

APPROVED

MAY 21 2020

BOARD OF RECREATION AND PARK COMMISSIONERS

BOARD REPORT

NO. 20-084

DATE May 21, 2020

C.D. 2

BOARD OF RECREATION AND PARK COMMISSIONERS

SUBJECT: NORTH HOLLYWOOD RECREATION CENTER SPORTS COURT LIGHTING (W.O. #E170507) PROJECT (AKA PROP K SPORTS LIGHTING IMPROVEMENT: NORTH HOLLYWOOD RECREATION CENTER) – APPROVAL OF FINAL PLANS; CATEGORICAL EXEMPTION FROM THE PROVISIONS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) PURSUANT TO ARTICLE III, SECTION 1, CLASS 1(1) [MINOR EXTERIOR ALTERATION OF EXISTING PUBLIC STRUCTURES INVOLVING NEGLIGIBLE OR NO EXPANSION OF USE], CLASS 1(4) [REHABILITATION OF DETERIORATED STRUCTURES TO MEET CURRENT STANDARDS OF PUBLIC SAFETY] AND CLASS 1(12) [OUTDOOR LIGHTING FOR SECURITY AND OPERATION] OF CITY CEQA GUIDELINES AND ARTICLE 19, SECTION 15301(d) OF CALIFORNIA CEQA GUIDELINES.

AP Diaz	_____	S. Pifia-Cortez	_____
H. Fujita	_____	<i>fc</i> C. Santo Domingo	<i>DF</i> _____
V. Israel	_____	N. Williams	_____

General Manager

Approved X Disapproved _____ Withdrawn _____

RECOMMENDATIONS

1. Approve the final plans, substantially in the form on file in the Board of Recreation and Park Commissioners (Board) Office and as attached to this Report, for the proposed North Hollywood Recreation Center Sports Court Lighting (W.O. #E170507) Project (AKA Prop K Sports Lighting Improvement: North Hollywood Recreation Center) (Project);
2. Determine that the proposed Project is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Article III, Section 1, Class 1(1) [Exterior alteration of existing public structures with no or negligible expansion of use], Class 1(4) [Rehabilitation of deteriorated equipment to meet current standards of public safety] and Class 1(12) [Outdoor lighting for security and operation] of City CEQA Guidelines and Article 19, Section 15301(d) of California CEQA Guidelines, and direct Department of Recreation and Parks (RAP) staff to file a Notice of Exemption (NOE) with the City and Los Angeles County Clerk's Office;
3. Authorize RAP's Chief Accounting Employee or designee to prepare a check to the Los Angeles County Clerk, in the amount of \$75.00 for the purpose of filing the NOE; and,

BOARD REPORT

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4. Authorize RAP's Chief Accounting Employee or designee to make technical corrections as necessary to carry out the intent of this Report.

SUMMARY

North Hollywood Recreation Center is located at 11430 Chandler Blvd., North Hollywood, California 91601 in Council District 2. This property includes a picnic area, tennis and basketball courts, swimming pool, children's play area, outdoor fitness equipment, handball courts, ball diamonds, and a gymnasium. Approximately 3,500 City residents live within a one-half mile walking distance of the recreation center.

The proposed Project is a Proposition K – L.A. for Kids Program Competitive Grant (9th Cycle) (Prop K) funded project. The scope of work consists of replacing existing lighting at five (5) tennis courts and one and one-half (1 ½) basketball courts with new Light Emitting Diode (LED) light fixtures and replacing two (2) existing light poles and foundations with new light poles, foundations and LED light fixtures at the tennis courts. This will provide improved quality of lighting, with reduced spillover of light onto adjacent properties and/or other areas of the recreation center. The new LED light fixtures will also reduce operational costs, by reducing energy consumption relative to current electrical usage. After review by RAP and Bureau of Engineering (BOE) staff, it was determined that the work can be completed by RAP pre-qualified contractors and BOE will provide construction management services.

A geotechnical investigation was conducted to determine the feasibility of this proposed Project, and the findings are documented in Attachment No. 2. As stated in the geotechnical report, it was determined that the proposed Project is feasible from a geotechnical standpoint.

BOE prepared the plans and specifications, and obtained all the necessary approvals for the proposed Project. As required by Prop K, three (3) Local Volunteer Neighborhood Oversight Committee (LVNOC) meetings were conducted. The first LVNOC meeting was on April 24, 2019. The second and third LVNOC meetings were both conducted on the same date of September 5, 2019. The community, the LVNOC and Office of Council District 2 are in full support of the proposed Project.

Funding for the proposed Project is available from the following funds and accounts:

<u>FUNDING SOURCE</u>	<u>FUND/DEPT./ACCT. NO.</u>
Proposition K	43K/10/10PPBB
Proposition K	43K/10/10RPAB

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TREES AND SHADE

Since this proposed Project focuses on improving lighting for evening recreation activities, no trees will be removed and any existing trees near the proposed location(s) of new light standards will be protected during construction. Additional trees and shade structures are not part of the proposed scope of work.

ENVIRONMENTAL IMPACT

The proposed Project consists of exterior alteration of existing public structures with no or negligible expansion of use, rehabilitation of deteriorated equipment to meet current standards of public safety and outdoor lighting for security and operation. As such, RAP staff recommends that the Board determines that it is exempt from the provisions of CEQA pursuant to Article III, Section 1, Class 1(1), Class 1(4) and Class 1(12) of City CEQA Guidelines and Article 19, Section 15301(d) of California CEQA Guidelines. An NOE will be filed with the Los Angeles County Clerk Office upon approval by the Board.

FISCAL IMPACT

There is no immediate fiscal impact to the RAP's General Fund. The proposed Project should reduce long term maintenance and operational costs, as it will replace existing, higher energy use sports court lighting systems with new, energy efficient LED lighting systems.

STRATEGIC PLAN INITIATIVES AND GOALS

Approval of this Board Report advances RAP's Strategic Plan by supporting:

Goal No. 5: Ensure an environmentally sustainable park system
Outcome No. 1: Decreased energy consumption and achieve a smaller carbon footprint
Result: The installation of the proposed LED lighting systems will decrease energy consumption resulting in a more sustainable park system.

This Report was prepared by Erick Chang, Project Manager, and reviewed by Neil Drucker, Assistant Division Head/ Proposition K Program Manager; Steven Fierce, Principal Architect, Architectural Division, BOE; and Darryl Ford, Superintendent, Planning, Maintenance and Construction Branch.

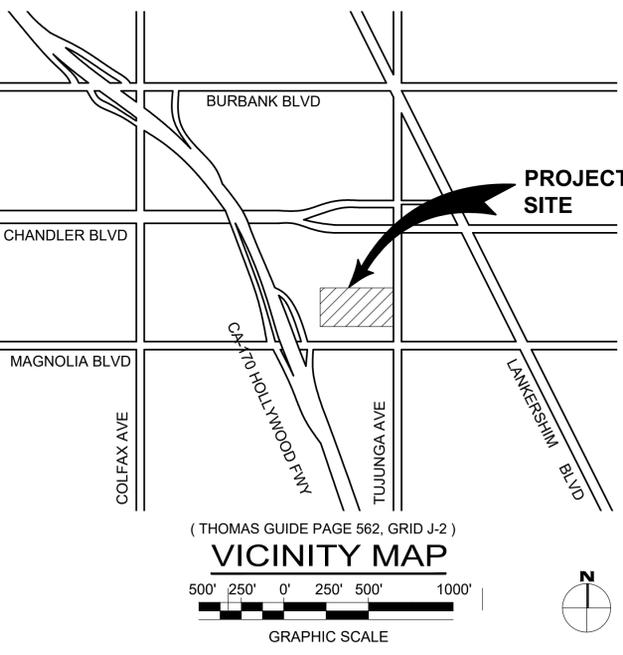
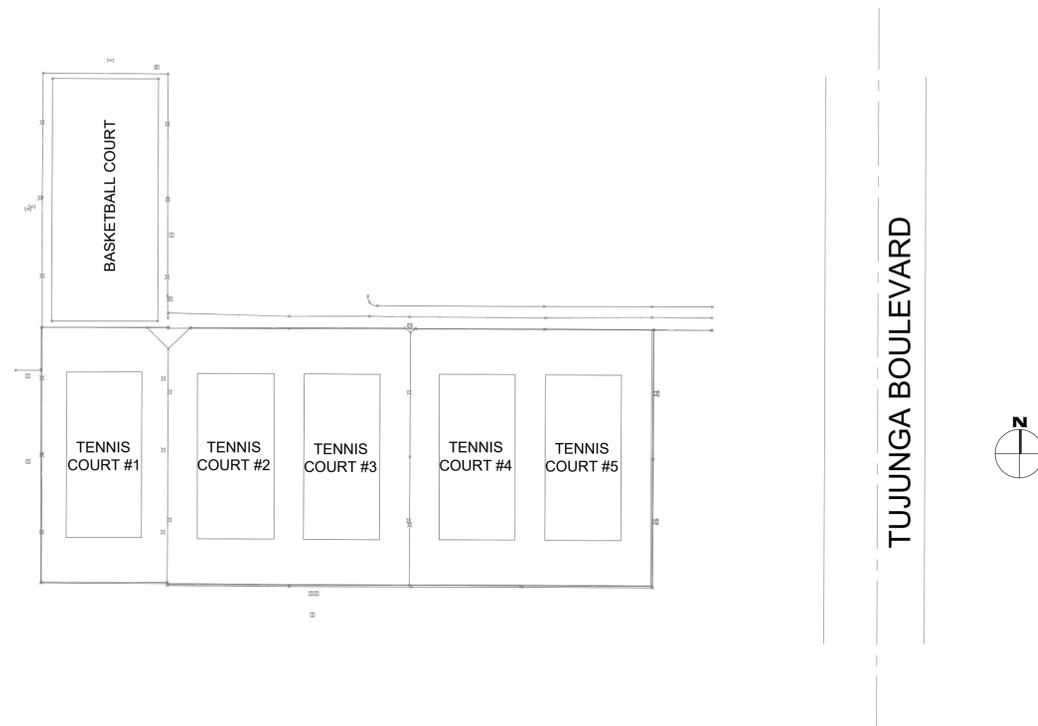
LIST OF ATTACHMENT(S)

- 1) Final Plans for North Hollywood Recreation Center Sports Court Lighting Project (aka Prop K Sports Lighting Improvements: North Hollywood Recreation Center)
- 2) Geotechnical Report for North Hollywood Recreation Center Sports Court Lighting Project.

Attachment 1

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

**PROP K SPORTS
LIGHTING IMPROVEMENT:
NORTH HOLLYWOOD RECREATION CENTER**



DEPARTMENT OF RECREATION AND PARKS

MICHAEL SHULL
GENERAL MANAGER
221 N. FIGUEROA STREET, 4TH FLOOR
LOS ANGELES, CA 90012

PROJECT MANAGEMENT

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BUREAU OF ENGINEERING
ARCHITECTURAL DIVISION**
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INTERIM DIVISION HEAD
ERICK CHANG
PROJECT MANAGER
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LOS ANGELES, CA 90015
(213) 847- 4771
(213) 485- 4836 (FAX)
ERICK.CHANG@LACITY.ORG

PROJECT TEAM

SURVEY: **DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
SURVEY DIVISION**
ROBERT NIELSON
CHIEF SURVEYOR

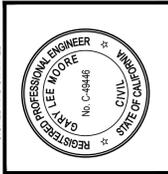
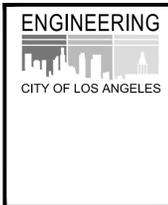
GEOTECHNICAL: **DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING
GROUP**
PATRICK J. SCHMIDT
GROUP MANAGER
1149 SOUTH BROADWAY, SUITE 120
LOS ANGELES, CA 90015

**ELECTRICAL AND
STRUCTURAL
DESIGN:** **PSOMAS**
ARIEF NAFTALI, PE, TE
DOUGLAS FREDERICKS, PE
PROJECT MANAGERS
555 SOUTH FLOWER STREET, SUITE 4300
LOS ANGELES, CA 90071

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**DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
CONSTRUCTION MANAGEMENT
DIVISION**
JOSE FUENTES
GROUP MANAGER
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PLANS PREPARED BY:
PSOMAS
555 South Flower Street, Suite 4300
Los Angeles, CA 90071
(213) 223-1400 Fax (213) 223-1444



BUREAU OF ENGINEERING
BUREAU OF ENGINEERING
BM # 11-04189 AND 11-03448 NAVD88 2000 ADJ
HORIZONTAL CONTROL: U.S.G.S. DATUM EFFECTIVE JULY 1, 1925

SHEET TITLE:
TITLE SHEET

PROJECT: **PROP K SPORTS LIGHTING IMPROVEMENT:
NORTH HOLLYWOOD RECREATION CENTER**

ADDRESS:
5301 TUJUNGA BOULEVARD,
NORTH HOLLYWOOD, CA 90601

NO.	REVISIONS:	DATE:	BY:

INDEX NO. **MF300478**

CITY OF LOS ANGELES
GARY LEE MOORE, P.E., ENV. SP.
CITY ENGINEER

01/22/2020
DATE
01/22/2020
DATE

DEPUTY CITY ENGINEER/PROGRAM MANAGER
Gary Lee Moore
CITY ENGINEER

WORK ORDER NO.
E170507D

SHEET NO.
TTL-1

SHEET 1 OF 6 SHEETS

THE CITY OF LOS ANGELES OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Bureau of Engineering
GEOTECHNICAL ENGINEERING DIVISION

December 28, 2017

NORTH HOLLYWOOD RECREATION CENTER SPORTS LIGHTING PROJECT
11430 CHANDLER BOULEVARD, LOS ANGELES, CA 91601
W.O. E170507D **GED FILE NO. 17-168**

1.0 INTRODUCTION

The Los Angeles Department of Public Works, Bureau of Engineering, Geotechnical Engineering Division (GED) has prepared this report to provide design and construction recommendations for the project. The project site, as shown on Figure 1 – Vicinity Map, is located near the Chandler Boulevard and Tujunga Avenue intersection in the North Hollywood area of Los Angeles.

2.0 PROJECT DESCRIPTION

The project site, including the existing light pole locations, is presented on Figure 2 – Site Location Map. The project consists of replacing the existing lighting at five (5) tennis courts and one (1) basketball court with light-emitting diode (LED) light poles as shown on Figure 2. We understand the proposed LED light poles for both the tennis and basketball courts, including the fixtures may be up to approximately 70 feet high.

3.0 GEOTECHNICAL INVESTIGATION

Our geotechnical investigation consisted of field exploration and laboratory testing. The field exploration and laboratory testing was completed by Geotechnical Professionals, Inc. (GPI). A copy of GPI's data report is included in Appendix A of this report. The findings and recommendations in this report are based on the information presented in GPI's report. The GED has reviewed their report, concurs with the information contained in it, and accepts responsibility for the use of its contents.

3.1 SUBSURFACE CONDITIONS

GPI drilled four hollow-stem auger (HSA) borings, each to a depth of approximately 21½ feet below ground surface (bgs). The HSA boring locations are presented on the Site Plan, Figure 2, in GPI's data report (Appendix A).

Approximately 2½ feet of uncertified fill was encountered in all four HSA borings. The fill mostly consists of sandy silt. The native soil mostly consists of sandy silt to silty sand to the maximum explored depth. Based on the field Standard Penetration Test blowcounts, the native soil is generally loose to medium dense. Very soft to soft sandy silt was encountered in Boring NH-3 between approximately 2½ and 6 feet bgs.

Groundwater was not encountered to the maximum explored depth of approximately 21½ feet bgs. Groundwater levels are expected to fluctuate with seasonal rainfalls, dry weather (i.e. drought conditions), and pumping activities in the vicinity of the site. Nevertheless, groundwater is not expected to affect construction of the proposed light pole foundations.

3.2 LABORATORY TEST RESULTS

The laboratory testing program consisted of in-situ moisture content and dry density, fines content (percent passing the No. 200 sieve), and direct shear. The dry density and moisture content of the native soil ranges from approximately 86 to 105 pounds per cubic foot (pcf) and 2.3 to 15.3 percent, respectively. The total unit weight of the native soil ranges from about 89 to 120 pcf with an average value of about 105 pcf. The fines content of the native soil was found to range from approximately 33 to 52 percent.

Four direct shear tests were performed on relatively undisturbed samples of the native soil; one from each of the HSA borings. The sample depths ranged from approximately 2½ to 12½ feet bgs. The test results indicate the ultimate friction angle and cohesion value ranges from 26 to 30 degrees and 84 to 204 pounds per square foot (psf), respectively.

4.0 RECOMMENDATIONS

Based on the results of the geotechnical investigation, the proposed project is considered feasible from a geotechnical standpoint provided the recommendations presented in this report are incorporated into the design and construction. If changes in the design are made, or if changed conditions are encountered during construction, GED shall be notified. Supplemental recommendations may be required.

4.1 SITE PREPARATION

Site preparation may initially involve the demolition of the existing lighting fixtures, including their foundations. Following demolition, the construction area should be cleared of any vegetation and stripped of miscellaneous debris and other deleterious material. Organic matter and other material that may interfere with construction should be removed.

4.2 NEW LIGHT POLE FOUNDATIONS

We recommend new light poles be supported on cast-in-drilled-hole (CIDH) piles. Piles shall be spaced a minimum distance of 3 pile diameters on center, and the minimum diameter shall be 30 inches.

4.2.1 2017 LABC Seismic Design Parameters

Seismic design parameters for the project are provided in accordance with the 2017 Los Angeles Building Code (LABC). Latitude 34.16804°N and Longitude 118.38001°W coordinates were used for the site location.

Seismic Design Parameters

Parameter	Value	Reference
Site Class	D	ASCE 7-10 Table 20.3-1
S_s	2.072	ASCE 7-10 Figure 22-1
S_1	0.685	ASCE 7-10 Figure 22-2
S_{MS}	2.072	ASCE 7-10 Equation 11.4-1
S_{M1}	1.028	ASCE 7-10 Equation 11.4-2
S_{DS}	1.381	ASCE 7-10 Equation 11.4-3
S_{D1}	0.685	ASCE 7-10 Equation 11.4-4
T_O (seconds)	0.099	ASCE 7-10 Figure 11.4-1
T_S (seconds)	0.496	ASCE 7-10 Figure 11.4-1

4.2.2 Axial Capacity in Compression

The minimum pile embedment depth shall be 10 feet below the lowest adjacent grade. The actual depths may be deeper and will likely depend on the lateral load analysis, which shall be performed by the structural engineer. Axial compression capacities (i.e. loads) are presented on Figure 3 for a 30-inch, 36-inch, and 42-inch diameter CIDH piles. The axial compression capacities presented in Figure 3 assume the piles develop their capacity solely from skin friction or side resistance. The total settlement is not expected to exceed ½-inch provided the piles are properly constructed (see Section 4.2.5).

4.2.3 Axial Capacity in Tension

The allowable axial tensile capacity may be assumed to be ½ the axial capacity in compression for the 30-inch, 36-inch, and 42-inch diameter CIDH piles (Figure 3). The weight of the concrete shaft may be added to the tensile capacity.

4.2.4 Lateral Load Behavior

The lateral load behavior of the CIDH piles was evaluated using the LPILE (Ensoft, 2016) software program. The lateral load behavior was evaluated for a free head deflection of ½-inch. Also, we assumed a perfectly elastic pile and a cracked section. The modulus of elasticity for the cracked section was estimated to be 1802500 pounds per square inch.

The main inputs in the LPILE software for each soil layer are the unit weight and shear strength. The existing fill material to a depth of 2½ feet bgs was assumed to behave as “sand” with a total unit weight of 98 pounds per cubic foot (pcf), an effective friction angle of 20 degrees, and no cohesion. A request for modification of building ordinances for deriving lateral support from the existing uncertified fill will be submitted concurrently with this report. The native silty sand / sandy silt soil was assumed to behave as “sand” with a total unit weight of 105 pcf, an effective friction angle of 30 degrees, and no cohesion. The results of the LPILE analyses are presented in Appendix B.

4.2.5 CIDH Pile Construction

We expect the CIDH piles can be drilled using conventional equipment. Caving conditions are anticipated in the loose sandy soil. If caving occurs during the pile drilling, steel casing is required to support the sides of the pile excavations. If steel casing is installed, the inside diameter of the casing shall be at least as large as the diameter of the piles. Drilling shall be completed within the casing.

The contractor shall remove loose soil (i.e. slough) from the bottom of the pile excavation. The drilled holes shall be plumb to within a tolerance of 2 percent. Upon completion of drilling, secure covers shall be placed over the excavations. Concrete placement shall be completed within 12 hours of drilling and drilled holes shall not be left open overnight. CIDH pile excavations shall be observed and approved by the GED during drilling and prior to installation of steel reinforcement.

Depending on the final depths and construction methods, concrete placement by the pump and tremie method may be required. Concrete shall not be allowed to free fall more than 6 feet. Concrete placement shall be performed in a manner such that it does not hit the side of the drilled hole and so that the alignment of the steel reinforcement is not affected. The web of the steel reinforcement may be used as a vertical chute for placement of concrete provided the concrete does not impact its alignment.

If temporary casing is utilized, it shall be raised slowly during concrete placement as the drilled hole is filled with concrete. The bottom of the casing shall remain a minimum of 3 feet below the level of concrete during the pour.

5.0 CLOSURE

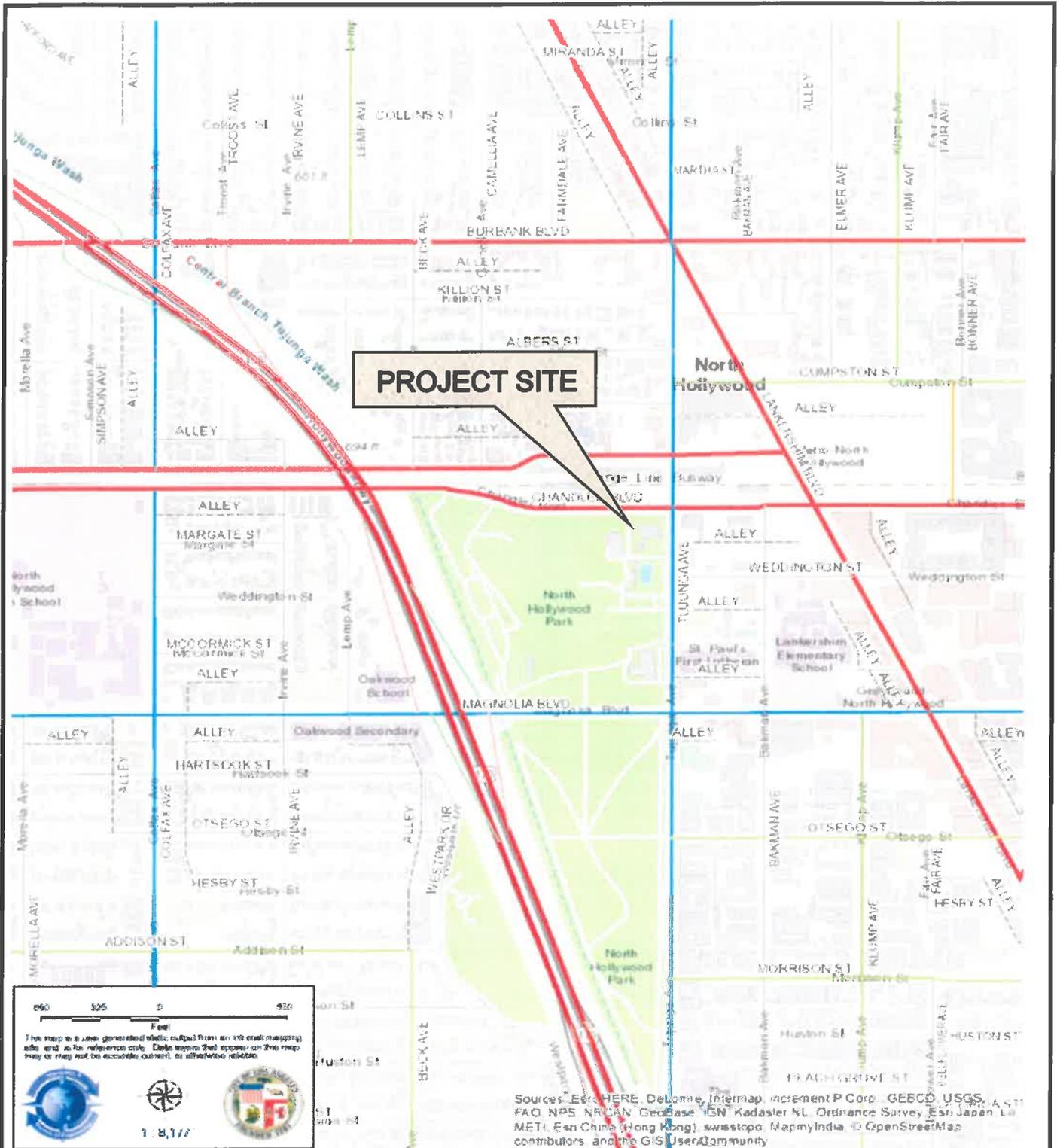
If you have any questions about this report, please contact Easton Forcier at (213) 847-0476.



Easton Fo 12-28-17
Easton Forcier, GE 2948
Geotechnical Engineer II

- Figure 1 – Vicinity Map
- Figure 2 – Site Location Map
- Figure 3 – Allowable Downward Capacity of CIDH Pile vs. Depth
- Appendix A – Data Report by Geotechnical Professionals, Inc.
- Appendix B – LPILE Results

Figures



VICINITY MAP

**North Hollywood Recreation Center
Sports Lighting Project**
11430 Chandler Boulevard
Los Angeles, CA 91601

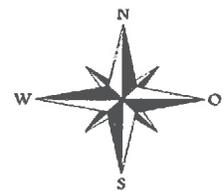
**BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING DIVISION (GED)**
GED FILE NO.: 17-168
DATE: DECEMBER 2017

**Figure
No. 1**



LEGEND:

- Existing light pole location ~ 60-feet high



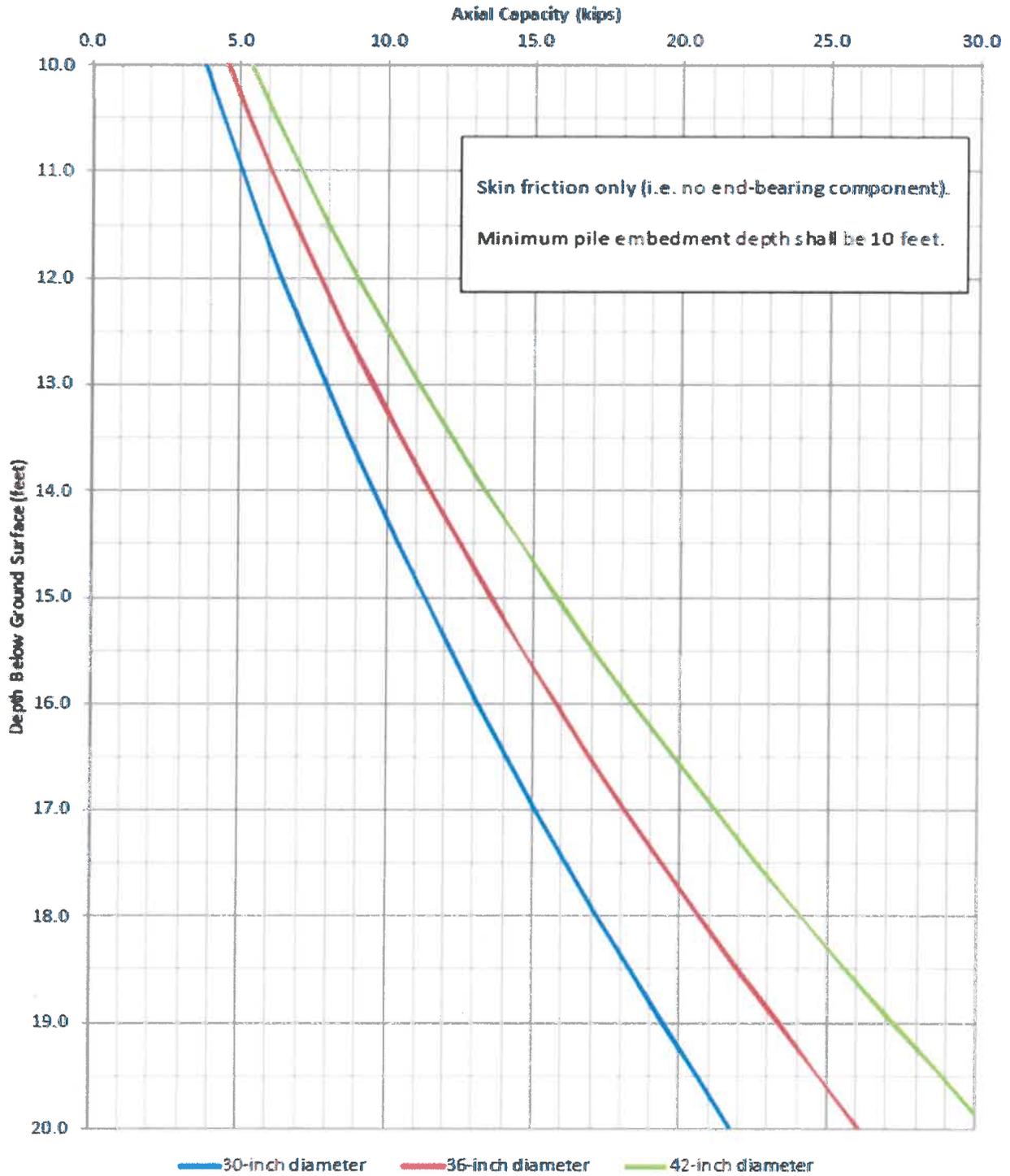
SITE LOCATION MAP

**North Hollywood Recreation Center
Sports Lighting Project**
11430 Chandler Boulevard
Los Angeles, CA 91601

**BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING DIVISION (GED)**
GED FILE NO.: 17-168
DATE: DECEMBER 2017

**Figure
No. 2**

Allowable Downward Capacity of CIDH Pile vs. Depth



North Hollywood Recreation Center
Sports Lighting Project
 11430 Chandler Boulevard
 Los Angeles, CA 91601

BUREAU OF ENGINEERING
 GEOTECHNICAL ENGINEERING DIVISION (GED)
 GED FILE NO.: 17-168
 DATE: DECEMBER 2017

Figure
 No. 3

Appendix A

Geotechnical Professionals, Inc.

Data Report

November 9, 2017

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

Attention: Mr. Patrick J. Schmidt
Acting Group Manager

Subject: Data Report
Geotechnical Investigation for
North Hollywood Recreation Center Sports Lighting Project
11430 Chandler Boulevard
Los Angeles, California
Contract No. C-121601, TOS No. 17-168
Work Order No. E170507D
GPI Project No. 2500.081

2017 NOV 16 AM 9:53
GEOTECHNICAL DIVISION
ENGINEERING

Dear Mr. Schmidt:

This report presents geotechnical data from a subsurface field investigation and laboratory testing performed by Geotechnical Professionals Inc. (GPI) for the subject project. The site location is presented in Figure 1.

SCOPE OF WORK

The scope of the geotechnical investigation presented in this report was developed by the Geotechnical Engineering Group (GEO) of the City of Los Angeles Department of Public Works, as outlined in Task Order Solicitation No. 17-168 and further updated by GEO staff. We understand that GEO will review the data from this investigation and will be responsible for geotechnical recommendations for the subject project, as the Geotechnical Engineer of Record.

The geotechnical field investigation included four hollow-stem auger borings to depths of 21½ feet below site grades. The locations of the subsurface explorations were selected by GEO and marked in the field by GPI on September 7, 2017. The approximate locations are presented in Figure 2. A detailed description of field drilling procedures for the hollow-stem auger borings and logs are presented in Appendix A.

Geotechnical laboratory testing, as requested by GEO, included the following types and number of tests:

- 14 Moisture and Density (ASTM D 2216)
- 6 Percent Passing No. 200 Sieve (ASTM D 1140)
- 4 sets Direct Shear Tests (ASTM D 3080)

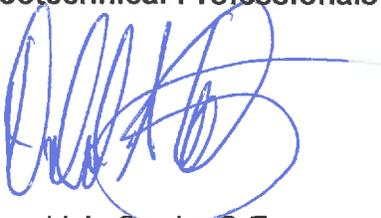
A detailed description of laboratory test procedures and results are presented in Appendix B.

CONCLUDING REMARKS

GPI warrants that the services covered by this report were performed as requested by GEO, in accordance with the standard procedures indicated, and with the standard of care of the geotechnical engineering profession in Southern California at this time. No other warranty or representation is included or intended in this report.

We appreciate the opportunity of offering our services on this project. Do not hesitate to call us if you have any questions on the contents of this report.

Respectfully submitted by,
Geotechnical Professionals Inc.



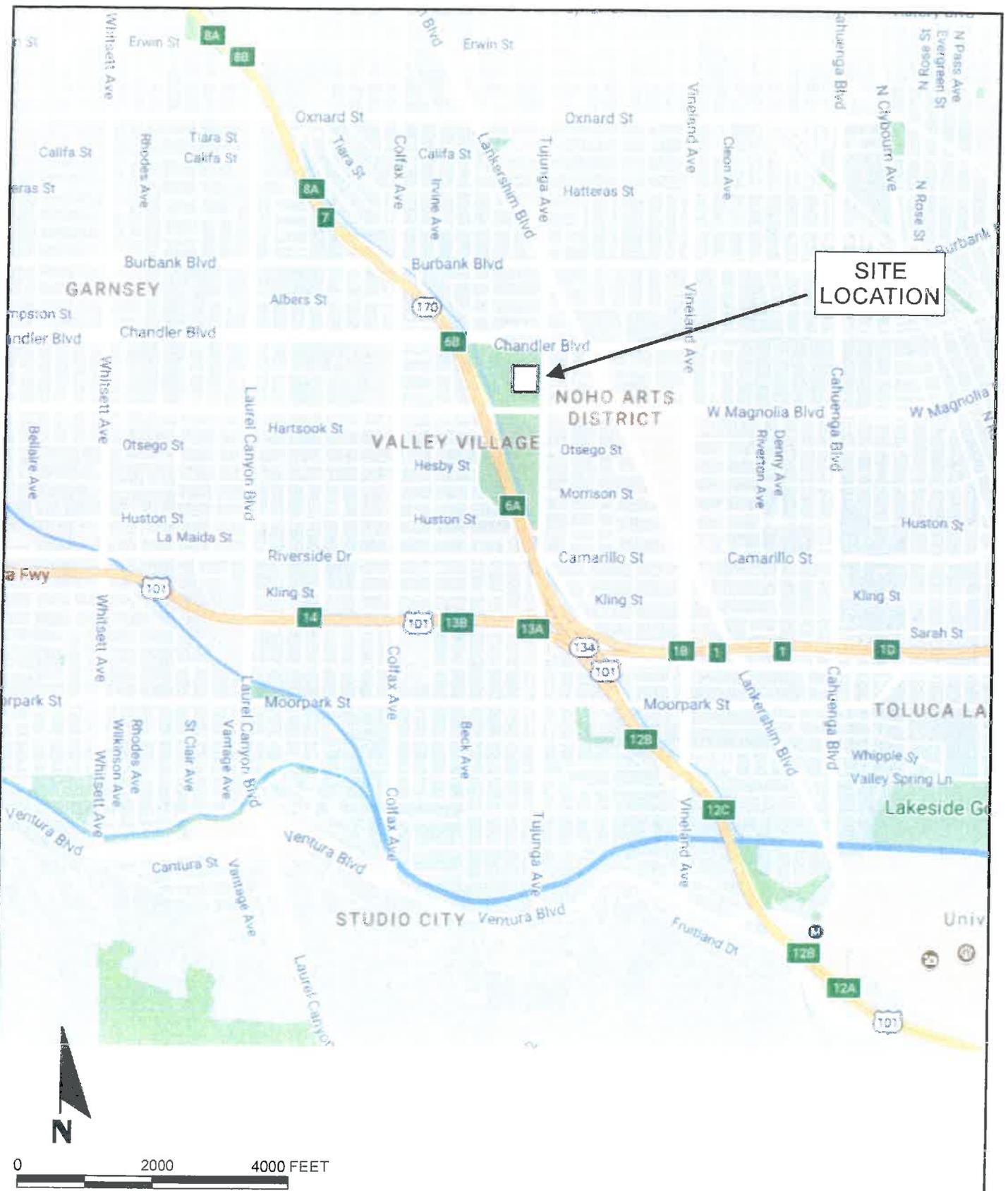
Donald A. Cords, G.E.
Principal



NOV - 9 2017

DAC:sph

Attachments: Figure 1 - Site Location Map
Figure 2 - Site Plan
Appendix A - Exploratory Borings
Appendix B - Laboratory Test Results



BASE PLAN REPRODUCED FROM GOOGLE MAPS © 2017



GEOTECHNICAL PROFESSIONALS, INC.

NORTH HOLLYWOOD RECREATION

GPI PROJECT NO.: 2500.081

SCALE: 1" = 2000'

SITE LOCATION MAP

FIGURE 1



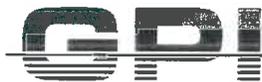
0 100 200 FEET

EXPLANATION



APPROXIMATE LOCATION AND NUMBER OF EXPLORATORY BORINGS

BASE PLAN REPRODUCED FROM GOOGLE EARTH © 2017



GEOTECHNICAL PROFESSIONALS, INC.

NORTH HOLLYWOOD RECREATION

SITE PLAN

GPI PROJECT NO.: 2500.081

SCALE: 1" = 100'

FIGURE 2

APPENDIX A

APPENDIX A

EXPLORATORY BORINGS

The subsurface conditions at the site were investigated by drilling and sampling four hollow-stem auger borings. The borings were advanced to depths of 21½ feet below the existing ground surface. The borings were performed with a truck mounted hollow-stem auger drill rig.

The locations of the explorations are shown on the Site Plan, Figure 2. The latitude/longitude and Northing/Easting of each boring location at the site are as follows:

Boring No.	Latitude	Longitude	UTM Easting	UTM Northing	UTM Zone
NH-1	34° 10' 1.11"	-118° 22' 51.84"	372706.86	3781531.66	11S
NH-2	34° 10' 0.37"	-118° 22' 49.36"	372770.06	3781508.07	11S
NH-3	34° 9' 57.80"	-118° 22' 46.96"	372830.57	3781428.17	11S
NH-4	34° 9' 59.48"	-118° 22' 45.57"	372866.76	3781479.92	11S

The latitude and longitude of the location were determined based on a handheld NAD 83 Coordinate System Global Positional System unit. The Universal Transverse Mercator (UTM) Easting/Northing locations were converted from the latitude/longitude.

Relatively undisturbed soil samples were obtained using two types of samplers. Thin walled Shelby tubes were used to obtain samples of relatively compressible silts and clays, in accordance with ASTM D 1587-08. The tubes were 30 inches long, had an inside diameter of 2.87 inches and an outside diameter of 3.00 inches. The Shelby tubes were pushed into the soils by hydraulic pressure. Thicker-walled, brass-ring lined samplers were used to sample mainly more granular soils and some cohesive soils, in accordance with ASTM D 3550-01. The sampler had an inside diameter of 2.42 inches and outside diameter of 3.25 inches. The sampler was driven into the soil using an automatic trip hammer weighing 140 pounds and dropping 30 inches. After seating the sampler into the soil 4 inches, the number of blows needed to drive the sampler 12 inches was recorded as the penetration resistance.

Relatively disturbed samples were also obtained using a split-spoon sampler by means of the Standard Penetration Test (SPT, ASTM D 1586-11). The spoon sampler was driven into the soil by a 140-pound hammer dropping 30 inches, employing the automatic trip hammer described above. The number of blows for each 6 inches of penetration was recorded and is presented on the logs. The blowcount for the first increment should be considered the seating blows while the sum of blows for the last 12 inches of penetration is considered the Standard Penetration Test blowcount. These values are the raw uncorrected blowcounts.

Bulk samples of the soils within the upper 3 feet were obtained at all boring locations.

The field explorations for the investigation were performed under the continuous technical supervision of GPI's representative, who visually inspected the site, maintained detailed logs of the borings, classified the soils encountered, and obtained relatively undisturbed samples for examination and laboratory testing. The soils encountered in the borings were classified in the field and through further examination in the laboratory in accordance with the Unified Soils

Classification System. Detailed logs of the borings are presented in Figures A-1 to A-4 in this appendix. Laboratory test results of moisture content and dry density are presented on the logs. For other laboratory tests, the type of test performed is shown with the following abbreviations:

DS – Direct Shear Test
#200 – Percent Passing No. 200 Sieve

Soil samples were screened for organic vapors using a photo-ionization detector (Mini-Rae 2000). Organic vapors were not detected above 50 ppm for any of the samples.

Upon completion of the borings, the boreholes were backfilled with soil cuttings. The ground surface elevations, as shown on the boring logs, at the exploration locations were estimated from topographic maps contained within NavigateLA website and should be considered to be very approximate.

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
							This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
					B	0	Grass		635
							Fill: SANDY SILT (ML) dark brown, slightly moist		
DS	1			11	S		Natural: SILTY SAND (SM) brown, dry, medium dense		
	0	2.3	87	9	D	5	@ 5 feet, greyish brown, loose		630
#200	10			7	S		@ 7.5 feet, slightly moist		
	0	5.6	86	12	D	10	SANDY SILT (ML) brown, slightly moist, firm to stiff		625
	0			11	S		@ 12.5 feet, stiff		
	0	6.4	94	14	D	15			620
	0			13	S				
	0	9.6	100	15	D	20			615
							Total Depth 21.5 feet Latitude: 34.166974 Longitude: -118.381068		
SAMPLE TYPES <input type="checkbox"/> Rock Core <input type="checkbox"/> Standard Split Spoon <input type="checkbox"/> Drive Sample <input type="checkbox"/> Bulk Sample <input type="checkbox"/> Tube Sample			DATE DRILLED: 9-25-17 EQUIPMENT USED: 8" Hollow Stem Auger GROUNDWATER LEVEL: Not Encountered					PROJECT NO.: 2500.081 NORTH HOLLYWOOD REC	
							LOG OF BORING NO. NH-1		FIGURE A-1

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
							This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
					B	0	6.5" PCC, 0" Base		
					D		Fill: SANDY SILT (ML) brown, slightly moist		
DS	0	10.5	90	5	D		Natural?: SILTY SAND (SM) brown, slightly moist, very loose	630	
#200	3			4	S	5	@ 5 feet, loose		
	0	12.7	86	5	D		SANDY SILT (ML) brown, slightly moist, soft	625	
#200	1			6	S	10			
	0	14.6	97	8	D		SILTY SAND (SM) brown, slightly moist, loose, with clay	620	
	1			13	S	15	@ 15 feet, medium dense, no clay		
	0	10.8	100	12	D		SANDY SILT (ML) brown, slightly moist, firm to stiff	615	
	1			9	S	20	@ 20 feet, firm		
							Total Depth 21.5 feet Latitude: 34.166769 Longitude: -118.380379		

SAMPLE TYPES <input type="checkbox"/> Rock Core <input type="checkbox"/> Standard Split Spoon <input type="checkbox"/> Drive Sample <input type="checkbox"/> Bulk Sample <input type="checkbox"/> Tube Sample	DATE DRILLED: 9-26-17 EQUIPMENT USED: 8" Hollow Stem Auger GROUNDWATER LEVEL: Not Encountered		PROJECT NO.: 2500.081 NORTH HOLLYWOOD REC
LOG OF BORING NO. NH-2			FIGURE A-2

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)				
							This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.						
#200 DS	0	12.9	94	2	B	0	Grass		630				
					S		Fill: SANDY SILT (ML) dark brown, moist						
					T		Natural: SANDY SILT (ML) brown, slightly moist, very soft to soft						
						3							
						35				7	@ 7.5 feet, firm		625
	0	10.4	105	15	D	15	@ 15 feet, stiff		615				
	0			11	S		SANDY SILT (ML) brown, slightly moist, stiff, with clay						
		15.3	104	18	D	20			610				
							Total Depth 21.5 feet Latitude: 34.166056 Longitude: -118.379711						

SAMPLE TYPES

- C Rock Core
- S Standard Split Spoon
- D Drive Sample
- B Bulk Sample
- T Tube Sample

DATE DRILLED:

9-26-17

EQUIPMENT USED:

8" Hollow Stem Auger

GROUNDWATER LEVEL:

Not Encountered



PROJECT NO.: 2500.081
NORTH HOLLYWOOD REC

LOG OF BORING NO. NH-3

FIGURE A-3

LAB TESTING	PID	MOISTURE (%)	DRY DENSITY (PCF)	PENETRATION RESISTANCE (BLOWS/FT)	SAMPLE TYPE	DEPTH (FEET)	DESCRIPTION OF SUBSURFACE MATERIALS		ELEVATION (FEET)
							This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.		
					B	0		Fill: SANDY SILT (ML) brown, slightly moist	
	0	10.6	91	7	D			Natural: SANDY SILT (ML) brown, slightly moist, firm	630
#200	0			3	S	5		@ 5 feet, very soft to soft	
					T				625
	0			5	S	10		@ 10 feet, firm	
DS	0	7.3	93	16	D			SILT (ML) brown, slightly moist, stiff, with sand	620
#200	0			21	S	15		SILTY SAND (SM)/SANDY SILT (ML) brown, slightly moist to dry, medium dense/very stiff	
	0	3.4	99	23	D				615
	2			24	S	20			
							Total Depth 21.5 feet Latitude: 34.166527 Longitude: -118.379326		

SAMPLE TYPES C Rock Core S Standard Split Spoon D Drive Sample B Bulk Sample T Tube Sample	DATE DRILLED: 9-25-17		PROJECT NO.: 2500.081 NORTH HOLLYWOOD REC
	EQUIPMENT USED: 8" Hollow Stem Auger		LOG OF BORING NO. NH-4
GROUNDWATER LEVEL: Not Encountered		FIGURE A-4	

APPENDIX B

APPENDIX B

LABORATORY TESTS

INTRODUCTION

Representative undisturbed soil samples and bulk samples were carefully packaged in the field and sealed to prevent moisture loss. The samples were then transported to our Cypress office for examination and testing assignments. Laboratory tests were performed on selected representative samples as an aid in classifying the soils and to evaluate the physical properties of the soils affecting foundation design and construction procedures. Detailed descriptions of the laboratory tests are presented below under the appropriate test headings. Test results are presented on the boring logs and in the figures that follow.

MOISTURE CONTENT AND DRY DENSITY

Moisture content and dry density were determined from a number of the ring samples. The samples were first trimmed to obtain volume and wet weight and then were dried in accordance with ASTM D 2216. After drying, the weight of each sample was measured, and moisture content and dry density were calculated. Moisture content and dry density values are presented on the boring logs in Appendix A.

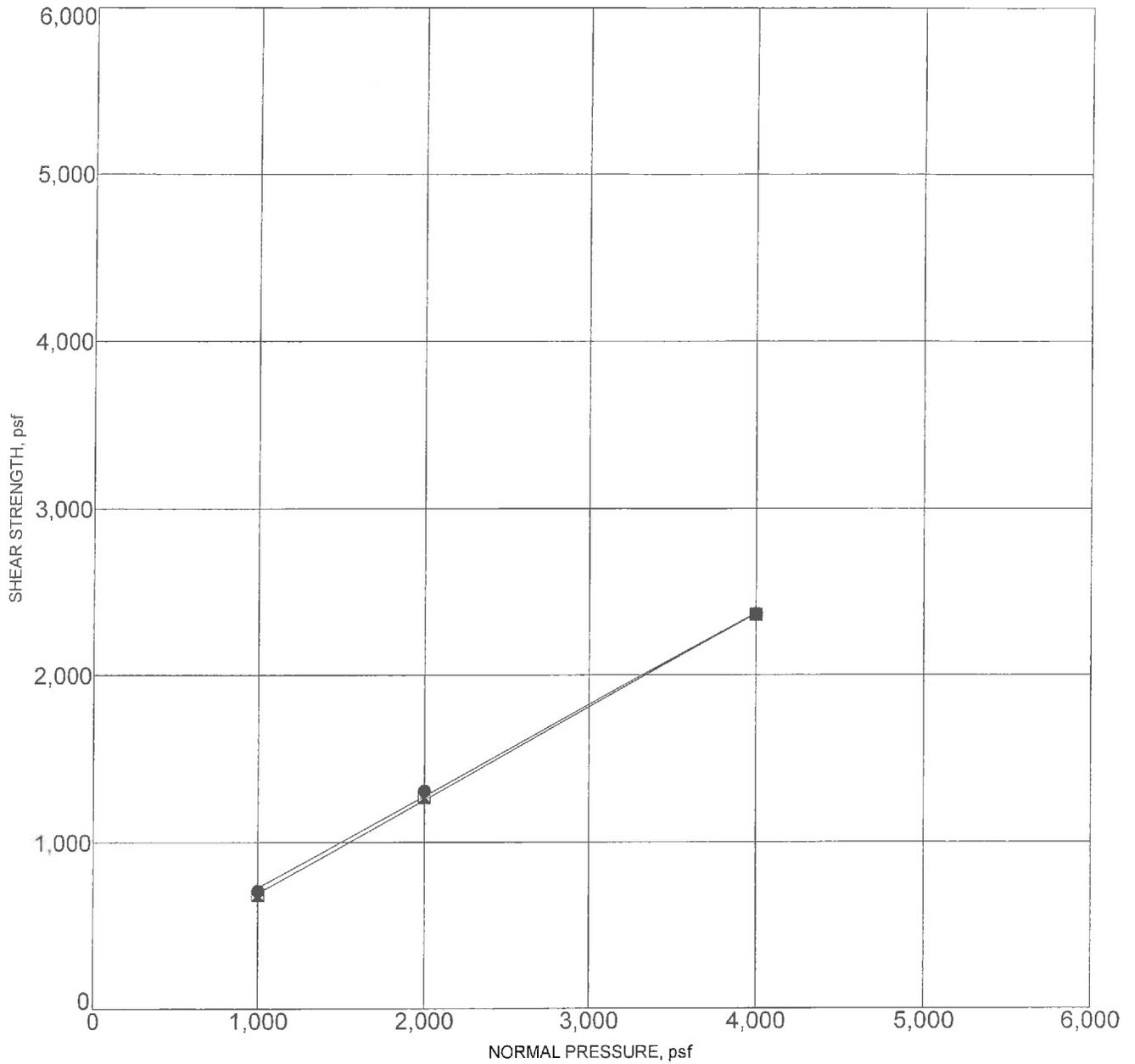
PERCENT PASSING NO. 200 SIEVE

Six soil samples were dried, weighed, soaked in water until individual soil particles were separated, and then washed on the No. 200 sieve. That portion of the material retained on the No. 200 sieve was oven-dried and weighed to determine the percentage of the material passing the No. 200 sieve. A summary of the percentages passing the No. 200 sieve is presented below.

BORING NO.	DEPTH (ft)	SOIL DESCRIPTION	PERCENT PASSING No. 200 SIEVE
NH-1	7.5	Silty Sand (SM)	40
NH-2	5	Silty Sand (SM)	33
NH-2	10	Sandy Silt (ML)	51
NH-3	7.5	Sandy Silt (ML)	52
NH-4	6.5 to 9	Silty Sand (SM)	44
NH-4	15	Silty Sand/Sandy Silt (SM/ML)	50

DIRECT SHEAR

Direct shear tests were performed on undisturbed samples in accordance with ASTM D 3080. The samples were placed in the shear machine, and a normal load was applied. The samples were inundated for 2 hours (sands) or 4 hours (silts), allowed to consolidate, and then were sheared to failure at a strain rate of 0.001 inches per minute (sands) or 0.002 inches per minute (silts). The tests were repeated on additional test specimens under increased normal loads. Shear stress and sample deformation were monitored throughout the test. The results of the direct shear tests are presented in Figures B-1 to B-4.



● **PEAK STRENGTH**
Friction Angle= 29 degrees
Cohesion= 180 psf

■ **ULTIMATE STRENGTH**
Friction Angle= 29 degrees
Cohesion= 138 psf

Sample Location	Classification	DD,pcf	MC,%
NH-1 5.0	SILTY SAND (SM)	87	2.3

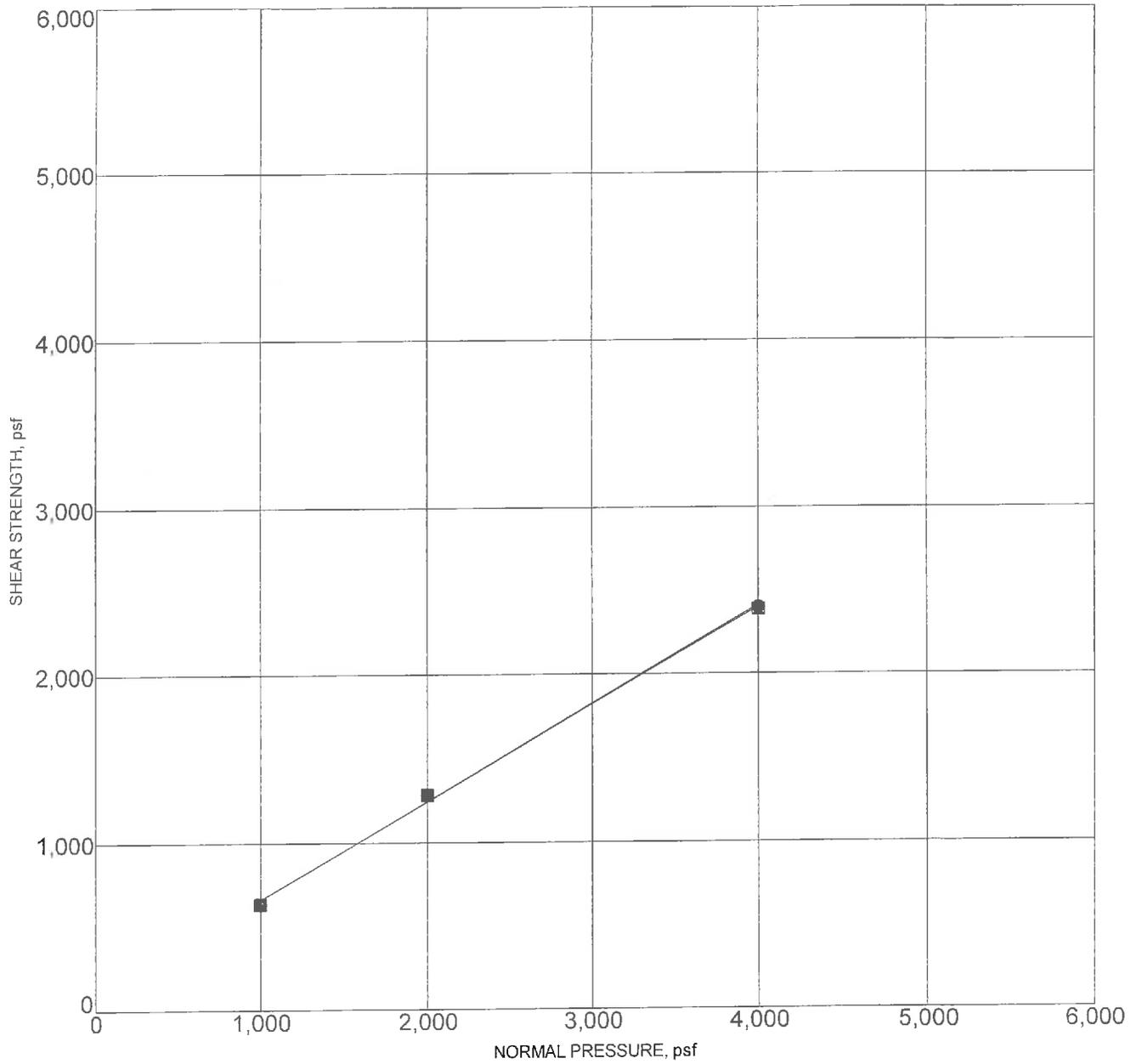
PROJECT: NORTH HOLLYWOOD REC

PROJECT NO. 2500.081



DIRECT SHEAR TEST RESULTS

FIGURE B-1



● PEAK STRENGTH
 Friction Angle= 30 degrees
 Cohesion= 78 psf

☒ ULTIMATE STRENGTH
 Friction Angle= 30 degrees
 Cohesion= 84 psf

Sample Location	Classification	DD,pcf	MC,%
NH-2 2.5	SILTY SAND (SM)	90	10.5

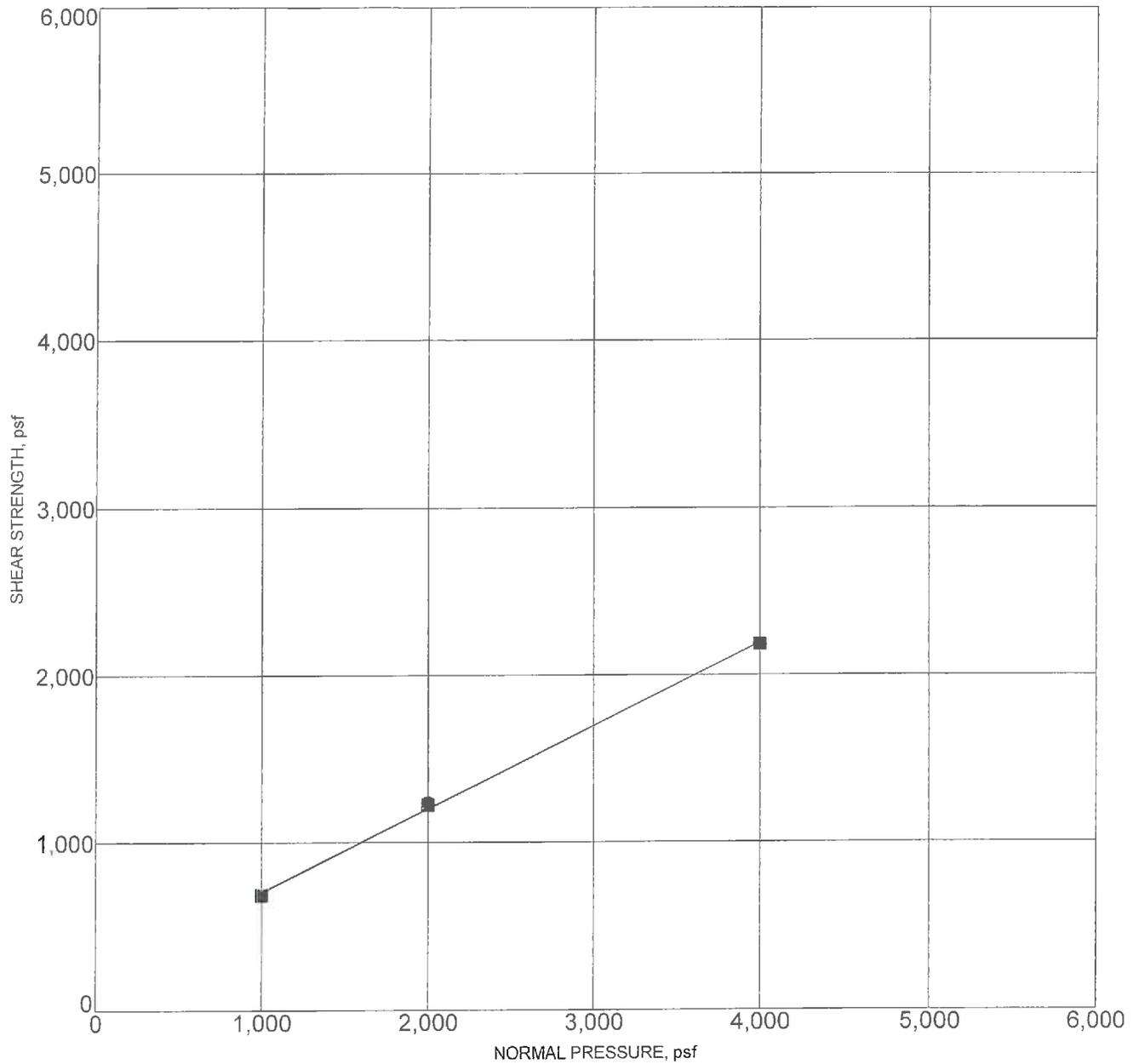
PROJECT: NORTH HOLLYWOOD REC

PROJECT NO. 2500.081



DIRECT SHEAR TEST RESULTS

FIGURE B-2



● PEAK STRENGTH
Friction Angle= 26 degrees
Cohesion= 210 psf

☒ ULTIMATE STRENGTH
Friction Angle= 26 degrees
Cohesion= 204 psf

Sample Location	Classification	DD,pcf	MC,%
NH-3 10.0	SANDY SILT (SM)	94	12.9

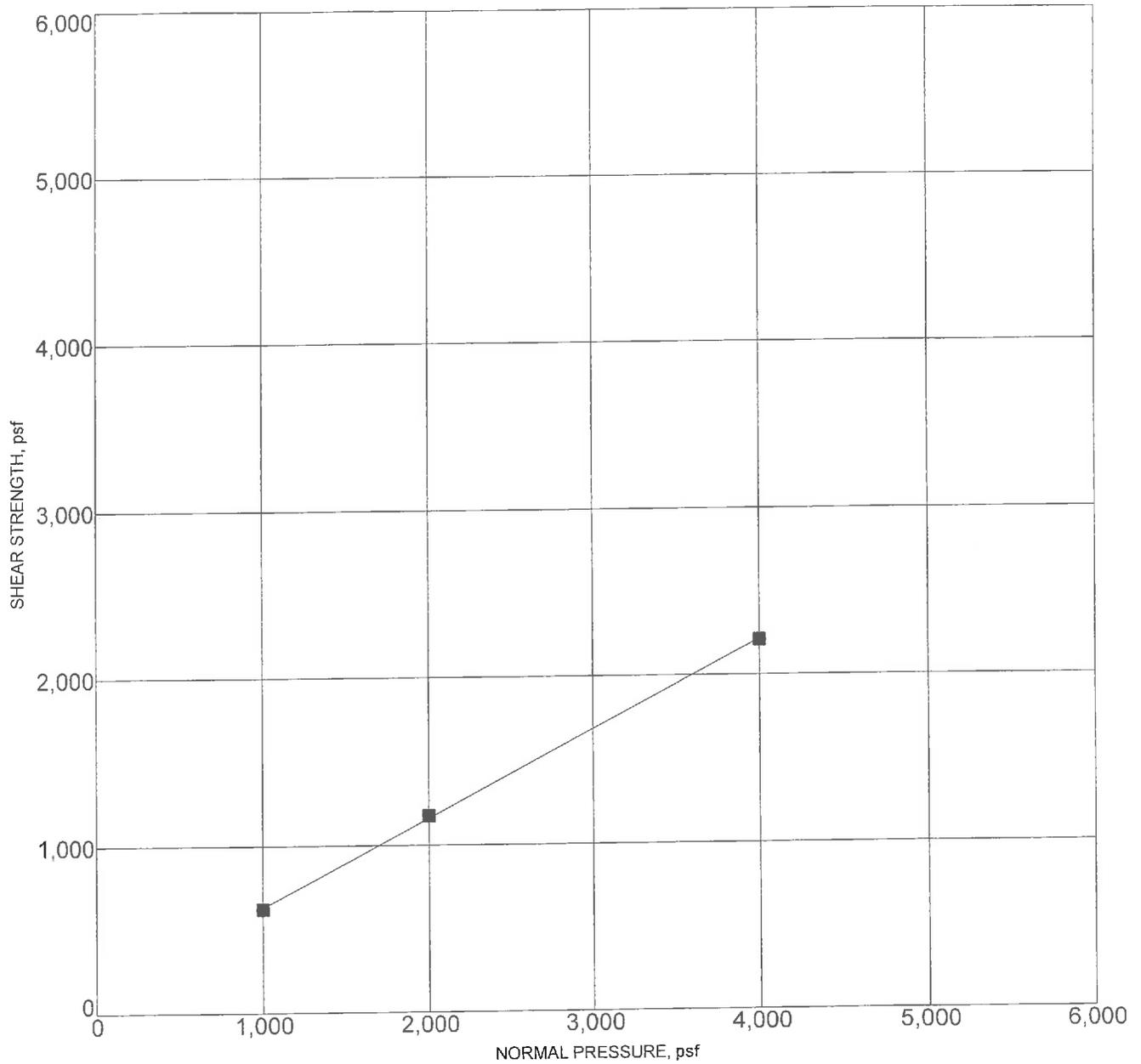
PROJECT: NORTH HOLLYWOOD REC

PROJECT NO. 2500.081



DIRECT SHEAR TEST RESULTS

FIGURE B-3



● PEAK STRENGTH
 Friction Angle= 28 degrees
 Cohesion= 108 psf

☒ ULTIMATE STRENGTH
 Friction Angle= 28 degrees
 Cohesion= 108 psf

Sample Location	Classification	DD,pcf	MC,%
NH-4 12.5	SILT (ML)	93	7.3

PROJECT: NORTH HOLLYWOOD REC

PROJECT NO. 2500.08I

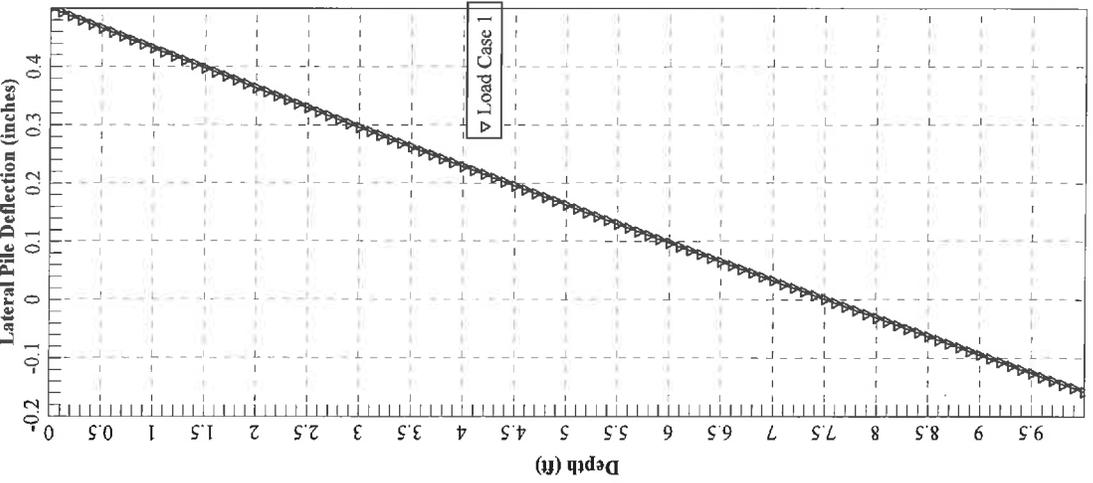
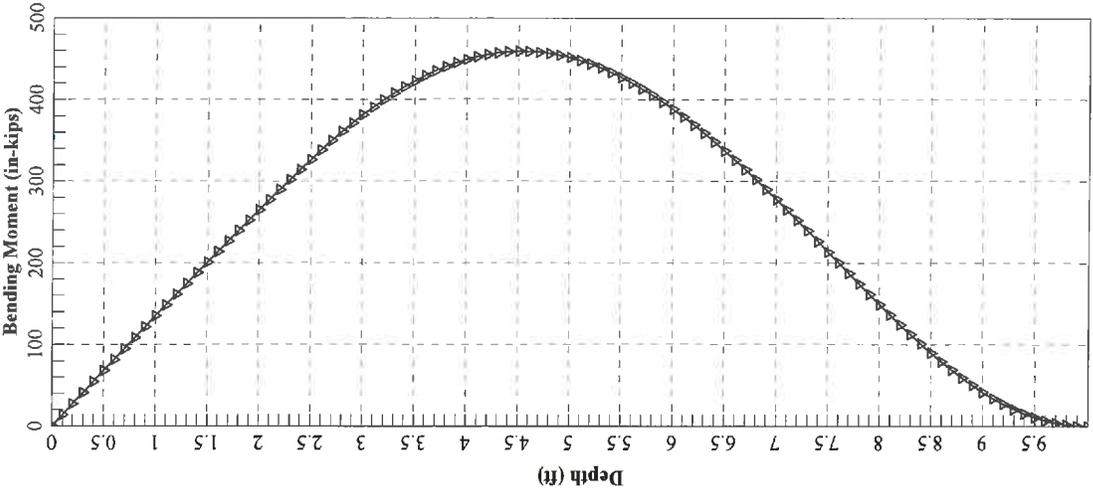
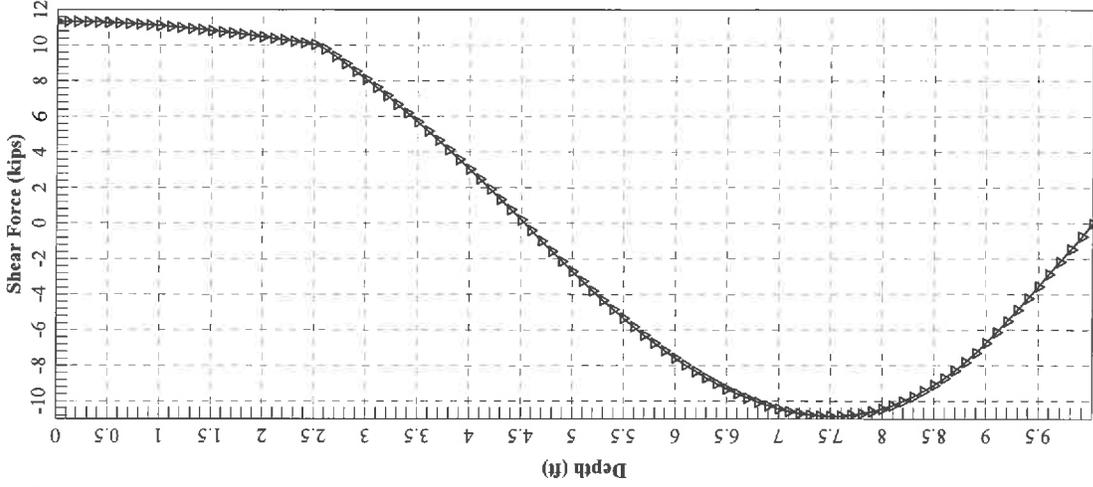


DIRECT SHEAR TEST RESULTS

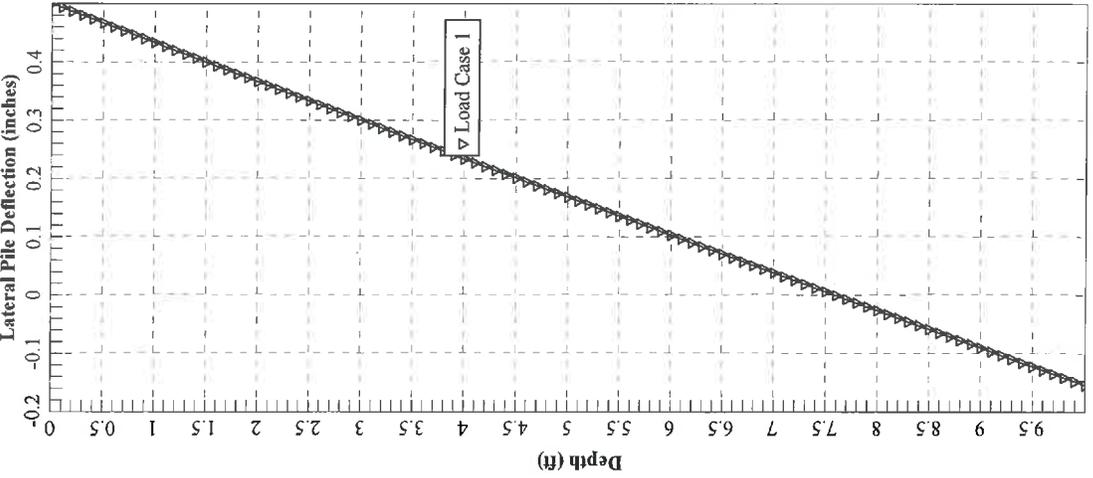
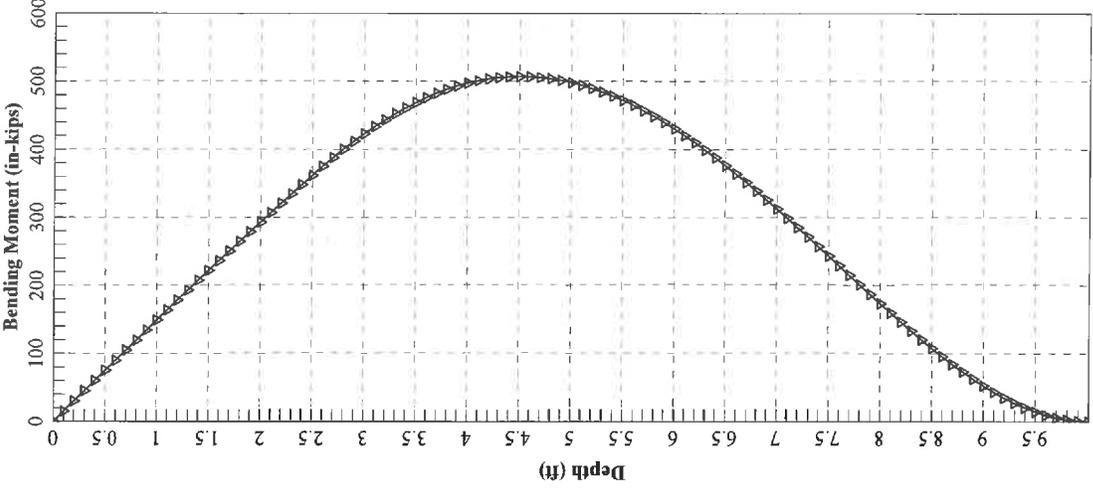
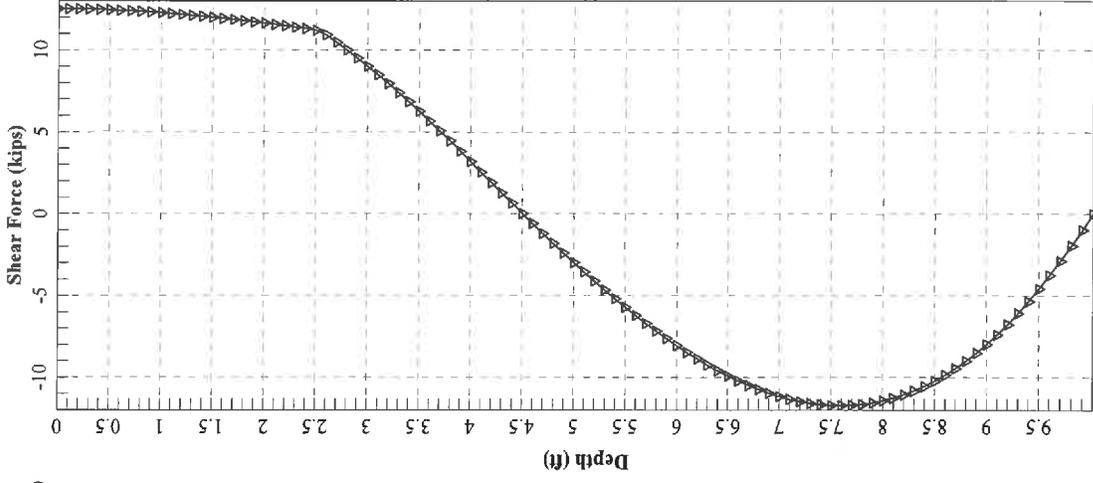
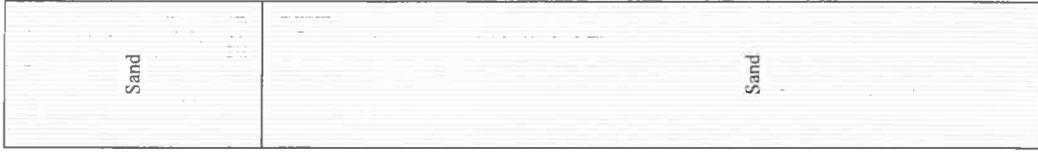
FIGURE B-4

Appendix B

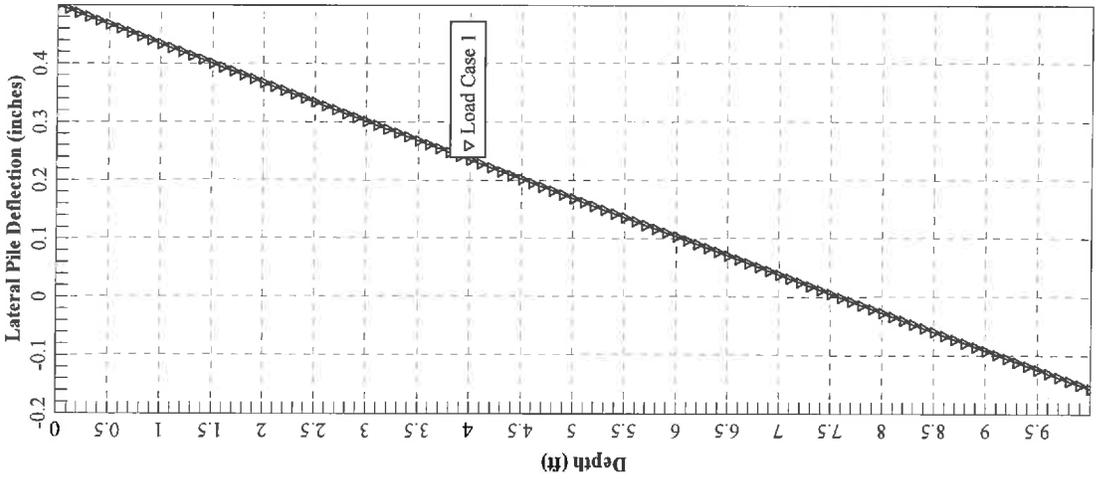
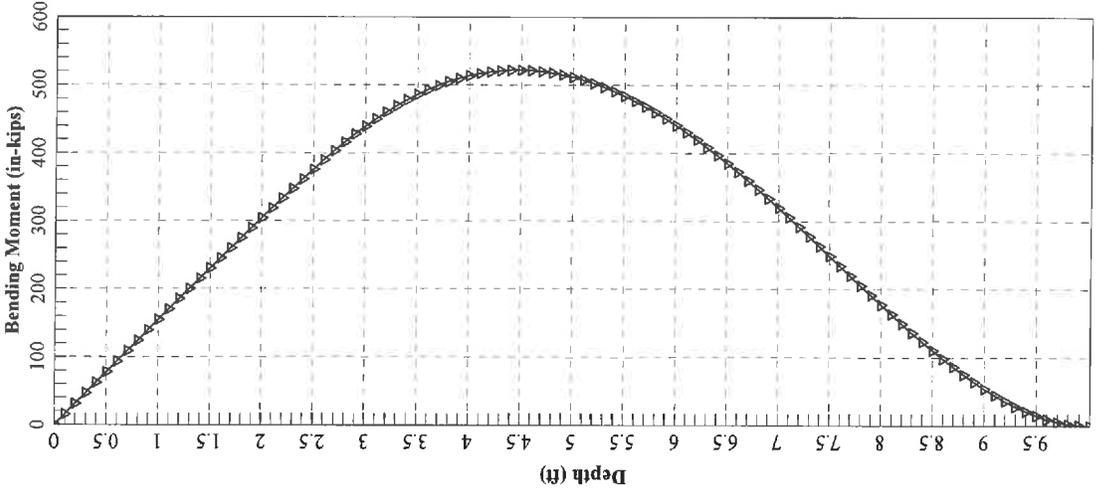
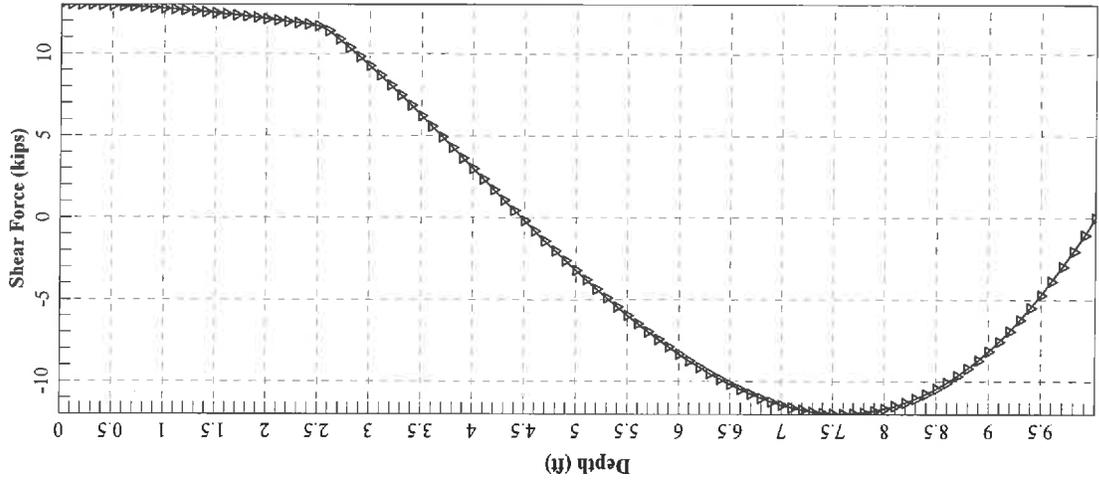
LPILE Results



30-inch diameter CIDH pile



36-inch diameter CIDH pile



42-inch diameter CIDH pile