unit weight was found to vary from 76 to 143 pcf, with an average of 107 pcf. The total wet densities in the direct shear tests were found to range from 111 to 123 pcf, with an average of 115 pcf.

Based on grain size distribution and Atterberg Limits tests, the bedrock consists of claystone. Fines content of the bedrock ranges from 69.3 to 94.2 percent. Based on sieve analyses and hydrometer tests, the CF ranges from approximately 21 to 30 percent, with an average of approximately 26.

The results of Atterberg Limits tests indicate the bedrock has an LL ranging from 57 to 81 and a PI ranging from 32 to 49, and based on these test results, the fines content can be classified as fat clay (CH). Average LL and PI of the bedrock are 71 and 41, respectively.

Finally, repeated direct shear tests were performed on relatively undisturbed samples of the bedrock in accordance with ASTM-D3080, CGS Special Publication 117A, and Blake et. al. (2002). Based on results of the first cycle of the repeated direct shear tests, the bedrock was found to have an ultimate friction angle ranging from 17 to 41 degrees, a cohesion value ranging from 0 to 490 psf, a peak friction angle between 23 and 43 degrees, and a peak cohesion value between 322 and 1,464 psf. The average ultimate friction angle and cohesion values are about 29 degrees and 170 psf, respectively. The average peak friction angle and cohesion value are about 33 degrees and 845 psf, respectively. Based on results of the last cycle of the repeated direct shear tests, the residual friction angle of the bedrock was found to be between 12 and 25 degrees, and the residual cohesion was between 65 and 429 psf. The average residual friction angle and cohesion value are about 19 degrees and 210 psf, respectively. The peak, ultimate and residual shear strength test results for the bedrock are presented in both Table 2 and Figure 6.

5.3 CORROSION POTENTIAL

AP Engineering & Testing, Inc. of Pomona, California performed chemical analyses, pH, and minimum resistivity tests on the fill and upper bedrock materials. Corrosion test results are presented in Appendix B.

The soil pH value was determined to be between 8.0 and 8.7, which is considered to be mildly alkaline.

Measured minimum resistivity are between 595 and 1,757 ohm-cm. Based on correlations in the Navy Design Manual (NAVFAC DM-5) and resistivity results, on-site fill and bedrock are considered to be severely corrosive when in contact with ferrous materials.

Measured chloride concentrations are between 42 and 57 ppm, indicating the materials are between slightly and very corrosive.

Measured sulfate content are between 86 and 2,034 ppm. The results indicate that in-situ materials could potentially have severe sulfate attack potential on concrete, according to ACI 318-05, Table 4.3.1.

6.0 SLOPE STABILITY ANALYSES

Limit-equilibrium analyses were performed to evaluate the static and seismic stability of the existing slopes on the north/northeastern side of the property. Details of the slope stability analyses are discussed in the following sections.

6.1 CROSS-SECTIONS AND SLOPE CONFIGURATIONS

The stability of the existing slopes for the group of lots was evaluated by analyzing Geologic Cross-Sections A-A' through F-F'. Although Geologic Cross-Section F-F' is specific to 18801 Edleen Drive, it is reasonable to examine the stability results of this lot in the context of those of the adjacent lots. The locations of the geologic cross-sections are shown on Plate 1, and the cross-section profile for this lot is depicted on Plate 7. The cross-section was selected for slope stability analysis as it was considered to represent an adverse condition due to the dip direction of the Modelo Formation in relation to the direction of the slope.

6.2 SHEAR STRENGTH PARAMETERS

The stability of the existing slopes is largely controlled by the shear strength of the Modelo Formation (Tm). Shear strength parameters are also required for the existing engineered fill (afe), undocumented fill (af), and colluvium (Qcol). The shear strength parameters for the materials were estimated based on laboratory direct shear tests discussed in Section 5.2, correlations of Stark et al. (2005) for drained residual and fully softened shear strengths, and review of previous geotechnical reports (AES 2009, Rybak 2011) for developments at 4777 and 4760 Brewster Drive. A comparison of the shear strength parameters from the various sources is provided in Table 3.

The shear strength parameters used in slope stability analyses are summarized in Table 4. The long-term static stability was analyzed using ultimate shear strength parameters for all materials, except for the bedrock along-bedding strength. The seismic stability was analyzed using peak shear strength parameters for all materials, except for the along-bedding strength of the bedrock. For bedrock along-bedding strength, residual shear strength parameters are used for both static and seismic stability analyses. The following paragraphs discuss the selection of these shear strength parameters.

The shear strength of the undocumented fill is believed to play a very minor role in the results of the stability analyses due to its limited extent in the cross-section profile. Therefore, the undocumented fill was assumed to have both an ultimate and peak friction angle of 30 degrees (no cohesion).

For the existing engineered fill (afe), laboratory direct shear tests were performed on representative soil samples, and test results are discussed in Section 5.2.2. Average shear strength parameters from the laboratory tests are presented in Table 3 and compared to those reported in previous geotechnical investigations. It can be seen from Table 3 that previous geotechnical reports provided 7 sets of ultimate shear strength parameters, but only one set of peak parameters for the fill. The average values of ultimate shear strength parameters from our laboratory tests are similar to those in previous geotechnical reports. Therefore, for the fill, shear strength parameters from our laboratory direct shear tests were used in the slope stability analyses. Specifically, the average ultimate friction angle and cohesion from our laboratory tests were used in the static slope stability analyses, and the average peak friction angle and cohesion were used in seismic slope stability analyses.

The colluvium materials are insignificant to the assessment of slope stability for this property due to the limited extent of colluvium in the cross-section profile; also, no previous geotechnical reports provided shear strength parameters for the material. Shear strength parameters from our laboratory direct shear tests are discussed in Section 5.2.3 and are presented in Table 3 again. These parameters were used in the slope stability analyses. Specifically, the ultimate friction angle and cohesion from our laboratory tests were used in the static slope stability analyses, and the average peak friction angle and cohesion were used in seismic slope stability analyses.

The shear strength of the Modelo Formation (Tm) bedrock at this site is largely controlled by the orientation of the beds (i.e. cross-bedding vs. along-bedding). The adverse bedding condition was modeled using an anisotropic Mohr-Coulomb model to account for the differences between cross-bedding and along-bedding strengths. Shear strength parameters for cross-bedding and along-bedding directions in the slope stability analyses are largely based on our repeated direct test results, in comparison with those from empirical correlations and recent adjacent geotechnical investigations.

Stark and Hussain (2013) correlations use LL and clay-size fraction to estimate shear strength parameters. The results of our laboratory tests on representative bedrock samples using ASTM test methods D4318 and D422 indicate that LL values range from 57 to 81 and clay-size fraction ranges from approximately 21 to 30 percent. These ASTM test results correspond to the Stark and Hussain (2013) ball milled LL values between 80 and 119, and ball milled clay-size fractions between 35 and 45 percent. Estimated shear strength parameters based on the Stark and Hussain (2013) correlations using the ball miller LL and clay-size fraction are presented in Table 3, in comparison to our repeated direct shear test results discussed in Section 5.2.4 and those from recent adjacent geotechnical investigations. It can be seen that strengths based on the Stark and Hussain (2013) correlations are significantly lower than those from our repeated direct shear tests. However, it should be noted the Stark and Hussain (2013) correlations are for landslide or failed slopes, which is not the case for the slopes at Edleen Drive. In addition, the average ultimate and residual shear strength parameters from our repeated direct shear tests are in general agreement with previous adjacent geotechnical investigations (Table 3). Furthermore, bedrock beneath the property and adjacent lots is believed to have similar strength parameters. Therefore, the average strength parameters from our repeated direct shear tests were used in the slope stability analyses. Specifically, the average residual friction angle and cohesion, 19 degrees and 210 psf, respectively, were assigned to the bedrock along-bedding direction in both the static and seismic slope stability analyses. The average ultimate friction angle and cohesion, 29 degrees and 170 psf, respectively, were assigned to the bedrock cross-bedding direction in the static slope stability analyses. The average peak friction angle and cohesion, 33 degrees and 845 psf, respectively, were assigned to the bedrock cross-bedding direction in the seismic slope stability analyses.

Finally, the anisotropic strength properties (along-bedding vs. cross-bedding) used in the analyses are based on field measurements of the strike and dip. Based on these measurements and our interpretation of the geology, along bedding strength properties were assigned to Section F-F' for slip surface inclinations between 14 and 22 degrees.

6.3 LIMIT-EQUILIBRIUM ANALYSIS

Two-dimensional limit-equilibrium analyses were performed to evaluate the global stability of the subject slopes and compute a factor of safety (FS) against sliding. The computer program Slope/W (Geo-Slope, 2007) was used to perform Morgenstern-Price's limit-equilibrium analysis method (Morgenstern and Price, 1965) because it satisfies both force and moment equilibrium, and accounts for variable inter-slice forces. Slope/W is a commercially available computer program with a comprehensive formulation that makes it possible to analyze complex geometric configurations and loading conditions.

In terms of slope stability, the FS against slope instability is defined as the ratio of resulting shear strength (friction and cohesion along a potential failure surface) to driving stresses (gravitational forces pulling downslope). A FS of unity (1.0) indicates a delicate balance between the resisting and driving stresses and represents incipient failure. A FS below unity indicates slope instability. For the limit-equilibrium analyses, the minimum static FS for slope stability was evaluated. The calculated static FS was compared to the design criterion for static slope stability for the City of Los Angeles (City of LA, 2017). For long-term static conditions, the FS criterion used to evaluate the static stability was 1.50.

The seismic stability was evaluated using the pseudo-static analysis method within Slope/W. In this method, the earthquake forces are represented by a static lateral force equal to the product of the horizontal seismic coefficient (k) and the weight of the slide mass, and a FS is computed using conventional limit-equilibrium analysis. The evaluation was performed in accordance with the City of LA (2017) guidelines, which is based on the recommended procedures provided in Special Publication 117A (California Geological Survey, 2008). This method, which is known as a screening analysis, involves calculating a "k" coefficient and evaluating the stability using a minimum required FS = 1.0. The "k" coefficient is dependent on the contributing earthquake magnitude and distance to the fault, the peak ground acceleration (PGA), and the amount of tolerable displacement. The City of LA (2017) requires that the amount of tolerable displacement should be a maximum of 5 centimeters (approximately 2 inches) for slopes that may affect the integrity of structures. The calculated "k" coefficient used in our analyses was determined to be 0.15, based on a Mw=6.77, a seismic source distance R of 17.18 km, a PGA = 0.34 g, and a tolerable displacement of 5 centimeters. The values of Mw and R were mean values obtained from a deaggregation analysis using the USGS Unified Hazard Tool (the Dynamic: Conterminous U.S. 2008 (v3.3.1) edition) for a PGA with a return period of 475 years and a site of $V_{s,30}$ = 360 m/s (C/D boundary), where $V_{s,30}$ is shear wave velocity in the upper 30 meters (i.e., 100 feet) of subsurface materials.

6.4 SURFICIAL SLOPE STABILITY

Surficial slope stability was evaluated in accordance with the City of LA requirements (2017). The City of LA (2017) requires an evaluation of an infinite slope condition with seepage parallel to the slope surface and a minimum FS = 1.50. In addition, a minimum saturated depth of three feet should be used in the analysis.

Based on the City of LA requirements (2017), the surficial stability of the fill was evaluated under saturated conditions for a 3-foot saturation depth. The ultimate shear strength was used to evaluate the surficial stability.

The slope stability equation (Abramson et al., 2002) for a fully saturated condition is as follows:

$$FS = \frac{c' + h(\gamma_{sat} - \gamma_w)\cos^2(\beta)\tan\phi'}{\gamma_{sat} h \sin\beta\cos\beta}$$

where:

- c' = cohesion (psf)
- h = vertical height ground surface and theoretical failure surface (feet)
- γ_{sat} = saturated unit weight (pcf)
- γ_w = unit weight of water
- β = slope angle (degrees)
- ϕ' = angle of internal friction (degrees)

Values of the above parameters are presented in Table 5.

6.5 RESULTS OF SLOPE STABILITY ANALYSES

Results of surficial stability analyses at Cross-Section F-F', along with the parameters used in the analysis are presented in Table 5. Results of global slope stability analyses are summarized in Table 6. Tables 5 and 6 also include slope stability analysis results for the adjacent lots involved in this investigation. Details of the global slope stability analyses for the property featured in this report are provided in Appendix C. Based on the results of our analyses, the minimum FS criterion (FS>=1.50) is not satisfied for the static cases for critical slip surfaces through the bedrock or within the fill. The minimum FS criterion (FS>=1.0) is considered satisfied for the pseudo-static case (Cross-Section F-F'). For the saturated surficial stability, the minimum FS criterion (FS>=1.5) is considered not satisfied for a 3-foot saturated vertical depth.

7.0 CLOSURE

The conclusions and opinions presented herein are based upon our evaluation and interpretation of the data obtained from our field and laboratory programs, and upon an interpolation of subsurface conditions between and beyond the borings. The information in this report may not be sufficient for design of site improvements. Additional site-specific investigations will be necessary to further evaluate existing conditions and develop design recommendations.

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H.V. Lawmaster & Co. Inc., 1964, Soil Compaction Tests – Final Report No.1 and Final Report Lots 3 thru 18, 21 thru 39, and 41 through 54, inclusive, report dated March 27, 1964.

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Merriam, Richard, 1963, General Geologic Report, Tract No. 26541, City of Los Angeles, report dated December 19, 1963.

Merriam, Richard, 1964, Final Geologic Report, Tract No. 26541, City of Los Angeles, report dated May 16, 1964.

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APPENDIX C

Results of Slope Stability Analyses

P:\166570\Docs\18801 Edleen Drive\Appendix\Appendix C Section F ResultsStatic 8/21/2017

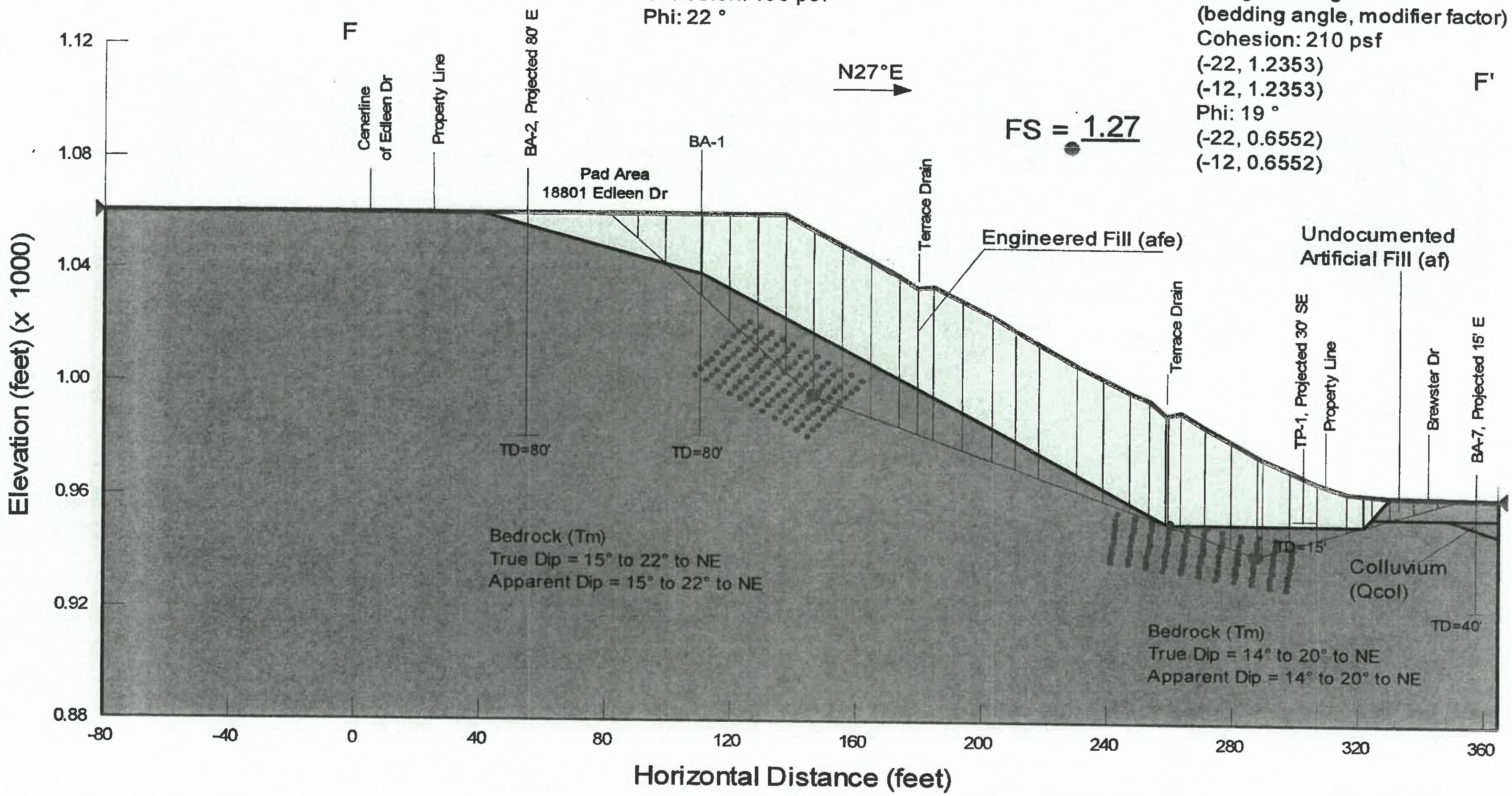
K:\IR17166570 -Edleen Dr\Analyses\F static.gsz
Slip Surface Option: Block
Method: Morgenstem-Price
Interslice force function option: Half-Sine
Horz Seismic Load: 0

Engineered Fill (afe)
Unit Weight: 123 pcf
Cohesion: 85 psf
Phi: 34 °

Colluvium (Qcol)
Unit Weight: 122 pcf
Cohesion: 195 psf
Phi: 22 °

Undocumented Artificial Fill (af)
Unit Weight: 88 pcf
Cohesion: 0 psf
Phi: 30 °

Bedrock (Tm)
Unit Weight: 115 pcf
Cross Bedding:
Cohesion: 170 psf
Phi: 29 °
Along Bedding:
(bedding angle, modifier factor)
Cohesion: 210 psf
(-22, 1.2353)
(-12, 1.2353)
Phi: 19 °
(-22, 0.6552)
(-12, 0.6552)



CROSS SECTION F-F' STATIC SLOPE STABILITY - SLIP SURFACE THROUGH BEDROCK
18801 Edleen Drive
Geotechnical Evaluation
Tarzana, California

amec foster wheeler

Date: 07/25/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	C1

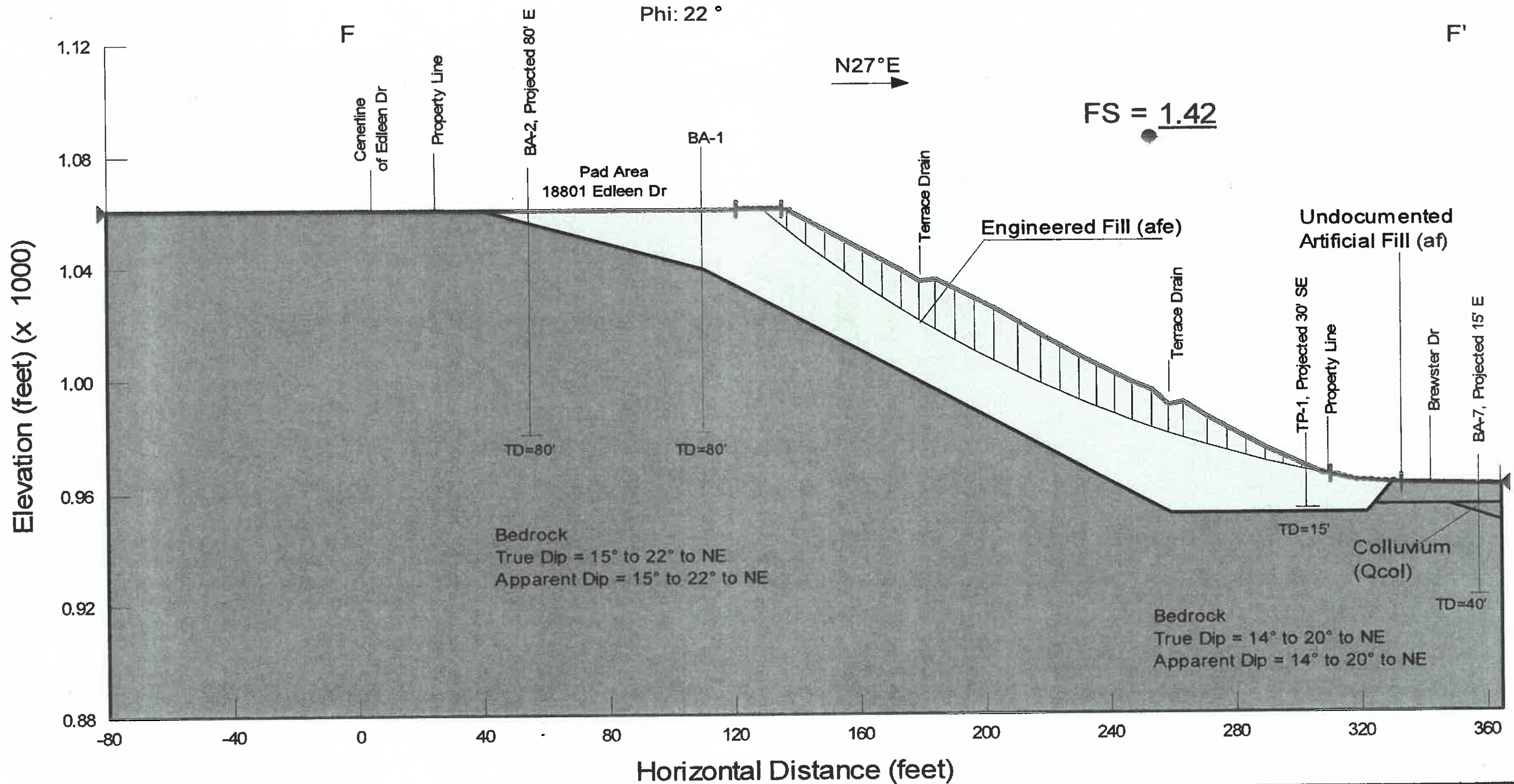
P:\166570\Docs\18801 Edleen Drive\Appendix\Appendix C Section F ResultsStatic 2 8/21/2017

K:\IR17166570 -Edleen Dr\Analyses\F static within fill.gsz
Slip Surface Option: Entry and Exit
Method: Morgenstern-Price
Interslice force function option: Half-Sine
Horz Seismic Load: 0

Engineered Fill (afe)
Unit Weight: 123 pcf
Cohesion: 85 psf
Phi: 34 °

Colluvium (Qcol)
Unit Weight: 122 pcf
Cohesion: 195 psf
Phi: 22 °

Undocumented Artificial Fill (af)
Unit Weight: 88 pcf
Cohesion: 0 psf
Phi: 30 °



CROSS SECTION F-F' STATIC SLOPE STABILITY - SLIP SURFACE WITHIN FILL

18801 Edleen Drive
Geotechnical Evaluation
Tarzana, California

amec foster wheeler

Date: 07/25/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	C2

P:\166570\Docs\18801 Edleen Drive\Appendix\Appendix C Section F ResultsSeismic 8/21/2017

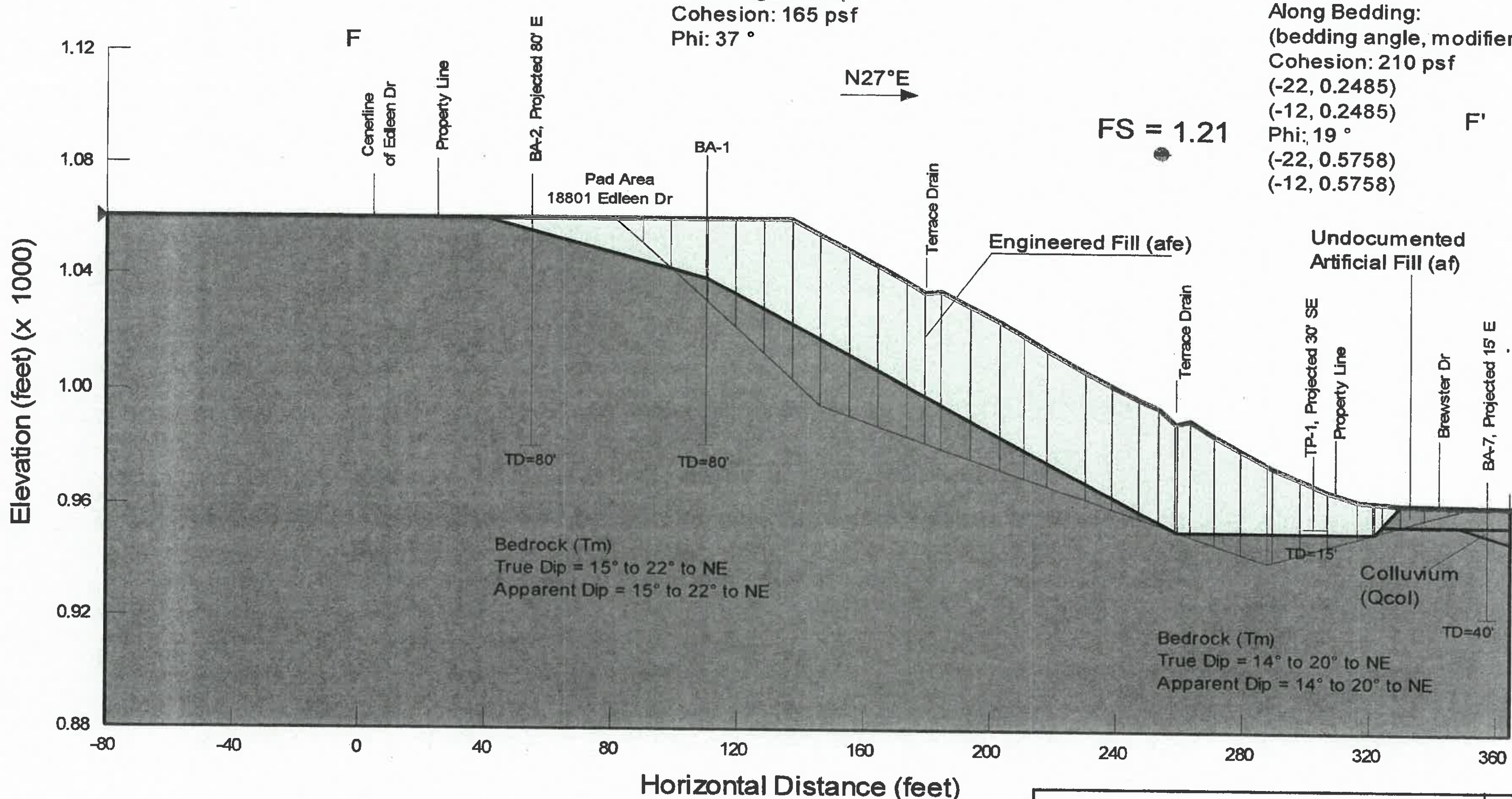
K:\IR17166570 -Edleen Dr\Analyses\F seismic.gsz
Slip Surface Option: Fully-Specified
Method: Morgenstern-Price
Interslice force function option: Half-Sine
Horz Seismic Load: 0.15

Engineered Fill (afe)
Unit Weight: 123 pcf
Cohesion: 350 psf
Phi: 38 °

Colluvium (Qcol)
Unit Weight: 122 pcf
Cohesion: 165 psf
Phi: 37 °

Undocumented Artificial Fill (af)
Unit Weight: 88 pcf
Cohesion: 0 psf
Phi: 30 °

Bedrock (Tm)
Unit Weight: 115 pcf
Cross Bedding:
Cohesion: 845 psf
Phi: 33 °
Along Bedding:
(bedding angle, modifier factor)
Cohesion: 210 psf
(-22, 0.2485)
(-12, 0.2485)
Phi: 19 °
(-22, 0.5758)
(-12, 0.5758)



CROSS SECTION F-F' SEISMIC SLOPE STABILITY 18801 Edleen Drive Geotechnical Evaluation Tarzana, California		amec foster wheeler
Date: 07/25/2017	Project No.: IR17166570	Figure
Submitted By:	Drawn By: LH	C3

APPENDIX D

JTM Geotechnical Engineering Addendum Geotechnical Letter

664820

JTM GEOTECHNICAL ENGINEERING

ADDENDUM LETTER NO.1
PROPOSED SINGLE FAMILY RESIDENCE
4777 BREWSTER DRIVE
CITY OF LOS ANGELES (TARZANA), CALIFORNIA

Prepared for:

Mr. VARUZH AVEDISIAN
1019 Screenland Dr.
Burbank, CA 91505

Project No. JTM-2009-376

September 14, 2009

GTY

September 14, 2009
Project No. JTM-2009-376

To: Mr. Varuzh Avedisian
1019 Screenland Drive
Burbank, CA 91505

Subject: Addendum Geotechnical Letter No. 1, Change of Soils Engineer of Record and Response to LADBS Comments, Proposed Single Family Residences, 4777 Brewster Drive, Tarzana, California.

INTRODUCTION

At your request and authorization, JTM Geotechnical Engineering (JTM) had reviewed the referenced reports, and generally agrees with the findings, conclusions and recommendations included in them, and accepts the responsibility for using data included in these reports. Accordingly, JTM presents this addendum letter No. 1 accepting the role of Soils Engineer of Record for the subject project.

JTM presents responses to comments presented in the Correction Letter issued by the Grading Division of the Department of Building and Safety of the City of Los Angeles (LADBS) dated February 25, 2009 (copy attached in Appendix 5).

Unless specifically superceded in this Addendum Letter No. 1, recommendations presented in referenced reports, prepared by previous geotechnical consultants remain applicable.

RECORD RESEARCH

Our research indicates that the area was initially graded "over a gentle slope" in the 1960s, and, as such, no geotechnical records were retrieved, save for a compliance statement by William T. Corum, R.C.E 6207 of Lawmaster & Co., dated June 26, 1964. The document states that the grading of Lots 1 thru [sic] 53 was done "in accordance with the requirements of the City of Los Angeles Building Code,..".

Other later references have been made to geotechnical testing by Lawmaster and Frankian & Associates during the "boom" times of Los Angeles hillside grading circa 1960s.

G. S. Kovacs stated in 1976 that their record research indicates that the upslope property at 18821 Edleen Drive was "underlain by well compacted fill. The high fill slope has remained stable since its placement in 1963/1964." However, some landsliding occurred here during the late 60s and late 70s.

Kenneth Pitcher, RCE of Frankian & Associates stated in 1975 that "grading was accomplished in 1963 .." at 18817 Edleen Drive and that "The fill was compacted under engineering supervision, as indicated in our report of August 11, 1964 (no such report was discovered during our research).

RESPONSE TO COMMENTS

Responses are presented in the same order the comments appear in the Correction Letter.

Response to Comment No. 1

A copy of MEC referenced reports are attached.

Response to Comment No. 2:

JTM was able to perform a research for the upslope properties which also includes some of the other nearby lots; copies of these reports are appended to this Addendum Letter No. 1.

Response to Comment No. 3:

JTM was able to recover most boreholes performed by previous consultants; however, JTM was unable to retrieve documents illustrating three additional boreholes on the upslope City property. Perhaps one or more earlier consultants may have misinterpreted the numeration of Boring #3 as to indicate three individual borings. JTM believes the referenced sentence may have been misstated.

Response to Comment No. 4:

JTM included the MEC/Eastman exploration on the updated Drawing A.

Response to Comment No. 5:

We have plotted the geologic data from the 2002 MEC/Eastman report which correlates to the 2001 MEC and Eastman reports. As mentioned in the previous correction letter, the MEC reports indicate approximately 21 feet of fill; however, the AES report documents 42 feet of fill in their Boring B-1, and our research indicates that previous consultants recall a maximum depth of fill on the order of about 40 feet,(see Frankian, #4275-P, 1975). The MEC/Eastman reports indicated slightly deeper fill in the proposed house area. Conservatively, we have revised the AES sections to illustrate deeper fill where documented by MEC/Eastman borehole data.

Response to Comment No. 6:

An itemized response to LADBS correction letter of 4/26/2002 Log #34094-01 is included in Appendix 2.

Response to Comment No. 7:

We have appended all retrieved documents relevant to the property at 4777 N. Brewster drive (appended herein).

Lots 1 through 53 were graded per Code 1963(?)-1964 and certified per the retrieved Engineer's Certification of Compliance by Lawmaster dated May 11, 1964 (see appended).

Other geotechnical consultants have stated (in the 70s) that this area was graded over a gentle slope, under engineering supervision, in the early 60s. it appears that detailed grading records and soils reports were not often required or documented during this time period.

At 4777 Brewster Drive, an Order To Comply (OTC) regarding a small 1-foot deep, 15 feet wide and 30 feet long slump was issued in April 1978. Non-response precipitated a letter from the City threatening legal action in August 1978. The landslide was apparently "fixed" when a house was graded on the lot, according to photocopied inspector's log, which stated "Job signed off" in April 1981.

The house was proposed to be enlarged in 1985. According to the "update" preliminary soils report by Baca Associates, the City had permitted the building of the retaining wall, building pad, and construction of a new residence in 1978. The report indicated that previous mudflows and slumps caused by intense storms had been repaired. An illegal retaining wall footing had also caused some sloughing problems.

It is unclear whether any new construction was done at the site subsequent to the 1985 Baca report. A correction letter was issued and Baca responded; however, we found no evidence of grading, compaction testing or approval letters.

The current "era" of geotechnical exploration, analysis and review was initiated with the June 2001 MEC/Ray Eastman reports (appended).

Regarding the demolition of upslope homes on Edleen Drive, no "massive" slope failures or damage to buildings resulting from landslides was discovered in our research.

During the 1960s and 1970s, deep canyon fills and thick fills associated with hillside grading were common. It was general practice to assume that these thick fills would not appreciably settle or consolidate as long as 90% compaction was achieved and proper grading techniques were followed.

However, many of these certified deep fill areas have shown subsidence over time. It is now generally acknowledged, by most geotechnical consultants, that even properly compacted/certified fill may experience secondary consolidation caused by its own relentless "self-weight". It is reasonable to expect vertical settlement, resulting from self-weight of deep fill soils, on the order of 1% of fill thickness. Therefore, a 40' thick section of fill could be expected to vertically settle about 5", with 2" - 3" of differential settlement, in addition to the primary settlement caused by building loads. It is reasonable to suggest that this settlement could have been mistaken as slope instability by some of the homeowners along Edleen and Brewster Drives.

All landslides documented in our research were 3 feet or less in thickness, most with volumes of less than 200 cubic yards. No evidence of significant landslides after 1985 was retrieved. A detailed area history follows:

LOTS IMMEDIATELY UPSLOPE FROM 4777 N. BREWSTER DRIVE:

18801 Edleen Drive

An Order To Comply (OTC) document was issued by The City in April 1978. The property owner was required to mitigate a small landslide 2.0' thick x 60' wide by 35' long, characterized a "mudflow". A Failure to Comply (FTC) letter was issued in August 1978. No later documents were retrieved exclusive to this property.

18807 Edleen Drive

An Order T Comply (OTC) document was issued by The City in August 1968. The property owner was ordered to mitigate a minor 3' deep landslide (dimensions illegible).

18813 Edleen Drive

In February 1969, a landslide 3' deep 30' wide x 40' long was documented. A document dated July 1978 appears to declare that the landslide had been "corrected".

18817 Edleen Drive

This property appears to have had the most problems historically. Some of the slope failures also affected adjacent lots.

In December 1963, an OTC was issued to remediate a 2' deep x 25' wide x 25' long landslide between terrace drains. A permit to repair this was issued in 1964. This was apparently a failure of the recently completed grading of this lot.

In December 1969, an OTC was issued for a 2' thick, 40' wide x 20' long slide characterized as a "surface slump" in compacted fill. A permit to repair this slide was apparently issued in May 1972. The slide was repaired as described in a report by Pacific Soils dated August 1978. This grading also included some areas of 18821 Edleen and 18825 Edleen.

A swimming pool was proposed in 1975. A report by Frankian & Assoc. stated that this lot had been graded under their engineering supervision per Code and that the lot had a maximum of 40' thick compacted fill. The firm predicted "negligible differential settlement" although some cracks had appeared in a terrace sidewalk.

In April 1978, an OTC was issued to require mitigation of a 3' thick x 80' wide x 30' long "slump", probably caused by the heavy winter rains. An August 1978 report by Pacific Soils documented and certified the slope repair.

18821 Edleen Drive

There was a small slope repair ordered in October 1972. The repair is documented in a Pacific Soils Report dated November 1972 which apparently included some areas of 18817 Edleen and 18825 Edleen, though documentation is scarce and often illegible. There is a City Approval letter for this repair dated November 1972.

In June 1978 another OTC was issued regarding a 3' deep, 30' wide x 20' long slide which apparently "enlarged" to 60' wide x 50' long. In October 1978 the City threatened legal action if the problem was not addressed. Later documents for this property were not discovered.

18825 Edleen Drive

In December 1969 the site was impacted by a large slide originating from 4890 La Montana Circle. The slide was 3' thick x 80' wide x 40' long in compacted fill. The cause of the slide was stated as "slope saturation".

In October 1972 three small slumps, which also impacted 11817 Edleen and 18825 Edleen, were repaired under the supervision of Pacific Soils Engineering. The City Approval Letter was issued in November 1972.

In March 1978 a slide was observed caused by "over saturation". The slide was apparently described as "slope repaired, job completed" by the Grading Inspector in December 1978.

LOTS UPSLOPE FROM 4777 BREWSTER DRIVE SOUTH OF EDLEEN DRIVE:

18812 Edleen Drive

In July 1978 an OTC was issued regarding a 3' deep, 50' wide x 40' long slide estimated to be 116 cu. yards in volume. The apparent cause of this slide was an "unsupported cut" due to possible illegal grading at the toe of the slope. This area apparently enlarged to also affect 18800, 18806 and 18808 Edleen. The slide was noted as being caused by "major erosion" and grew to 150' wide x 60' long.

18818 Edleen Drive

In June 1978 an OTC issued for a 2' deep x 10' wide x 10' long slump in fill. "Case closed" later in 1978.

18824 Edleen Drive

In February 1969, a "loose" 3' deep, 50' wide x 25' long minor slide was documented. In January 1970 an OTC was issued.

In July 1978 AN OTC was filed describing a 3' deep, 40 cu. yd. slump caused by saturated. An apparent inspection note described the "slope repaired, job completed". No compaction report was retrieved.

18830 Edleen Drive

In June 1978 a 3' thick small slide was observed. An OTC was issued.

Response to Comment No. 8:

A list of referenced documents follows. Please note that not all recovered documents were annotated; some sections were illegible. All recovered documents are appended herein.

4777 N. Brewster Drive

LADBS Grading, Geology and Soils Report Correction Letter, Log #66482, LADBS Grading, 2/25/09

Applied Earth Sciences (AES),Geotechnical Investigation, 4777 Brewster Drive, #07-485-02, 01/16/09

LADBS Grading, Geology and Soils Report Correction Letter, Log #34094-01, LADBS Grading, 4/26/02

MEC/Geotechnical Engineers, Inc. (MEC), Addendum No. 1 to Preliminary Geotechnical Engineering and Engineering Geology Investigation, #0ESM142, 3/26/02

LADBS Grading, Geology and Soils Report Correction Letter, Log #34094, LADBS Grading, 8/03/01

MEC/Geotechnical Engineers, Inc. (MEC), Preliminary Geotechnical Engineering and Engineering Geology Investigation, #0ESM142, 6/18/01

"The Geologic Outfit", Interim Engineering Geologic Investigation by Ray Eastman, #3206, 6/2/01

OTC, LADBS, 4/19/78

LADBS Grading Storm & Slope Failure Damage Report, 4/17/78

Engineer's Certification of Compliance, 4777 Brewster Drive, Lawmaster & Co., Inc., 5/11/64

Baca & Associates, Proposed Retaining Wall, #A-0177-C, 4777 Brewster Drive, 2/4/85

LADBS Grading, Correction Letter, Log #34094-01, LADBS Grading, 4/26/02

Baca & Associates, Proposed Retaining Wall, Response to Correction Letter, 4777 Brewster Drive, 5/10/85

Adjacent/Nearby Properties

3/26/78, Storm & Slope Failure Damage Report, LADBS Grading, 18800-18812 Edleen Drive.

5/22/78, Storm & Slope Failure Damage Report, LADBS Grading, 18801 Edleen Drive.
4/19/78, LADBS Grading, OTC, "slope failure", 18801 Edleen Drive.
?/?/69, Storm & Slope Failure Damage Report, LADBS Grading, 18801 Edleen Drive.

7/6/78, LADBS Grading, OTC, "slope failure", 18806 Edleen Drive.
6/20/78, Storm & Slope Failure Damage Report, LADBS Grading, 18806 Edleen Drive.

8/8/69, LADBS Grading, OTC, "major erosion damage", 18807 Edleen Drive.

6/20/78, Storm & Slope Failure Damage Report, LADBS Grading, 18812 Edleen Drive.

6/17/78, Order to Repair Letter, LADBS Grading, 18813 Edleen Drive.
4/17/78, Storm & Slope Failure Damage Report, LADBS Grading, 18813 Edleen Drive.
2/28/69, Storm & Slope Failure Damage Report, LADBS Grading, 18813 Edleen Drive.

8/2/78 PSE, Slope Repair, report #10385, 18817 Edleen Drive.
10/12/76 Kovacs-Byer and Assoc., (KVA), Addendum Soil Engineering Report #KB-2572-S,18817 Edleen Drive.
10/2/78 Pacific Soils Engineering (PSE) Slope Repair compaction report), #9778, 18817 Edleen Drive.
8/14/78 Grading Approval Letter, City of Los Angeles, 18817 Edleen Drive.
5/12/78, Storm & Slope Failure Damage Report, LADBS Grading, 18817 Edleen Drive.
4/17/78, LADBS Grading, OTC, "slope failure", 18817 Edleen Drive.
10/12/76 Kovacs-Byer and Assoc., (KVA), Swimming Pool and Deck Recommendations, 18817 Edleen Drive.
5/2/75 Conditional Approval Letter for Pool, 18817 Edleen Drive, LADBS Grading.
4/15/1975 R. T. Frankian & Associates, Proposed Swimming Pool, 18817 Edleen Drive.
10/21/74 Grading Permit, LADBS Grading, 18817 Edleen Drive.
10/10/71 Grading Approval Letter , City of Los Angeles, 18817 Edleen Drive.
12/10/69, Storm & Slope Failure Damage Report, LADBS Grading, 18817 Edleen Drive.

6/20/78, Storm & Slope Failure Damage Report, LADBS Grading, 18818 Edleen Drive.

10/17/78, Order to Repair Letter, LADBS Grading, 18821 Edleen Drive.
5/6/78, LADBS Grading, OTC, "slope failure", 18821 Edleen Drive.
12/10/69, Storm & Slope Failure Damage Report, LADBS Grading, 18821 Edleen Drive.

7/5/78, LADBS Grading, OTC, "slope failure", 18824 Edleen Drive.

?/8/69, LADBS Grading, OTC, "major erosion damage", 18824 Edleen Drive.
3/3/69, LADBS Grading, OTC, "major erosion damage", 18824 Edleen Drive.
2/28/69, Storm & Slope Failure Damage Report, LADBS Grading, 18824 Edleen Drive.

1/25/70 LADBS Letter of Violation, 18825 Edleen Drive.
12/10/69, Storm & Slope Failure Damage Report, LADBS Grading, 18825 Edleen Drive.

12/??/69, Storm & Slope Failure Damage Report, LADBS Grading, 4890 La Montana Circle.

Response to Comment No. 9:

As stated at the beginning of this Addendum Letter No. 1, JTM as the current geotechnical engineer of record, reviewed the reports listed above, and concurs with the findings included in them.

Response to Comment No. 10:

It is JTM's opinion, and to the best of their knowledge, that this Addendum Letter No. 1 contains necessary exploration data, calculations, and recommendations, for the subject property to be developed with permanent protection from geologic hazards and in conformance with the 2008 Building Code of the City of Los Angeles.

As shown in Appendix 3, slope stability analyses were performed for global failure to reflect the impact of adverse bedding in the Modelo Formation bedrock (Tm) on the proposed development. JTM selected the highest effective fluid pressure values that are required, by the 2008 Los Angeles Building Code (LABC), to meet a minimum of 1.5 and 1.1 factors of safety for static and pseudostatic conditions; respectively.

It is JTM's opinion, from a geotechnical standpoint, that the potential for the proposed development to be susceptible to slope failure-induced structural damage is considered low provided that two rows of cast-in-place reinforced concrete skin-friction piles are installed as shown on Drawing A in Appendix 1. The 24-inch minimum diameter and 8-foot maximum spacing piles should have a minimum embedment of 5 feet in competent bedrock, or as shown in Table III in Appendix 3; whichever is deeper, and the point of fixity is approximately 1½ times the pile diameter, but not less than 3 feet into competent bedrock. Details of the piles are presented below:

- Row 1 piles: Recommended to be installed along the proposed along the east side of the proposed driveway. The upper 30 feet of the pile, measured from highest adjacent finish grade, should be designed to resist a minimum equivalent fluid pressure of 250 pcf per lineal foot length of the slope. The 10-foot segment of the pile below that should be designed to resist a minimum equivalent fluid pressure of 100 pcf per lineal foot length of the slope.

- Row 2 Piles: Recommended to be installed along close proximity to the proposed west property line/retaining wall. The upper 25 feet of the pile, measured from highest adjacent finish grade, should be designed to resist a minimum equivalent fluid pressure of 160 pcf per lineal foot length of the slope. The 25-foot segment of the pile below that should be designed to resist a minimum equivalent fluid pressure of 35 pcf per lineal foot length of the slope.

The project structural engineer may design these piles, wherever applicable, to resist bearing loads as well as lateral loads. The piles should be designed to resist a minimum of 1000 pounds per lineal foot of pile for creep effect.

As mentioned in Appendix 2, it is recommended that a minimum 3-foot high freeboard, along with a V-ditch, be installed for the entire length of the proposed west side retaining wall. The freeboard should be designed as an impact wall that will withstand a lateral earth pressure of up to 125 pcf. Drainage will be southwardly into the existing concrete swale along the west property line.

LIMITATIONS

Unless specifically noted in this letter, relevant and applicable approved recommendations presented in the referenced reports remain applicable. These recommendations are subject to revisions depending on the exposed conditions in the site that should be observed by a California Certified Engineering Geologist.

The geotechnical consultant has prepared this letter in accordance with generally accepted engineering practices and makes no other warranties either expressed or implied as to the provided professional advice.

We appreciate the opportunity to be of continued service to this project. If you have any questions, please do not hesitate to call the undersigned.

Respectfully submitted,
JTM GEOTECHNICAL ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
NIDHAM H. AL-RAYES
No. 65487
Exp. 09/10
CIVIL
STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST
DREW HANEY
No. 2091
CERTIFIED ENGINEERING GEOLOGIST
09/11
STATE OF CALIFORNIA

Nidham Al-Rayes, PE
RCE No. C65487

Drew Haney
CEG 2091

ATTACHMENTS:

Appendix 1 – AGM-1; Area Geomap, SR-1; Approved Slope Repair Areas, WG-1; Proposed Wall Extension and Regrading, Drawing A; Revised Geologic Map and Site Plan, and Cross-Sections A-A', B-B' and C-C'.
Appendix 2 – Response to Comments of LADBS letter dated 04/26/2002; Log # 34094-01.
Appendix 3 – Slope Stability Analyses.
Appendix 4 – Copies of the referenced February 25, 2009, April 26, 2002, and August 3, 2001 LADBS Correction Letters

Distribution: (4)

REFERENCES

Applied Earth Sciences, 2009, Report of Geotechnical Investigation, Proposed Single Family Residence, Lot 68 of Tract No. 2605, 4777 Brewster Drive, Los Angeles (Tarzana), California. Project No. 07-485-02, dated January 16, 2009.

City of Los Angeles - Department of Building and Safety (LADBS), 2001, Tract 2605, Portion of Lots 66 and 68, 4777 Brewster Drive. Log # 34094, Dated August 3, 2001.

_____, 2002, Geology And Soils Report Approval Letter, Tract 2605, Portion of Lots 66 and 68, 4777 Brewster Drive. Log # 34094-01, Dated April 26, 2002.

_____, 2009, Geology And Soils Report Correction Letter, Tract 2605, Lot 68 (arb 2), 4777 Brewster Drive. Log # 66482, Dated February 25, 2009.

MEC Geotechnical Engineers, Inc., 2001, Preliminary Geotechnical Engineering and Engineering Geology Investigation for 4777 Brewster Drive, Tarzana. MEC File Number 0ESM142, dated June 18, 2001.

_____, Addendum No. 1 to Preliminary Geotechnical Engineering and Engineering Geology Investigation for 4777 Brewster Drive, Tarzana. MEC File Number 0ESM142, dated March 26, 2002.

GRIBIN, KAPADIA & ASSOCIATES
Real Estate Consultants & Valuation Advisors

22551 Ventura Boulevard, Suite 201, Woodland Hills, California 91364
Telephone (818) 225-0097 x 113 - Facsimile (818) 225-0098 - Email: David.Gribin@Gmail.com

PROFESSIONAL QUALIFICATIONS OF
DAVID GRIBIN, MAI, CPM

PROFESSIONAL EXPERIENCE

- Principal of **Gribin, Kapadia & Associates**, specializing in professional consulting, expert witness and appraisal services.
- President of **Gribin Properties**, specializing in professional real estate brokerage services, and Standard of Care expert witness services.
- President of **Gribin Companies**, specializing in Asset Management and Partnerships.
- Co-Founder of **Gribin Robco Management, Inc.** specializing in Property Management services.
- President, Institute of Real Estate Management, Greater Los Angeles Chapter, 1994.
- President, Southern California Chapter Appraisal Institute, 2005
- Active 32 years in Real Estate Management, Finance and Brokerage services.
- Active 23 years in Real Estate Appraisal services.
- Former President and Founder of **Oak Capital Corporation**, a major investment company that acquired and managed statewide 2,300 apartment units and 500,000 square feet of office buildings and shopping centers, value totaling $70,000,000 and raised capital of approximately $25,000,000.
- Family active in real estate since 1950 under the name of **Gribin von Dyl Realtors.**
- Expert witness in civil cases in Los Angeles, Orange and Ventura County Superior Court, Bankruptcy cases in Los Angeles County and Orange County Bankruptcy Court, and the Federal District Court in the Downtown District Court.
- **Approved Arbitrator Neutral for the American Arbitration Association (AAA).**
- Court approved Receiver for Los Angeles Superior Court.

AFFILIATIONS

- Appraisal Institute, Member #11095 **(MAI)**
- Institute of Real Estate Management, Member #11421
- National Association of Realtors/California Association of Realtors
- Southland Board of Realtors
- Los Angeles County Financial Planning Association
- California Teachers Association
- Past Member, State Government Relations Committee
- Director, Executive Committee - 1998 - 2004, SCCAI
- Member, Executive Committee - I.R.E.M. Scholarship
- Member, Executive Committee, Weingard Center
- Member, International Right of Way Association (IRWA)
- Education Coordinator, 1999-2000, SCCAI
- Chairman, Western Branch Chapter, 2001, SCCAI
- Secretary/Treasurer, Southern California Chapter Appraisal Institute, 2002/2003
- Vice President, Southern California Chapter Appraisal Institute, 2004
- President, Southern California Chapter Appraisal Institute, 2005
- American Arbitration Association - Commercial Panel, Los Angeles

TEACHING AND SPEAKING EXPERIENCE

- Real Estate Turnaround & Workouts
- Real Estate Appraisal
- Real Estate Property Management
- Real Estate Economics
- Operating Income & Expense Seminar
- Small Residential Income Property Seminar
- Financial Planning in Real Estate
- Fundamentals of Present Value using Texas Instruments and Hewlett Packard calculators
- Basic Real Estate Appraisal for Financial Planners
- Advanced Real Estate Appraisal for Financial Planners
- Program Coordination, Small Apartments - SCCAI
- Program Coordination, Operating Expenses - SCCAI
- Instructor/Speaker on the above topics at:
  - University of California, Los Angeles
  - University of Southern California
  - California State University, Northridge
  - Los Angeles Valley College, Van Nuys
  - National Chapter - Financial Planners
  - California Society of C.P.A.'s/San Fernando Valley CPA Discussion Group
  - Southern California Apartment Owners
  - KMPC Radio Station
  - Operating Income & Expense Seminar, Appraisal Institute, Moderator
  - Current & Future Trends, Small Residential Income Property, Appraisal Institute, Moderator
  - San Fernando Valley Chapter - CPA's
  - Cal State Northridge Real Estate Advisory Board

PUBLISHED ARTICLES

- Valley Industry Commerce Association Magazine - "Overview of the Real Estate Market"
- The Apartment Owners -"Outlook for Real Estate"
- Valley Magazine - "San Fernando Valley Real Estate"

BACKGROUND/LICENSES

- Bachelors of Science Degree, Business Administration - University of Southern California
- Masters of Business Administration (MBA) - University of Southern California
- State of California - State Certified General Real Estate Appraiser #AG004809
- State of California - Licensed Real Estate Broker # 00450024
- Institute of Real Estate Management - Certified Property Manager CPM - 11421

EDUCATION

- International Right of Way - Easement Valuation
- Certified Commercial Investment Member (CCIM) - Course 101
- Society of Real Estate Appraisers - "Preparation for Trial"
- American Arbitration Association - Commercial Panel, Los Angeles
- Arbitration Fundamentals and Best Practices for New AAA Arbitrators
- The Appraisal Institute:
  - Real Estate Appraisal Principles - Condemnation Appraising
  - Real Estate Appraisal Procedures - Condemnation Appraising
  - Capitalization Theory & Techniques, Part A
  - Capitalization Theory & Techniques, Part B
  - Uniform Standards of Professional Appraisal Practice, Parts A & B
  - Real Estate Appraisal Case Studies
  - Litigation and Detrimental Condition Seminars

PARTIAL LIST OF CONSULTING CLIENTELE:

- **Banks / Financial Institutions**
  - Wells Fargo Bank
  - First California Bank
  - Hanmi Bank
  - Rabobank
  - Montecito Bank & Trust
  - Downey Savings & Loan
  - East West Bank
  - First Bank
  - Far East Bank
  - California Oaks State Bank
  - Citizens Business Bank
  - First Private Bank & Trust
  - Bank of America
  - First Professional Bank
  - Farmers & Merchants Bank
  - First Commerce Bank
  - First Premier Bank
  - Cathay Bank
  - Construction Lending
  - Northern Trust Bank
  - County Commerce Bank
  - Wilshire State Bank

- **Attorneys / Law Firms**
  - Jeffer, Mangels,Butler & Mitchell LLP
  - Arter & Hadden
  - Martin & Stamp
  - Lewis, Brisbois, Bisgaard & Smith
  - Freeman, Freeman & Smiley
  - Trope & Trope
  - Knapp, Petersen & Clarke
  - Lewitt, Hoefflin, Shapiro & Marshall
  - Irell & Manella
  - Gibson, Dunn & Crutcher
  - Alschuler, Grossman, Stein & Kahan
  - Allen, Matkins, Leck, Gamble & Mallory
  - Buchalter, Nemer, Fields & Younger
  - Levine, Neale, Bender, Rankin & Brill
  - Wynn, Spiegel & Itkin
  - Wasserman, Comden, Casselman & Pearson
  - Manfredi, Levine, Eccles & Miller
  - Van Etten, Suzumoto & Becket

- **Other Clientele**
  - Pacifica Enterprises
  - City of Los Angeles
  - General Electric Credit Corporation
  - CRA of Los Angeles
  - Kaiser Permanente
  - L.A. Dept. Of Water & Power
  - City of Los Angeles
  - Metropolitan Transit Authority
  - Glendale Adventist
  - Los Angeles Unified School District
  - Volvo Finance North America
  - Safeway, Inc.
  - Cogent Valuation
  - Northrop Grumman Corporation

SCOPE OF APPRAISAL SERVICES

Office Building: Medical Office, Professional Office, Office/Service, Single-Tenant, Multi-Tenant, Office Parks.

Retail Properties: Specialty Malls, Strip Shopping Centers, Neighborhood Centers, Free-Standing Retail Buildings, Automotive Buildings.

Industrial Facilities: Multi-Tenant, Manufacturing Facilities, Single-Tenant, Mini-Bay Facilities, Industrial/Office, Research & Development Facilities, Industrial Parks.

Residential Buildings: Single-Family Residences, Condominiums, Apartment Buildings, High-Rise Apartment Complexes, Senior Housing Facilities, Mobile-Home Parks, Subsidized Housing Facilities, Hotels, Motels, Resort Lodging Facilities, Subdivision and Religious Facilities.

Land: Industrial, Commercial & Residential Land Parcels, Subdivision Land, Raw Farm Land.

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Professional Qualifications of Rodd H. Hitch

Professional Experience

1985 - Present — Independent appraiser qualified and experienced in all types of real property, including commercial, industrial, land, and residential.

1981 - 1985 — Vice President of Oak Capital Corporation which acquired and managed 1,800 apartment units and 200,000 square feet of retail/office space statewide.

Academic Background

Bachelor of Science Degree, Business Administration, California State University at Northridge.

Licenses & Designations

California Certified General Real Estate Appraiser #AG003107
California Real Estate Broker
California State Director for NAIFA (1992 - 1994)
President of the Los Angeles Chapter of NAIFA (1990 - 1991)

Courses Taken

Appraisal Institute

Standards of Professional Practice
Real Estate Appraisal Principles
Basic Valuation Procedures
Capitalization Theory and Techniques A & B
Case Studies in Real Estate Valuation

ORDINANCE NO. ________________

An Ordinance authorizing and providing for the sale of certain City-owned real property that is no longer required for the use by the City, without notice of sale or advertisement for bids, to MOUNTAINS RECREATION AND CONSERVATION AUTHORITY ("MRCA") for the sum of FIVE HUNDRED THOUSAND AND 00/100 DOLLARS ($500,000.00).

**THE PEOPLE OF THE CITY OF LOS ANGELES
DO ORDAIN AS FOLLOWS:**

Section 1. The Council of the City of Los Angeles hereby finds and determines that public interest requires a sale, without notice of sale or advertisement for bids, to MRCA of that certain real property owned by the City of Los Angeles and located at the address and/or location set forth hereinafter, which real property is no longer required for the use by the City, and that competitive bidding for the sale for such real property would not be possible or practicable. It is hereby ordered that such real property be sold, pursuant to certain conditions hereinafter set forth and without notice of sale or advertisement for bids, to MRCA for the sum of FIVE HUNDRED THOUSAND AND 00/100 DOLLARS ($500,000.00) in accordance with the provisions of Section 385 of the City Charter and Division 7, Chapter 1, Article 4 of the Los Angeles Administrative Code.

Location:	**18825 W. Edleen Drive Tarzana, CA 91356**
APN:	**2176-026-904**
Legal Description:	**See Exhibit "A"**

EXCEPTING AND RESERVING unto the City of Los Angeles all oil, gas, water, and mineral rights now vested in the City of Los Angeles without, however, the right to use the surface of said land or any portion thereof to a depth of 500 feet below the surface, for the extraction of such oil, gas, water and minerals.

SUBJECT TO covenants, conditions, restrictions, reservations, easements, encroachments, rights, and rights-of-way of record or which are apparent from a visual inspection of the real properties and excepting and reserving to the City of Los Angeles any interest in the fee to the adjacent streets which would otherwise pass with the conveyance of the above described parcels of land.

ALSO SUBJECT to sale in "As Is and with all faults" condition, the purchaser purchasing the City owned property, by such act, expressly agreeing to purchase the property in an "As Is and with all faults" condition and without any warranty as to fitness for use, fitness for a particular use or development, or condition of the property, and that the City has no obligation to improve or correct any condition of the property, whether known or unknown before or after the date of the sale, including, without limitations, the condition of the property as its potential use or future development.

Sec. 2. The Mayor of the City of Los Angeles, in the name of and on behalf of said City, is hereby authorized and directed to execute a Grant Deed to the said real property described in Section 1 of this Ordinance to MRCA; the City Clerk of said City is hereby authorized and directed to attest thereto and to affix the City Seal.

Sec. 3. The Department of General Services, Real Estate Services Division, is authorized to open escrow, deliver deeds, and process and execute all necessary documents to effectuate this sale, and the Chief Accounting Employee of the Department of General Services is authorized to deposit the proceeds, over and above the expenses, ½ (one-half) into Council District 3 Real Property Trust Fund 685 and ½ (one-half) into General Fund No. 100, Department No. 40, Revenue Source No. 5141. The purchaser shall pay all escrow fees and pay all incidental costs associated with this property purchase transaction including, but not limited to, recording fees, documentary transfer fees, title insurance fees, escrow fees, personal property taxes where applicable, and any other real estate transaction taxes. Purchaser, at its own expense, may obtain any desired survey of the property.

EXHIBIT A

LOT 33 OF TRACT NO. 26541, IN THE CITY OF LOS ANGELES, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 722, PAGES 45 TO 49 INCLUSIVE OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

EXCEPT THEREFROM ONE-HALF OF ALL OIL, GAS, MINERAL AND HYDROCARBON SUBSTANCES IN AND UNDER THAT PORTION OF LOT 1 NOT WITHIN THE LINES OF LOT 72 OF TRACT NO. 2605, BELOW A DEPTH OF 500 FEET, WITH NO RIGHT TO SURFACE ENTRY THEREON, TOGETHER WITH ONE-HALF OF ALL RIGHTS ISSUES AND PROFITS THEREFROM, AS RESERVED BY WALLACE INVESTMENT INC., A DELAWARE CORPORATION IN DEED RECORDED MAY 24, 1963 IN BOOK D-2041 PAGE 88 OF OFFICIAL RECORDS.

Sec. 4. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles: one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

Approved as to Form and Legality

MICHAEL N. FEUER, City Attorney

By ______________________________
EDWARD YOUNG
Deputy City Attorney

Date 12-20-2018

File No. CF No. 16-1318-S1

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I hereby certify that the foregoing ordinance was passed by the Council of the City of Los Angeles.

CITY CLERK

____

Ordinance Passed____________

MAYOR

____

Approved ________________

CRIMINAL BRANCH
(213) 485-5452

CIVIL BRANCH
(213) 485-6370

WRITER'S DIRECT DIAL
NUMBER (213) 485-5414
FAX: (213) 485-8899

Office of the City Attorney
Los Angeles, California

JAMES K. HAHN
CITY ATTORNEY

12/6/94
Appr by Council
12-0

REPORT NO. R94-0393
11/21/94

REPORT RE:

RECOMMENDATION OF SETTLEMENT OF THE CASE OF RON MORHAR, et al. v. CITY OF LOS ANGELES, et al., SUPERIOR COURT CASE NO. BC 101002

The Honorable City Council
City of Los Angeles
Room 395, City Hall
200 North Spring Street
Los Angeles, California 90012

Approved by Finance Com
11/22/94

(Confidential Communication)

(Recommendation For Closed Session Pursuant To Government Code Section 54956.9(a))

Honorable Members:

This report recommends a proposed settlement of a major landslide litigation involving the destruction and vacation of five upslope properties in the Tarzana area of the City of Los Angeles.

These destroyed properties and their addresses and owners are as follows:

18801 Edleen (Morhar) 2127 - 26-11
18813 Edleen (Paul) 26-9
18817 Edleen (Ram) 26-8
18821 Edleen (Dew) 26-7
18825 Edleen (Shadi) 26-6

The landslide was alleged to be the result of a cut made for the initial installation and subsequent widening of Brewster Street which is a dedicated, accepted and improved city street located directly below and subjacent to the five affected properties.

Based on the case of Blau v. City of Los Angeles (1973) 32 Cal.App.3d 77, a court of appeal decision which the City lost on appeal after prevailing in the trial court, if this cut was a substantial cause of the landslide which damaged and/or destroyed the upslope properties, the City is liable in inverse condemnation.

The property owners' appraiser, Lawrence Brown, ASA, has valued the five (5) destroyed properties as follows:

18801 Edleen (Morhar)	$510,000
18813 Edleen (Paul)	$575,000
18817 Edleen (Ram)	$615,000
18821 Edleen (Dew)	$475,000
18825 Edleen (Shadi)	$505,000
TOTAL	$2,680,000

In addition, plaintiffs seek interest on this sum, attorneys and expert fees, and costs, and emotional distress damages which increase the plaintiffs' demands to the following amounts (Note: under inverse condemnation law, if they prevail, these are recoverable items of damage):

18801 Edleen (Morhar)	$978,038
18813 Edleen (Paul)	$974,043
18817 Edleen (Ram)	$1,033,107
18821 Edleen (Dew)	$926,384
18825 Edleen (Shadi)	$970,681
TOTAL	$4,882,253

The City's appraiser, Robert Brabant, MAI, has valued the five (5) destroyed properties as follows:

18801 Edleen (Morhar)	$400,000
18813 Edleen (Paul)	$465,000
18817 Edleen (Ram)	$500,000
18821 Edleen (Dew)	$365,000
18825 Edleen (Shadi)	$400,000
TOTAL	$2,130,000

To this sum of $2,130,000 must be added interest, attorneys and expert fees, and costs, and emotional distress damages, if any, which will increase the City's valuation sum to in excess of $3,200,000. The plaintiffs may also be entitled to relocation assistance since they were required to vacate their destroyed properties. The properties have no market value in their current condition. The improvements probably will have to be removed from the lots because it is uneconomical to try to save them.

After much negotiation, the five (5) property owners and their attorneys have offered to settle the case with the City for a total of $3,500,000. This will result in the City acquiring the five (5) properties in fee simple absolute, free and clear of all encumbrances and liens, through escrows at Chicago Title Insurance Company. The $3,500,000 is an all inclusive settlement including interest, attorneys and expert fees, and costs, emotional distress damages and any relocation assistance to which the property owners are entitled.

It is doubtful a better overall result could be achieved if the City litigated the matter and proceeded to trial. In addition, we could end up paying a greater money judgment after trial, and not acquiring title to the properties.

IT IS THEREFORE RECOMMENDED as follows:

1. That your Honorable Body approve the settlement as recommended, and authorize the City Attorney to take the necessary steps, and draw and execute the necessary documents, to implement the settlement.

2. That your Honorable Body appropriate the sum of $3,500,000 to the City Attorneys Liability Claims Account No. 977, and authorize and instruct the City Controller to immediately draw a demand thereon in said sum payable to Chicago Title Insurance Company and that said demand be transmitted to the City Attorney without further request so that the settlement can be made and satisfied, and escrows funded to acquire the properties.

Very truly yours,

JAMES K. HAHN, City Attorney

By

LESLIE R. PINCHUK
Deputy City Attorney

LRP:pe
(213) 485-5414

ATTACHMENT B

MOTION

The City of Los Angeles owns a vacant lot located in Council District 3 at 18825 Edleen Drive, Tarzana (Assessor's Parcel Number: 2176-026-904). This 19,406 square foot parcel has been vacant since the mid-1990s and is located in a residential neighborhood in Tarzana. The City does not currently use this parcel.

In 2016, a Motion (Blumenfield – Englander) was introduced seeking to declare this parcel and five adjacent parcels surplus and to sell the properties at a public auction. Section 54222 of the California Government Code requires that a local agency disposing of surplus property offer the property to appropriate governmental agencies for park and recreation purposes, open space, or for low-income housing purposes. The Santa Monica Mountains Conservancy (SMMC) expressed a desire to purchase the subject parcel and requested that the City sell the parcel to the Mountains Recreation and Conservation Authority (MRCA) through a direct sale process. The other five parcels were declared surplus and sold at a public auction in the fall of 2017.

To proceed, the subject property should be declared surplus and the City Administrative Officer (CAO), with the assistance of the Department of General Services (GSD) and the City Attorney, should evaluate the feasibility of a direct sale. A Class "A" appraisal was previously completed before the parcels were sold at a public auction.

I THEREFORE MOVE that the City Council direct the Department of General Services to take the following actions:

1. Declare the City-owned parcel located at 18825 Edleen Drive, Tarzana, CA, 91356 (APN: 2176-026-904) as a surplus asset; and

2. Initiate the direct sale of this parcel to the Mountains Recreation and Conservation Authority (MRCA); and

3. Instruct the City Administrative Officer to evaluate the direct sale of this parcel and report the findings to the City Council; and

4. Direct GSD, with the assistance of the City Attorney, to take all necessary steps and prepare all required documents to effectuate the potential direct sale of the parcel.

PRESENTED BY: Bob Blumenfield
BOB BLUMENFIELD
Councilmember, 3rd District

SECONDED BY: Monica Rodriguez

ORIGINAL

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