Converse Consultants
Geotechnical Engineering
Environmental & Groundwater Science
Inspection & Testing Services

GEOTECHNICAL INVESTIGATION REPORT

NEW STUDENT HOUSING PROJECT

CERRITOS COMMUNITY COLLEGE
11110 ALONDRA BOULEVARD
NORWALK, CALIFORNIA

CONVERSE PROJECT NO. 24-31-138-01

Prepared For:

TILDEN-COIL CONSTRUCTORS
Mr. David Buted
Program Manager
c/o Cerritos Community College
11110 Alondra Boulevard
Norwalk, California 90650

Presented By:

CONVERSE CONSULTANTS
717 South Myrtle Avenue
Monrovia, California 91016
626-930-1200

July 5, 2024, Updated July 21, 2025, December 8, 2025

Converse Consultants
Geotechnical Engineering, Environmental & Groundwater Science, Inspection & Testing Services

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Tilden-Coil Constructors
c/o Cerritos Community College
11110 Alondra Boulevard
Norwalk, California 90650

Subject: **GEOTECHNICAL INVESTIGATION REPORT**
New Student Housing Project
Cerritos Community College
11110 Alondra Boulevard
Norwalk, California 90650
Converse Project No. 24-31-138-01

Dear Mr. Buted:

Converse Consultants (Converse) has prepared this geotechnical investigation report to present the findings, conclusions and recommendations to assist with the design of the proposed New Student Housing Project located within the Cerritos Community College campus in Norwalk, California.

The purpose of the study was to generate a report for the geologic and geotechnical design parameters and Division of State Architect (DSA) submittal purposes consistent with the current edition of California Building Code, Title 24, Chapter 16; Earthquake Design, Chapter 18A, Foundation and Retaining Wall; Appendix Chapter 33, Excavation and Grading; Part 1 section 4-317 (e) and CGS Note 48-Checklist for the review of Geologic/Seismic Reports for California Public Schools, Hospitals and Essential Services Buildings.

Based on our field exploration, laboratory testing, geologic evaluation and geotechnical analysis, the site is suitable from a geotechnical standpoint for the proposed New Student Housing Project, provided our conclusions and recommendations are implemented during design and construction.

We appreciate the opportunity to be of continued service to Cerritos Community College. If you should have any questions, please do not hesitate to contact us at (626) 930-1275.

CONVERSE CONSULTANTS



Siva K. Sivathasan, PhD, PE, GE, DGE, QSD, F. ASCE
Senior Vice President / Principal Engineer



SKS/BA/CJG/RLG:trb

PROFESSIONAL CERTIFICATION

This report for the proposed New Student Housing Project located at Cerritos Community College in the City of Norwalk, California, has been prepared by the staff of Converse under the professional supervision of the individuals whose seals and signatures appear hereon.

The findings, recommendations, specifications and/or professional opinions contained in this report were prepared in accordance with generally accepted professional engineering and engineering geologic principles and practice in this area of Southern California. There is no warranty, either expressed or implied.

In the event that changes to the property occur, or additional relevant information about the property is brought to our attention, the conclusions contained in this report may not be valid unless these changes and additional relevant information are reviewed, and the recommendations of this report are modified or verified in writing.



Babak Abbasi, PhD, PE
Senior Staff Engineer



Robert L. Gregorek II, PG, CEG
Senior Geologist



Siva K. Sivathasan, PhD, PE, GE, DGE, QSD, F.ASCE
Senior Vice President/Principal Engineer

EXECUTIVE SUMMARY

The following is a summary of our geotechnical investigation, conclusions and recommendations as presented in the body of this report. Please refer to the appropriate sections of the report for complete conclusions and recommendations. In the event of a conflict between this summary and the report, or an omission in the summary, the report shall prevail.

- The proposed Student Housing Building will be constructed within the campus of Cerritos Community College in Norwalk, California, as shown on Figure No. 1, *Site Location Map*. It is located east of the Studebaker Road and west of the Health Science Building, south of a parking lot and north of New Falcon Way. The subject site is relatively flat and has surface elevations ranging from approximately 64 to 66 feet relative to mean-sea-level (MSL).

- The proposed project development consists of construction of new Student Housing Buildings within the Cerritos College campus. The proposed construction consists of construction of five (5) separate buildings up to four- story.

- Four (4) exploratory borings (B-1 through B-4) and four (4) Cone Penetration Tests (CPT-1 through CPT-4) were advanced within the project site on May 31, 2024. All borings were advanced using a truck mounted drill rig with 8-inch diameter hollow stem augers to a maximum explored depth of 51.5 feet below the existing ground surface (bgs). Each boring was visually logged by a Converse engineer and sampled at regular intervals and at changes in subsurface soils.

- The earth materials encountered during our investigation consist of existing fill soils placed during previous site grading operations and natural alluvial soils to a maximum explored depth of 101.5 feet bgs. Undocumented fills, ranging from 2 to 3 feet in thickness were encountered in the borings. Deeper artificial fill may exist at the site. The fill encountered consists primarily of silty sand and clayey sand. The alluvial soil deposits below the fill primarily consist of silty sand, sandy silt, sand and clay.

- Groundwater was encountered at depths of 38 feet below ground surface in Borings BH-2. Based on review of *Historically Highest Groundwater Map*, Plate No. 1.2 in the Seismic Hazard Zone report for the Whittier 7.5-minute Quadrangle (1998), the historic high groundwater level is approximately 8 feet below existing ground surface. Groundwater level of 8 feet bgs is assumed for liquefaction analysis in this report.

- The project site is not located within a currently designated State of California Earthquake Fault Zone for surface fault rupture. No surface faults are known to project through or towards the site.

- The project site is located within a mapped Seismic Hazard Zone for liquefaction. The results of liquefaction analyses indicate the site soils are susceptible to liquefaction. The estimated potential seismically induced settlement ranges from approximately 6.7 to 9.3 inches with potential differential settlement ranging from approximately 3.35 to 4.65 inches. The project structural engineer should consider the effect of these settlements on foundation design.

- We recommend that the liquefiable soil be mitigated using Deep Soil Mixing and then proposed building can be supported on shallow foundation with slab-on-grade. Specialty contractor should be consulted for the design and construction of the Deep Soil Mixing system. Seismic parameters per the site class D can be used for the design after ground improvement.

- For non-building structures (e.g. trash enclosure, signs, fence walls, short retaining walls, etc.), conventional footings may be used.

- Remedial grading consisting of over-excavation and compaction is required for the surficial soils to provide structural support.

- The earth materials at the site are predominately silty sand, sandy silt, sand, and clay. These material types should be excavatable with heavy-duty earth moving, drilling, and trenching equipment.

- One percolation test was performed utilizing exploratory borings B-3 and the percolation results are presented in Appendix D.

Results of our study indicate that the site is suitable from a geotechnical standpoint for the proposed development, provided that the recommendations contained in this report are incorporated into the design and construction of the project.

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1.0 INTRODUCTION

This report contains the findings and recommendations of our geotechnical study performed at the site of the new proposed Student Housing Building project located within Cerritos Community College, in Norwalk, Los Angeles County California, as shown on Figure No. 1, *Site Location Map*.

The purpose of the study was to evaluate the subsurface soil conditions and provide geotechnical recommendations and design recommendations for the design and construction of the proposed project, consistent with the current edition of California Building Code, Title 24, Chapter 16A; Earthquake Design, Chapter 18A, Foundation and Retaining Wall; Appendix Chapter 33, Excavation and Grading; and CGS Note 48-Checklist for the review of Geologic/Seismic Reports for California Public Schools, Hospitals and Essential Services Buildings.

This report is written for the project described herein and is intended for use solely by Tilden-Coil Constructors, Cerritos College and their design team. It should not be used as a bidding document but may be made available to the potential contractors for information on factual data only. For bidding purposes, the contractors should be responsible for making their own interpretation of the data contained in this report.

2.0 SITE AND PROJECT DESCRIPTION

2.1 Site Description

The proposed Student Housing Building will be constructed within the campus of Cerritos Community College in Norwalk, California, as shown on Figure No. 1, *Site Location Map*. It is located east of the Studebaker Road and west of the Health Science Building, south of a parking lot and north of New Falcon Way. The subject site is relatively flat and has surface elevations ranging from approximately 64 to 66 feet relative to mean-sea-level (MSL).

The site coordinates for the proposed Project are: 33.8834 degrees North Latitude, -118.0994 degrees West Longitude. The site coordinates were centered on the subject sites and used to calculate the earthquake ground motions.

2.2 Project Description

The proposed project development consists of construction of new Student Housing Buildings within the Cerritos College campus. The proposed construction includes five (5) new student housing buildings, named Building A through E. Buildings A and C are single-story, while Buildings B and D are four stories. Building E is a three-story structure.
It is anticipated that the proposed building will be a steel-frame structure. The project site is shown on Figure No. 2, *Approximate Boring Locations Map*.



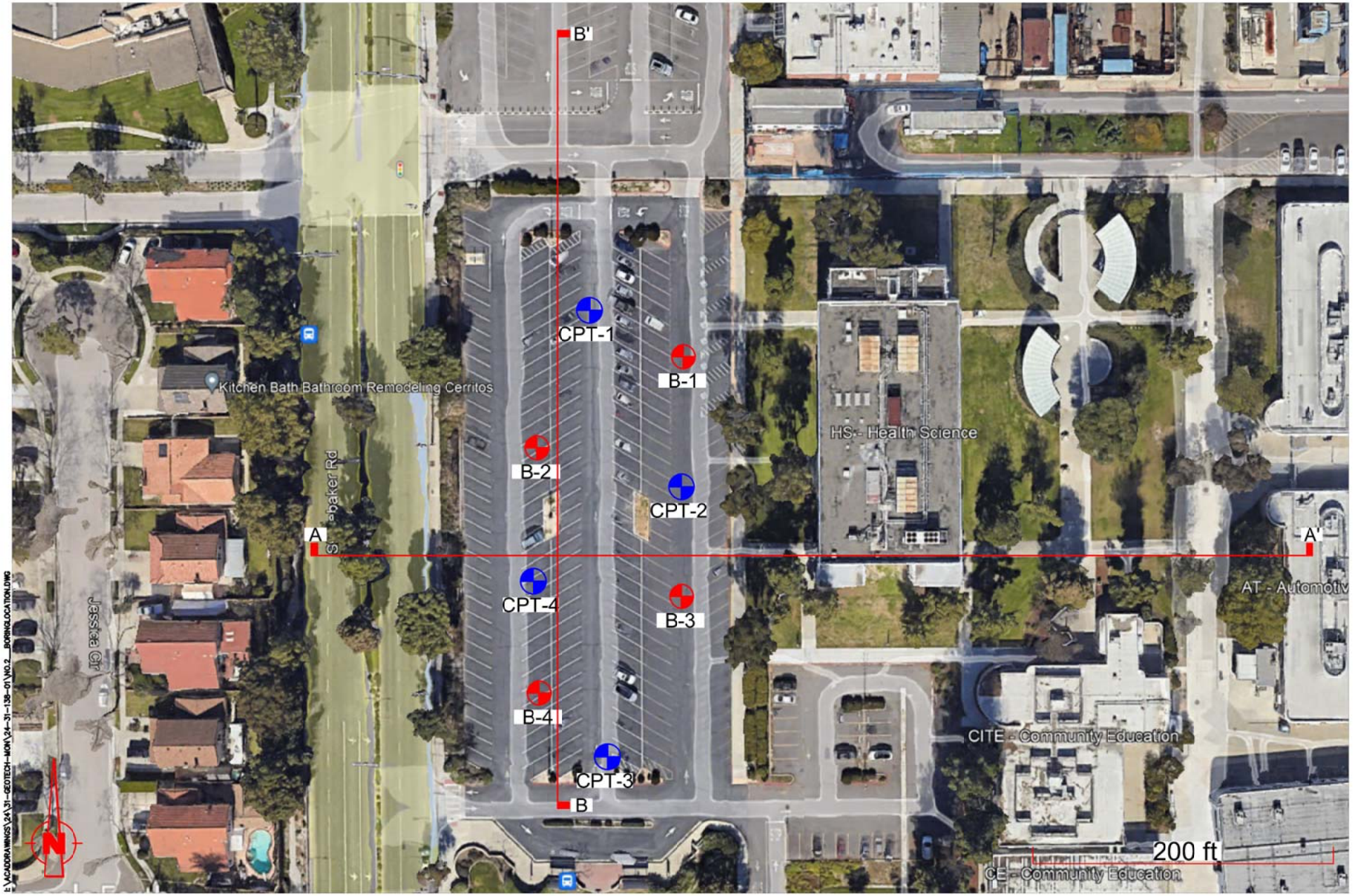
SITE LOCATION MAP

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Project No.
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Figure No.
1

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Approximate Boring Locations Map

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-Boring Location

-CPT Location

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Figure No.
2

3.0 SCOPE OF WORK

Our scope of work consists of the tasks described in the following subsections.

3.1 Site Reconnaissance

Our field exploration included a site reconnaissance by a member of the Converse staff on May 20, 2024. The purpose of the site reconnaissance was to observe surface conditions and to mark exploratory boring locations based on a proposed boring location map provided to our office.

3.2 Subsurface Exploration

Four (4) exploratory borings (BH-1 through BH-4) and four (4) Cone Penetration Tests (CPT-1 through CPT-4) were advanced within the project site on May 31, 2024. All borings were advanced using a truck mounted drill rig with 8-inch diameter hollow stem augers to a maximum explored depth of 51.5 feet below the existing ground surface (bgs). Each boring was visually logged by a Converse engineer and sampled at regular intervals and at changes in subsurface soils. Detailed descriptions of the field exploration and sampling program are presented in Appendix A, *Field Exploration*.

Relatively undisturbed California Modified Sampler (Ring samples), Standard Penetration Test samples, and bulk soil samples were obtained for laboratory testing. Standard Penetration Tests (SPTs) were performed in borings at selected intervals using a standard (1.4 inches inside diameter and 2.0 inches outside diameter) split-barrel sampler. Borings were backfilled with cement grout and capped to match existing surface conditions.

Four (4) Cone Penetration Tests (CPT-1 through CPT-4) were pushed to depths up to 100 feet bgs by Kehoe Testing and Engineering using a 30-ton (4 axle) CPT rig. The cone penetration testing consisted of pushing an instrumented cone-tipped probe into the ground while simultaneously recording the resistance to penetration at the cone tip and along the friction sleeve. The test holes were stopped at plan depths or when the cone tip encountered refusal to penetration. The test holes were backfilled with hydrated bentonite crumbles and patched with asphalt concrete at paved areas. The Boring and CPT locations are shown on Figure No. 2, *Approximate Boring Locations Map.*

3.3 Laboratory Testing

Representative samples of the site soils were tested in the laboratory to aid in the classification and to evaluate relevant engineering properties. The tests performed included:

- In situ moisture contents and dry densities (ASTM Standard D2216, and D7263)
- Soil corrosivity tests (Caltrans 643, 422, 417)
- R-value (ASTM Standard D2844)
- Fines Content/Passing No. 200 Sieve (ASTM D1140)
- Grain Size Distribution (ASTM Standard D6913)
- Atterberg Limits (ASTM Standard D4318)
- Maximum dry density and optimum-moisture content relationship (ASTM Standard D1557)
- Expansive Index (ASTM D4829)
- Direct shear (ASTM Standard D3080)
- Consolidation (ASTM Standard D2435)
- Sand Equivalent (ASTM D2419)

3.4 Analyses and Report

Data obtained from the exploratory fieldwork and laboratory-testing program were analyzed and evaluated with respect to the planned construction. This report was prepared to provide the findings, conclusions and recommendations developed during our study and evaluation.

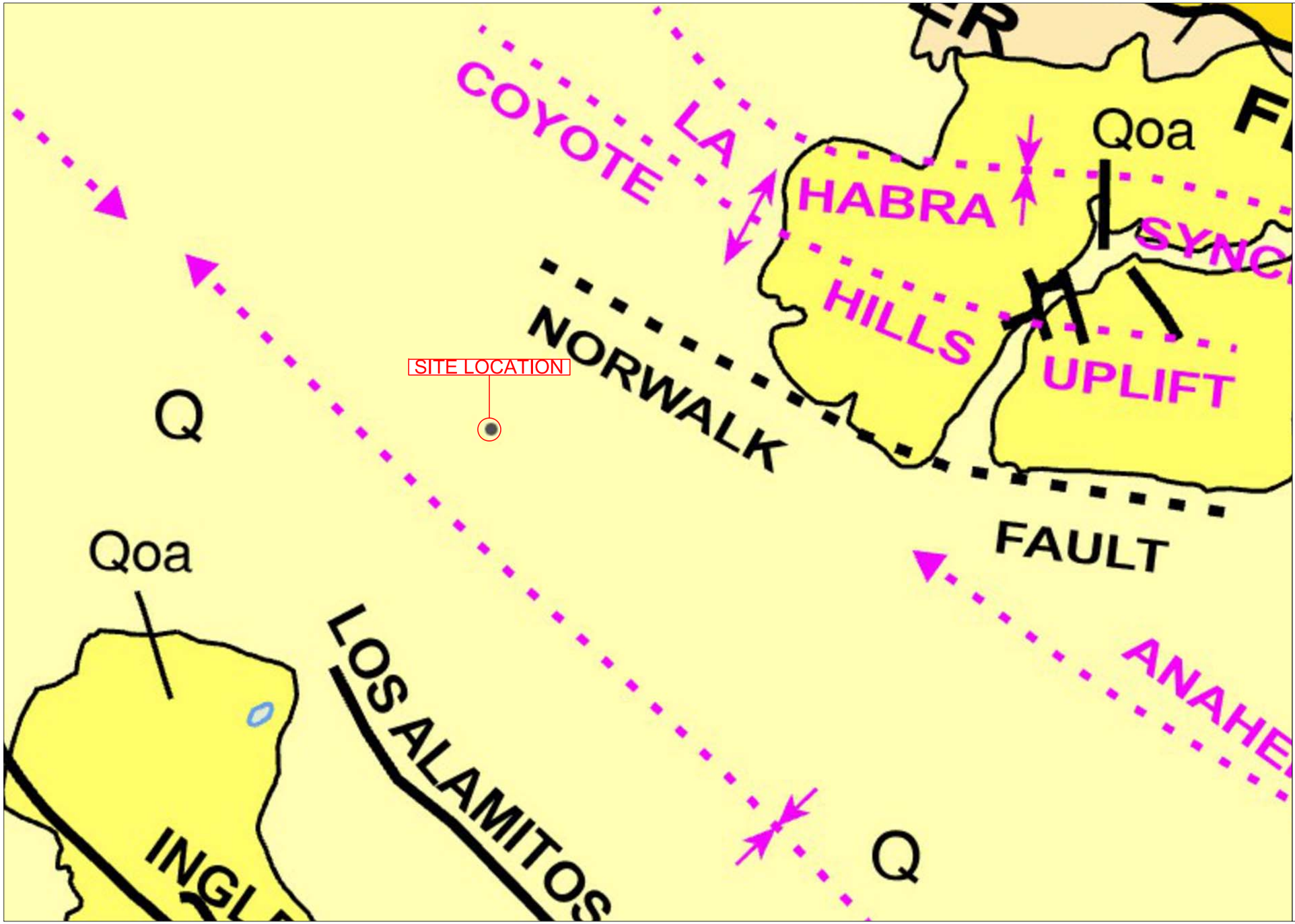
4.0 GEOLOGIC CONDITIONS

4.1 Regional Geologic Setting

The site is located on a relatively flat alluvial plain. The Cerritos College campus is located within a broad sediment-filled basin located at the convergence of the Transverse Ranges and Peninsular Ranges geomorphic provinces of California. The San Gabriel and Rio Hondo drainages have deposited stream and flood sediments across the coastal flood plain during Holocene time (0 – 11,000 years) to form a relatively flat and broad flood geomorphic feature known as the Downey Plain. Soils underlying the project site consist of sand, silt and clay sediments deposited over time by rivers and local stream tributaries which once drained across the coastal plain to the Pacific Ocean. Most of these natural river and stream channels are now controlled by debris basins and flood control channels that collect surface runoff and convey storm water runoff to the ocean. Figure No. 3, *Regional Geologic Map*, has been prepared to show the project site with respect to regional geology of the Whittier and La Habra Quadrangles.

4.2 Subsurface Profile of Project Site

The earth materials encountered during our investigation consist of existing fill soils placed during previous site grading operations and natural alluvial sediments to a maximum explored depth of 101.5 feet bgs. Undocumented fills, ranging from approximately 2 to 3 feet in thickness were encountered in the borings. Deeper artificial fill may exist at the site. The fill encountered consists primarily of silty sand and clayey sand. The alluvial sediment deposits below the fill primarily consist of sand, silty sand,



QUATERNARY DEPOSITS

- Qs — Extensive marine and nonmarine sand deposits, generally near the coast or desert playas
- Q — Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated
- Qls — Selected large landslides
- Qg — Glacial till and moraines. Found at high elevations mostly in the Sierra Nevada and Klamath Mountains
- Qoa — Older alluvium, lake, playa, and terrace deposits
- QPc — Pleistocene and/or Pliocene sandstone, shale, and gravels deposits; mostly loosely consolidated

QUATERNARY VOLCANIC ROCKS

- Qrv — Recent (Holocene) volcanic flow rocks; minor pyroclastic deposits
- Qrv^{d} — Recent (Holocene) pyroclastic and volcanic mudflow deposits
- Qv — Quaternary volcanic flow rocks; minor pyroclastic deposits
- Qv^{d} — Quaternary pyroclastic and volcanic mudflow deposits

TERTIARY SEDIMENTARY ROCKS

- Tc — Undivided Tertiary nonmarine sandstone, shale, conglomerate, breccia, and ancient lake deposits
- P — Pliocene marine sandstone, siltstone, shale, and conglomerate; mostly moderately consolidated
- M — Miocene marine sandstone, shale, siltstone, conglomerate, and breccia; moderately to well consolidated
- Mc — Miocene nonmarine sandstone, shale, conglomerate, and fanglomerate; moderately to well consolidated
- O_s — Oligocene marine sandstone, shale, and conglomerate; mostly well consolidated
- O_{sc} — Oligocene nonmarine sandstone, shale, and conglomerate; mostly well consolidated
- E — Eocene marine shale, sandstone, conglomerate, and minor limestone; mostly well consolidated
- Ec — Eocene nonmarine sandstone, shale, and conglomerate; moderately to well consolidated
- Ep — Paleocene marine sandstone, shale, and conglomerate; mostly well consolidated

TERTIARY VOLCANIC ROCKS

- Tv — Tertiary volcanic flow rocks; minor pyroclastic deposits
- Tv^{d} — Tertiary pyroclastic and volcanic mudflow deposits.
- Ti — Tertiary intrusive rocks; mostly shallow (hypabyssal) plugs and dikes

TERTIARY PLUTONIC ROCKS

- gr^{Ks} — Cenozoic (Tertiary) granitic rocks - quartz monzonite, quartz latite, and minor monzonite, granodiorite, and granite; found in the Kingston, Panamint, Amargosa, and Greenwater Ranges in southeastern California

MESOZOIC SEDIMENTARY AND METASEDIMENTARY ROCKS

- TK — Sandstone, shale, and minor conglomerate in coastal belt of northwestern California. Previously considered Cretaceous, but now known to contain early Tertiary microfossils in places
- K — Undivided Cretaceous sandstone, shale, and conglomerate; minor nonmarine rocks in Peninsular Ranges
- Ku — Upper Cretaceous sandstone, shale, and conglomerate
- Kl — Lower Cretaceous sandstone, shale, and conglomerate
- KJf — Franciscan Complex: Cretaceous and Jurassic sandstone with smaller amounts of shale, chert, limestone, and conglomerate. Includes Franciscan melange, except where separated
- KJf_m — Melange of fragmented and sheared Franciscan Complex rocks
- KJf_s — Blueschist and semi-schist of Franciscan Complex
- J — Jurassic shale and sandstone; minor conglomerate, chert, slate, limestone, and pyroclastic rocks

SYMBOL EXPLANATION

Contact between geologic units - approximately located

Fault traces - solid where well located, dashed where approximately located or inferred, dotted where concealed, and queried where continuation or existence is uncertain. Ball and bar on downthrown side (relative or apparent). Arrows indicate direction of lateral movement (relative or apparent)

Thrust fault (barbs on upper plate)

Regional strike and dip of stratified rocks

Regional strike and dip of stratified rocks (overturned)

N

NOT TO SCALE

REGIONAL GEOLOGIC MAP

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Figure No. 3

clayey sand, and sandy silt. Sampling blow-counts correlate to relatively loose to moderately dense conditions near surface, and generally become denser with depth.

Figure No. 4A, *Geologic Cross Section A-A' and* Figure No. 4B, *Geologic Cross Section B-B'* have been drawn across the subject site to illustrate the subsurface conditions. For a detailed description of the materials encountered during our exploration, see Appendix A*, Field Exploration.*

4.3 Groundwater

Groundwater was encountered at depth at 38 feet below ground surface in Boring BH-2. It should be noted that the borings might not have been left open for a sufficient period of time to establish equilibrium groundwater conditions. Based on review of *Historically Highest Groundwater Map*, Plate No. 1.2 in the Seismic Hazard Zone report for the Whittier 7.5-minute Quadrangle (1998), the historic high groundwater level is approximately 8 feet below existing ground surface. Groundwater level of 8 feet bgs is assumed for liquefaction analysis in this report.

The project site is located about 0.7 miles east of the San Gabriel River channel. The bottom of the San Gabriel river channel is unlined about 3 miles north of Alondra Boulevard to permit groundwater spreading and recharge. The groundwater level beneath the site can vary depending upon the seasonal precipitation and groundwater basin activities including recharge, storage and pumping occurring in the general site vicinity.

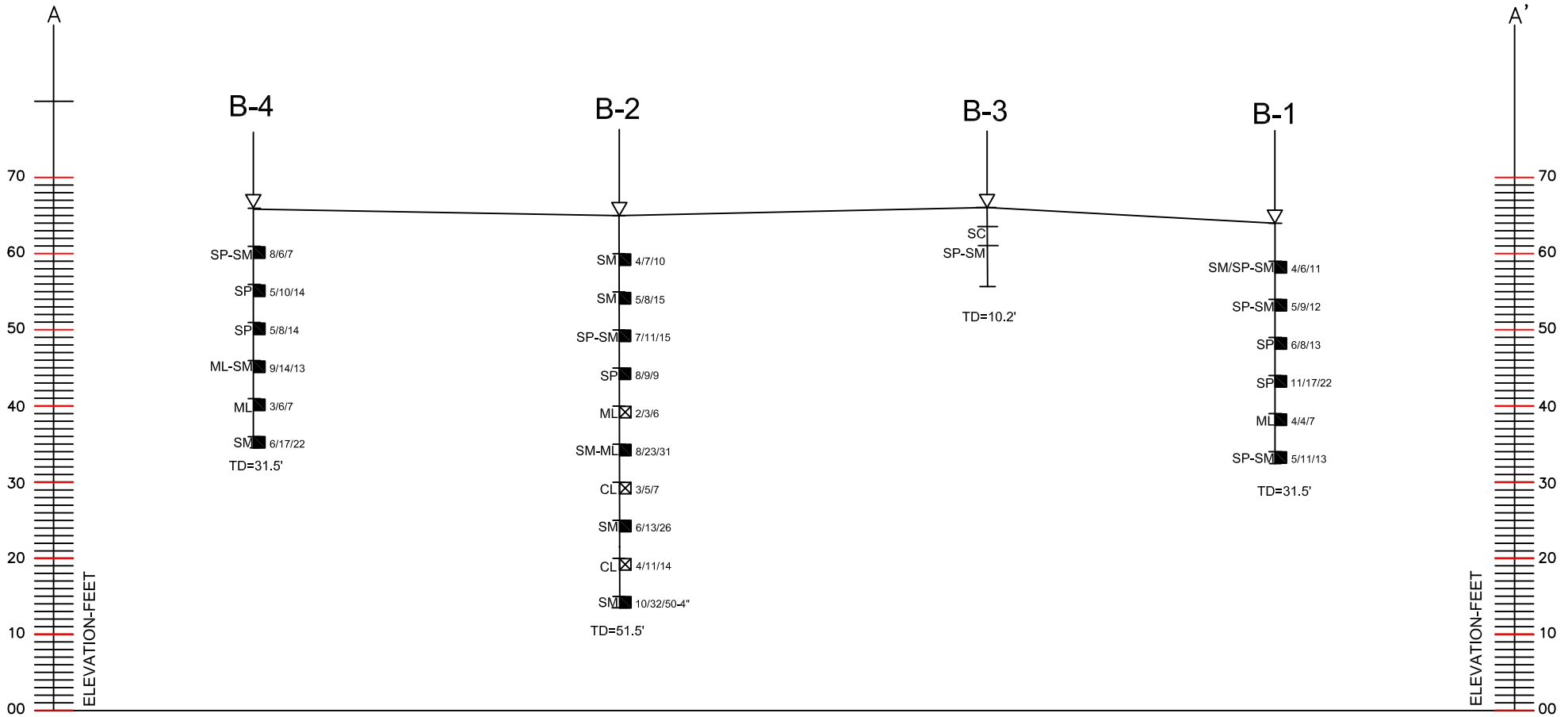
In general, groundwater levels fluctuate with the seasons and local zones of perched groundwater may be present within the near-surface deposits due to local conditions or during rainy seasons. Groundwater conditions below any given site vary depending on numerous factors including seasonal rainfall, local irrigation, storm water recharge and groundwater pumping, among other factors.

4.4 Subsurface Variations

Based on results of the subsurface exploration and our experience, some variations in the continuity and nature of subsurface conditions within the project site should be anticipated. Because of the uncertainties involved in the nature and depositional characteristics of the earth material at the site, care should be exercised in interpolating or extrapolating subsurface conditions between or beyond the boring locations. If, during construction, subsurface conditions differ significantly from those presented in this report, this office should be notified immediately so that recommendations can be modified, if necessary.

5.0 FAULTING AND SEISMIC HAZARDS

Geologic hazards are defined as geologically related conditions that may present a potential danger to life and property. Typical geologic hazards in Southern California



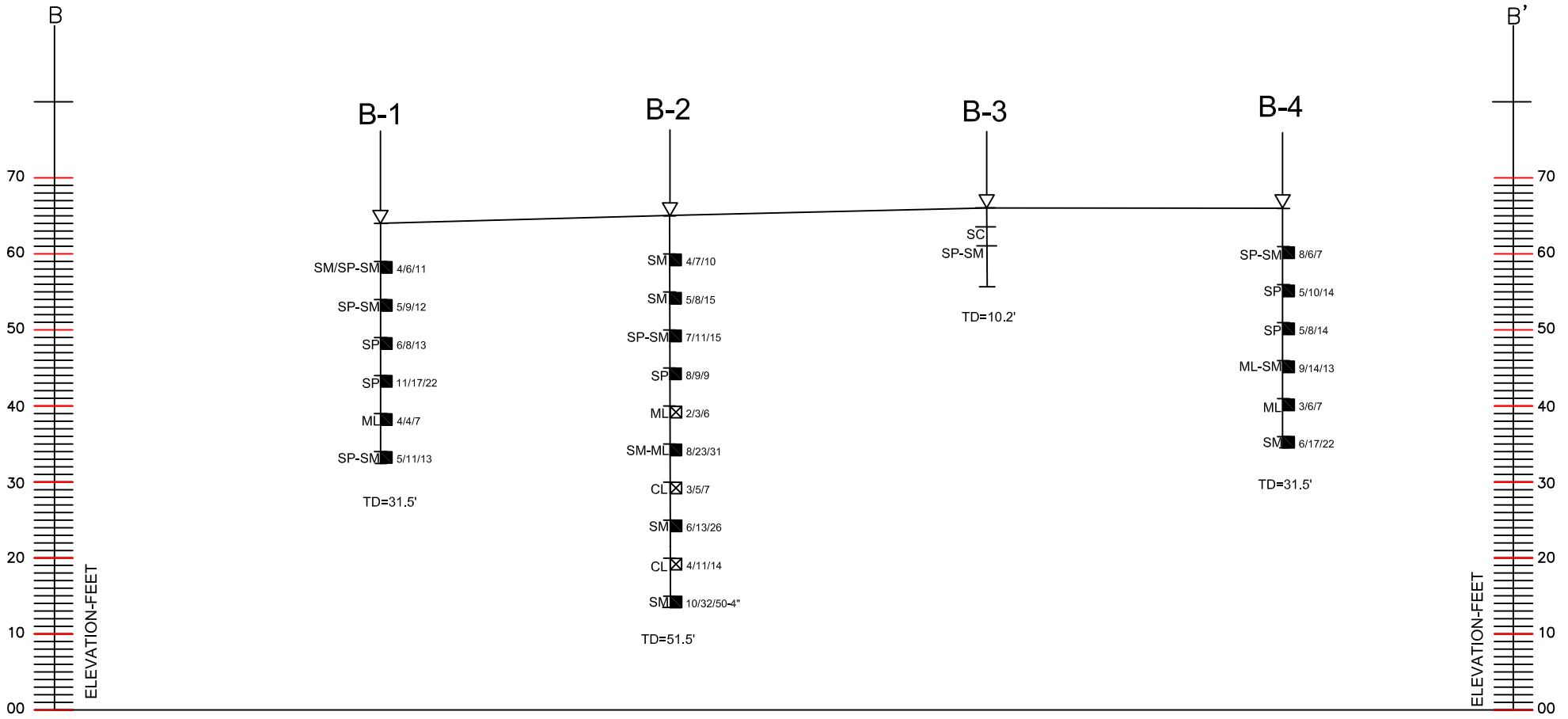
GEOLOGIC CROSS SECTION A–A'

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Figure No. 4a



GEOLOGIC CROSS SECTION B–B'

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Figure No. 4b

include earthquake ground shaking, fault surface rupture, liquefaction and seismically induced settlement, lateral spreading, landslides, earthquake induced flooding, tsunamis and seiches, and volcanic eruption hazard.

Results of a site-specific evaluation for each type of possible seismic hazards are discussed in the following sections.

5.1 Seismic Characteristics of Nearby Faults

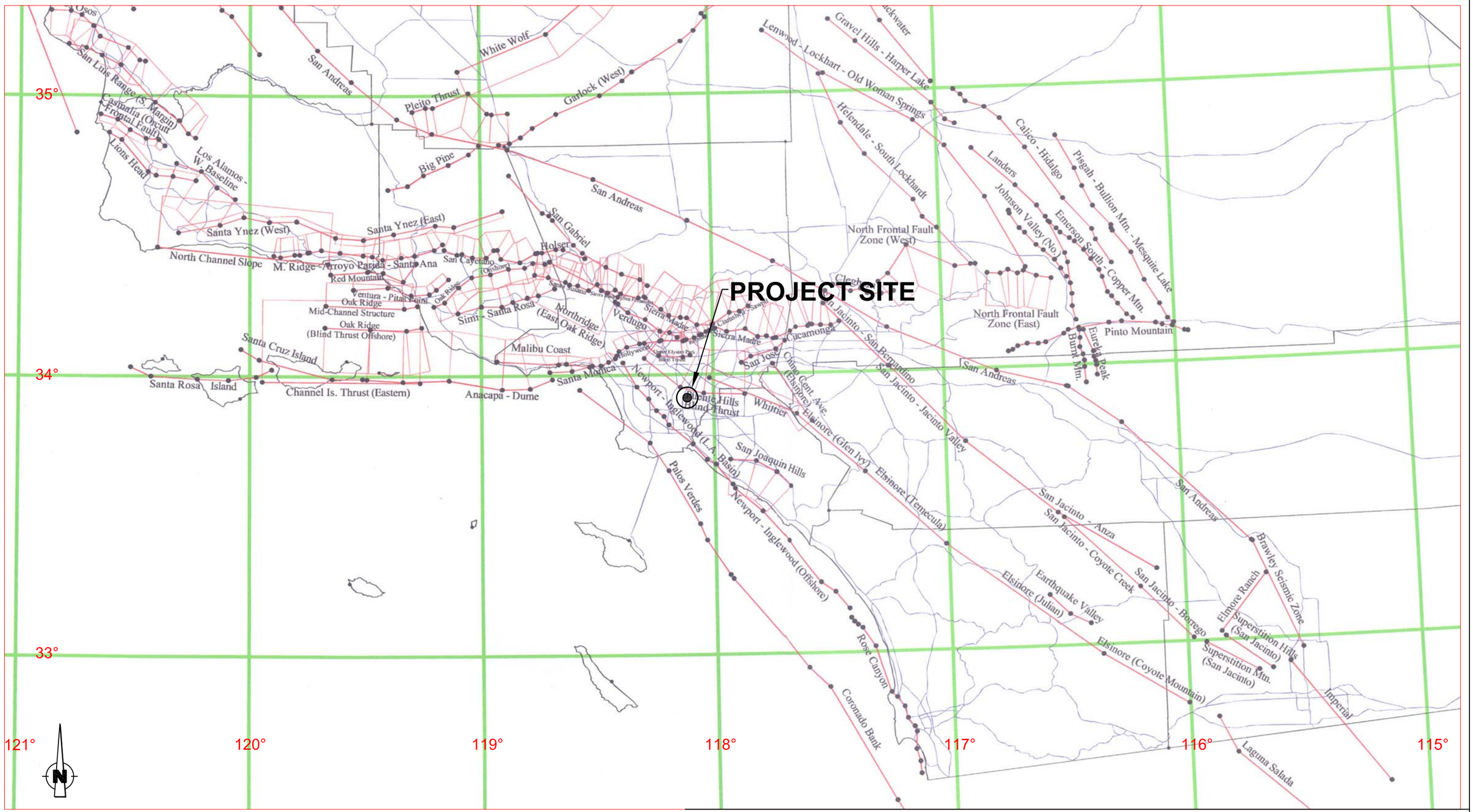
The proposed site is situated in a seismically active region. As is the case for most areas of Southern California, ground-shaking resulting from earthquakes associated with nearby and more distant faults may occur at the project site. During the life of the project, seismic activity associated with active faults can be expected to generate moderate to strong ground shaking at the site. Review of recent seismological and geophysical publications indicates that the seismic hazard for the project is high.

The project site is not located within a currently designated State of California Earthquake Fault Zone for surface fault rupture. No surface faults are known to project through or towards the site. The closest known faults to the project site with mappable surface projections are the Whittier Fault (Approximately 12½ kilometers, 7.7 miles, to the northeast) and the onshore segment of the Newport-Inglewood Fault (Approximately 10½ kilometers, 6.5 miles, to the southwest). The Whittier Fault, Newport-Inglewood Fault, and concealed Puente Hills Blind Thrust Fault along with other local and regional faults were included as capable faults modeled for the probabilistic seismic hazard analysis for the site. The approximate locations of these local active faults with respect to the project site are shown on Figure No. 5, *Southern California Regional Fault Map*.

There are a number of regional fault systems, which could produce ground shaking at the site during a major earthquake. Table No. 1, *Summary of Regional Faults,* shows the location of the known most capable faults with respect to the site within 50 kilometers. The data presented below are based on updated fault data from “2008 National Seismic Hazard Maps” from U.S. Geological Survey (USGS) website.

Table No. 1, Summary of Regional Faults

Fault Name and Section	Approximate * Distance to Site (kilometers)	Max. Moment Magnitude (Mmax)	Slip Rate (mm/yr)
Puente Hills (Santa Fe Springs)	2.91	6.7	0.7
Puente Hills (Coyote Hills)	4.78	6.9	0.7
Puente Hills (LA)	9.55	7.0	0.7
Newport Inglewood Connected alt 2	11.56	7.5	1.3
Newport-Inglewood, alt 1	11.67	7.2	1
Newport Inglewood Connected alt 1	11.67	7.5	1.3
Elsinore;W	12.67	7.0	2.5
Elysian Park (Upper)	19.63	6.7	1.3
Palos Verdes Connected	21.38	7.7	3



REFERENCE: PORTION OF CGS 2002 CALIFORNIA FAULT MODEL MODIFIED FOR USE WITH FRISKSP AND EQFAULT BY THOMAS F. BLAKE, AUGUST 2004

FAULT SOURCES

BLIND THRUST FAULT, POLYGONS INDICATE RUPTURE PLANES AND DIP DIRECTION

SOUTHERN CALIFORNIA REGIONAL FAULT MAP

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Project No. 24-31-138-01
Figure No. 5
Date JUNE 2024

Fault Name and Section	Approximate * Distance to Site (kilometers)	Max. Moment Magnitude (Mmax)	Slip Rate (mm/yr)
Palos Verdes	21.38	7.3	3
San Joaquin Hills	25.87	7.1	0.5
Raymond	26.00	6.8	1.5
San Jose	26.15	6.7	0.5
Verdugo	27.66	6.9	0.5
Hollywood	28.67	6.7	1
Santa Monica Connected alt 2	30.25	7.4	2.4
Sierra Madre	32.07	7.2	2
Sierra Madre Connected	32.07	7.3	2
Clamshell-Sawpit	33.45	6.7	0.5
Santa Monica Connected alt 1	35.59	7.3	2.6
Santa Monica, alt 1	35.59	6.6	1
Chino, alt 1	36.08	6.7	1
Chino, alt 2	36.14	6.8	1
Newport-Inglewood (Offshore)	36.80	7.0	1.5
Malibu Coast, alt 2	42.78	7.0	0.3
Malibu Coast, alt 1	42.78	6.7	0.3
Cucamonga	42.92	6.7	5
Anacapa-Dume, alt 2	44.79	7.2	3
Elsinore;GI	47.14	6.7	2
Elsinore;GI+T	47.14	6,9	5
Sierra Madre (San Fernando)	47.20	7.3	5

5.1.1 Puente Hills Blind Thrust Fault

The potential for damage from earthquakes along a zone of north-dipping blind thrust faults in the northern Los Angeles Basin was illustrated by the M_L5.9 Whittier earthquake event on October 1, 1987 and the M_w 6.7 Northridge earthquake event on January 17, 1994. Blind thrust faults are low angle reverse faults which generally have no surface trace and express tectonic deformation as folding and uplift of hillsides and ridges. Examples of blind thrust fault landforms include the Elysian, Repetto and Montebello Hills and the Puente Hills (Davis et al., 1989).

Details concerning the Puente Hills Blind Thrust are limited by the fact that the thrust fault is buried below ground surface – thus, the term “blind” thrust fault. Conventional fault-finding trenches, boreholes and paleoseismic dating methods used at the surface have limited use for study of these deeply buried thrust fault structures. The geometry and location of the blind thrust fault structures and thrust ramps are based on interpretation of oil well data, seismic and strong motion data solutions, high resolution geophysical data, paleoseismic studies and structural model analyses (Yeats, R.S. 2004; Dolan, J.F. et al., 2003). Recent revisions to fault parameter models have replaced the lower Elysian Park Thrust Fault with the Puente Hills Blind Thrust and Upper Elysian Park Blind Thrust (Cao, T. et al., 2003). Seismic hazard fault models for the Los Angeles Basin and vicinity will

continue to be refined as new information and technology develops and becomes available through time.

The Puente Hills Blind Thrust has been interpreted to be about 42 km long and 19 km wide with a depth range of 3 km to 13 km below ground surface (Dolan, J.F., et al., 2003). The thrust fault dips northward from the Montebello Hills and Puente Hills beneath the San Gabriel Basin.

Paleoseismic studies of the Puente Hills Blind Thrust have indicated the occurrence of at least four large (moment-magnitude 7.2 to 7.5) earthquakes of this fault during the past 11,000 years (Dolan, J.F. et al., 2003).

5.1.2 Newport Inglewood Fault

The Newport-Inglewood fault zone is located approximately 10½ kilometers (6.5 miles) southwest of the project site. The Newport Inglewood fault system is about 66 km long on shore and extends northwest from Huntington Beach through Long Beach to Culver City and the Cheviot Hills. The Newport Inglewood fault continues offshore to the southeast of Huntington Beach and makes landfall in La Jolla as the Rose Canyon fault. The Newport Inglewood fault is characterized by a series of uplifts and anticlines including Newport Mesa, Huntington Beach Mesa, Bolsa Chica Mesa, Alamitos Heights and Landing Hill, Signal Hill and Reservoir Hill, Dominguez Hills and Baldwin Hills.

Several earthquakes have occurred along the fault zone including the March 10, 1933 “Long Beach” earthquake of M 6.4, with its epicenter off Newport Beach, and smaller earthquakes at Inglewood on June 20, 1920 (M 4.9), Torrance on October 21, 1941(M_L 4.8), Gardena on November 14, 1941 (M_L 4.8), Newport Beach on April 7, 1989 (M_L 4.7) and Inglewood on May 17, 2009 M 4.7). These earthquakes show evidence of right-lateral strike slip focal mechanisms.

The Newport Inglewood fault is considered to be active and considered capable of producing a maximum moment magnitude (Mw) 7.1 earthquake. The slip rate is considered to be about 1.0 mm/year but may range up to 2 to 3 mm/year along isolated segments.

5.1.3 Whittier Fault

The mapped trace of the Whittier Fault is located about 12½ kilometers (7.7 miles) northeast of the project site along the southern flank of the Puente Hills. The revised official map for the La Habra Quadrangle effective November 1, 1991 shows the Whittier Fault traces located northeast of the site along the base of the Puente Hills north of the City of Brea to be zoned as an active fault rupture segment.

The Whittier Fault is considered part of the Elsinore Fault system, which is one of the major right-lateral strike slip faults of the Peninsular Ranges geomorphic province. The

Elsinore fault splits northwestward into the Chino fault and westward into Whittier fault near the City of Corona.

The Whittier fault dips north with reverse separation along most of its length. However, the late Quaternary evidence is for nearly pure strike slip movement (Gath, 1997). Part of the uplift of the Puente Hills may accompany reverse faulting related to the restraining bend and more westerly strike of the Whittier fault. The Whittier fault turns more northwesterly at the San Gabriel River and Whittier Narrows to become the East Montebello fault. The Whittier fault is considered capable of producing an Mw 6.8 earthquake.

5.2 Seismic History

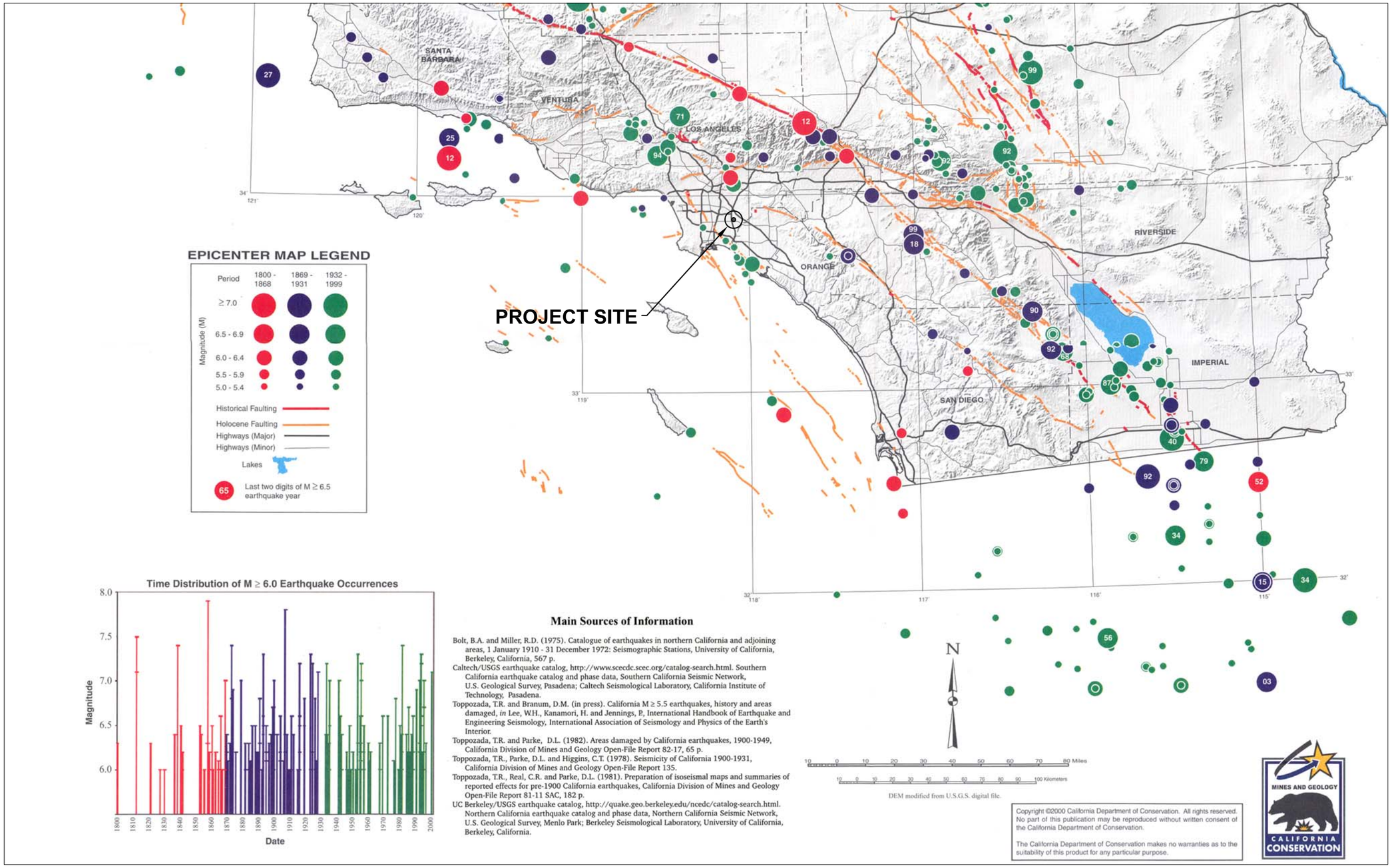
The California Geologic Survey has published Map Sheet 49; *Epicenters and Areas Damaged by M ≥ 5 California Earthquakes,* 1800-1999, (CGS, Toppozada et al., 2000) which shows the epicenters of larger earthquakes in California. The mapped epicenters of earthquakes with magnitude 5.0 or greater in Southern California region during the past 200 years are shown on Figure No. 6, *Epicenter Map of Southern California Earthquakes (1800-1999).*

5.3 Surface Fault Rupture

The project site is not located within a currently designated State of California Earthquake Fault Zone (formerly Alquist-Priolo Special Studies Zones) for surface fault rupture. The Alquist-Priolo Earthquake Fault Zoning Act requires the California Geological Survey to zone “active faults” within the State of California. An “active fault” has exhibited surface displacement with Holocene time (within the last 11,000 years) hence constituting a potential hazard to structures that may be located across it. Public school structures are required to be set-back at least 50 feet from an active fault. The active fault set-back distance is measured perpendicular from the dip of the fault plane. Based on a review of existing geologic information, no known active faults project through or toward the site. The potential for surface rupture resulting from the movement of the nearby major faults is considered remote.

5.4 Liquefaction and Seismically-Induced Settlement

Liquefaction is the sudden decrease in the strength of cohesionless soils due to dynamic or cyclic shaking. Saturated soils behave temporarily as a viscous fluid (liquefaction) and, consequently, lose their capacity to support the structures founded on them. The potential for liquefaction decreases with increasing clay and gravel content but increases as the ground acceleration and duration of shaking increase. Liquefaction potential has been found to be the greatest where the groundwater level and loose sands occur within 50 feet of the ground surface.



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REFERENCE: PORTION OF EPICENTERS AND AREAS DAMAGED BY M≥5 CALIFORNIA EARTHQUAKES, 1800-1999 CALIFORNIA DEPARTMENT OF CONSERVATION, MAP SHEET 49 DATED 2000.

EPICENTER MAP OF SOUTHERN CALIFORNIA EARTHQUAKES (1800–1999)

Converse Consultants

New Student Housing Project
Cerritos Community College
11110 Alondra Blvd. Norwalk, California 90650

Project No. 24-31-138-01

Figure No. 6

The site is located within a potential liquefaction zone per the State of California Seismic Hazard Zones Map for the Whittier Quadrangle as shown in Figure No. 7, *Seismic Hazard Zones Map*. Liquefaction analyses were performed using *CLiq, Version 2.3.1.15, 2018, by GEOLOGISMIKI* for the upper 50 feet below ground surface utilizing Cone Penetration Test locations CPT-2 to CPT-4. The results of the liquefaction analysis and a summary of the methods used are presented in Appendix C, *Liquefaction/Seismic Settlement Analysis*.

The results of liquefaction analyses indicate the site soils are susceptible to liquefaction. The estimated potential seismically induced settlement ranges from approximately 6.7 to 9.3 inches with potential differential settlement ranging from approximately 3.35 to 4.65 inches. The project structural engineer should consider the effect of these settlements on foundation design.

5.5 Lateral Spreading

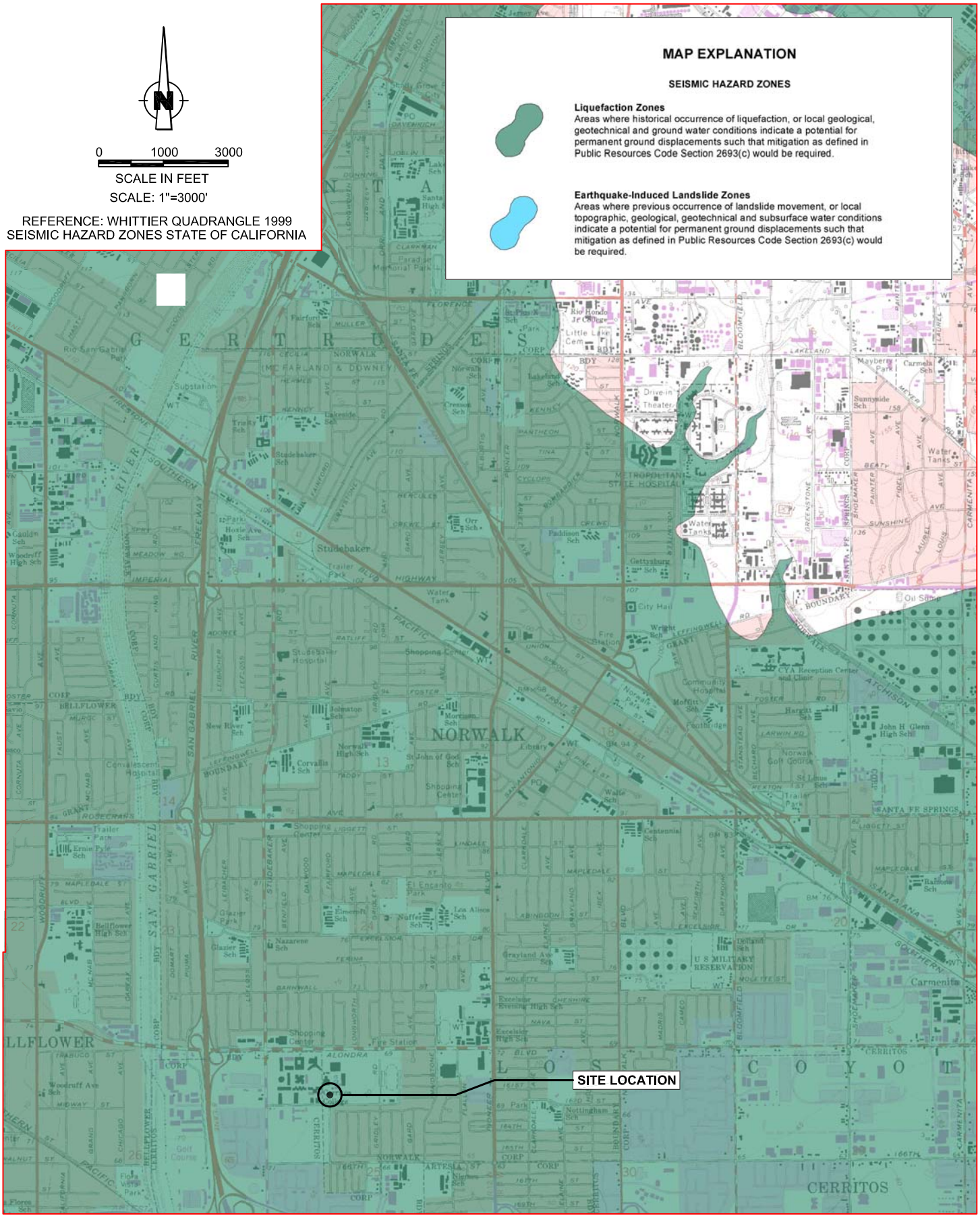
Seismically induced lateral spreading involves primarily lateral movement of earth materials due to ground shaking. It differs from the slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. The topography at the project site and in the immediate vicinity is relatively flat, with no significant nearby slopes, embankments, or depressions. Under these circumstances, the potential for lateral spreading at the subject site is considered negligible.

5.6 Seismically-Induced Slope Instability

Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. The project site is not located within a potential earthquake-induced landslide zone per the State of California Seismic Hazard Zones Map for the Whitter Quadrangle as shown on Figure No. 7, *Seismic Hazard Zones Map*. The project site is very flat. In the absence of significant ground slopes, the potential for seismically induced landslides to affect the proposed site is considered to be nil.

5.7 Earthquake-Induced Flooding

Review of the Flood Insurance Rate Map (FIRM), Panel 1840 (1840F) of 2350, effective date September 26, 2008, from the Map Service Center (MSC) viewer, indicates that the site is designated as Zone “X”, “Other Flood Areas”, “Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.”



SEISMIC HAZARD ZONES MAP

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New Student Housing Project
Cerritos Community College
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Project No. 24-31-138-01

Figure No. 7

The potential of earthquake induced flooding of the subject site is considered to be remote; although the site is located within an inundation zone should catastrophic dam failure occur along upstream dams on the San Gabriel River channel.

5.8 Tsunami and Seiches

Tsunamis are tidal waves generated by fault displacement or major ground movement. Based on the location of the site from the Pacific Ocean (approximately 9 miles south/southwest of the site), tsunamis do not pose a hazard. Seiches are large waves generated in enclosed bodies of water in response to ground shaking. Based on site location away from lakes and reservoirs, seiches do not pose a hazard.

5.9 Volcanic Eruption Hazard

There are no known volcanoes near the site. According to Jennings (1994), the nearest potential hazards from future volcanic eruptions is the Amboy Crater-Lavic Lake area located in the Mojave Desert more than 120 miles east/northeast of the site. Volcanic eruption hazards are not present.

6.0 SEISMIC ANALYSIS

The results of liquefaction analyses indicate the site soils are susceptible to liquefaction. Under this condition site class is classified as F. However, we recommend ground improvement using Deep Soil Mixing (DSM), if the liquefaction hazard is mitigated properly, site class will be D.

6.1 CBC Seismic Design Parameters

General seismic parameters based on the 2022 California Building Code and ASCE 7-16 with Supplement 3 are calculated using the ATC hazard, *Seismic Design by Location* website application and the site coordinates (North latitude: 33.8834, West longitude: -118.0994 degrees). The seismic parameters are presented below.

Table No. 2, CBC Seismic Design Parameters

Seismic Parameter	Value
Site Class	D*
Mapped Short Period (0.2-sec) Spectral Response Acceleration, S_S	1.567 g
Mapped 1-second Spectral Response Acceleration, S_1	0.562 g
Site Coefficient, Fa	1.0
Site Coefficient, Fv	1.738
MCE 0.2-sec Period Spectral Response Acceleration, S_{MS}	1.567 g
MCE 1-second Period Spectral Response Acceleration, S_{M1}	1.465 g**

Seismic Parameter	Value
Design Spectral Response Acceleration for Short Period, S_{DS}	1.044 g
Design Spectral Response Acceleration for 1-second Period, S_{D1}	0.977 g**
TL	8
PGA_M	0.735
Seismic Design Category	D

* Per ASCE7 Section 20.3.1, for structures that have **fundamental periods of vibration equal to or less than 0.5 s**, site response analysis is not required to determine spectral accelerations for liquefiable soils. Rather, a site class is permitted to be determined. Site Class D can be used without this limitation if the soil is improved using the recommended DSM.
**Per ASCE 7-16 Supplement 3-Section 11.4.8, the S_{M1} and S_{D1} values listed in this table are increased by 50%.

Although site is located in liquefaction zone and is classified as site class F, the parameters presented in Table No. 2, *CBC Seismic Design Parameters* are presented for site class D, and they are only valid if requirements of ASCE 7-16 Section 20.3.1 and 11.4.8 are satisfied.

6.2 Site-Specific Seismic Parameters

Site-specific acceleration parameters were evaluated in accordance with the seismic provisions in Section 21 of ASCE 7-16 guidelines with Supplement 3 (ASCE, 2016), which were adopted in the 2022 California Building Code. These parameters were determined for the site coordinates from the boring data using the online calculator developed by the Utilization of Ground Motion Simulation (UGMS) committee of the Southern California Earthquake Center (SCEC). The recommended site-specific risk-targeted Maximum Considered Earthquake (MCE_R) and design response spectra are presented in Appendix F, *Seismic Hazard Analysis Results*. The following table summarizes the recommended 2022 CBC site-specific seismic design parameters calculated using the UGMS online tool.

Table No. 3, 2022 CBC Site-Specific Seismic Parameters

Seismic Parameter	Value
(1) MCE_R (5%, damped) Spectral response acceleration for short periods adjusted for site class, S_{MS}	2.113 g
(1)MCE_R (5% damped) spectral response acceleration at 1-second period adjusted for site class, S_{M1}	1.866 g
Design spectral response acceleration (5% damped) at short periods, S_{DS}	1.409 g
Design Spectral response acceleration (5% damped) at 1-second period, S_{D1}	1.244 g
Site-Modified Peak Ground Acceleration, MCE_G PGA	0.777 g

Site-specific parameters were determined based on the estimated average shear wave velocity of the site in the upper 30 meters (100 feet), V_{s30} of 269.0 m/sec (883 ft/sec),

which calculated using the SPTPROP software (InfraGEO, 2020) based on the correlation with SPT blow counts by Brandenberg, Bellana and Shantz (2010). Extrapolation of estimated shear wave velocities from 50-ft depth to 100-ft depth was performed using the method proposed by Boore (2004). The Modified California Sampler blow counts were converted to equivalent SPT blow counts by multiplying the value by 0.65 to account for end-area effects.

A seismic deaggregation analysis conducted using the USGS Unified Hazard online tool shows the magnitude 7.3 event located approximately 6.8 miles (10.88 km) from the project site contributes the most to the seismic hazard at the project site.

7.0 DESIGN RECOMMENDATIONS

7.1 General Evaluation

Based on the results of our background review, subsurface exploration, laboratory testing, geotechnical analyses, and understanding of the planned site development, it is our opinion that the proposed project is feasible from a geotechnical standpoint, provided the following conclusions and recommendations are incorporated into the project plans and specifications, and are followed during site construction.

Remedial grading consisting of over-excavation and re-compaction is required for the surficial soils to provide structural support of appurtenant improvements.

7.1.1. General Foundation Alternatives

The site is located within a potential liquefaction zone with estimated seismically induced settlement ranged from 6.7 to 9.3 inches and differential settlement of 3.35 to 4.65 inches in 30 feet horizontal distance. Ground improvement is one of the mitigation options to reduce the ground settlement at the project site.

Each of the considered alternatives has advantages and constraints. The costs, design and schedule impacts, and risks associated with each alternative should be evaluated by the design team and owner. The contractor is recommended to be familiar with mitigating loose/soft soil conditions below groundwater. Note that ground improvement options discussed herein are typically conducted on a design build basis with a specialty contractor.

7.1.2 Shallow Foundations with Ground Improvement

The liquefaction hazard may be mitigated by soil improvement techniques. Ground improvement is one of the mitigation options to reduce the ground settlement at the project site. We recommend implementation of one of the following options: 1) Compaction Grouting, 2) Rammed Aggregate Piers 3) Stone Columns, or 4) Wet Soil Mix Columns. Ground improvement utilizing Wet Soil Mixing (Deep Soil Mixing) to densify the

subsurface liquefiable soils is considered geotechnical feasible to alleviate the seismically-induced settlement. After completion of ground improvement as well as any necessary remedial grading, the proposed buildings can be supported on shallow foundations.

7.1.2.1 Option A - Compaction Grouting

Deep ground improvement is a mitigation option available to reduce the calculated dynamic ground settlement at the project site. Ground improvement utilizing compaction grouting to densify the subsurface liquefiable soils is considered geotechnical feasible to alleviate the seismically-induced settlement. After completion of compaction grouting ground improvement, the proposed structures can be supported on conventional shallow foundations bearing into compacted fill.

Compaction grouting technique consists of injecting a very viscous (low-mobility) aggregate grout in stages to displace and densify the surrounding soils. In order to reduce the total seismic-induced settlement to approximately 1.5 inch or less, with a differential settlement less than 0.75 inches over a 60-foot span, the targeted soil layers between depths of approximately 8 to 50 feet below the ground surface should be densified with compaction grouting.

Based on the existing densities of site soils at the targeted grouting depths, it has been preliminarily estimated that a grout slurry volume on the order of fifteen (15) to twenty (20) percent of the existing volume of the targeted improvement zone should be injected in order to mitigate the potential for liquefaction. In general, the following minimum criteria should be implemented:

- Establish grout points on a grid pattern with spacing of 8 feet between points.
- The targeted improvement zone should extend at least five feet laterally beyond the footprint of the building foundations.
- Ground movement monitoring should be conducted at each grout point during grout injection operations.
- Conditions for grout refusal at each of stage of injection are as follow:
    1. Grout header pressure maximum of 600 psi, or
    2. Surface upheave is observed, or
    3. Injection volume on the order of 15% to 20% of soil being treated at the injection stage is reached.
- The geotechnical consultant should be consulted for further detailed analyses and planning if compaction grouting is to be adopted.

The compaction grouting program, including installation of grout pipes, shall be performed by a specialist Compaction Grouting Contractor with at least five (5) continuous years of

documented experience in compaction grouting. The design and installation program shall be conducted and overseen by a registered professional engineer employed by the contractor. The Compaction Grouting Contractor shall provide experienced management, supervisory and key personnel as required to implement the compaction grouting program.

Proof of the effectiveness of the ground improvement program will be needed by verification testing after completion of the grouting operation. The effectiveness of the system is the responsibility of the specialty contractor, subject to the review and approval of the project geotechnical engineer. Additional grout points will be needed in areas that do not meet the performance requirements. In order to verify the end result of compaction grouting for liquefaction mitigation, it is recommended that a post-grouting quality assurance program be implemented. Ground improvement effectiveness should be assessed by Cone Penetration Testing (CPT). It is recommended a minimum of five (5) CPTs be advanced within the building footprint to verify ground improvement effectiveness. The following criteria must be met:

- Average CPT tip resistance of 150 tsf

The verification report shall summarize the subsurface exploration program and include descriptive CPT log and supplemental liquefaction/seismic settlement analysis.

Following confirmation of successful compaction grouting ground improvement, remedial grading consisting of over-excavation and recompaction is recommended to mitigate undocumented fill soils and to provide a uniform soil condition for footing and slab support.

7.1.2.2 Option B - Rammed Aggregate Piers

The Geopier System uses replacement Rammed Aggregate Pier (RAP) elements to reinforce poor soil conditions. The installation process utilizes drilling a hole and ramming crushed stones into the hole in thin lifts. Geopier construction results in dense aggregate piers to reinforce soft soils which improve the strength and stiffness of the soils and mitigates excessive differential settlement.

The drilled hole for each RAP ranges from 24 to 36 inches in diameter. Aggregated for the piers typically consist of materials that are in general conformance with crushed aggregate base (CAB) gradation requirements for State Department of Transportation. In order to reduce the total seismic-induced settlement to 1.5 inches with differential settlement less than 0.75 inches over a 60-foot span, the minimum RAP depth should be 50 feet, extending to within approximately 5 feet of the ground surface.

The actual Geopier design (i.e. layout, numbers, size and depth of RAP) should be performed by the specialty contractor in a design-build contract. We recommend that the structural engineer coordinate with the specialty contractor during foundation design to optimize footing/grade beam layout and the Geopier scheme. The design of the

ground improvement program should be reviewed by Converse and installed under our observation. The design should meet the following performance criteria:

- Maximum overall post-improvement settlement = 1.5 inches
- Maximum post-improvement differential settlement = 0.75 inches per 60 feet
- Minimum allowable bearing pressure = 2,500 pounds per square feet (Min. F.S. = 3.0)

Prior to installation of RAP, the project geotechnical engineer shall verify and approved the aggregate base material to be used. The installer of the RAP system shall maintain Quality Control (QC) records during pier installation. This work shall be conducted under the supervision of a registered professional engineer. The project geotechnical engineer shall be retained for Quality Assurance (QA) services. The geotechnical engineer shall monitor installation procedures relative to the construction specifications and shall confirm that subsurface conditions across the installation area as revealed by the pier drilling are in general agreement with the project geotechnical explorations.

Proof of the effectiveness of the ground improvement program is typically provided by verification testing after completion of the operation. The effectiveness of the system is the responsibility of the specialty contractor, subject to the review and approval of the project geotechnical engineer. Additional improvement should be installed in areas that do not meet the performance requirements.

The verification program should consist of load test to verify bearing and settlement criteria are met. A calibrated dynamic penetration test (ASTM STP 399) shall be performed on representative aggregate pier elements. A minimum of 15 blows per 1.75-inch vertical movement shall be the minimum average penetration resistance of compacted, graded aggregate base course stone. On lifts of open graded aggregate, lower values may be approved by the system designer as appropriate.

To ensure that the contractor has experience with RAP projects, pre-qualification should be considered. As a minimum, the RAP installer should provide evidence of satisfactory experience with the design and installation of RAP, including examples of at least 3 previous projects for which the installer has achieved at least the design bearing pressure, supported comparable structural loads and controlled settlement to the project tolerances. The design and installation shall be conducted and overseen by a registered professional engineer employed by the contractor.

Following installation of rammed aggregate piers, remedial grading consisting of over-excavation and recompaction is recommended to mitigate undocumented fill soils and to provide a uniform soil condition for footing and slab support.

7.1.2.3 Option C - Stone Columns

Stone columns are installed by vibro-compaction and/or vibro-replacement technics which includes probe penetration, compaction and replacing gravel materials into probed hole to densify the surrounding soils. Ground improvement is achieved by the grids of these stiffer "stone columns" within the ground. Researches have shown the stone columns can also provide additional drainage to relieve excess pore pressures generated during an earthquake and reducing the extent of liquefaction.

In general, stone column locations should be on a grid pattern with spacing of 8 feet between columns. The actual design of a ground improvement program should be performed by a design-build contractor specializing and experienced with the stone column construction methods.

To ensure that the contractor has experience with stone column construction projects, pre-qualification should be considered. As a minimum, the stone column installer should provide evidence of satisfactory experience with at least five (5) continuous years of documented experience in design and installation of stone columns, including examples of at least 3 previous projects for which the installer has achieved the design criteria, supported comparable structural loads and controlled settlement to the project tolerances. The design and installation shall be conducted and overseen by a registered professional engineer employed by the contractor. The stone column contractor shall provide experienced management, supervisory and key personnel as required to implement the stone column construction program.

7.1.2.4 Option D – Wet Soil Mix Columns

Wet soil mixing (deep mixing method) is a technique for ground improvement that mixes subsurface soils with cementitious binder slurry that improves the characteristics of weak soils. A rig advances drill steel with radial mixing paddles near the bottom of the drill string to construct the soil mix column. The binder slurry is pumped through the drill steel to the tool. The soil is mixed with the cementitious binder slurry as it advances, and additional soil mixing is achieved as the tool is withdrawn.

To ensure that the contractor has experience with Wet Soil Mix Column projects, pre-qualification should be considered. As a minimum, the contractor should provide evidence of satisfactory experience with the design and installation of Wet Soil Mix Columns, including examples of at least 3 previous projects for which the installer has achieved at least the design bearing pressure, supported comparable structural loads and controlled settlement to the project tolerances. The design and installation shall be conducted and overseen by a registered professional engineer employed by the contractor.

The specified unconfined compressive strength of the deep mixed material as determined by ASTM D1633 at 28-days curing time should be 150 psi. If earlier testing is conducted, the specified strength should at least equal 125 psi at 14-days curing time.

The shallow foundations founded on the improved soils will have minimum 3,000 psf allowable bearing capacity, static settlement of 1 inch and differential static settlement of 1/2 inch over 30 feet span, and seismic settlement of 1 inch and differential seismic settlement of 1/2 inch over 30 feet span.

Appendix G, *Ground Improvement Specifications and Plans,* presents geotechnical specifications along with the accompanying plans, cross sections, and details for the mitigation of the liquefaction hazard below the Proposed Student Services and Administration Building by means of deep soil mixing.

7.2 Shallow Foundation for building with ground improvement

The proposed student housing project is located in a liquefaction hazard zone and the liquefaction needs to be mitigated in order to use shallow foundations. Converse proposes using Deep Soil Mixing (DSM) to improve the soil.

Deep mixing method is a technique for ground improvement that mixes subsurface soils with cementitious binder slurry that improves the characteristics of weak soils. A rig advances drill steel with radial mixing paddles near the bottom of the drill string to construct the soil mix column. The binder slurry is pumped through the drill steel to the tool. The soil is mixed with the cementitious binder slurry as it advances, and additional soil mixing is achieved as the tool is withdrawn.

Soil improvement is typically conducted on a design build basis with a specialty contractor. Deep soil mixing can be designed to reduce the seismic settlement to less than 1 inch, the static settlement to less than 1 inch, and bearing capacity can be increased to 3,000 psf for DL+LL with the factor of safety of 3. This bearing pressure can be increased by 33% for wind and seismic loading condition.

Isolated pad footing should be at least 24 inches square, and continuous footings should be at least 18 inches wide. Footings should be embedded at least 18 inches below lowest adjacent grade into compacted fill soils prepared per our earthwork recommendations.

7.3 Non-Building Structure Footings

7.3.1 Vertical Capacity

For non-building structures (e.g. trash enclosure, signs, fence walls, short retaining walls, etc.), conventional footings can be used. Isolated pad footing should be at least 18 inches square, and continuous footings should be at least 12 inches wide. Footings should be embedded at least 12 inches below lowest adjacent grade into compacted fill soils prepared per our earthwork recommendations. Conventional spread footings founded on compacted fill soils may be designed for a net bearing pressure of 2,000 pounds per square foot (psf) for dead-plus-live-loads.

The net allowable bearing pressure can be increased by 300 psf for each additional foot of excavation depth and by 200 psf for each additional foot of excavation width up to a maximum value of 3,000 psf.

The net allowable bearing values indicated above are for the dead loads and frequently applied live loads and are obtained by applying a factor of safety of 3.0 to the net ultimate bearing capacity.

7.3.2 Lateral Capacity

Resistance to lateral loads can be provided by friction acting at the base of the foundation and by passive earth pressure. A coefficient of friction of 0.3 may be assumed with normal dead load forces. An allowable passive earth pressure of 250 psf per foot of depth up to a maximum of 2,000 psf may be used for footings poured against properly compacted fill or undisturbed firm natural soils. The values of coefficient of friction and allowable passive earth pressure include a factor of safety of 1.5.

7.3.3 Settlement

The static settlement of structures supported on continuous and/or spread footings founded on compacted fill will depend on the actual footing dimensions and the imposed vertical loads. Most of the footing settlement at the project site is expected to occur immediately after the application of the load. Based on the maximum allowable net bearing pressures presented above, static settlement is anticipated to be less than one inch. Differential settlement is expected to be up to one-half of the total settlement over a 30-foot span.

7.3.4 Dynamic Increases

Bearing values indicated above are for total dead load and frequently applied live loads. The above vertical bearing may be increased by 33% for short durations of loading which will include the effect of wind or seismic forces. The allowable passive pressure may be increased by 33% for lateral loading due to wind or seismic forces.

7.4 Modulus of Subgrade Reaction

For the subject project, design of the structures supported on compacted fill subgrade prepared in accordance with the recommendations provided in this report may be based on a soil modulus of subgrade reaction of (k_s) of 125 pounds per square inch per inch.

7.5 Lateral Earth Pressure

The following provisional design values may be used for any utility vaults and/or walls below grade that are less than 6 feet high.

The earth pressure behind any buried wall depends primarily on the allowable wall movement, type of soil behind the wall, backfill slopes, wall inclination, surcharges, and any hydrostatic pressure. The following earth pressures are recommended for vertical walls with no hydrostatic pressure.

Table No. 4, Lateral Earth Pressures for Retaining Wall Design

Backfill Slope (H:V)	Cantilever Wall Equivalent Fluid Pressure (psf)	Restrained Wall Equivalent Fluid Pressure (psf)
Level	35 (triangular pressure distribution)	55 (triangular pressure distribution)

The recommended lateral pressures assume that the walls are fully back-drained to prevent build-up of hydrostatic pressure. Adequate drainage could be provided by means of permeable drainage materials wrapped in filter fabric installed behind the walls. The drainage system should consist of perforated pipe surrounded by a minimum one square foot per lineal feet of free draining, uniformly graded, permeable material aggregate, and wrapped in filter fabric such as Mirafi 140N or equivalent. The filter fabric should overlap approximately 12.0 inches or more at the joints. The subdrain pipe should consist of perforated, 4-inch diameter, rigid ABS (SDR-35) or PVC A-2000, or equivalent, with perforations placed down. Alternatively, a prefabricated drainage composite system such as the Miradrain G100N or equivalent can be used. The subdrain should be connected to solid pipe outlets, with a maximum outlet spacing of 100 feet. Waterproofing membranes should be added to the subterranean wall levels for moisture sensitive areas to mitigate moisture migration through the walls.

In addition, walls with inclined backfill should be designed for an additional equivalent fluid pressure of one pound per cubic foot for every 2 degrees of slope inclination. Walls subjected to surcharge loads located within a distance equal to the height of the wall should be designed for an additional uniform lateral pressure equal to 1/3 or 1/2 the anticipated surcharge load for unrestrained or restrained walls, respectively. These values are applicable for backfill placed between the wall stem and an imaginary plane rising 45 degrees from below the edge (heel) of the wall footings.

Retaining walls taller than 6 feet should be designed to resist additional earth pressure caused by seismic ground shaking based on Section 1615A.1.6 of CBC 2022. A seismic earth pressure of 24H (psf), based on an inverted triangular distribution, can be used for design of wall.

7.6 Slabs-on-Grade

Slabs-on-grade should have a minimum thickness of five (5) inches nominal for support of normal ground-floor live loads. Minimum reinforcement for slabs-on-grade should be No. 4 reinforcing bars, spaced at 18 inches on-center each way. The thickness and reinforcement of more heavily loaded slabs will be dependent upon the anticipated loads and should be designed by a structural engineer. A static modulus of subgrade reaction

equal to 125 pounds per square inch per inch may be used in structural design of concrete slabs-on-grade.

It is critical that the exposed subgrade soils should not be allowed to desiccate prior to the slab pour. Care should be taken during concrete placement to avoid slab curling. Slabs should be designed and constructed as promulgated by the ACI and Portland Cement Association (PCA). Prior to the slab pour, all utility trenches should be properly backfilled and compacted.

In areas where a moisture-sensitive floor covering (such as vinyl tile or carpet) is used, a 10-mil-thick moisture retarder/barrier can be used between the bottom of slab and subgrade that meets the performance criteria of ASTM E1745 Class A material. Retarder/barrier sheets should be overlapped a minimum of six inches and should be taped or otherwise sealed per the product specifications.

7.7 Soil Corrosivity Evaluation

Converse retained the Keegan Labs, located in Pomona, California, to test one (1) sample taken in the general area of the proposed structures. The tests included minimum resistivity, pH, soluble sulfates, and chloride content, with the results summarized on the following table:

Table No. 5, Soil Corrosivity Test Results

Boring No.	Sample Depth (feet)	pH (Caltrans 643)	Soluble Chlorides (Caltrans 422) ppm	Soluble Sulfate (Caltrans 417) % by Weight	Saturated Resistivity (Caltrans 532) Ohm-cm
BH-1	0-5	8.0	27	0.0042	4,120

In accordance with the Caltrans Corrosive Guidelines (2012), the pH value and chloride content of the sample tested is in the “non-corrosive” range.

Soluble sulfate concentrations tested for this project are less than 0.20 in the soil. Mitigation measures to protect concrete in contact with the soils should be anticipated. Type I or II Portland Cement may be used for the construction of the foundations and slabs.

In general, conventional corrosion mitigation measures may include the following:

- Steel and wire concrete reinforcement should have at least three inches of concrete cover where cast against soil, unformed.
- Below-grade ferrous metals should be given a high-quality protective coating, such as 18-mil plastic tape, extruded polyethylene, coal-tar enamel, or Portland cement mortar.

- Below-grade metals should be electrically insulated (isolated) from above-grade metals by means of dielectric fittings in ferrous utilities and/or exposed metal structures breaking grade.

The test results presented herein are considered preliminary. If advanced corrosivity study is desired by the design team, a corrosion engineer can be consulted for appropriate mitigation procedures and construction design.

7.8 Flexible Pavement

The flexible pavement structural section design recommendations were performed in accordance with the method contained in the *CALTRANS Highway Design Manual*, Chapter 630, without the factor of safety. No specific traffic study was performed to determine the Traffic Index (TI) for the proposed project, therefore a wide range of TI values were evaluated.

Due to various earth materials encountered at the site, flexible pavement structural section recommendations are prepared for both subgrade soils. We recommend that the project structural engineer consider the traffic loading conditions at various locations and select the appropriate pavement sections from the following table:

Table No. 6, Flexible Pavement Structural Sections

Design R-value	Design TI	Asphalt Concrete (AC) Over Aggregate Base (AB) Structural Sections		Full AC Structural Section
		AC (inches)	AB (inches)	AC (inches)
33	4	**3.0**	***3.0***	***4.0***
	5	**3.0**	***5.0***	***5.5***
	6	**4.0**	***6.0***	***7.0***
	7	**5.0**	***7.0***	***8.5***
	8	**5.5**	***9.0***	***9.5***
	9	**6.0**	***11.0***	***11.0***

Base material shall conform to requirements for Crushed Miscellaneous Base (CMB) or equivalent and should be placed in accordance with the requirements of the Standard Specifications for Public Works Construction (SSPWC, latest Edition). Asphaltic materials should conform to Section 203-1, "Paving Asphalt," of the Standard Specifications for Public Works Construction (SSPWC, latest Edition) and should be placed in accordance with Section 302-5, "Asphalt Concrete Pavement," of the SSPWC, latest edition.

Positive drainage should be provided away from all pavement areas to prevent seepage of surface and/or subsurface water into the pavement base and/or subgrade.

7.9 Rigid Pavement

Rigid pavement design recommendations were provided in accordance with the Portland Cement Association's (PCA) Southwest Region Publication P-14, Portland Cement Concrete Pavement (PCCP) for Light, Medium and Heavy Traffic Rigid Pavement. We recommend that the project structural engineer consider the loading conditions at various locations and select the appropriate pavement sections from the following table:

Table No. 7, Rigid Pavement Structural Sections

Design R-Value	Design Traffic Index (TI)	PCCP Pavement Section (inches)
33	5.0	6.5
	6.0	7.0
	7.0	7.0
	8.0	7.5
	9.0	8.0

The above pavement section is based on a minimum 28-day Modulus of Rupture (M-R) of 550 psi and a compressive strength of 3,750 psi. The third point method of testing beams should be used to evaluate modulus of rupture. The concrete mix design should contain a minimum cement content of 5.5 sacks per cubic yard. Recommended maximum and minimum values of slump for pavement concrete are 3.0 inches to 1.0 inch, respectively.

Transverse contraction joints should not be spaced more than 10 feet and should be cut to a depth of 1/4 the thickness of the slab. Longitudinal joints should not be spaced more than 12 feet apart. A longitudinal joint is not necessary in the pavement adjacent to the curb and gutter section.

Prior to placement of concrete, at least the upper 12.0 inches of subgrade soils below rigid pavement sections should be compacted to at least ninety-five percent (95%) relative compaction as defined by the ASTM D 1557 standard test method.

Positive drainage should be provided away from all pavement areas to prevent seepage of surface and/or subsurface water into pavement base and/or subgrade.

7.10 Site Drainage

Adequate positive drainage should be provided away from the structures to prevent ponding and to reduce percolation of water into structural backfill. We recommend that the landscape area immediately adjacent to the foundation shall be designed sloped away from the building with a minimum 5% slope gradient for at least 10 feet measured perpendicular to the face of the wall. Impervious surfaces within 10 feet of the foundation shall have a minimum 2 percent slope away from the building per 2022 CBC.

Planters and landscaped areas adjacent to the building perimeter should be designed to minimize water infiltration into the subgrade soils.

8.0 EARTHWORK AND SITE GRADING RECOMMENDATIONS

8.1 General Evaluation

Based on our field exploration, laboratory testing, and analyses of subsurface conditions at the site, remedial grading will be required to prepare the sites for support of the proposed structures that are constructed with conventional shallow footings. To reduce differential settlement, variations in the soil type, degree of compaction, and thickness of the compacted fill, the thickness of compacted fill placed underneath the footings should be kept uniform.

Site grading recommendations provided below are based on our experience with similar projects in the area and our evaluation of this investigation.

Site preparation for the proposed structure may require removal of existing structures, improvements, and other existing underground manmade structures and utilities.

The site soils can be excavated utilizing conventional heavy-duty earth-moving equipment. The excavated site soils, free of vegetation, shrub and debris, may be placed as compacted fill in structural areas after proper processing. Rocks larger than three (3) inches in the largest dimension should not be placed as fill.

On-site clayey soils and with an expansion index exceeding 20 should not be re-used for compaction within 2 feet below the proposed foundations and floor slabs. Soils containing organic materials should not be used as structural fill. The extent of removal should be determined by the geotechnical representative based on soil observation during grading.

8.2 Over-Excavation

8.2.1 Shallow Foundations with Soil Improvement

After soil improvement, shallow foundations can be used to support the proposed building. Refer to Appendix G, *Ground Improvement Specifications and Plans*, for the overexcavation requirements and fill material below foundations and slabs. Deeper removal and re-compaction will be needed if firm soil conditions are not exposed on the excavation bottom. Over-excavation and re-compaction should extend at least five (5) feet laterally beyond the limits of perimeter footings where feasible.

8.2.2 Additional Notes

Prior to the start of construction, all loose soil, fill, organic materials (grass) and soil disturbed during demolition should be removed to firm and unyielding native material or compacted fill.

The upper 2 feet of soil below the existing grades should be over-excavated and recompacted for slab support. For pavement, flatwork and hardscape, the upper 24-inches should be over-excavated and recompacted. The excavation to remove unsuitable soils should be extended to 2 feet beyond the proposed structure limits where space is available. Over-excavation and re-compaction for retaining walls, if any, should be three (3) feet below bottom of footings and should extend three (3) feet laterally beyond the retaining wall footing. Localized deeper removal will be needed where firm native soils are not exposed on the excavation bottom.

Excavation activities should not disturb adjacent utilities or undermine any adjacent buildings and structures to remain and be protected in place. Existing utilities should be removed and adequately capped and sealed at the project boundary line or salvaged/rerouted as designed.

The exposed bottom of the over-excavation area should be scarified at least 6 inches, moisture conditioned as needed to near-optimum moisture content and compacted to 90 percent relative compaction (laboratory maximum density evaluated per ASTM D1577). Over-excavation should not undermine adjacent improvements that are to remain and be protected in place. Remedial grading should not extend within a projected 1:1 (horizontal to vertical) plane projected down from the outer edge of adjacent improvements. If loose, yielding soil conditions are encountered at the excavation bottom, the following options can be considered:

a. Over-excavate until a firm bottom is reached.
b. Over-excavate and scarify an additional 18 inches deep, and then place at least 18-inch-thick layer of compacted base material (CAB or equivalent) to bridge the soft bottom. Base materials should be compacted to a minimum 95% relative compaction.
c. Over-excavate an additional 18-inches deep, and then place a layer of geotextile reinforcement (i.e. Mirafi HP570, or equivalent), then place an 18-inch-thick layer of compacted base material (CAB or equivalent) to bridge the soft bottom. Base materials should be compacted to a minimum 95% relative compaction. An additional layer of geotextile may be needed on top of base material layer depending on the actual site conditions.

The actual depth of removal should be based on recommendations and observation made during grading. Therefore, some variations in the depth and lateral extent of over-excavation recommended in this report should be anticipated.

8.3 Structural Fill

Following observation of the excavation bottom, subgrade soil surfaces should be scarified to a depth of at least six inches. The scarified soil should be moisture-conditioned within three (3) percent of optimum moisture for granular soils and to approximate three (3) percent above the optimum moisture for fine-grained soil. Scarified soil shall be compacted to a minimum 90 percent of the laboratory maximum dry density as determined by the ASTM Standard D1557 test method.

Any import fill should be tested and approved by Project Geotechnical Consultant. The import fill should have an expansion potential less than 20. The imported materials should be thoroughly mixed and moisture conditioned within three (3) percent above the optimum moisture. All fill, if not specified otherwise elsewhere in this report, should be compacted to at least 90 percent of the laboratory dry density in accordance with the ASTM Standard D1557 test method.

Where the fill is not within the areas specified above or is not to support any structures, excavated site soils, free of deleterious materials and rock particles larger than three inches in the largest dimension, should be suitable for placement as compacted fill. The site materials should be thoroughly mixed, and moisture conditioned to approximate three percent above the optimum moisture, and then compacted to at least 90 percent of relative compaction.

8.4 Subgrade Preparation

Final subgrade soils for proposed structure and pavement should be uniform and non-yielding. To obtain a uniform subgrade, soils should be well mixed and uniformly compacted. The subgrade soils should be moisture conditioned before placing concrete.

8.5 Excavatability

Based on our field exploration, the earth materials at the site should be excavatable with conventional heavy-duty earth moving and trenching equipment. Some gravel should be expected during excavation.

8.6 Pipe Backfill Recommendations

Any soft and/or unsuitable material encountered at the pipe invert should be removed and replaced with an adequate bedding material.

8.6.1 Pipe Subgrade Preparation

The pipe subgrade should be level, firm, uniform, free of loose materials and properly graded to provide uniform bearing and support to the entire section of the pipe placed on bedding material. Protruding oversize particles larger than two (2) inches in the largest dimension, if any, should be removed from the trench bottom and replaced with compacted materials.

During the digging of depressions for proper sealing of the pipe joints, the pipe should rest on a prepared bottom for as near its full length as is practicable.

8.6.2 Pipe Bedding

The bedding zone is defined as that portion of the pipe trench from four inches below the pipe invert to one foot above the top of pipe, in accordance with Sections 217-1.1 and 306-1.2.1 of the *Standard Specifications for Public Works Construction* (SSPWC) and Los Angeles County Department of Public Works Standard Plans, 3080-0, Case 3, Pipe Bedding in Trenches. On-site soils, in the upper soil profile, consisted primarily of silts and sands and may not be suited for use as bedding material. Sandy soil materials with a Sand Equivalent of not less than 30 are acceptable for bedding material.

8.7 Trench Zone Backfill

The trench zone is defined as the portion of the trench above the pipe bedding extending up to the final grade level of the trench surface.

The following specifications are recommended to provide a basis for quality control during the placement of trench backfill.

Trench excavations to receive backfill shall be free of trash, debris or other unsatisfactory materials at the time of backfill placement. Excavated on-site soils free of oversize particles, defined as larger than one (1) inch in maximum dimension in the upper 12 inches of subgrade soils and larger than three (3) inches in the largest dimension in the trench backfill below, and deleterious matter after proper processing may be used to backfill the trench zone. Imported trench backfill, if used, should be approved by the project soils consultant prior to delivery at the site. No more than 30 percent of the backfill volume should be larger than ¾ inch in the largest dimension.

Trench backfill shall be compacted to 90 percent of the laboratory maximum dry density as per ASTM Standard D1557 test method. At least the upper twelve (12) inches of trench underlying pavements should be compacted to at least 95 percent of the laboratory maximum dry density.

Trench backfill shall be compacted by mechanical methods, such as sheepsfoot, vibrating or pneumatic rollers, or mechanical tampers, to achieve the density specified herein. The

backfill materials shall be brought to within three (3) percent of optimum moisture content and then placed in horizontal layers if the expansion index is less than or equal to 30. Should the expansion index be greater than 30, backfill materials shall be brought to approximately 3 percent above optimum moisture content. The thickness of uncompacted layers should not exceed eight (8) inches. Each layer shall be evenly spread, moistened or dried as necessary, mixed, leveled and then tamped or rolled until the specified density has been achieved.

The contractor shall select the equipment and processes to be used to achieve the specified density without damage to adjacent ground and completed work. The field density of the compacted soil shall be measured by the ASTM Standard D1556 or ASTM Standard D2922 test methods or equivalent. Observation and field tests should be performed by Converse during construction to confirm that the required degree of compaction has been obtained. Where compaction is less than that specified, additional compactive effort shall be made with adjustment of the moisture content as necessary, until the specified compaction is obtained. It should be the responsibility of the contractor to maintain safe conditions during cut and/or fill operations. Trench backfill shall not be placed, spread or rolled during unfavorable weather conditions. When the work is interrupted by heavy rain, fill operations shall not be resumed until field tests by the project's geotechnical consultant indicate that the moisture content and density of the fill are as previously specified.

8.7.1 Select Imported Fill Materials for Trench Zone Backfill

Imported soils, if any, used as compacted trench backfill should be predominantly granular and meet the following criteria:

- Expansion Index less than 20
- Free of all deleterious materials
- Contain no particles larger than 3 inches in the largest dimension
- Contain less than 30 percent by weight retained on ¾-inch sieve
- Contain at least 15 percent fines (passing #200 sieve)
- Have a Plasticity Index of 10 or less

Any import fill should be tested and approved by the geotechnical representative prior to delivery to the site.

8.8 Expansive Soil Mitigation

Expansive soils are characterized by their ability to undergo significant volume change (shrink or swell) due to variations in moisture content. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors and may cause unacceptable settlement or heave of structures, concrete slabs supported-on-grade, or pavements supported over these materials.

The on-site soil materials will be mixed during the grading and the expansion potential might change. Therefore, the expansion potential of site soils should be verified after the grading as slabs, foundations and pavement placed directly on expansive subgrade soil will likely crack over time.

During construction, grading will mix and relocate the site soils, and additional fill soils may be added. The expansion potential of the finish-grade soils should be tested at the completion of grading.

8.9 Shrinkage and Subsidence

Soil shrinkage and/or bulking as a result of remedial grading depends on several factors including the depth of over-excavation, and the grading method and equipment utilized, and average relative compaction. For preliminary estimation, bulking and shrinkage factors for various units of earth material at the site may be taken as presented below:

- The approximate shrinkage factor for the native alluvial soils is estimated to range from five (5) to fifteen (15) percent.
- For estimation purposes, ground subsidence may be taken as 0.15 feet as a result of remedial grading.

Although these values are only approximate, they represent our best estimates of the factors to be used to calculate lost volume that may occur during grading. If more accurate shrinkage and subsidence factors are needed, it is recommended that field-testing using the actual equipment and grading techniques be conducted.

9.0 CONSTRUCTION CONSIDERATIONS

9.1 General

Site soils should be excavatable using conventional heavy-duty excavating equipment. Temporary sloped excavation is feasible if performed in accordance with the slope ratios provided in Section 9.2, *Temporary Excavations*. Existing utilities should be accurately located and either protected or removed as required.

9.2 Temporary Excavations

Based on the sandy materials encountered in the exploratory borings, sloped temporary excavations (if necessary) may be constructed according to the slope ratios presented in Table No. 22, *Slope Ratios for Temporary Excavations*. Any loose utility trench backfill or other fill encountered in excavations will be less stable than the native soils. Temporary cuts encountering loose fill or loose dry sand may have to be constructed at a flatter gradient than presented in the following table:

Table No. 8, Slope Ratios for Temporary Excavations

Maximum Depth of Cut (feet)	Maximum Slope Ratio* (horizontal: vertical)
0 – 4	vertical
4 – 8	1:1
8+	1.5:1

*Slope ratio assumed to be uniform from top to toe of slope.

Surfaces exposed in slope excavations should be kept moist but not saturated to minimize raveling and sloughing during construction. Adequate provisions should be made to protect the slopes from erosion during periods of rainfall. Surcharge loads, including construction, should not be placed within five (5) feet of the unsupported trench edge. The above maximum slopes are based on a maximum height of six (6) feet of stockpiled soils placed at least five (5) feet from the trench edge.

All applicable requirements of the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act of 1987 and current amendments, and the Construction Safety Act should be met. The soils exposed in cuts should be observed during excavation by the project's geotechnical consultant. If potentially unstable soil conditions are encountered, modifications of slope ratios for temporary cuts may be required.

9.3 Slot Cut Recommendations

Temporary excavations during possible improvements should not extend below a 1:1 horizontal:vertical (H:V) plane extending beyond and down from the bottom of the existing utility lines or structures. The remedial grading excavations should not cause loss of bearing and/or lateral support for adjacent utilities or structures.

If remedial grading excavations extend below a 1:1 horizontal:vertical (H:V) plane extending beyond and down from the bottom of adjacent utility lines or structure foundations, shoring or slot cutting shall be employed. “A-B-C” slot cuts exposing native sandy soils may be excavated with maximum 8 feet wide sections to prevent the existing utility lines or off-site structures from becoming unstable. Backfill should be accomplished in the shortest period of time possible and in alternating sections.

The ABC slot cutting method for retaining walls could be a possible option as an alternative to shoring for excavation less than 8 feet or with cohesive soils. In general, for structures it is not recommended for slot cutting if the height of excavation exceeds more than 8 feet or into sandy soils and with surcharging load.

9.4 Shoring Design

Temporary shoring will be required for the recommended excavation due to space limitations and property line boundaries and because of nearby existing structures or

facilities and traffic loading. Temporary shoring may consist of the use of conventional soldier piles and lagging. Shoring should ultimately be designed by a qualified structural engineer considering the recommendations below in their final design and others which are applicable. Existing structures adjacent to excavation should be monitored for distress or excessive vibration during excavation.

Drilled excavations for soldier piles, which are recommended to create the proposed excavation, may require the use of drilling fluids or temporary casing to prevent caving and to maintain an opened hole for pile installation.

9.4.1 Cantilevered Shoring

Cantilevered shoring systems may include soldier piles with lagging to maintain temporary support of vertical wall excavations. Shoring design must consider the support of adjacent underground utilities and/or structures and should consider the effects of shoring deflection on supported improvements. Due to sandy nature of on-site soils, some caving during the drilling of soldier-pile borings should be anticipated. A soldier pile system will require continuous lagging to control caving and sloughing in the excavation between soldier piles.

Temporary cantilevered shoring should be designed to resist a lateral earth pressure equivalent to a fluid density of 40 pounds per cubic foot (pcf) for non-surcharged condition. This pressure is valid only for shoring retaining level ground. This equivalent fluid pressure is valid only for shoring supporting level ground.

In addition to the lateral earth pressure, surcharge pressures due to miscellaneous loads, such as soil stockpiles, existing structures, vehicular traffic or construction equipment located adjacent to the shoring, should be included in the design of the shoring. A uniform lateral pressure of 100 psf should be included in the upper 10 feet of the shoring to account for normal vehicular and construction traffic within 10 feet of the excavation. Surcharge pressures from the existing structures should be added to the above earth pressures for surcharges within a horizontal distance less than or equal to the wall height. Surcharge coefficients of 50% of any uniform vertical surcharge should be added as a horizontal earth pressure for shoring design. All shoring should be designed and installed in accordance with state and federal safety regulations.

The minimum embedment depth for piles is ten (10) feet from the lowest adjacent grade into firm alluvium, below the bottom of the excavation. Vertical skin friction against soldier piles may be taken as 250 psf. Fixity may be assumed at two (2) feet below the excavation into firm native alluvium or bedrock. For the design of soldier piles spaced at least 3.0 diameters on-center, the passive resistance of the soils adjacent to the piles may be assumed to be 250 psf per foot of embedment depth. Soldier pile members placed in drilled holes should be properly backfilled with a sand/cement slurry or lean concrete in order to develop the required passive resistance.

Caving soils should be anticipated between the piles. To limit local sloughing, caving soils can be supported by continuous lagging or guniting. The lagging between the soldier piles may consist of pressure-treated wood members or solid steel sheets. In our opinion, steel sheeting is expected to be more expedient than wood lagging to install. Although soldier piles and any bracing used should be designed for the full-anticipated earth pressures and surcharge pressures, the pressures on the lagging are less because of the effect of arching between the soldier piles. Accordingly, the lagging between the piles may be designed for a nominal pressure of up to a maximum of 400 psf. All lumber to be left in the ground should be treated in accordance with Section 204-2 of the "Standard Specifications for Public Works Construction" (Latest Edition).

9.4.2 Tie-Back Shoring

A tie-back soldier-pile shoring system may be used to maintain temporary support of deep vertical walled excavations. Braced or tied-back shoring, retaining a level ground surface, should be designed for a uniform pressure of 20H psf, where H is the height of the retained cut in feet.

Surcharge pressures should be added to this earth pressure for surcharges within a distance from the top of the shoring less than or equal to the shoring height. A surcharge coefficient of 50 percent of any uniform vertical surcharge should be added as a horizontal shoring pressure for braced shoring. A uniform lateral pressure of 100 psf should be included in the upper 10 feet of the shoring to account for normal vehicular and construction traffic within 10 feet of the trench excavation.

9.4.3 Tie-Backs

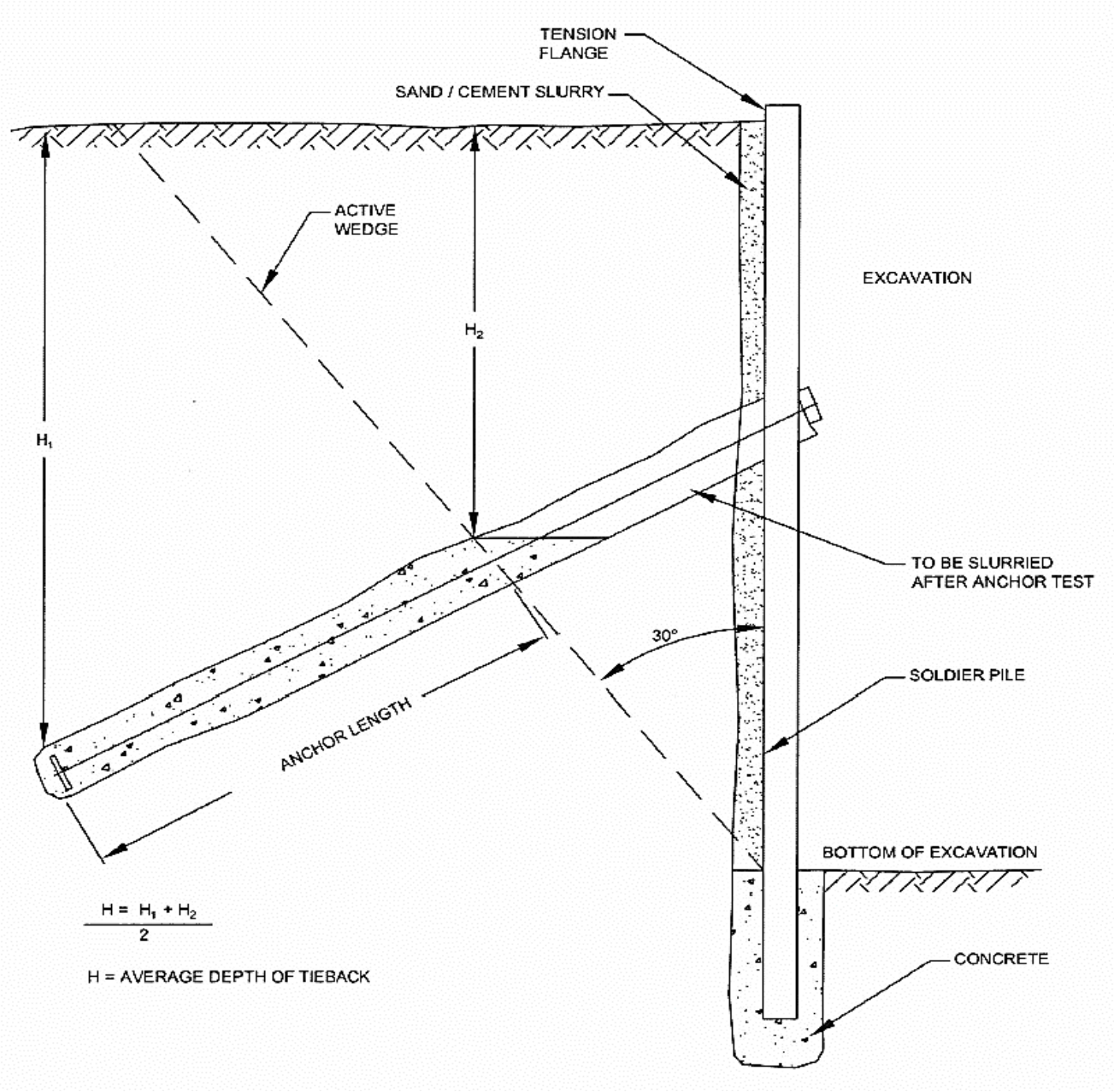
For design of tie-back shoring, it should be assumed that the potential wedge of failure is determined by a plane at 30 degrees from the vertical, through the bottom of the excavation. Tie-back anchors may be installed at angles of 15 to 40 degrees below a horizontal plane. Soil friction values, for estimating the allowable capacity of drilled friction anchors, may be computed using the following equation:

$q = 40H$; $q \leq 500$ *pounds-per-square-foot (psf)*

where:

H = average depth of anchor below ground surface, shown on Figure No. 8, *Schematic Typical Tie-Back Design*
q = anchor surface area resistance, in psf (excluding tip),

Only the frictional resistance developed beyond the assumed failure plane should be included in the tie-back design for resisting lateral loads. After shoring/tie-back is no longer needed to support the excavation, stress should be carefully released and shoring system including tieback may be able to be left in place.



SCHEMATIC TYPICAL TIE-BACK DESIGN

New Student Housing Project

Cerritos Community College, Norwalk

For : Tilden-Coil Construction

Project Number:

24-31-138-01

Converse Consultants

Figure No.

8

All shoring and tie-back should be designed by experienced California licensed Civil Engineer and installed by experienced contractors. Shoring/tie-back design should also be reviewed by a geotechnical consultant to verify the soil parameters used in the design are in conformance with geotechnical report.

All applicable requirements of the California Construction and General Industry Safety Orders, the Occupational Safety and Health Act of 1987 and current amendments, and the Construction Safety Act should be met. The soils exposed in cuts should be observed during excavation by a competent person employed by the contractor. If potentially unstable soil conditions are encountered, modifications of slope ratios for temporary cuts may be required.

It is recommended that Converse review plans and specifications for proposed shoring and that a Converse representative observes the installation of shoring. A licensed surveyor should be retained to establish monuments on shoring and the surrounding ground prior to excavation. Such monuments should be monitored for horizontal and vertical movement during construction. Results of the monitoring program should be provided immediately to the project Structural (shoring) Engineer and Converse for review and evaluation. Adjacent building elements should be photo-documented prior to construction.

9.5 Geotechnical Services During Construction

This report has been prepared to aid in the site preparation and site grading plans and specifications, and to assist the architect, civil and structural engineers in the design of the proposed structure. It is recommended that this office be provided an opportunity to review final design drawings and specifications to verify that the recommendations of this report have been properly implemented.

Recommendations presented herein are based upon the assumption that adequate earthwork monitoring will be provided by Converse. Excavation bottoms should be observed by a Converse representative prior to the placement of compacted fill. Structural fill and backfill should be placed and compacted during continuous observation and testing by this office. Footing excavations should be observed by Converse prior to placement of steel and concrete so that footings are founded on satisfactory materials and excavations are free of loose and disturbed materials.

During construction, the geotechnical engineer and/or their authorized representatives should be present at the site to provide a source of advice to the client regarding the geotechnical aspects of the project and to observe and test the earthwork performed. Their presence should not be construed as an acceptance of responsibility for the performance of the completed work, since it is the sole responsibility of the contractor performing the work to ensure that it complies with all applicable plans, specifications, ordinances, etc.

This firm does not practice or consult in the field of safety engineering. We do not direct the contractor's operations, and cannot be responsible for other than our own personnel on the site; therefore, the safety of others is the responsibility of the contractor. The contractor should notify the owner if he considers any recommended actions presented herein to be unsafe.

10.0 CLOSURE

The findings and recommendations of this report were prepared in accordance with generally accepted professional engineering and engineering geologic principles and practice. We make no other warranty, either expressed or implied. Our conclusions and recommendations are based on the results of the field and laboratory investigations, combined with an interpolation and extrapolation of soil conditions between and beyond boring locations. If conditions encountered during construction appear to be different from those shown by the borings, this office should be notified.

Design recommendations given in this report are based on the assumption that the earthwork, site grading and foundation recommendations contained in this report are implemented. Additional consultation may be prudent to interpret Converse's findings for contractors, or to possibly refine these recommendations based upon the review of the final site grading and actual site conditions encountered during construction. If the scope of the project changes, if project completion is to be delayed, or if the report is to be used for another purpose, this office should be consulted.

This report was prepared for Cerritos College for the subject project described herein. We are not responsible for technical interpretations made by others of our exploratory information. Specific questions or interpretations concerning our findings and conclusions may require a written clarification to avoid future misunderstandings.

11.0 REFERENCES

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Appendix A

Field Exploration

APPENDIX A: FIELD EXPLORATION

Field exploration included a site reconnaissance and subsurface exploration program. During the site reconnaissance, the surface conditions were noted, and the approximate locations of the field exploration were determined. The exploratory borings and Cone Penetration Tests (CPTs) were approximately located using existing boundary and other features as a guide and should be considered accurate only to the degree implied by the method used. The various field study methods performed are discussed below.

Exploratory Borings

Four (4) exploratory borings (BH-1 through BH-4) were advanced within the project site on May 31, 2024. All borings were advanced using a truck mounted drill rig with an 8-inch diameter hollow stem auger to a maximum depth of 51.5 feet below the existing ground surface (bgs). Each boring was visually logged by a Converse engineer and sampled at regular intervals and at changes in subsurface soils. Where appropriate, field descriptions and classifications have been modified to reflect laboratory test results.

Ring samples of the subsurface materials were obtained at frequent intervals in the exploratory borings using a drive sampler (2.4-inches inside diameter and 3.0-inches outside diameter) lined with sample rings. The steel ring sampler was driven into the bottom of the borehole with successive drops of a 140-pound driving weight falling 30 inches, using an automatic hammer. Samples are retained in brass rings (2.4-inches inside diameter and 1.0-inch in height). The central portion of the samples were retained and carefully sealed in waterproof plastic containers for shipment to the Converse laboratory. Blow counts at each sample interval are presented on the logs of borings. Bulk samples of typical soil types were also obtained.

Standard Penetration Test (SPT) was also performed using a standard split-barrel sampler (1.4-inches inside diameter and 2.0-inches outside diameter). The mechanically driven hammer for the SPT sampler was 140 pounds, falling 30 inches for each blow. The recorded blow counts for every six inches for a total of 1.5 feet of sampler penetration are shown on the Logs of Borings in the “BLOWS" column. The standard penetration test was performed in accordance with the ASTM Standard D1586 test method.

It should be noted that the exact depths at which material changes occur cannot always be established accurately. Changes in material conditions that occur between driven samples are indicated in the logs at the top of the next drive sample. A key to soil symbols and terms is presented as Drawing No. A-1, *Soil Classification Chart*. The log of the exploratory boring is presented in Drawing Nos. A-2 through A-5b, *Log of Borings*.

Cone Penetration Test (CPT)

The Cone Penetration Testing (CPT) conducted for this project consisted of pushing an instrumented cone-tipped probe into the ground while simultaneously recording the resistance to penetration at the cone tip and along the friction sleeve. The cone penetration testing described in this report was conducted in general accordance with the current ASTM specifications (ASTM D5778-95 and D3441-94) using an electronic cone penetrometer.

Four (4) Cone Penetration Tests (CPT-1 through CPT-4) were advanced to depths of approximately 100 feet below ground surface within the project site on May 31st 2024 by Kehoe Testing and Engineering using a 30-ton (4 axle) CPT rig. The test holes were stopped at plan depths or when the cone tip encountered refusal to penetration. The test holes were backfilled with bentonite crumbles, periodically hydrated with clean water and tamped at the surface. The top portion of the test hole was then patched with asphalt patch, rapid set concrete or soil to match existing surface conditions. The Cone Penetration Test (CPT) test logs are presented at the end of Appendix A.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE)	GRAVEL AND GRAVELLY SOILS (MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS (MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE)	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE)	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D 2435)
CL	Collapse Potential (ASTM D 4546)
CP	Compaction Curve (ASTM D 1557)
CR	Corrosion, Sulfates, Chlorides (CTM 643-99; 417; 422)
CU	Consolidated Undrained Triaxial (ASTM D 4767)
DS	Direct Shear (ASTM D 3080)
EI	Expansion Index (ASTM D 4829)
M	Moisture Content (ASTM D 2216)
OC	Organic Content (ASTM D 2974)
P	Permeablility (ASTM D 2434)
PA	Particle Size Analysis (ASTM D 6913 [2002])
PI	Liquid Limit, Plastic Limit, Plasticity Index (ASTM D 4318)
PL	Point Load Index (ASTM D 5731)
PM	Pressure Meter
PP	Pocket Penetrometer
R	R-Value (CTM 301)
SE	Sand Equivalent (ASTM D 2419)
SG	Specific Gravity (ASTM D 854)
SW	Swell Potential (ASTM D 4546)
TV	Pocket Torvane
UC	Unconfined Compression - Soil (ASTM D 2166)
	Unconfined Compression - Rock (ASTM D 7012)
UU	Unconsolidated Undrained Triaxial (ASTM D 2850)
UW	Unit Weight (ASTM D 2937)
WA	Passing No. 200 Sieve (ASTM D1140)

BORING LOG SYMBOLS

SAMPLE TYPE

- STANDARD PENETRATION TEST — Split barrel sampler in accordance with ASTM D-1586-84 Standard Test Method
- DRIVE SAMPLE 2.42" I.D. sampler (CMS).
- DRIVE SAMPLE No recovery
- BULK SAMPLE
- GROUNDWATER WHILE DRILLING
- GROUNDWATER AFTER DRILLING

DRILLING METHOD SYMBOLS

Auger Drilling | Mud Rotary Drilling | Dynamic Cone or Hand Driven | Diamond Core

UNIFIED SOIL CLASSIFICATION AND KEY TO BORING LOG SYMBOLS

Converse Consultants

Project ID: 138-01.GPJ; Template: LOG

Project Name
New Student Housing Project
Cerritos Community College
11110 Alondra Boulevard
Norwalk, CA. 90650

Project No.
24-31-138-01

Drawing No.
A-1a

CONSISTENCY OF COHESIVE SOILS

Descriptor	Unconfined Compressive Strength (tsf)	SPT Blow Counts	Pocket Penetrometer (tsf)	CA Sampler	Torvane (tsf)	Field Approximation
Very Soft	<0.25	< 2	<0.25	<3	<0.12	Easily penetrated several inches by fist
Soft	0.25 - 0.50	2 - 4	0.25 - 0.50	3 - 6	0.12 - 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 - 1.0	5 - 8	0.50 - 1.0	7 - 12	0.25 - 0.50	Can be penetrated several inches by thumb with moderate effort
Stiff	1.0 - 2.0	9 - 15	1.0 - 2.0	13 - 25	0.50 - 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2.0 - 4.0	16 - 30	2.0 - 4.0	26 - 50	1.0 - 2.0	Readily indented by thumbnail
Hard	>4.0	>30	>4.0	>50	>2.0	Indented by thumbnail with difficulty

APPARENT DENSITY OF COHESIONLESS SOILS

Descriptor	SPT N_{60}- Value (blows / foot)	CA Sampler
Very Loose	<4	<5
Loose	4- 10	5 - 12
Medium Dense	11 - 30	13 - 35
Dense	31 - 50	36 - 60
Very Dense	>50	>60

MOISTURE

Descriptor	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OF PROPORTION OF SOILS

Descriptor	Criteria
Trace (fine)/ Scattered (coarse)	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

SOIL PARTICLE SIZE

Descriptor		Size
Boulder		> 12 inches
Cobble		3 to 12 inches
Gravel	Coarse	3/4 inch to 3 inches
	Fine	No. 4 Sieve to 3/4 inch
Sand	Coarse	No. 10 Sieve to No. 4 Sieve
	Medium	No. 40 Sieve to No. 10 Sieve
	Fine	No. 200 Sieve to No. No. 40 Sieve
Silt and Clay		Passing No. 200 Sieve

PLASTICITY OF FINE-GRAINED SOILS

Descriptor	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled, and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll, and not much time is required to reach the plastic limit; it cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

CEMENTATION/ Induration

Descriptor	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

NOTE: This legend sheet provides descriptions and associated criteria for required soil description components only. Refer to Caltrans Soil and Rock Logging, Classification, and Presentation Manual (2010), Section 2, for tables of additional soil description components and discussion of soil description and identification.

UNIFIED SOIL CLASSIFICATION AND KEY TO BORING LOG SYMBOLS

Log of Boring No. B-1

Dates Drilled: 5/31/2024 Logged by: Aleksey Zhukov Checked By: Siva Sivathasan

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 64 ft. Depth to Water (ft, bgs): NOT ENCOUNTERED

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the Test Pit 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.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS	MOISTURE (%)	DRY UNIT WT. (pcf)	OTHER
		4" Asphalt Concrete, 3.5" Base						
		FILL **CLAYEY SAND (SC):** fine to coarse-grained, scattered gravel, .75 inch max, moist, orangish brown.						
		ALLUVIUM						
5		**SILTY SAND/SAND WITH SILT (SM/SP-SM):** fine to medium-grained, moist, tannish brown.	■		4/6/11	15	114.9	max ma c
10		**SAND WITH SILT (SP-SM):** fine-grained, trace clay, orange oxidation, moist, tannish brown.	■		5/9/12	4	91.8	
15		**SAND (SP):** fine-grained, moist, whitish yellow brown.	■	▨	6/8/13	3	92.5	
20			■		11/17/22	3	96.3	
25		**SANDY SILT (ML):** fine-grained, little clay, orange oxidation, medium plasticity, moist, grayish brown.	■		4/4/7	31	93.3	
30		**SAND WITH SILT (SP-SM):** fine-grained, orange oxidation, moist, gray.	■		5/11/13	8	94.7	
		End of boring 31.5 feet bgs. No groundwater encountered. Borehole backfilled with grout and capped with cold patch, on 5/31/2024.						

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New Student Housing Project
Cerritos Community College
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Project No. **24-31-138-01**

Drawing No. **A-2**

Log of Boring No. B-2

Dates Drilled: 5/31/2024 Logged by: Aleksey Zhukov Checked By: Siva Sivathasan

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 65 ft. Depth to Water (ft, bgs): 38

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS	MOISTURE (%)	DRY UNIT WT. (pcf)	OTHER
		This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the Test Pit 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.						
		3.5" Asphalt Concrete, 2" Base						
		FILL **SILTY SAND (SM):** fine to medium-grained, moist, orangish brown. scattered to few gravel 1 inch max, brown						
		ALLUVIUM						
5		**SILTY SAND (SM):** fine-grained, scattered gravel .5 inch max, with dark brown silt lenses, brown.	■		4/7/10	10	95.8	ei wa ds
10		**SILTY SAND (SM):** fine-grained, moist, with hint of orange oxidation, brown.	■		5/8/15	8	98.6	se max ma c
15		**SAND WITH SILT (SP-SM):** fine to medium-grained, trace silt, moist, yellow brown.	■		7/11/15	3	92.8	wa
20			■		8/9/9			
25		**SANDY SILT (ML):** fine-grained, few clay with high orange oxidation, medium plasticity, moist, grayish brown.	☒		2/3/6	29		wa
30		**SILTY SAND/SANDY SILT (SM-ML):** fine-grained, heavy orange and gray oxidation, low plasticity to non-plastic, moist, brown.	■		8/23/31	21	101.3	

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Project No. **24-31-138-01**

Drawing No. **A-3a**

Log of Boring No. B-2

Dates Drilled: 5/31/2024 Logged by: Aleksey Zhukov Checked By: Siva Sivathasan

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 65 ft. Depth to Water (ft, bgs): 38

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the Test Pit 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.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS	MOISTURE (%)	DRY UNIT WT. (pcf)	OTHER
		CLAY (CL): fine-grained, low plasticity, wet, dark gray.	X		3/5/7	28		wa
		-@38': GROUND WATER						
40		**SILTY SAND (SM):** fine-grained, transitions to medium grained, hint of orange oxidation, wet, dark gray.	■		6/13/26	26	97.8	
45		**CLAY (CL):** transitions into SAND WITH SILT (SP-SM), fine to medium grained, wet, yellowish gray.	X		4/11/14	25		wa
50		**SILTY SAND (SM):** fine-grained, high silt content, wet, gray.	■		10/32/50-4"	28		
		End of boring 51.5 feet bgs. No groundwater encountered. Borehole backfilled with grout and capped with cold patch, on 5/31/2024.						

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Project No. **24-31-138-01**

Drawing No. **A-3b**

Log of Boring No. B-3

Dates Drilled: 5/31/2024 Logged by: Aleksey Zhukov Checked By: Siva Sivathasan

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 66 ft. Depth to Water (ft, bgs): NOT ENCOUNTERED

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the Test Pit 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.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS	MOISTURE (%)	DRY UNIT WT. (pcf)	OTHER
		4" Asphalt Concrete, 3" Base						wa
		FILL **CLAYEY SAND (SC):** fine to coarse-grained, moist, brown.						
5		**ALLUVIUM** **SAND WITH SILT (SP-SM):** fine to coarse-grained, moist, tannish brown. **-@5':** dark brown **-@7':** becomes brown.						
10		End of boring 10.2 feet bgs. No groundwater encountered. Borehole used for perc testing, pipe was removed. Borehole backfilled with grout and capped with cold patch, on 5/31/2024.						

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Project No. 24-31-138-01

Drawing No. A-4

Log of Boring No. B-4

Dates Drilled: 5/31/2024 Logged by: Aleksey Zhukov Checked By: Siva Sivathasan

Equipment: 8" HOLLOW STEM AUGER Driving Weight and Drop: 140 lbs / 30 in

Ground Surface Elevation (ft): 66 ft. Depth to Water (ft, bgs): NOT ENCOUNTERED

Depth (ft)	Graphic Log	SUMMARY OF SUBSURFACE CONDITIONS This log is part of the report prepared by Converse for this project and should be read together with the report. This summary applies only at the location of the Test Pit 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.	SAMPLES: DRIVE	SAMPLES: BULK	BLOWS	MOISTURE (%)	DRY UNIT WT. (pcf)	OTHER
		4" Asphalt Concrete, 3.5" Base						
		FILL **CLAYEY SAND (SC):** fine to coarse-grained, few gravel, .75 inch max, moist, orangish brown.						
		ALLUVIUM **SILTY SAND (SM):** fine-grained, moist, brown.						
5		**SAND WITH SILT (SP-SM):** fine-grained, hint of orange oxidation becomes orange in last ring, moist, yellowish brown.			8/6/7	5	96.4	r
10		**SAND (SP):** fine-grained, moist, whitish yellow brown.			5/10/14	3	94.6	ds
15		fine to medium-grained, slight orange color.			5/8/14	3	89.9	
20		**SANDY SILT/SILTY SAND (ML-SM):** fine-grained, transitions, low plasticity to non-plastic, light brown.			9/14/13	2	94.6	
25		**SANDY SILT (ML):** fine-grained, few clay, with orange oxidation spots, medium plasticity, moist, brown.			3/6/7	29	91.9	att
30		**SILTY SAND (SM):** fine-grained, transitions, with orange and gray oxidation, high moisture, grayish brown.			6/17/22	24	97.2	
		End of boring 31.5 feet bgs. No groundwater encountered. Borehole backfilled with grout and capped with cold patch, on 5/31/2024.						

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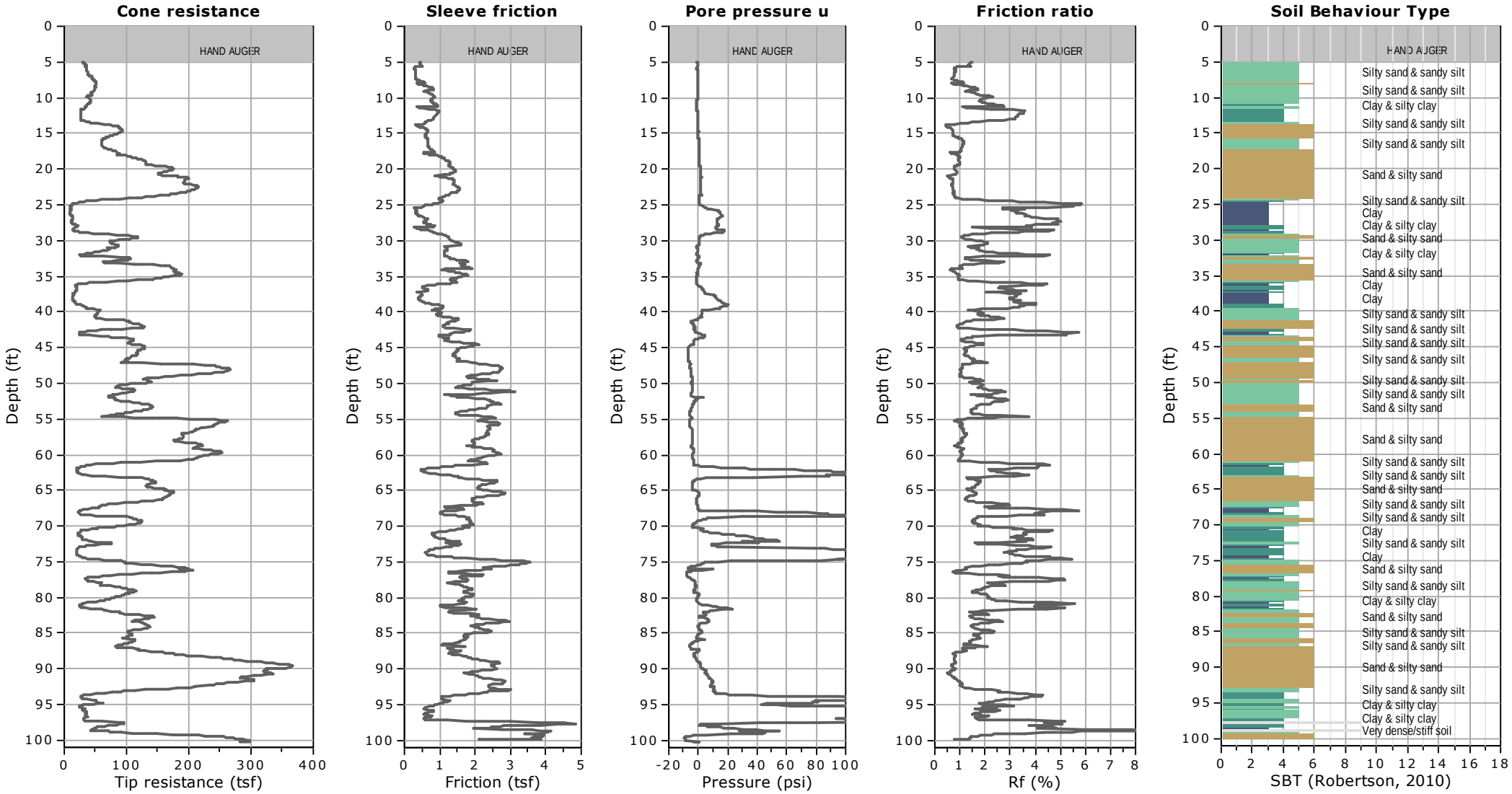
Project No. **24-31-138-01**

Drawing No. **A-5**

Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Converse Consultants / Cerritos Community College**
Location: **11110 Alondra Blvd, Norwalk, CA**

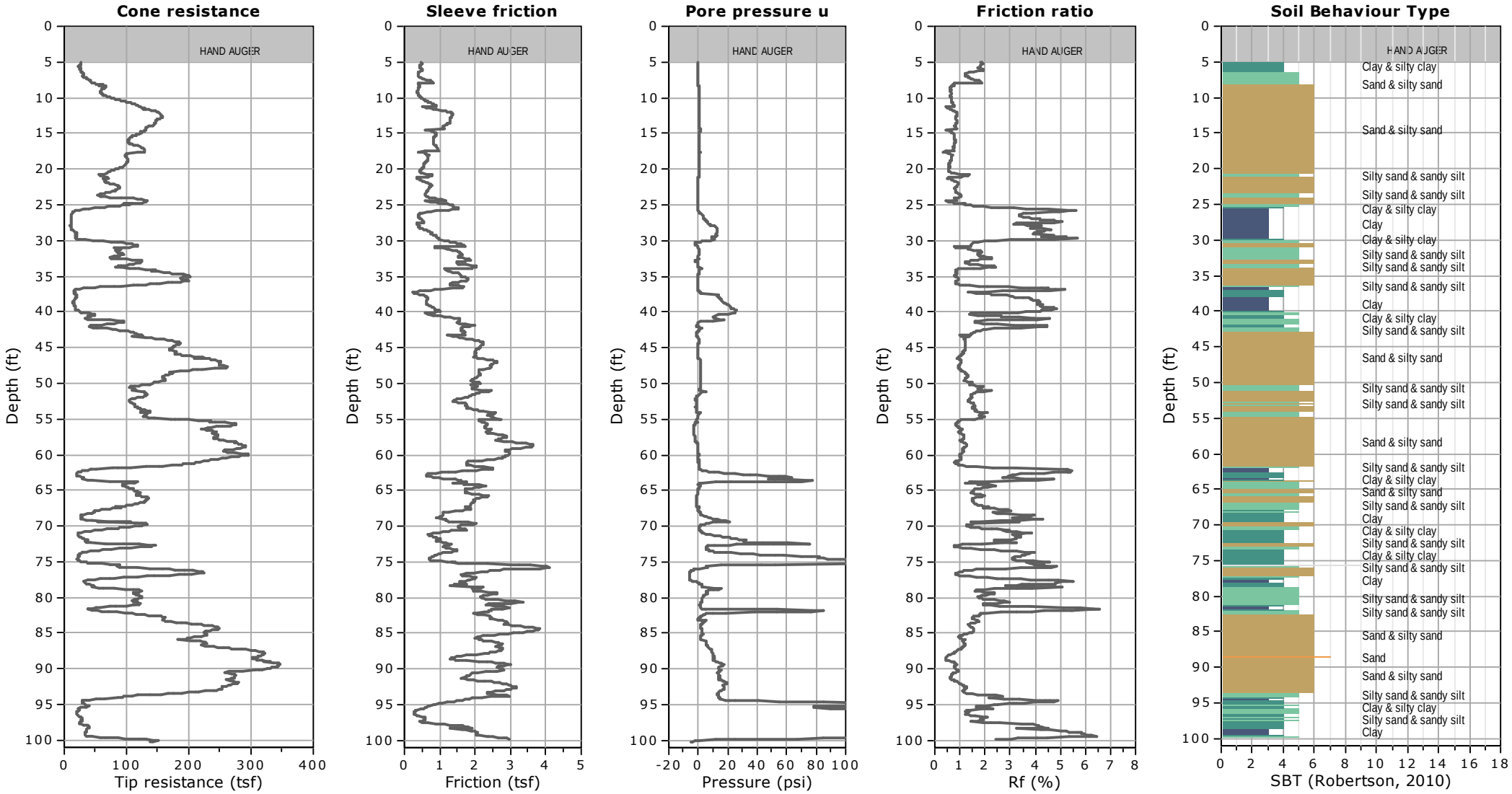
CPT-1
Total depth: 100.27 ft, Date: 5/31/2024



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Converse Consultants / Cerritos Community College**
Location: **11110 Alondra Blvd, Norwalk, CA**

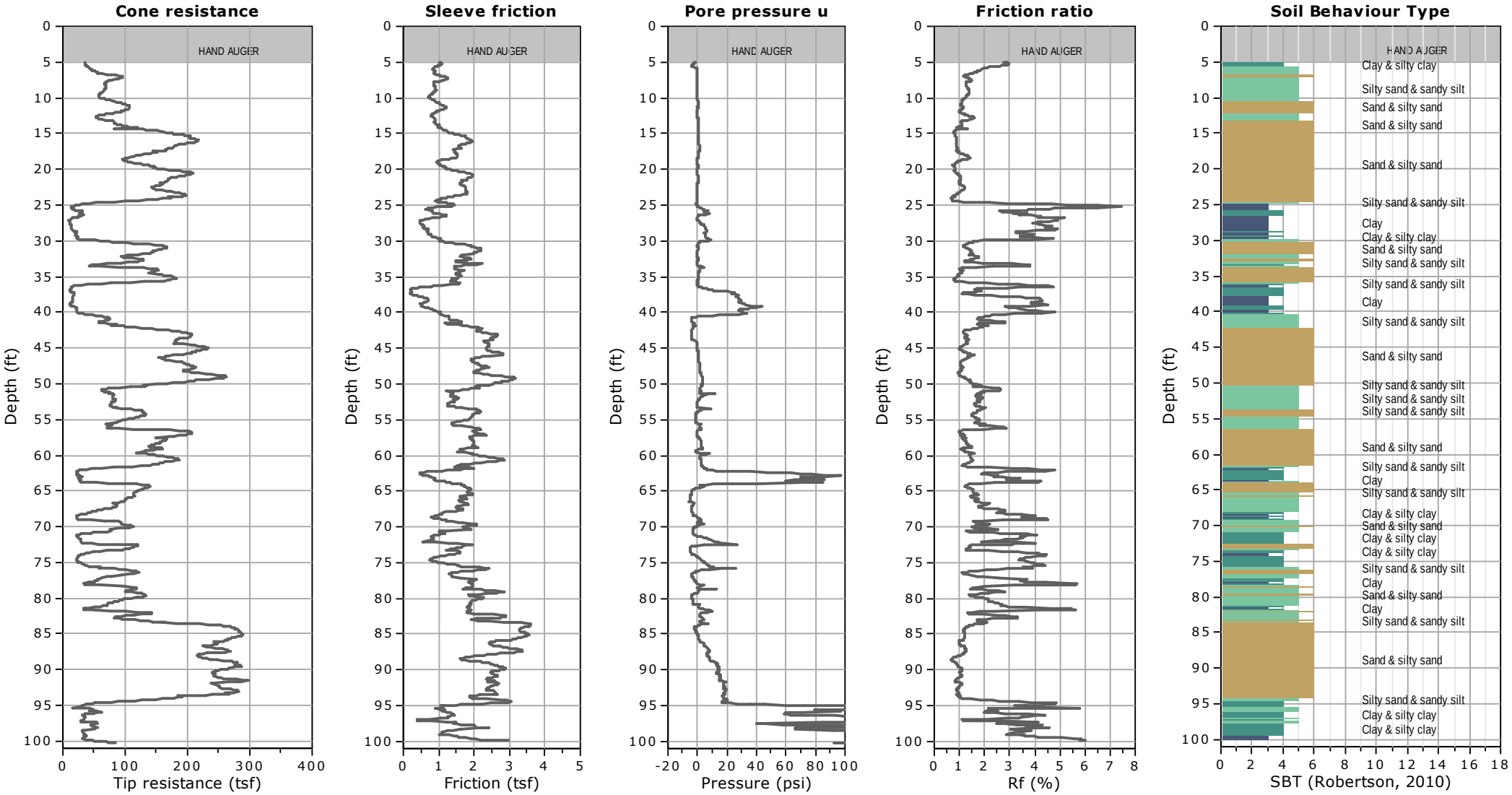
CPT-2
Total depth: 100.21 ft, Date: 5/31/2024



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

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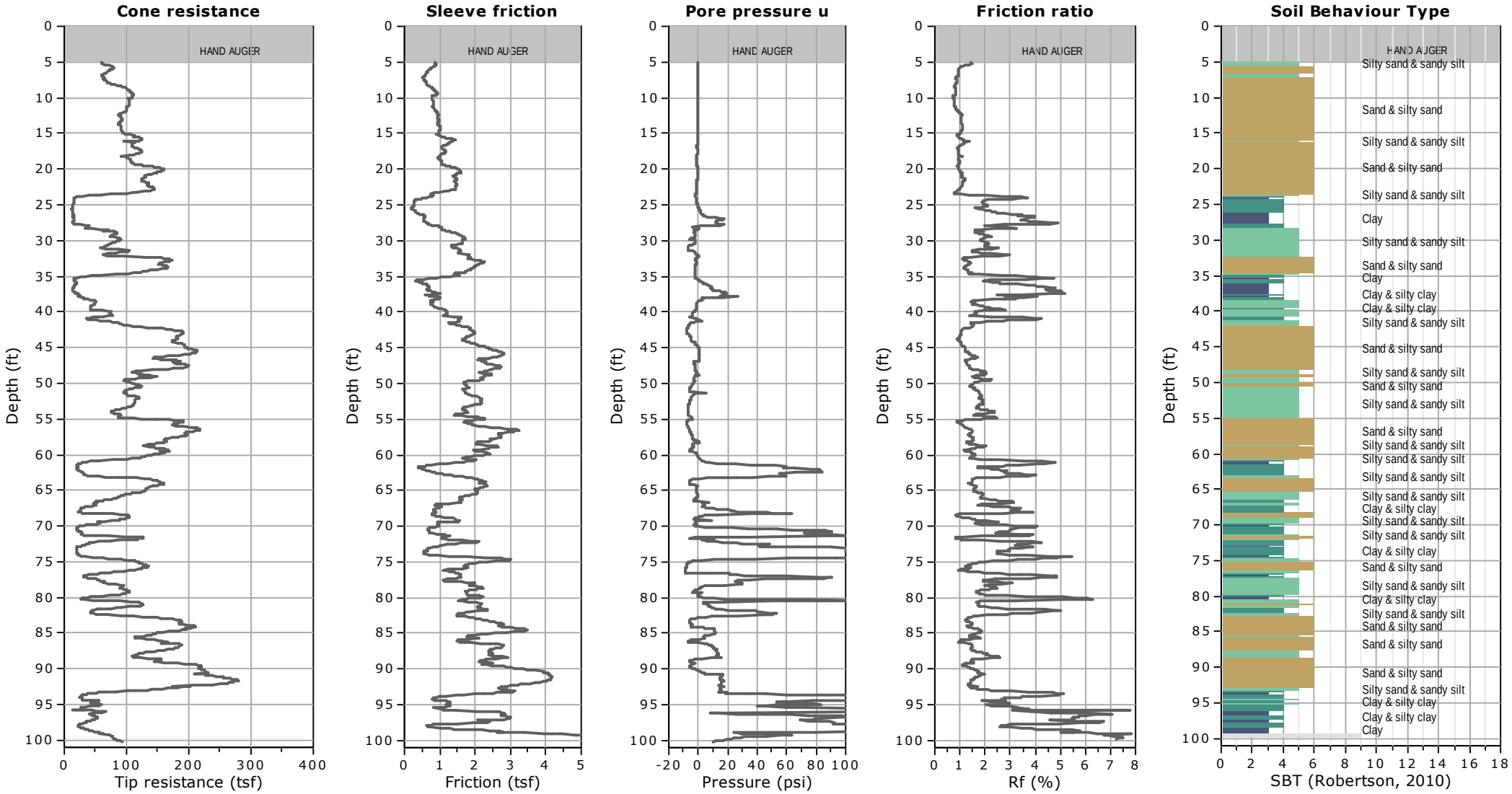
CPT-3
Total depth: 100.27 ft, Date: 5/31/2024



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714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

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CPT-4
Total depth: 100.16 ft, Date: 5/31/2024



Appendix B

Laboratory Testing Program

APPENDIX B: LABORATORY TESTING PROGRAM

Tests were conducted in our laboratory on representative soil samples for the purpose of classification and evaluation of their relevant physical characteristics and engineering properties. The amount and selection of tests were based on the geotechnical requirements of the project. Test results are presented herein and on the Logs of Borings in Appendix A, *Field Exploration*. The following is a summary of the laboratory tests conducted for this project.

Moisture Content and Dry Density

Results of moisture content and dry density tests performed on relatively undisturbed ring samples were used to aid in the classification of the soils and to provide quantitative measure of the *in-situ* dry density. Data obtained from this test provides qualitative information on strength and compressibility characteristics of site soils. Moisture Content and Dry Density Tests were performed in general accordance with the ASTM Standard D2216, and D7263 test method, respectively. For test results, see the Logs of Borings in Appendix A, *Field Exploration*.

Soil Corrosivity

One representative soil sample were tested to determine minimum electrical resistivity, pH, and chemical content, including chloride concentrations, and soluble sulfate. The purpose of these tests is to determine the corrosion potential of site soils when placed in contact with common construction materials. These tests were performed by Keegan Labs in Pomona, California. The pH and Saturated Resistivity Tests were performed in accordance with CT 643, the Soluble Chlorides Test is performed in accordance with CT 422, and the Soluble Sulfate Test is performed in accordance with CT 417. The corrosivity of soil is discussed according to Caltrans Corrosive Guidelines in section 7.10 of this report. The test results received from EGL are included in the following table:

Table No. B-1, Corrosivity Test Results

Boring No.	Sample Depth (feet)	pH (Caltrans 643)	Soluble Chlorides (Caltrans 422) ppm	Soluble Sulfate (Caltrans 417) % by Weight	Saturated Resistivity (Caltrans 532) Ohm-cm
BH-1	0-5	8.0	27	0.0042	4,120

R-value

One (1) representative bulk soil sample was tested for resistance value (R-value) in accordance with ASTM D2844 Standard. This test is designed to provide a relative measure of soil strength for use in pavement design. The test results are shown in the following table:

Table No. B-2, R-value Test Result

Boring No.	Depth (feet)	Soil Classification	Measured R-value
BH-4	0-5	Clayey Sand (SC)	33

Percent Finer Than Sieve No. 200

The percent finer than sieve No. 200 tests were performed on eight (8) selected soil samples to aid in the classification of the on-site soils and to estimate other engineering parameters. Testing was performed in general accordance with the ASTM Standard D1140 test method. The test results are presented in the table below and included in boring logs.

Table No. B-3, Summary of Percent Passing Sieve #200 Test Results

Boring No.	Depth (feet)	Soil Classification	Percent Passing Sieve No. 200
BH-2	5	Silty Sand (SM)	18.5
BH-2	15	Silty Sand (SM)	7.1
BH-2	25	Sandy Silt (ML)	89.9
BH-2	35	Clay (CL)	86.8
BH-2	45	Clay (CL)	55.8
BH-3	0-4	Clayey Sand (SC)	63.0

* Results from grain-size analysis

Expansion Index

One representative bulk sample was tested in accordance with ASTM Standard D4829 to evaluate the expansion potential. The test results are presented in the following table.

Table No. B-4, Expansion Potential

Boring No.	Depth (feet)	Soil Description	Expansion Index	Expansion Potential
BH-2	0-5	Silty Sand (SM)	7	Very Low

Grain-Size Analysis

To assist in classification of soils, mechanical grain-size analysis was performed on two (2) selected samples. Testing was performed in general accordance with the ASTM Standard D6913 test method. Grain-size distribution curves are shown in Drawing No. B-1, *Grain Size Distribution Results*.

Maximum Dry Density Test

Two (2) laboratory maximum dry density-moisture content relationship tests were performed on a representative bulk sample of the upper 5 feet of soil material. The testing was conducted in accordance with ASTM Standard D1557 laboratory procedure. The test result is presented on Drawing No. B-3, *Moisture-Density Relationship Results*.

Direct Shear

Direct shear tests were performed on two (2) undisturbed soil samples. Tests were conducted in accordance with ASTM Standard D3080-11 laboratory procedure. For each test, three samples contained in brass sampler rings were placed, one at a time, directly into the test apparatus and subjected to a range of normal loads appropriate for the anticipated conditions. The samples were then sheared at a constant strain rate of 0.01 inch/minute. Shear deformation was recorded until a maximum of about 0.50-inch shear displacement was achieved. Ultimate strength was selected from the shear-stress deformation data and plotted to determine the shear strength parameters. For test data, including sample density, see Drawing Nos. B-4a through B-4b, *Direct Shear Test Results,* and the following table:

Table No. B-5, Direct Shear Test Results

Boring No.	Depth (feet)	Soil Classification	Peak Strength Parameters	
			Friction Angle (degrees)	Cohesion (psf)
BH-4	10	Sand (SP)	34	30
BH-2	5	Silty Sand (SM)	29	170

Consolidation Test

Consolidation tests were performed on two (2) relatively undisturbed samples. Data obtained from this test was used to evaluate the settlement characteristics of the foundation soils under load. Tests were performed in general accordance with the ASTM Standard D2435. Preparation for this test involved trimming the sample and placing the 1-inch high brass ring into the test apparatus, which contained porous stones, both top and bottom, to accommodate drainage during testing. Normal axial loads were applied to one end of the sample through the porous stones, and the resulting deflections were recorded at various time periods. The load was increased after the sample reached a reasonable state equilibrium. Normal loads were applied at a constant load-increment ratio, successive loads being generally twice the preceding load. The sample was tested at field and submerged conditions. The test results, including sample density and moisture content, are presented in Drawing Nos. B-5a through B-b, *Consolidation Test Results*.

Sand Equivalent Test

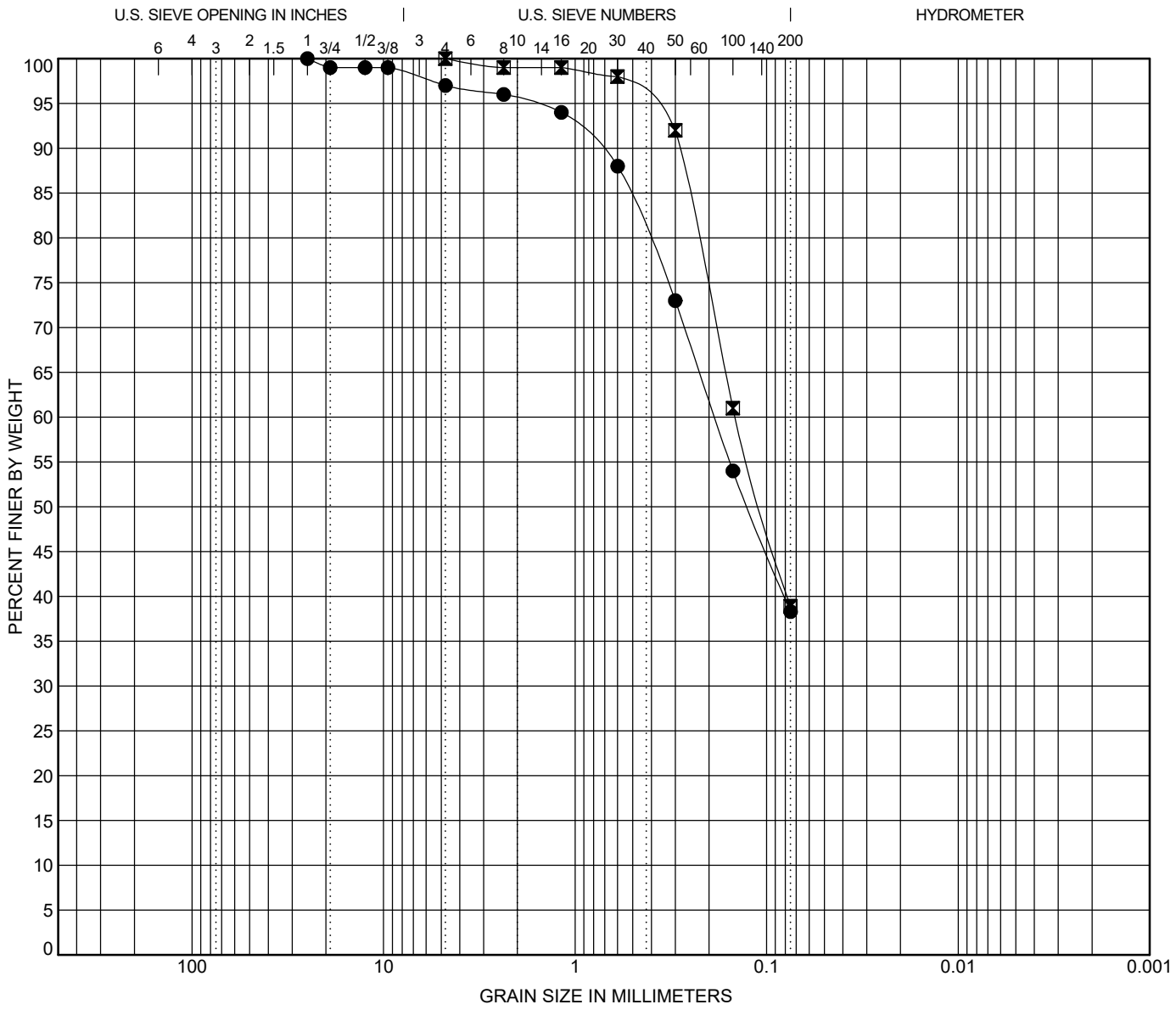
One (1) sand equivalent test was performed for a bulk sample of the upper 5 - 10 feet. The tests were conducted in accordance with ASTM Standard D 2419 laboratory procedure. The test results are presented in the table below.

Table No. B-6, Sand Equivalent Test Results

Boring No.	Depth (feet)	Soil Classification	Average Sand Equivalent
BH-2	5-10	Silty Sand (SM)	12

Sample Storage

Soil samples presently stored in our laboratory will be discarded 30 days after the date of this report, unless this office receives a specific request to retain the samples for a longer period of time.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Boring No.	Depth (ft)	Description	LL	PL	PI	Cc	Cu
●	**B-1**	**5**	**SILTY SAND WITH TRACE CLAY (SM)**					
⊠	**B-2**	**10**	**SILTY SAND (SM)**					

	Boring No.	Depth (ft)	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B-1**	**5**	**25**	**0.187**			**3.0**	**58.7**	**38.3**	
⊠	**B-2**	**10**	**4.75**	**0.145**			**0.0**	**61.1**	**38.9**	

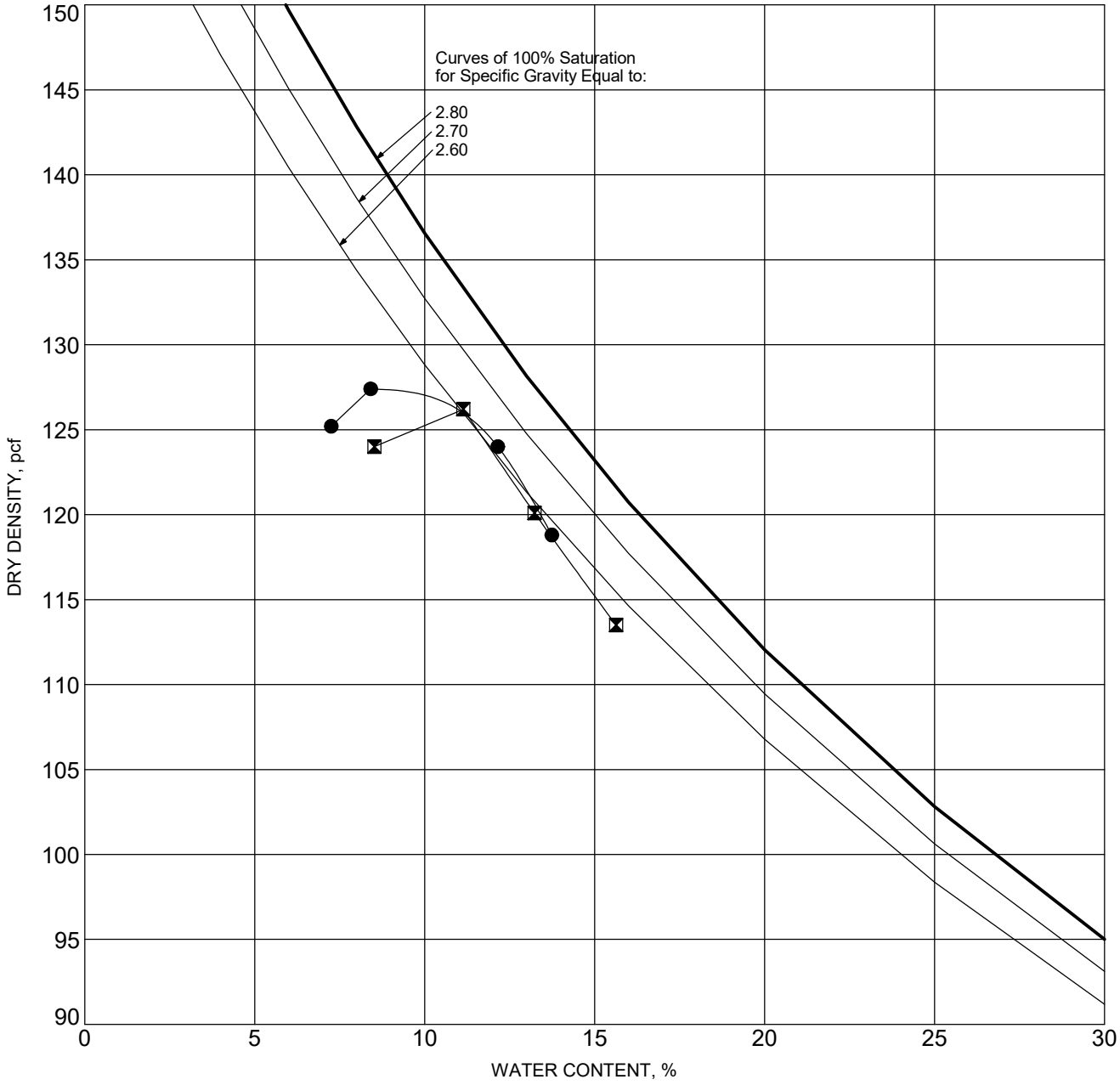
GRAIN SIZE DISTRIBUTION RESULTS

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Cerritos Community College
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Norwalk, CA. 90650

Project No.
24-31-138-01

Drawing No.
B-1



SYMBOL	BORING NO.	DEPTH (ft)	DESCRIPTION	ASTM TEST METHOD	OPTIMUM WATER, %	MAXIMUM DRY DENSITY, pcf
●	**B-1**	**5**	**SILTY SAND WITH TRACE CLAY (SM)**	**D1557 Method A**	**10**	**130.8**
⊠	**B-2**	**10**	**SILTY SAND (SM)**	**D1557 Method B**	**11.1**	**126.3**

MOISTURE-DENSITY RELATIONSHIP RESULTS

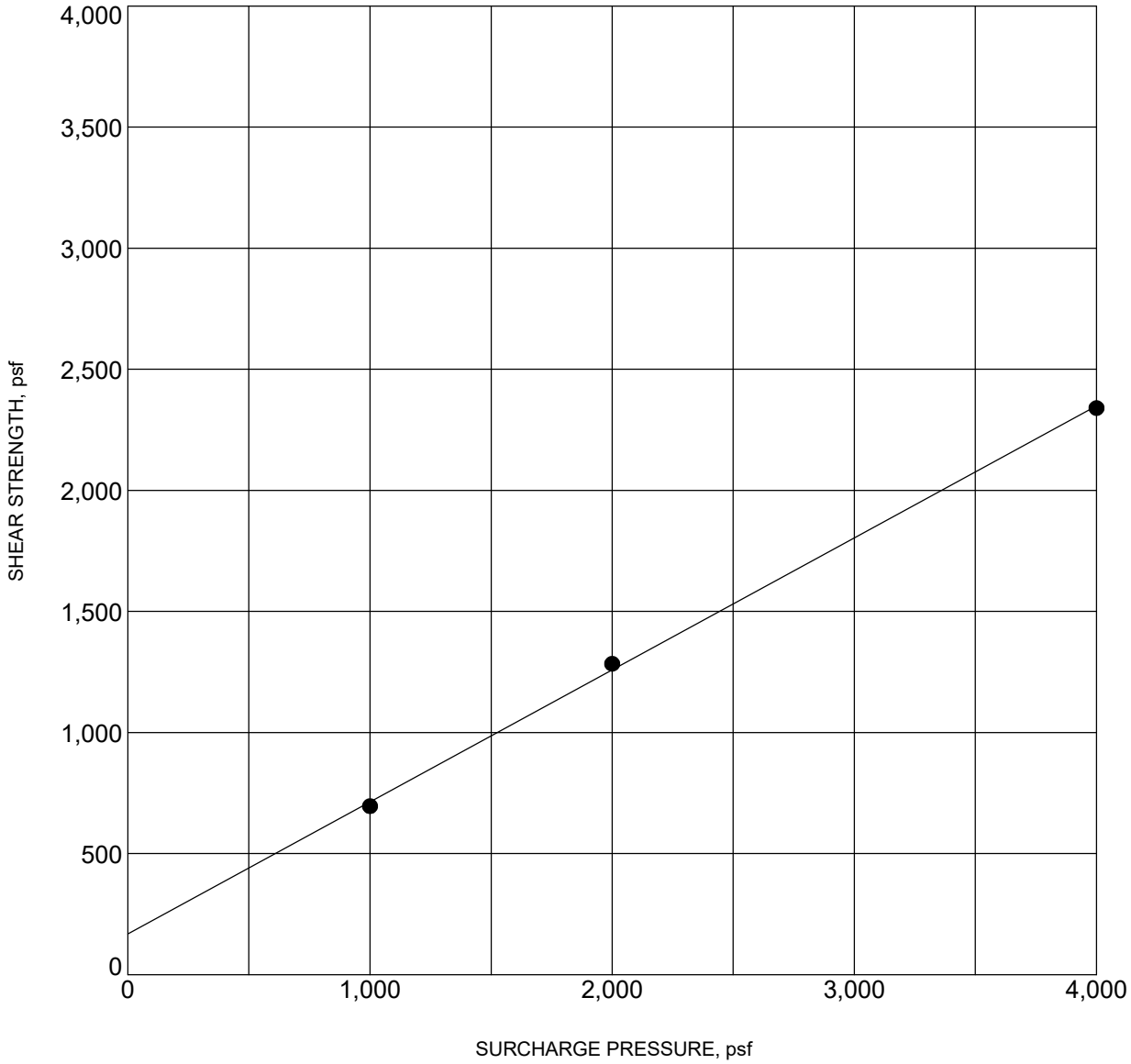
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Norwalk, CA. 90650

Project No.
24-31-138-01

Drawing No.
B-2

Project ID: 24-31-138-01.GPJ; Template: COMPACTION



BORING NO.	:	**B-2**	DEPTH (ft)	:	**5**
DESCRIPTION	:	**SILTY SAND (SM)**			
COHESION (psf)	:	**170**	FRICTION ANGLE (degrees):		**29**
MOISTURE CONTENT (%)	:	**10.0**	DRY DENSITY (pcf)	:	**95.8**

NOTE: Ultimate Strength.

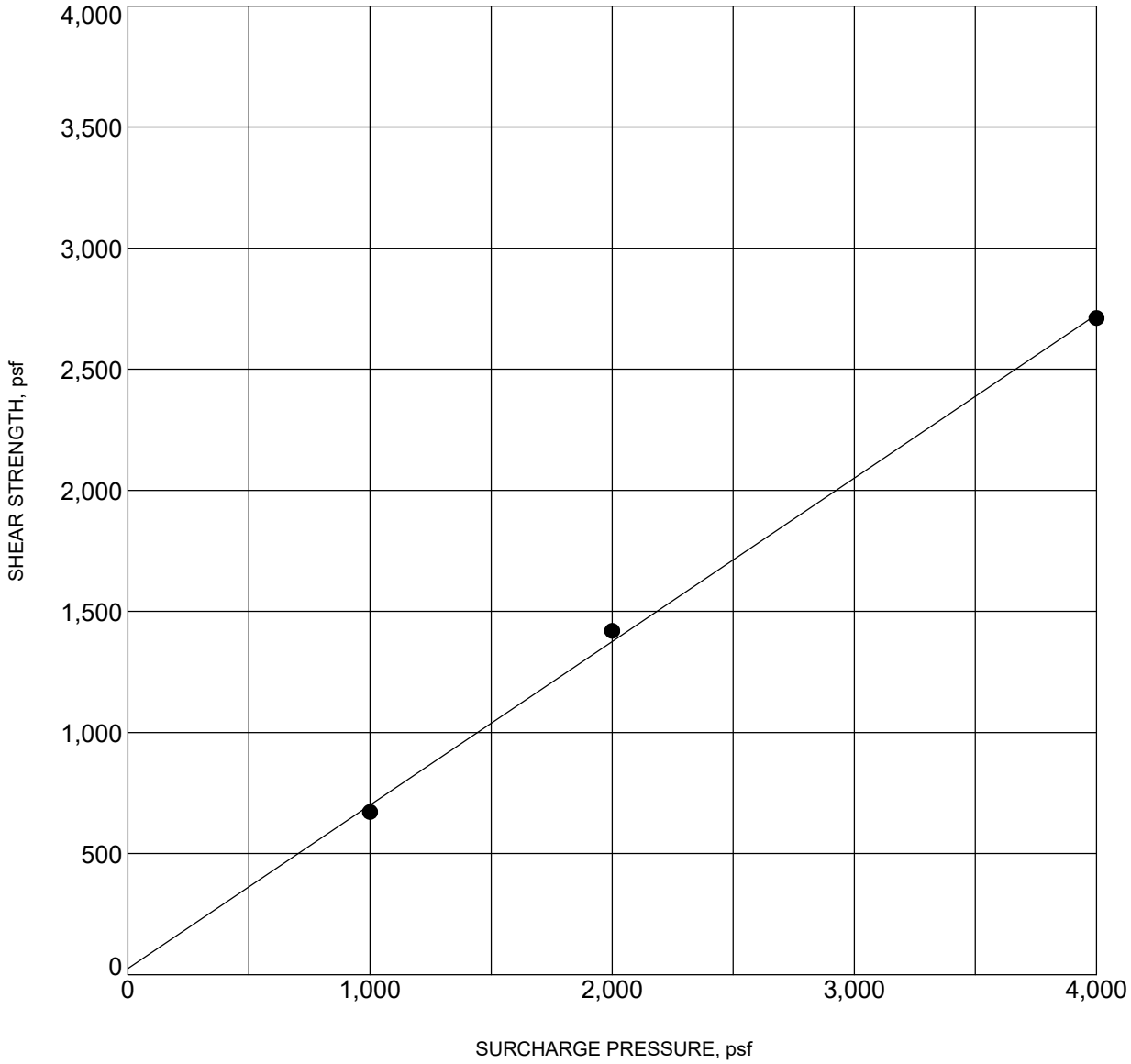
DIRECT SHEAR TEST RESULTS

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Norwalk, CA. 90650

Project No. **24-31-138-01**

Drawing No. **B-3a**



BORING NO.	:	**B-4**	DEPTH (ft)	:	**10**
DESCRIPTION	:	**Sand (SP)**			
COHESION (psf)	:	**30**	FRICTION ANGLE (degrees):		**34**
MOISTURE CONTENT (%)	:	**3.0**	DRY DENSITY (pcf)	:	**94.6**

NOTE: Ultimate Strength.

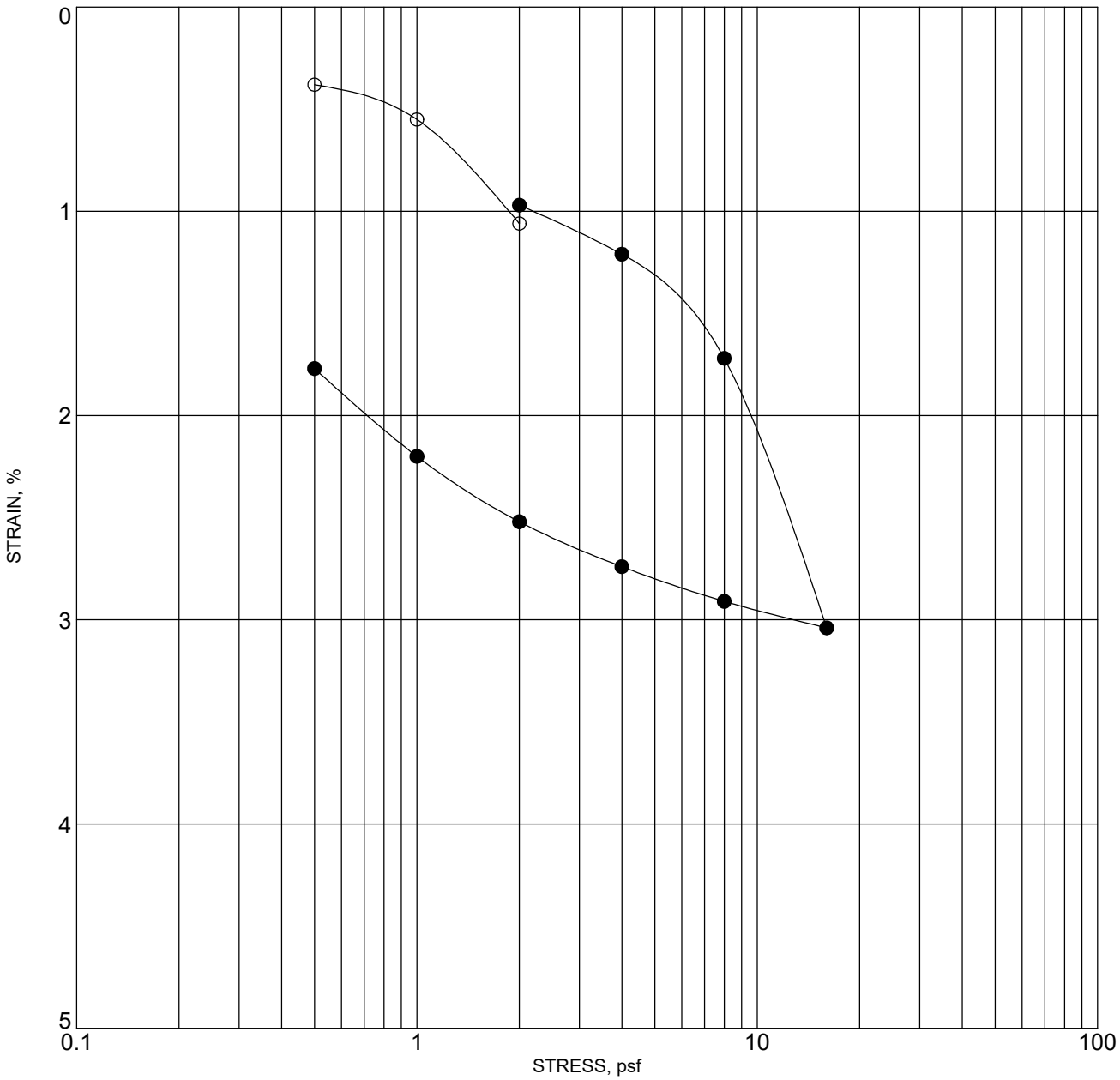
DIRECT SHEAR TEST RESULTS

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Project No. **24-31-138-01**

Drawing No. **B-3b**



BORING NO. :	B-1	DEPTH (ft) :	5
DESCRIPTION :	SILTY SAND WITH TRACE CLAY (SM)		

	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	PERCENT SATURATION	VOID RATIO
INITIAL	15	114.9	91	0.432
FINAL				

NOTE: SOLID CIRCLES INDICATE READINGS AFTER ADDITION OF WATER

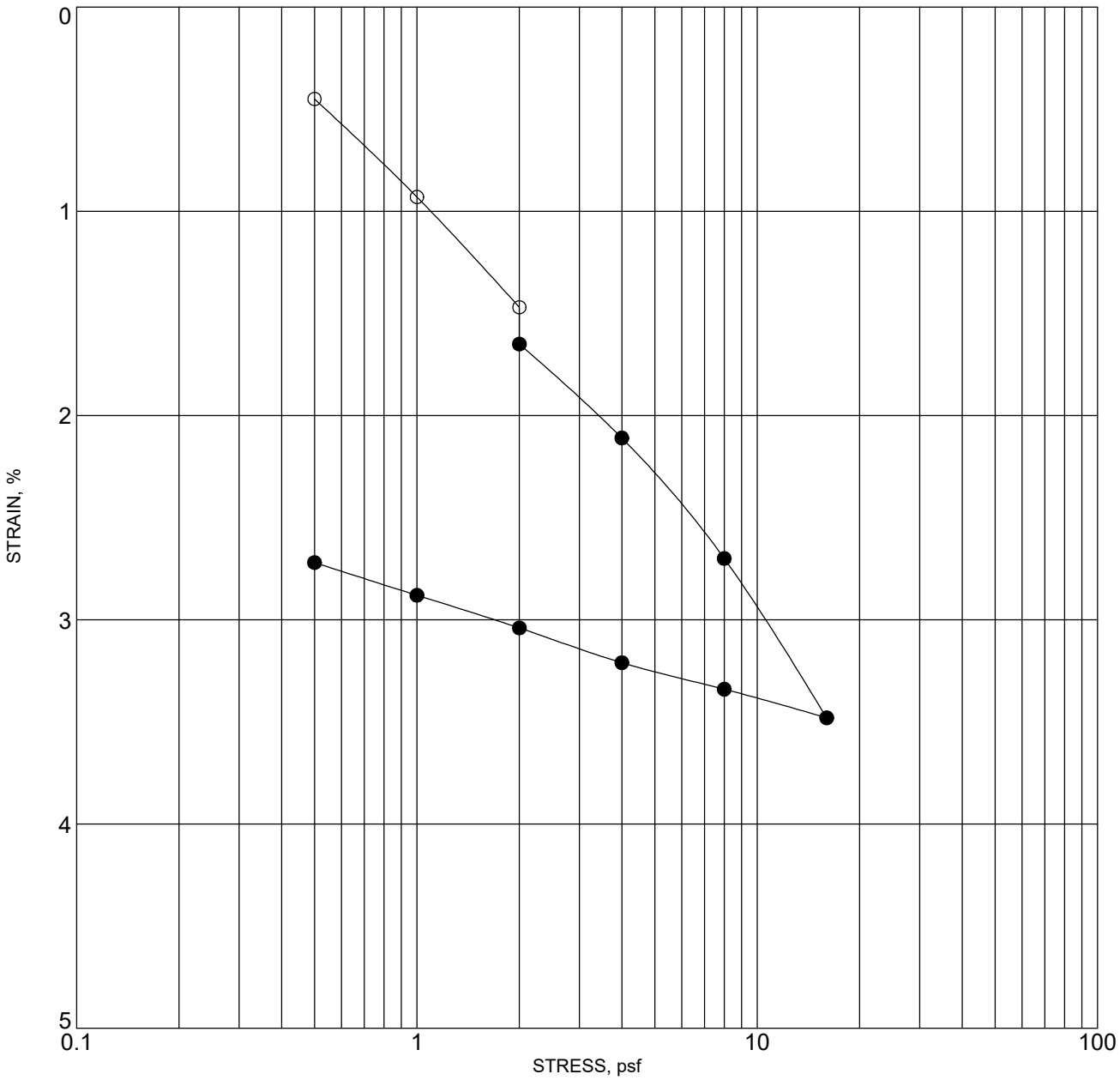
CONSOLIDATION TEST RESULTS

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Project No. **24-31-138-01**

Drawing No. **B-4a**



BORING NO. :	B-2	DEPTH (ft) :	10
DESCRIPTION :	SILTY SAND (SM)		

	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	PERCENT SATURATION	VOID RATIO
INITIAL	8	98.6	32	0.667
FINAL				

NOTE: SOLID CIRCLES INDICATE READINGS AFTER ADDITION OF WATER

CONSOLIDATION TEST RESULTS

Converse Consultants

New Student Housing Project
Cerritos Community College
11110 Alondra Boulevard
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Project No. **24-31-138-01**

Drawing No. **B-4b**

Appendix C

Liquefaction/Seismic Settlement Analysis

APPENDIX C: LIQUEFACTION/SEISMIC SETTLEMENT ANALYSIS

Liquefaction is defined as the phenomenon where a soil mass exhibits a substantial reduction in its shear strength. This strength reduction is due to the development of excess pore pressure in a soil mass caused by earthquake induced ground motions. Saturated soils behave temporarily as a viscous fluid (liquefaction) and, consequently, lose their capacity to support the structures founded on them. The potential for liquefaction decreases with increasing clay and gravel content but increases as the ground acceleration and duration of shaking increase. Liquefaction potential has been found to be the greatest where the groundwater level and loose sands occur within 50 feet of the ground surface.

Our liquefaction analyses are based on the *Special Publication 117A: Guidelines for Evaluating and Mitigating Seismic Hazards in California* (9/2008), *Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California* (3/1999), and *2022 California Building Code*.

The subsurface data obtained from Cone Penetration Tests (CPT) were used to evaluate the liquefaction/seismic settlement potential of the area. The CPT data are presented in Appendix A, *Field Exploration*. The liquefaction potential and seismic settlement analyses were performed utilizing data obtained from CPT-1 to CPT-4 for the upper 50 feet of soil. The analyses were performed using *CLiq,* Version 2.3.1.15, 2018, by GEOLOGISMIKI. The following seismic parameters are used for liquefaction potential analyses.

Table No. C-1 Seismic Parameters Used in Liquefaction Analysis

Groundwater Depth* (feet)	Earthquake Magnitude** Mw	Peak Ground Acceleration*** (g)
8	7.3	0.740

* Based on Seismic Hazard Zone Report for the Whittier 7.5-Minute Quadrangle, Historical High Level
** Based on the 2014 NSHMP PSHA Interactive Deaggregation web site for a return period of 2475 years
*** Based on PGA_M per section 21.5 of ASCE 7-16.

The results of liquefaction analyses indicate the site soils are susceptible to liquefaction. The estimated potential seismically induced settlement ranges from approximately 6.7 to 9.3 inches with potential differential settlement ranging from approximately 3.35 to 4.65 inches. The project structural engineer should consider the effect of these settlements on foundation design.

Converse Consultants
717 South Myrtle Avenue
Monrovia, CA 91016
http://www.converseconsultants.com

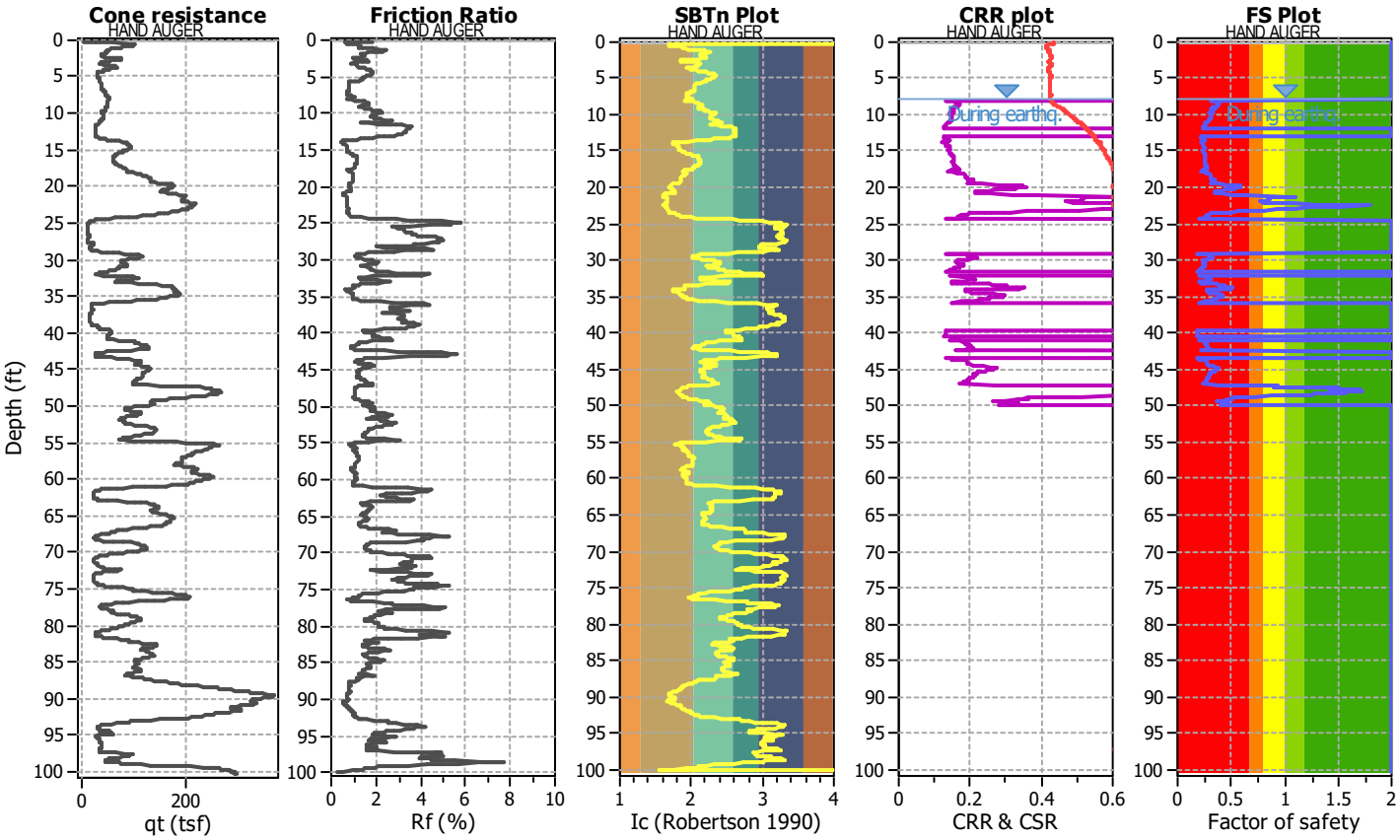
LIQUEFACTION ANALYSIS REPORT

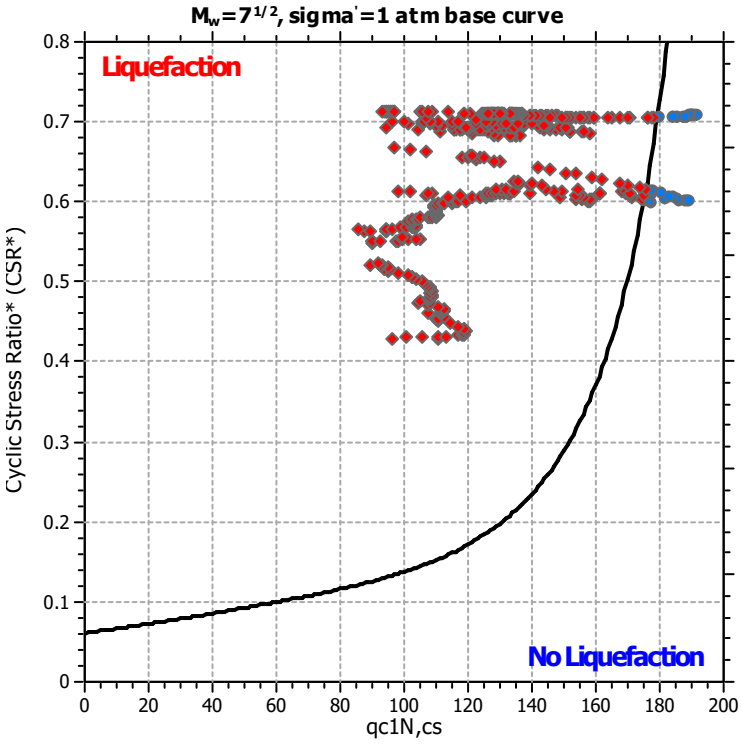
Project title : New Student Housing Project **Location : Cerritos Community College**

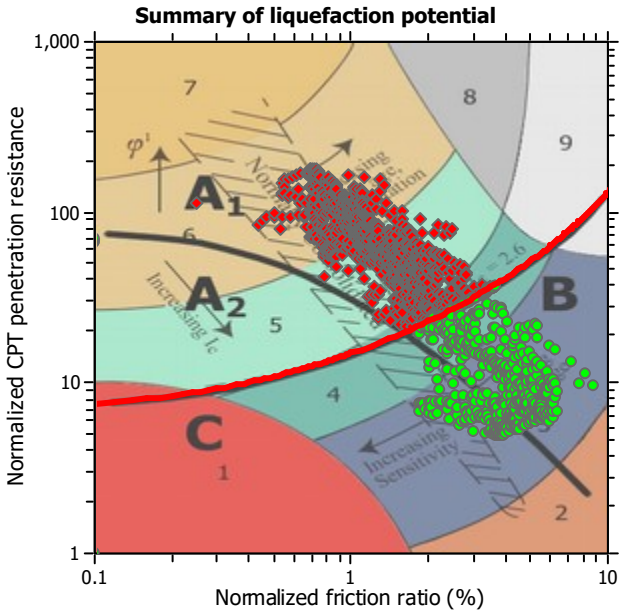
CPT file : CPT-1

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	38.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	8.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.74	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

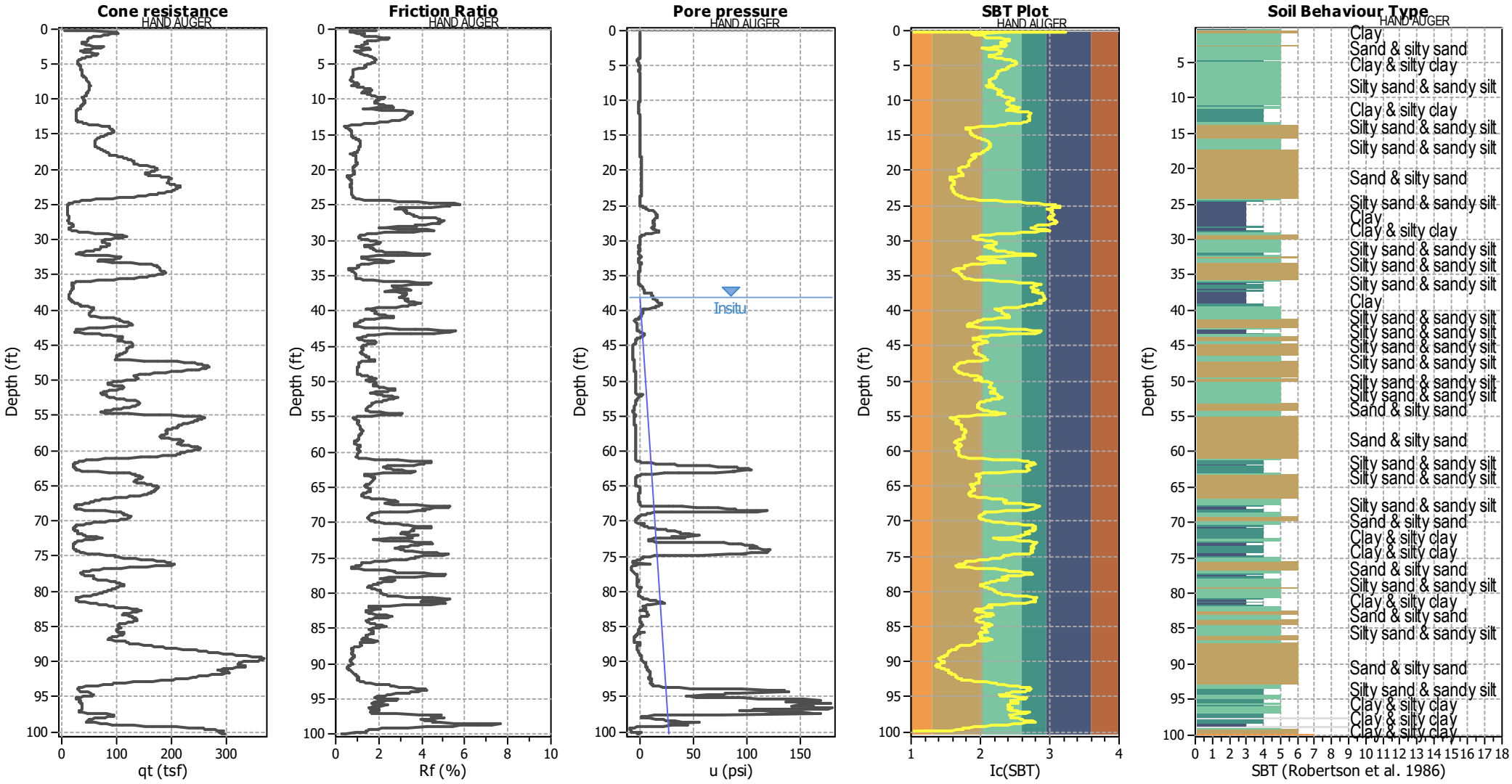






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



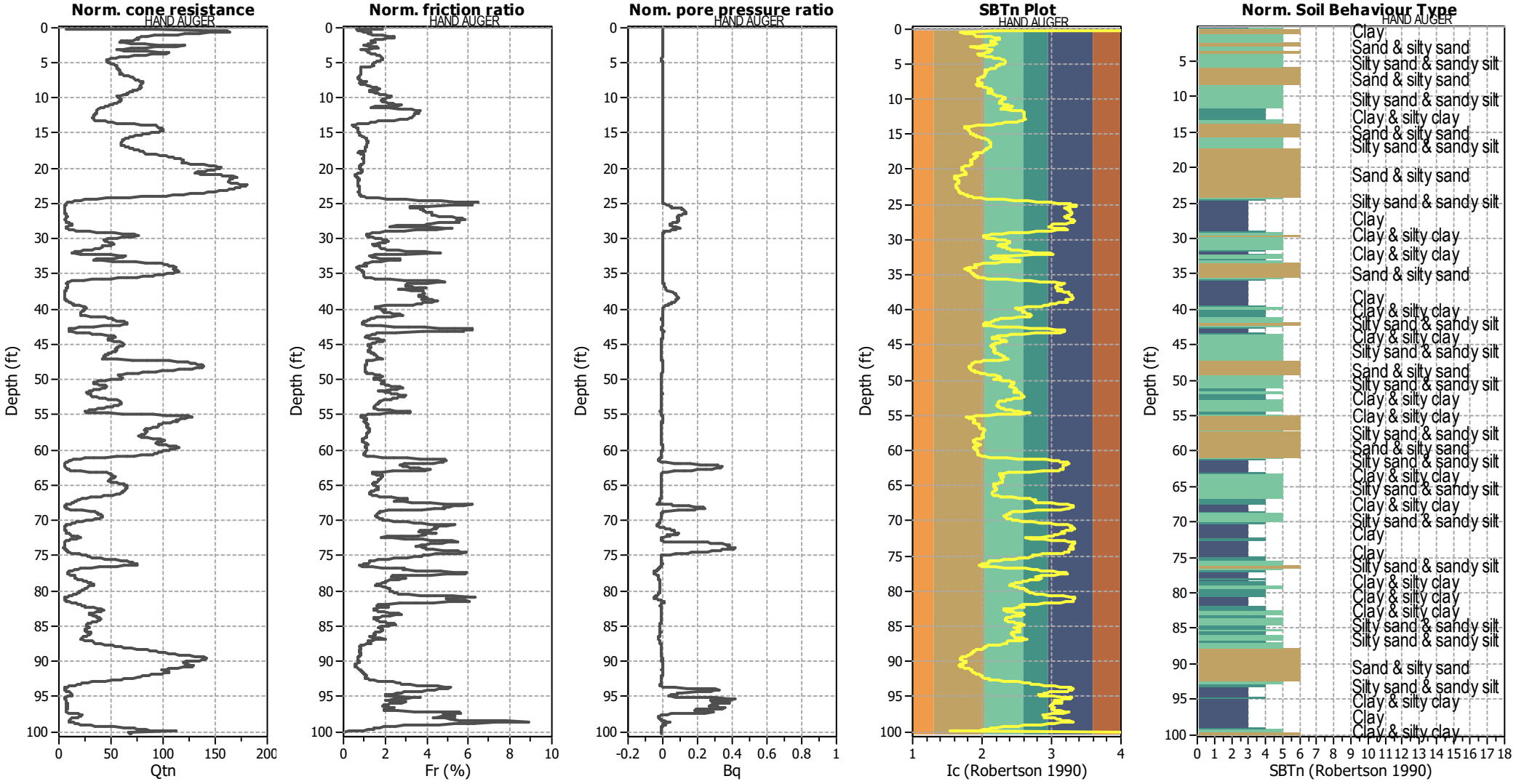
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



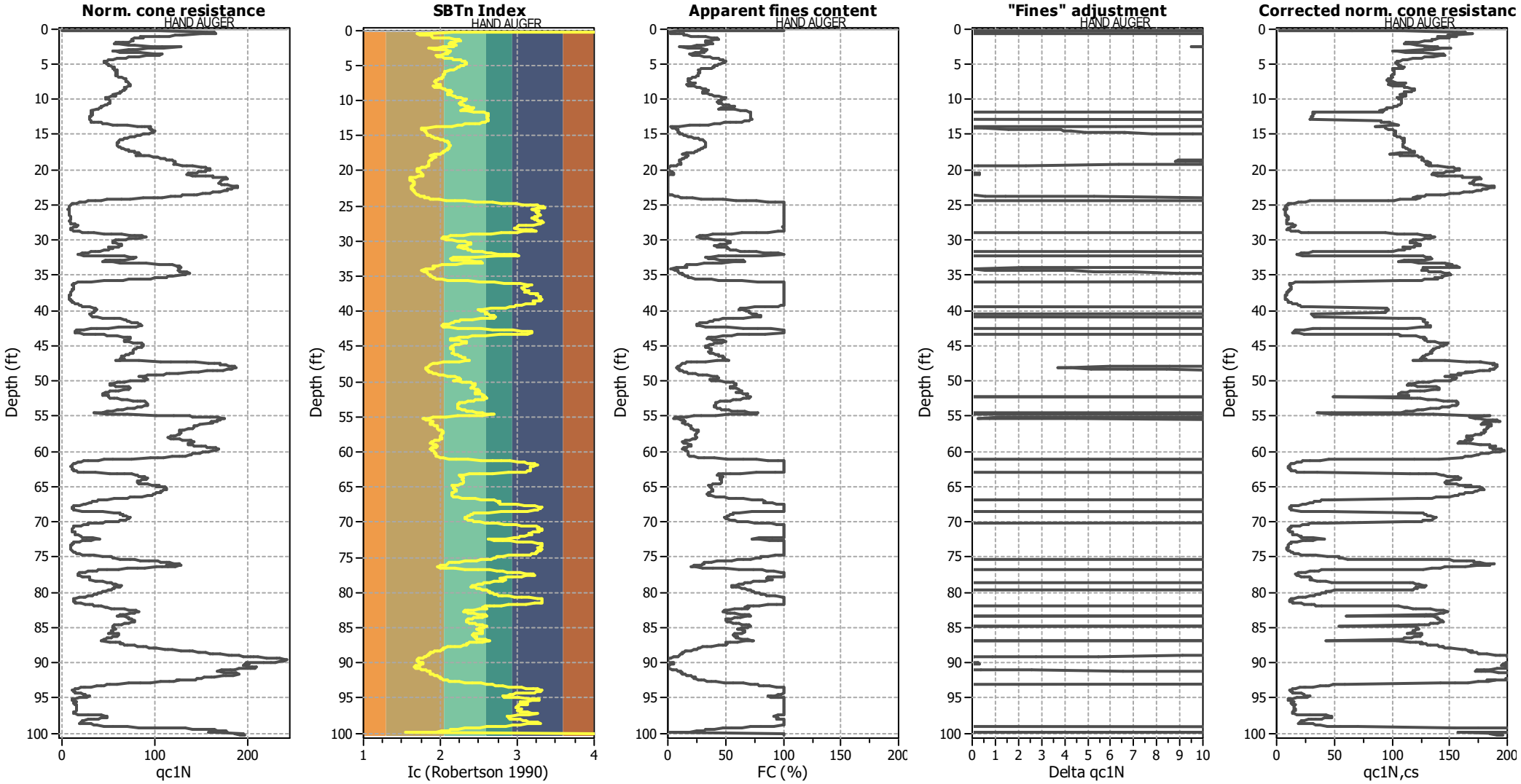
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

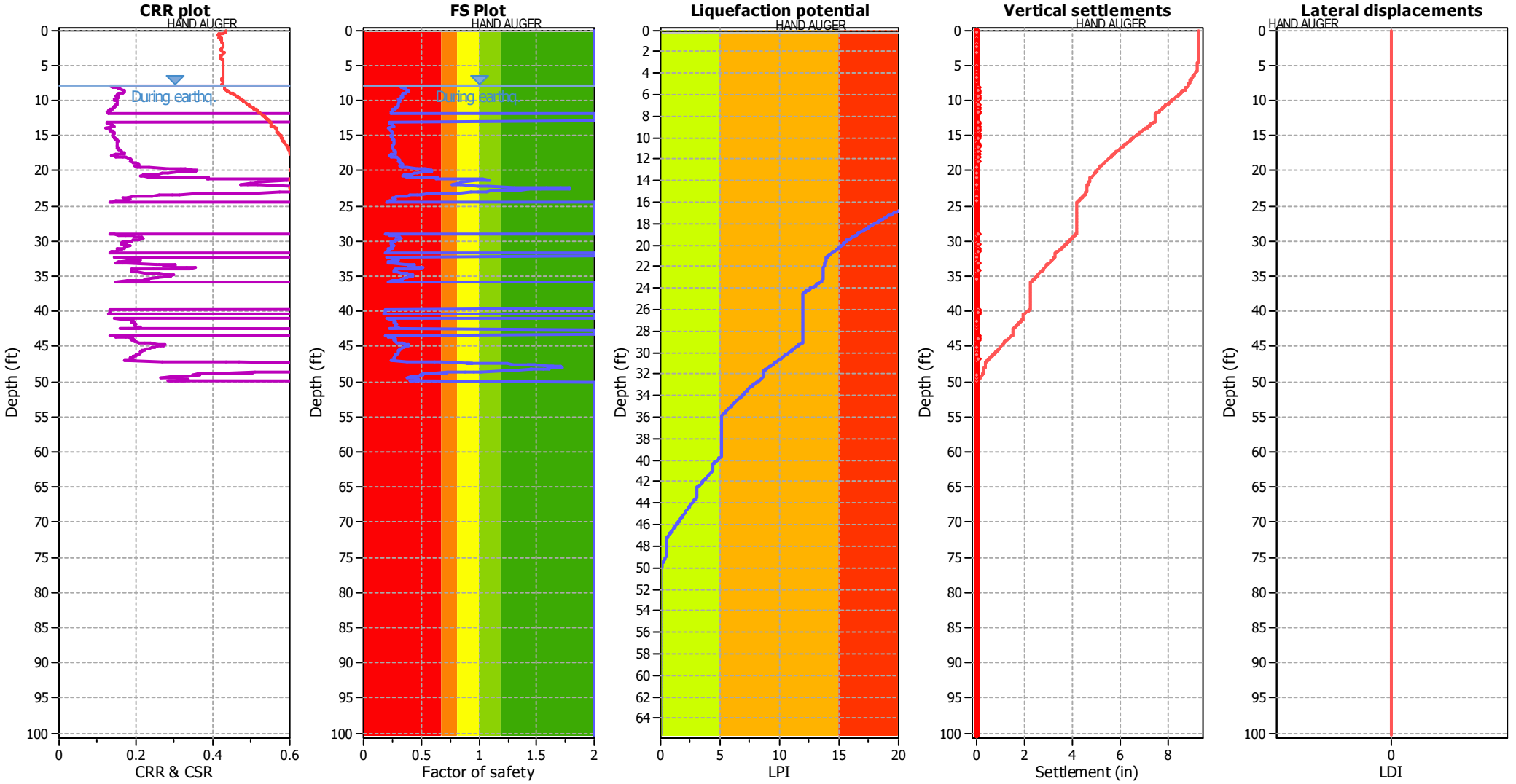
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

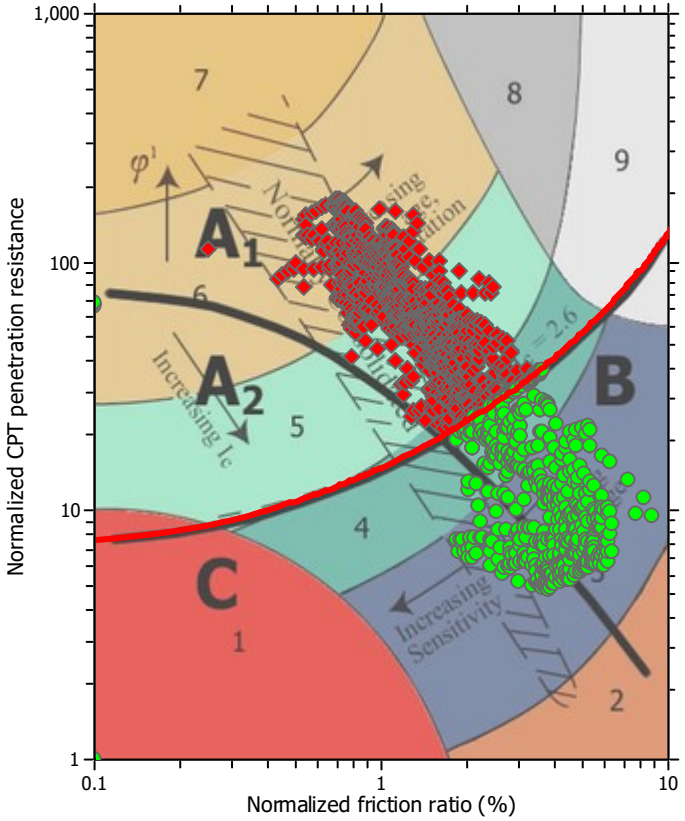
F.S. color scheme

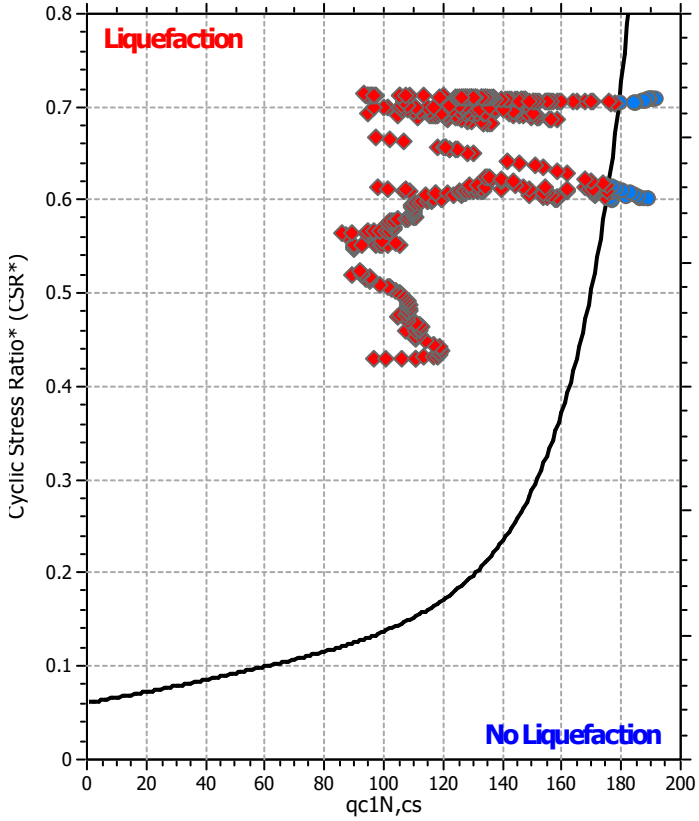
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

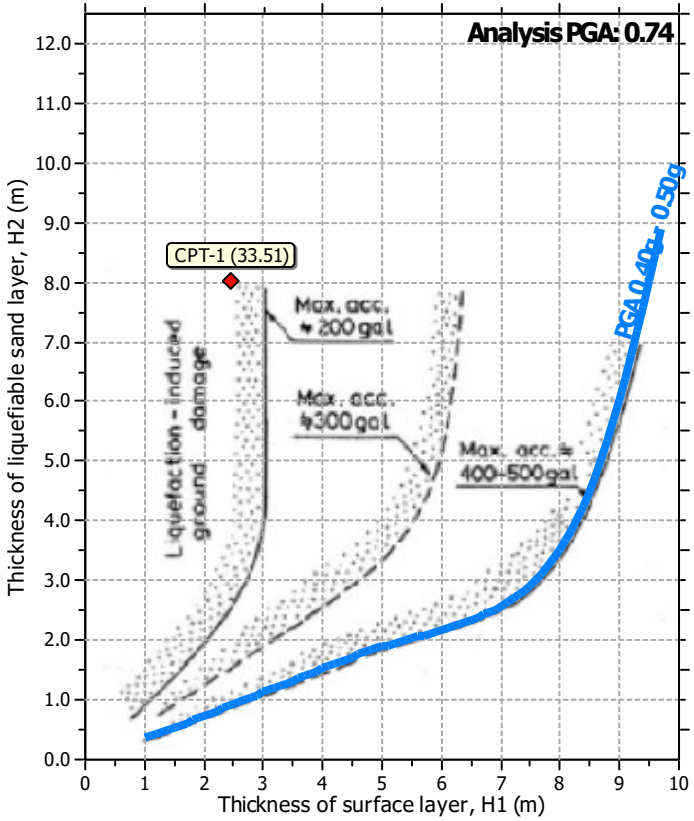
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



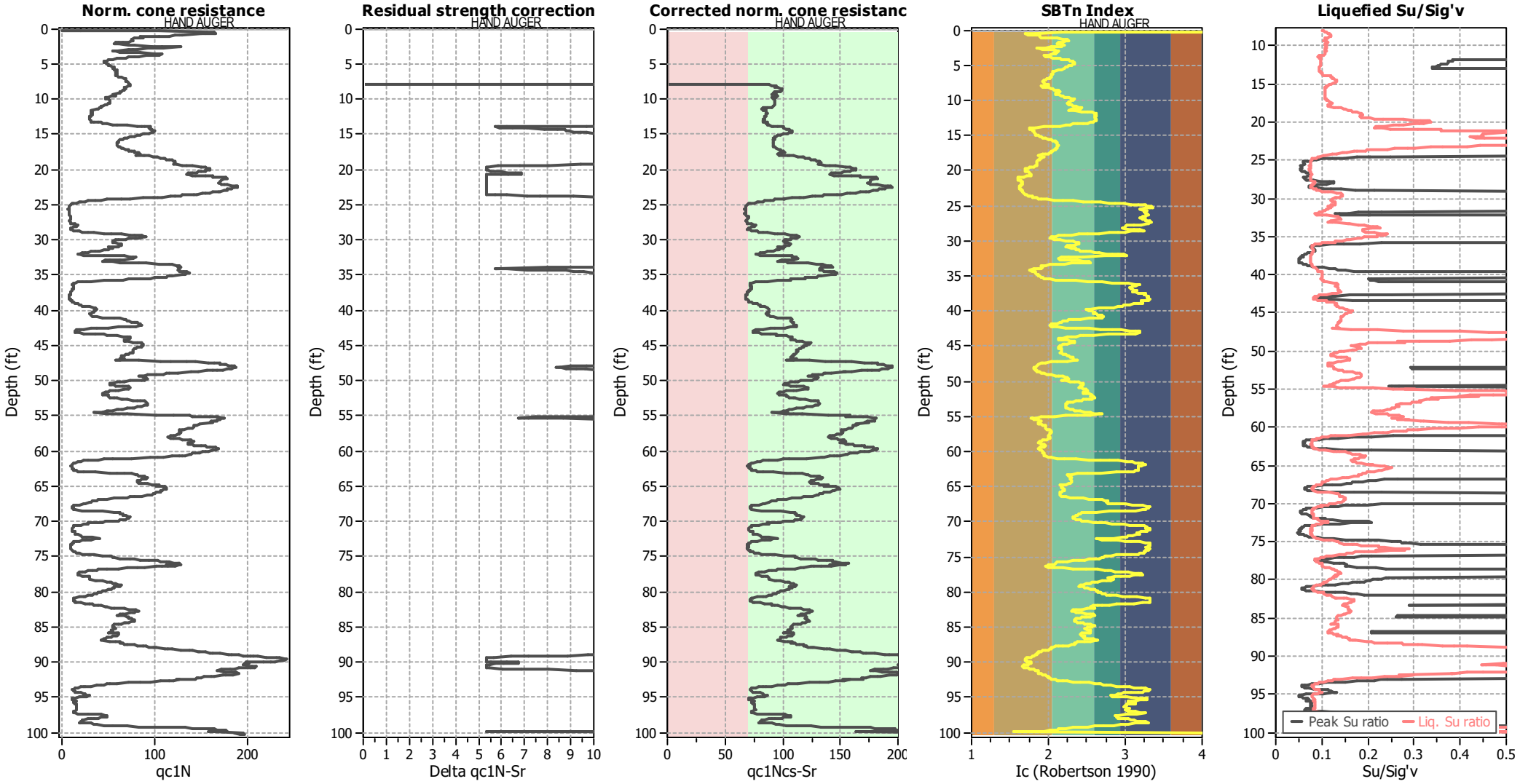




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.07	2.00	0.00	9.99	0.09	0.00	0.16	2.00	0.00	0.00	0.00	0.00
0.21	2.00	0.00	0.00	0.00	0.00	0.30	2.00	0.00	9.95	0.10	0.00
0.35	2.00	0.00	9.95	0.04	0.00	0.40	2.00	0.00	9.94	0.05	0.00
0.47	2.00	0.00	9.93	0.07	0.00	0.57	2.00	0.00	9.91	0.10	0.00
0.62	2.00	0.00	9.91	0.05	0.00	0.66	2.00	0.00	9.90	0.04	0.00
0.74	2.00	0.00	9.89	0.08	0.00	0.79	2.00	0.00	9.88	0.05	0.00
0.89	2.00	0.00	9.86	0.10	0.00	0.92	2.00	0.00	9.86	0.04	0.00
1.00	2.00	0.00	9.85	0.08	0.00	1.08	2.00	0.00	9.83	0.08	0.00
1.14	2.00	0.00	9.83	0.06	0.00	1.19	2.00	0.00	9.82	0.04	0.00
1.25	2.00	0.00	9.81	0.07	0.00	1.32	2.00	0.00	9.80	0.06	0.00
1.38	2.00	0.00	9.79	0.06	0.00	1.46	2.00	0.00	9.78	0.08	0.00
1.53	2.00	0.00	9.77	0.07	0.00	1.58	2.00	0.00	9.76	0.05	0.00
1.69	2.00	0.00	9.74	0.11	0.00	1.72	2.00	0.00	9.74	0.03	0.00
1.79	2.00	0.00	9.73	0.07	0.00	1.85	2.00	0.00	9.72	0.06	0.00
1.92	2.00	0.00	9.71	0.06	0.00	2.00	2.00	0.00	9.69	0.08	0.00
2.05	2.00	0.00	9.69	0.05	0.00	2.11	2.00	0.00	9.68	0.06	0.00
2.17	2.00	0.00	9.67	0.06	0.00	2.25	2.00	0.00	9.66	0.08	0.00
2.36	2.00	0.00	9.64	0.11	0.00	2.37	2.00	0.00	9.64	0.01	0.00
2.47	2.00	0.00	9.62	0.10	0.00	2.50	2.00	0.00	9.62	0.03	0.00
2.58	2.00	0.00	9.61	0.08	0.00	2.63	2.00	0.00	9.60	0.05	0.00
2.73	2.00	0.00	9.58	0.10	0.00	2.76	2.00	0.00	9.58	0.03	0.00
2.84	2.00	0.00	9.57	0.08	0.00	2.94	2.00	0.00	9.55	0.10	0.00
2.98	2.00	0.00	9.55	0.04	0.00	3.04	2.00	0.00	9.54	0.06	0.00
3.10	2.00	0.00	9.53	0.05	0.00	3.15	2.00	0.00	9.52	0.06	0.00
3.25	2.00	0.00	9.50	0.10	0.00	3.29	2.00	0.00	9.50	0.04	0.00
3.36	2.00	0.00	9.49	0.07	0.00	3.42	2.00	0.00	9.48	0.06	0.00
3.48	2.00	0.00	9.47	0.06	0.00	3.57	2.00	0.00	9.46	0.09	0.00
3.64	2.00	0.00	9.44	0.07	0.00	3.69	2.00	0.00	9.44	0.04	0.00
3.76	2.00	0.00	9.43	0.08	0.00	3.85	2.00	0.00	9.41	0.09	0.00
3.90	2.00	0.00	9.41	0.04	0.00	3.97	2.00	0.00	9.39	0.08	0.00
4.02	2.00	0.00	9.39	0.05	0.00	4.11	2.00	0.00	9.37	0.09	0.00
4.16	2.00	0.00	9.37	0.05	0.00	4.25	2.00	0.00	9.35	0.09	0.00
4.29	2.00	0.00	9.35	0.04	0.00	4.38	2.00	0.00	9.33	0.09	0.00
4.42	2.00	0.00	9.33	0.04	0.00	4.47	2.00	0.00	9.32	0.05	0.00
4.54	2.00	0.00	9.31	0.07	0.00	4.63	2.00	0.00	9.29	0.09	0.00
4.67	2.00	0.00	9.29	0.04	0.00	4.73	2.00	0.00	9.28	0.06	0.00
4.80	2.00	0.00	9.27	0.07	0.00	4.89	2.00	0.00	9.25	0.09	0.00
4.94	2.00	0.00	9.25	0.04	0.00	5.01	2.00	0.00	9.24	0.08	0.00
5.11	2.00	0.00	9.22	0.09	0.00	5.15	2.00	0.00	9.21	0.05	0.00
5.20	2.00	0.00	9.21	0.04	0.00	5.26	2.00	0.00	9.20	0.06	0.00
5.36	2.00	0.00	9.18	0.11	0.00	5.41	2.00	0.00	9.17	0.05	0.00
5.47	2.00	0.00	9.17	0.05	0.00	5.53	2.00	0.00	9.16	0.06	0.00
5.58	2.00	0.00	9.15	0.05	0.00	5.68	2.00	0.00	9.13	0.10	0.00
5.77	2.00	0.00	9.12	0.09	0.00	5.79	2.00	0.00	9.12	0.03	0.00
5.89	2.00	0.00	9.10	0.09	0.00	5.93	2.00	0.00	9.10	0.04	0.00
5.97	2.00	0.00	9.09	0.04	0.00	6.04	2.00	0.00	9.08	0.07	0.00
6.10	2.00	0.00	9.07	0.06	0.00	6.20	2.00	0.00	9.06	0.09	0.00
6.24	2.00	0.00	9.05	0.04	0.00	6.33	2.00	0.00	9.04	0.10	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
6.40	2.00	0.00	9.02	0.07	0.00	6.46	2.00	0.00	9.02	0.06	0.00
6.51	2.00	0.00	9.01	0.05	0.00	6.56	2.00	0.00	9.00	0.05	0.00
6.66	2.00	0.00	8.99	0.09	0.00	6.72	2.00	0.00	8.98	0.06	0.00
6.77	2.00	0.00	8.97	0.05	0.00	6.87	2.00	0.00	8.95	0.10	0.00
6.92	2.00	0.00	8.95	0.05	0.00	6.97	2.00	0.00	8.94	0.05	0.00
7.03	2.00	0.00	8.93	0.06	0.00	7.13	2.00	0.00	8.91	0.09	0.00
7.19	2.00	0.00	8.90	0.06	0.00	7.25	2.00	0.00	8.90	0.05	0.00
7.29	2.00	0.00	8.89	0.05	0.00	7.40	2.00	0.00	8.87	0.11	0.00
7.45	2.00	0.00	8.87	0.05	0.00	7.51	2.00	0.00	8.86	0.06	0.00
7.55	2.00	0.00	8.85	0.05	0.00	7.65	2.00	0.00	8.83	0.10	0.00
7.71	2.00	0.00	8.83	0.06	0.00	7.76	2.00	0.00	8.82	0.06	0.00
7.82	2.00	0.00	8.81	0.05	0.00	7.88	2.00	0.00	8.80	0.06	0.00
7.97	2.00	0.00	8.79	0.09	0.00	8.02	0.31	0.69	8.78	0.04	0.08
8.09	0.32	0.68	8.77	0.08	0.14	8.18	0.34	0.66	8.75	0.09	0.16
8.23	0.36	0.64	8.75	0.05	0.08	8.27	0.36	0.64	8.74	0.05	0.08
8.34	0.37	0.63	8.73	0.06	0.11	8.45	0.38	0.62	8.71	0.11	0.18
8.47	0.39	0.61	8.71	0.02	0.04	8.55	0.39	0.61	8.70	0.08	0.13
8.60	0.39	0.61	8.69	0.05	0.08	8.70	0.39	0.61	8.67	0.10	0.16
8.76	0.38	0.62	8.66	0.06	0.10	8.81	0.38	0.62	8.66	0.05	0.08
8.87	0.37	0.63	8.65	0.06	0.10	8.96	0.36	0.64	8.63	0.09	0.15
9.02	0.34	0.66	8.63	0.06	0.10	9.07	0.34	0.66	8.62	0.05	0.09
9.12	0.34	0.66	8.61	0.05	0.09	9.19	0.34	0.66	8.60	0.07	0.12
9.28	0.32	0.68	8.59	0.09	0.16	9.34	0.33	0.67	8.58	0.06	0.10
9.39	0.34	0.66	8.57	0.05	0.08	9.45	0.34	0.66	8.56	0.07	0.11
9.52	0.34	0.66	8.55	0.06	0.11	9.60	0.33	0.67	8.54	0.09	0.15
9.65	0.33	0.67	8.53	0.05	0.09	9.71	0.32	0.68	8.52	0.06	0.10
9.80	0.30	0.70	8.51	0.09	0.16	9.86	0.32	0.68	8.50	0.06	0.10
9.91	0.30	0.70	8.49	0.05	0.10	9.98	0.31	0.69	8.48	0.07	0.12
10.06	0.31	0.69	8.47	0.08	0.14	10.11	0.31	0.69	8.46	0.05	0.10
10.17	0.31	0.69	8.45	0.06	0.10	10.24	0.31	0.69	8.44	0.06	0.12
10.32	0.31	0.69	8.43	0.08	0.15	10.38	0.31	0.69	8.42	0.06	0.11
10.43	0.31	0.69	8.41	0.05	0.09	10.53	0.30	0.70	8.39	0.10	0.18
10.57	0.30	0.70	8.39	0.04	0.07	10.64	0.30	0.70	8.38	0.07	0.12
10.70	0.30	0.70	8.37	0.06	0.11	10.76	0.30	0.70	8.36	0.06	0.11
10.85	0.29	0.71	8.35	0.08	0.15	10.91	0.29	0.71	8.34	0.06	0.11
10.98	0.28	0.72	8.33	0.07	0.13	11.07	0.28	0.72	8.31	0.09	0.16
11.12	0.28	0.72	8.31	0.05	0.09	11.16	0.27	0.73	8.30	0.05	0.08
11.23	0.27	0.73	8.29	0.07	0.12	11.32	0.26	0.74	8.27	0.09	0.17
11.37	0.25	0.75	8.27	0.04	0.08	11.42	0.26	0.74	8.26	0.05	0.09
11.54	0.25	0.75	8.24	0.12	0.22	11.55	0.24	0.76	8.24	0.02	0.03
11.63	0.25	0.75	8.23	0.07	0.14	11.68	0.25	0.75	8.22	0.06	0.11
11.79	0.24	0.76	8.20	0.11	0.21	11.83	2.00	0.00	8.20	0.04	0.00
11.89	2.00	0.00	8.19	0.07	0.00	11.95	2.00	0.00	8.18	0.06	0.00
12.04	2.00	0.00	8.16	0.09	0.00	12.10	2.00	0.00	8.16	0.06	0.00
12.16	2.00	0.00	8.15	0.05	0.00	12.22	2.00	0.00	8.14	0.06	0.00
12.28	2.00	0.00	8.13	0.06	0.00	12.35	2.00	0.00	8.12	0.07	0.00
12.42	2.00	0.00	8.11	0.07	0.00	12.47	2.00	0.00	8.10	0.05	0.00
12.56	2.00	0.00	8.09	0.10	0.00	12.63	2.00	0.00	8.08	0.07	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
12.69	2.00	0.00	8.07	0.06	0.00	12.74	2.00	0.00	8.06	0.05	0.00
12.82	2.00	0.00	8.05	0.09	0.00	12.87	2.00	0.00	8.04	0.05	0.00
12.93	2.00	0.00	8.03	0.06	0.00	12.99	0.23	0.77	8.02	0.06	0.12
13.10	0.23	0.77	8.00	0.11	0.20	13.14	0.23	0.77	8.00	0.04	0.08
13.19	0.23	0.77	7.99	0.05	0.09	13.26	0.23	0.77	7.98	0.07	0.13
13.36	0.24	0.76	7.96	0.10	0.18	13.39	0.25	0.75	7.96	0.03	0.06
13.46	0.25	0.75	7.95	0.07	0.13	13.52	0.25	0.75	7.94	0.06	0.10
13.61	0.26	0.74	7.93	0.09	0.16	13.66	0.26	0.74	7.92	0.05	0.09
13.73	0.25	0.75	7.91	0.07	0.12	13.83	0.22	0.78	7.89	0.10	0.19
13.88	0.21	0.79	7.89	0.05	0.09	13.92	0.22	0.78	7.88	0.05	0.09
13.99	0.23	0.77	7.87	0.07	0.13	14.06	0.23	0.77	7.86	0.07	0.12
14.14	0.23	0.77	7.85	0.08	0.14	14.19	0.23	0.77	7.84	0.05	0.10
14.25	0.23	0.77	7.83	0.06	0.10	14.33	0.24	0.76	7.82	0.09	0.15
14.40	0.24	0.76	7.81	0.07	0.13	14.46	0.25	0.75	7.80	0.06	0.10
14.54	0.25	0.75	7.78	0.08	0.14	14.58	0.25	0.75	7.78	0.05	0.08
14.67	0.25	0.75	7.76	0.08	0.15	14.71	0.25	0.75	7.76	0.05	0.08
14.79	0.25	0.75	7.75	0.07	0.13	14.87	0.24	0.76	7.73	0.08	0.15
14.90	0.24	0.76	7.73	0.03	0.06	14.98	0.24	0.76	7.72	0.08	0.14
15.03	0.24	0.76	7.71	0.05	0.09	15.10	0.24	0.76	7.70	0.07	0.12
15.19	0.24	0.76	7.69	0.09	0.15	15.23	0.25	0.75	7.68	0.04	0.07
15.30	0.25	0.75	7.67	0.07	0.12	15.39	0.25	0.75	7.65	0.09	0.16
15.44	0.25	0.75	7.65	0.05	0.08	15.49	0.26	0.74	7.64	0.06	0.10
15.57	0.26	0.74	7.63	0.08	0.14	15.64	0.26	0.74	7.62	0.07	0.11
15.71	0.26	0.74	7.61	0.07	0.11	15.76	0.26	0.74	7.60	0.05	0.09
15.82	0.26	0.74	7.59	0.06	0.09	15.90	0.26	0.74	7.58	0.08	0.15
15.97	0.26	0.74	7.57	0.07	0.12	16.02	0.26	0.74	7.56	0.05	0.08
16.11	0.26	0.74	7.55	0.09	0.15	16.18	0.26	0.74	7.53	0.07	0.13
16.23	0.26	0.74	7.53	0.05	0.08	16.33	0.26	0.74	7.51	0.10	0.16
16.34	0.26	0.74	7.51	0.02	0.03	16.43	0.26	0.74	7.50	0.09	0.15
16.48	0.26	0.74	7.49	0.05	0.08	16.55	0.25	0.75	7.48	0.06	0.11
16.64	0.25	0.75	7.46	0.10	0.17	16.69	0.25	0.75	7.46	0.04	0.07
16.75	0.25	0.75	7.45	0.07	0.11	16.80	0.25	0.75	7.44	0.05	0.08
16.88	0.26	0.74	7.43	0.08	0.13	16.96	0.26	0.74	7.41	0.08	0.14
17.01	0.26	0.74	7.41	0.04	0.07	17.07	0.26	0.74	7.40	0.06	0.10
17.17	0.27	0.73	7.38	0.10	0.17	17.22	0.27	0.73	7.38	0.05	0.08
17.29	0.27	0.73	7.37	0.07	0.11	17.33	0.27	0.73	7.36	0.05	0.08
17.42	0.27	0.73	7.35	0.09	0.14	17.49	0.28	0.72	7.33	0.07	0.12
17.53	0.28	0.72	7.33	0.04	0.07	17.60	0.26	0.74	7.32	0.07	0.11
17.69	0.24	0.76	7.30	0.09	0.16	17.74	0.22	0.78	7.30	0.05	0.08
17.79	0.23	0.77	7.29	0.05	0.08	17.86	0.25	0.75	7.28	0.07	0.11
17.95	0.24	0.76	7.26	0.09	0.16	18.01	0.27	0.73	7.25	0.06	0.10
18.06	0.27	0.73	7.25	0.05	0.08	18.12	0.29	0.71	7.24	0.06	0.09
18.18	0.30	0.70	7.23	0.06	0.09	18.27	0.31	0.69	7.22	0.09	0.14
18.33	0.30	0.70	7.21	0.05	0.08	18.38	0.31	0.69	7.20	0.06	0.09
18.48	0.31	0.69	7.18	0.09	0.14	18.51	0.31	0.69	7.18	0.04	0.06
18.57	0.30	0.70	7.17	0.06	0.09	18.64	0.31	0.69	7.16	0.06	0.10
18.75	0.31	0.69	7.14	0.11	0.16	18.80	0.32	0.68	7.13	0.06	0.08
18.85	0.32	0.68	7.13	0.05	0.07	18.90	0.33	0.67	7.12	0.05	0.07

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
18.99	0.34	0.66	7.11	0.09	0.12	19.06	0.34	0.66	7.10	0.07	0.09
19.11	0.34	0.66	7.09	0.05	0.08	19.21	0.34	0.66	7.07	0.10	0.14
19.27	0.34	0.66	7.06	0.05	0.08	19.32	0.33	0.67	7.06	0.06	0.08
19.37	0.32	0.68	7.05	0.04	0.06	19.47	0.33	0.67	7.03	0.10	0.14
19.52	0.35	0.65	7.02	0.06	0.08	19.56	0.38	0.62	7.02	0.03	0.04
19.64	0.47	0.53	7.01	0.08	0.09	19.73	0.52	0.48	6.99	0.10	0.10
19.79	0.54	0.46	6.98	0.05	0.05	19.84	0.58	0.42	6.98	0.05	0.05
19.89	0.59	0.41	6.97	0.05	0.05	20.00	0.60	0.40	6.95	0.10	0.09
20.03	0.59	0.41	6.95	0.04	0.03	20.11	0.56	0.44	6.94	0.07	0.07
20.16	0.53	0.47	6.93	0.05	0.05	20.21	0.52	0.48	6.92	0.05	0.05
20.32	0.46	0.54	6.90	0.11	0.13	20.37	0.44	0.56	6.90	0.05	0.05
20.42	0.41	0.59	6.89	0.05	0.06	20.50	0.38	0.62	6.88	0.08	0.10
20.58	0.35	0.65	6.86	0.08	0.11	20.63	0.34	0.66	6.86	0.05	0.07
20.68	0.34	0.66	6.85	0.05	0.07	20.75	0.35	0.65	6.84	0.07	0.10
20.84	0.37	0.63	6.82	0.09	0.12	20.88	0.40	0.60	6.82	0.04	0.05
20.98	0.52	0.48	6.80	0.10	0.10	21.00	0.64	0.36	6.80	0.02	0.01
21.08	0.63	0.37	6.79	0.09	0.07	21.14	0.63	0.37	6.78	0.06	0.04
21.22	1.03	0.00	6.77	0.07	0.00	21.28	1.10	0.00	6.76	0.06	0.00
21.35	1.07	0.00	6.75	0.07	0.00	21.41	0.98	0.02	6.74	0.06	0.00
21.48	0.86	0.14	6.73	0.07	0.02	21.54	0.86	0.14	6.72	0.06	0.02
21.60	0.85	0.15	6.71	0.07	0.02	21.68	0.84	0.16	6.70	0.08	0.03
21.73	0.84	0.16	6.69	0.05	0.01	21.81	0.84	0.16	6.68	0.08	0.03
21.85	0.81	0.19	6.67	0.04	0.02	21.94	0.77	0.23	6.66	0.09	0.04
22.04	0.80	0.20	6.64	0.10	0.04	22.07	0.85	0.15	6.64	0.03	0.01
22.15	0.99	0.01	6.62	0.08	0.00	22.19	1.08	0.00	6.62	0.04	0.00
22.30	1.31	0.00	6.60	0.11	0.00	22.36	1.59	0.00	6.59	0.06	0.00
22.41	1.71	0.00	6.59	0.05	0.00	22.46	1.79	0.00	6.58	0.05	0.00
22.51	1.79	0.00	6.57	0.05	0.00	22.61	1.53	0.00	6.55	0.10	0.00
22.66	1.44	0.00	6.55	0.05	0.00	22.71	1.35	0.00	6.54	0.06	0.00
22.78	1.22	0.00	6.53	0.07	0.00	22.87	1.11	0.00	6.51	0.09	0.00
22.93	1.08	0.00	6.51	0.05	0.00	22.99	0.99	0.01	6.50	0.06	0.00
23.04	0.93	0.07	6.49	0.04	0.01	23.12	0.82	0.18	6.48	0.09	0.03
23.18	0.75	0.25	6.47	0.06	0.03	23.24	0.62	0.38	6.46	0.06	0.05
23.30	0.57	0.43	6.45	0.06	0.05	23.40	0.49	0.51	6.43	0.10	0.10
23.45	0.46	0.54	6.43	0.05	0.06	23.51	0.41	0.59	6.42	0.05	0.06
23.56	0.38	0.62	6.41	0.06	0.07	23.63	0.30	0.70	6.40	0.07	0.10
23.72	0.29	0.71	6.39	0.09	0.12	23.79	0.27	0.73	6.37	0.07	0.10
23.84	0.27	0.73	6.37	0.05	0.07	23.91	0.25	0.75	6.36	0.07	0.10
23.98	0.26	0.74	6.34	0.08	0.11	24.02	0.28	0.72	6.34	0.03	0.05
24.10	0.28	0.72	6.33	0.08	0.11	24.19	0.26	0.74	6.31	0.09	0.13
24.25	0.26	0.74	6.30	0.06	0.09	24.31	0.22	0.78	6.30	0.05	0.08
24.36	0.21	0.79	6.29	0.05	0.08	24.42	0.20	0.80	6.28	0.06	0.09
24.49	2.00	0.00	6.27	0.07	0.00	24.56	2.00	0.00	6.26	0.07	0.00
24.62	2.00	0.00	6.25	0.06	0.00	24.67	2.00	0.00	6.24	0.05	0.00
24.78	2.00	0.00	6.22	0.10	0.00	24.84	2.00	0.00	6.21	0.06	0.00
24.89	2.00	0.00	6.21	0.05	0.00	24.93	2.00	0.00	6.20	0.05	0.00
25.04	2.00	0.00	6.18	0.11	0.00	25.09	2.00	0.00	6.18	0.05	0.00
25.15	2.00	0.00	6.17	0.06	0.00	25.20	2.00	0.00	6.16	0.05	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
25.30	2.00	0.00	6.14	0.10	0.00	25.36	2.00	0.00	6.14	0.06	0.00
25.41	2.00	0.00	6.13	0.05	0.00	25.50	2.00	0.00	6.11	0.09	0.00
25.56	2.00	0.00	6.10	0.06	0.00	25.62	2.00	0.00	6.10	0.06	0.00
25.66	2.00	0.00	6.09	0.05	0.00	25.76	2.00	0.00	6.07	0.09	0.00
25.81	2.00	0.00	6.07	0.05	0.00	25.87	2.00	0.00	6.06	0.05	0.00
25.92	2.00	0.00	6.05	0.05	0.00	26.02	2.00	0.00	6.03	0.10	0.00
26.08	2.00	0.00	6.03	0.06	0.00	26.13	2.00	0.00	6.02	0.05	0.00
26.18	2.00	0.00	6.01	0.06	0.00	26.25	2.00	0.00	6.00	0.07	0.00
26.35	2.00	0.00	5.98	0.10	0.00	26.40	2.00	0.00	5.98	0.05	0.00
26.48	2.00	0.00	5.96	0.08	0.00	26.54	2.00	0.00	5.95	0.07	0.00
26.59	2.00	0.00	5.95	0.05	0.00	26.64	2.00	0.00	5.94	0.05	0.00
26.75	2.00	0.00	5.92	0.11	0.00	26.79	2.00	0.00	5.92	0.04	0.00
26.86	2.00	0.00	5.91	0.07	0.00	26.91	2.00	0.00	5.90	0.05	0.00
27.02	2.00	0.00	5.88	0.11	0.00	27.05	2.00	0.00	5.88	0.04	0.00
27.12	2.00	0.00	5.87	0.07	0.00	27.17	2.00	0.00	5.86	0.05	0.00
27.27	2.00	0.00	5.84	0.10	0.00	27.32	2.00	0.00	5.84	0.04	0.00
27.38	2.00	0.00	5.83	0.06	0.00	27.45	2.00	0.00	5.82	0.07	0.00
27.53	2.00	0.00	5.80	0.08	0.00	27.59	2.00	0.00	5.79	0.06	0.00
27.63	2.00	0.00	5.79	0.04	0.00	27.69	2.00	0.00	5.78	0.06	0.00
27.80	2.00	0.00	5.76	0.11	0.00	27.84	2.00	0.00	5.76	0.04	0.00
27.89	2.00	0.00	5.75	0.05	0.00	27.97	2.00	0.00	5.74	0.08	0.00
28.06	2.00	0.00	5.72	0.09	0.00	28.10	2.00	0.00	5.72	0.04	0.00
28.17	2.00	0.00	5.71	0.08	0.00	28.27	2.00	0.00	5.69	0.09	0.00
28.32	2.00	0.00	5.68	0.05	0.00	28.36	2.00	0.00	5.68	0.04	0.00
28.43	2.00	0.00	5.67	0.07	0.00	28.51	2.00	0.00	5.66	0.08	0.00
28.57	2.00	0.00	5.65	0.06	0.00	28.62	2.00	0.00	5.64	0.05	0.00
28.68	2.00	0.00	5.63	0.05	0.00	28.77	2.00	0.00	5.61	0.10	0.00
28.83	2.00	0.00	5.61	0.06	0.00	28.88	2.00	0.00	5.60	0.05	0.00
28.94	2.00	0.00	5.59	0.07	0.00	29.04	0.19	0.81	5.57	0.10	0.13
29.09	0.21	0.79	5.57	0.05	0.07	29.14	0.22	0.78	5.56	0.05	0.07
29.22	0.25	0.75	5.55	0.08	0.10	29.29	0.28	0.72	5.54	0.07	0.08
29.34	0.29	0.71	5.53	0.05	0.06	29.41	0.31	0.69	5.52	0.07	0.08
29.48	0.32	0.68	5.51	0.08	0.09	29.54	0.32	0.68	5.50	0.05	0.06
29.62	0.31	0.69	5.49	0.08	0.09	29.66	0.32	0.68	5.48	0.05	0.05
29.75	0.31	0.69	5.47	0.08	0.10	29.81	0.30	0.70	5.46	0.06	0.07
29.88	0.28	0.72	5.45	0.07	0.08	29.93	0.27	0.73	5.44	0.05	0.06
30.02	0.25	0.75	5.43	0.09	0.11	30.08	0.24	0.76	5.42	0.06	0.08
30.13	0.24	0.76	5.41	0.05	0.07	30.22	0.23	0.77	5.39	0.09	0.11
30.27	0.24	0.76	5.39	0.05	0.06	30.34	0.24	0.76	5.38	0.06	0.08
30.40	0.24	0.76	5.37	0.06	0.08	30.50	0.25	0.75	5.35	0.10	0.12
30.55	0.26	0.74	5.34	0.05	0.06	30.59	0.26	0.74	5.34	0.04	0.04
30.65	0.27	0.73	5.33	0.06	0.08	30.75	0.26	0.74	5.31	0.10	0.11
30.81	0.25	0.75	5.30	0.06	0.08	30.87	0.25	0.75	5.30	0.05	0.06
30.92	0.24	0.76	5.29	0.05	0.07	30.97	0.25	0.75	5.28	0.05	0.06
31.07	0.22	0.78	5.26	0.10	0.12	31.11	0.22	0.78	5.26	0.04	0.05
31.18	0.23	0.77	5.25	0.06	0.08	31.27	0.22	0.78	5.23	0.09	0.12
31.33	0.22	0.78	5.23	0.06	0.08	31.38	0.21	0.79	5.22	0.05	0.06
31.44	0.21	0.79	5.21	0.06	0.07	31.54	0.20	0.80	5.19	0.10	0.12

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.57	0.20	0.80	5.19	0.03	0.04	31.64	0.19	0.81	5.18	0.07	0.09
31.70	2.00	0.00	5.17	0.06	0.00	31.78	2.00	0.00	5.16	0.08	0.00
31.84	2.00	0.00	5.15	0.06	0.00	31.90	2.00	0.00	5.14	0.06	0.00
31.96	2.00	0.00	5.13	0.06	0.00	32.04	2.00	0.00	5.12	0.08	0.00
32.11	2.00	0.00	5.11	0.07	0.00	32.16	2.00	0.00	5.10	0.05	0.00
32.23	0.21	0.79	5.09	0.06	0.08	32.32	0.27	0.73	5.07	0.09	0.11
32.38	0.28	0.72	5.07	0.05	0.06	32.42	0.29	0.71	5.06	0.05	0.05
32.49	0.30	0.70	5.05	0.07	0.08	32.56	0.30	0.70	5.04	0.07	0.07
32.63	0.30	0.70	5.03	0.07	0.08	32.69	0.31	0.69	5.02	0.05	0.05
32.77	0.28	0.72	5.01	0.09	0.10	32.81	0.27	0.73	5.00	0.04	0.04
32.90	0.23	0.77	4.99	0.09	0.10	32.95	0.22	0.78	4.98	0.05	0.06
33.04	0.21	0.79	4.97	0.09	0.11	33.08	0.21	0.79	4.96	0.04	0.05
33.15	0.24	0.76	4.95	0.07	0.08	33.21	0.25	0.75	4.94	0.05	0.06
33.30	0.37	0.63	4.93	0.09	0.08	33.34	0.38	0.62	4.92	0.05	0.04
33.42	0.44	0.56	4.91	0.07	0.06	33.50	0.44	0.56	4.90	0.08	0.06
33.54	0.39	0.61	4.89	0.04	0.04	33.63	0.41	0.59	4.88	0.09	0.08
33.67	0.44	0.56	4.87	0.05	0.04	33.75	0.48	0.52	4.86	0.07	0.06
33.83	0.51	0.49	4.84	0.09	0.06	33.89	0.49	0.51	4.84	0.05	0.04
33.94	0.36	0.64	4.83	0.05	0.05	33.99	0.27	0.73	4.82	0.05	0.06
34.10	0.27	0.73	4.80	0.11	0.11	34.15	0.27	0.73	4.80	0.05	0.05
34.20	0.27	0.73	4.79	0.05	0.06	34.28	0.27	0.73	4.78	0.08	0.09
34.36	0.27	0.73	4.76	0.08	0.08	34.41	0.29	0.71	4.76	0.05	0.05
34.45	0.29	0.71	4.75	0.04	0.04	34.52	0.32	0.68	4.74	0.07	0.07
34.60	0.35	0.65	4.73	0.08	0.08	34.67	0.38	0.62	4.72	0.06	0.06
34.72	0.41	0.59	4.71	0.05	0.05	34.82	0.41	0.59	4.69	0.10	0.08
34.85	0.43	0.57	4.69	0.03	0.02	34.92	0.40	0.60	4.68	0.07	0.06
34.98	0.42	0.58	4.67	0.06	0.05	35.09	0.36	0.64	4.65	0.11	0.10
35.14	0.37	0.63	4.64	0.05	0.04	35.18	0.37	0.63	4.64	0.04	0.04
35.24	0.36	0.64	4.63	0.06	0.06	35.35	0.32	0.68	4.61	0.11	0.10
35.40	0.32	0.68	4.61	0.05	0.05	35.45	0.34	0.66	4.60	0.05	0.05
35.52	0.31	0.69	4.59	0.07	0.07	35.61	0.27	0.73	4.57	0.09	0.09
35.66	0.26	0.74	4.57	0.05	0.05	35.70	0.25	0.75	4.56	0.04	0.04
35.77	0.21	0.79	4.55	0.07	0.08	35.87	2.00	0.00	4.53	0.10	0.00
35.92	2.00	0.00	4.53	0.05	0.00	35.97	2.00	0.00	4.52	0.05	0.00
36.03	2.00	0.00	4.51	0.07	0.00	36.13	2.00	0.00	4.49	0.10	0.00
36.18	2.00	0.00	4.49	0.05	0.00	36.23	2.00	0.00	4.48	0.05	0.00
36.30	2.00	0.00	4.47	0.06	0.00	36.39	2.00	0.00	4.45	0.10	0.00
36.44	2.00	0.00	4.45	0.04	0.00	36.51	2.00	0.00	4.44	0.07	0.00
36.56	2.00	0.00	4.43	0.05	0.00	36.65	2.00	0.00	4.41	0.09	0.00
36.70	2.00	0.00	4.41	0.05	0.00	36.75	2.00	0.00	4.40	0.05	0.00
36.82	2.00	0.00	4.39	0.07	0.00	36.91	2.00	0.00	4.37	0.10	0.00
36.97	2.00	0.00	4.37	0.05	0.00	37.03	2.00	0.00	4.36	0.07	0.00
37.08	2.00	0.00	4.35	0.04	0.00	37.18	2.00	0.00	4.33	0.10	0.00
37.21	2.00	0.00	4.33	0.03	0.00	37.29	2.00	0.00	4.32	0.08	0.00
37.39	2.00	0.00	4.30	0.10	0.00	37.43	2.00	0.00	4.30	0.05	0.00
37.48	2.00	0.00	4.29	0.05	0.00	37.55	2.00	0.00	4.28	0.06	0.00
37.63	2.00	0.00	4.26	0.09	0.00	37.68	2.00	0.00	4.26	0.05	0.00
37.78	2.00	0.00	4.24	0.10	0.00	37.83	2.00	0.00	4.23	0.05	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
37.89	2.00	0.00	4.23	0.06	0.00	37.93	2.00	0.00	4.22	0.04	0.00
38.02	2.00	0.00	4.21	0.08	0.00	38.06	2.00	0.00	4.20	0.05	0.00
38.15	2.00	0.00	4.19	0.09	0.00	38.19	2.00	0.00	4.18	0.04	0.00
38.30	2.00	0.00	4.16	0.11	0.00	38.36	2.00	0.00	4.15	0.06	0.00
38.42	2.00	0.00	4.15	0.05	0.00	38.47	2.00	0.00	4.14	0.05	0.00
38.56	2.00	0.00	4.12	0.10	0.00	38.58	2.00	0.00	4.12	0.02	0.00
38.67	2.00	0.00	4.11	0.09	0.00	38.73	2.00	0.00	4.10	0.05	0.00
38.83	2.00	0.00	4.08	0.11	0.00	38.89	2.00	0.00	4.07	0.06	0.00
38.93	2.00	0.00	4.07	0.04	0.00	38.99	2.00	0.00	4.06	0.06	0.00
39.06	2.00	0.00	4.05	0.07	0.00	39.13	2.00	0.00	4.04	0.06	0.00
39.20	2.00	0.00	4.03	0.07	0.00	39.25	2.00	0.00	4.02	0.05	0.00
39.31	2.00	0.00	4.01	0.06	0.00	39.41	2.00	0.00	3.99	0.10	0.00
39.46	2.00	0.00	3.99	0.05	0.00	39.51	2.00	0.00	3.98	0.05	0.00
39.57	2.00	0.00	3.97	0.06	0.00	39.67	0.18	0.82	3.95	0.10	0.10
39.72	0.19	0.81	3.95	0.05	0.05	39.78	0.19	0.81	3.94	0.06	0.06
39.83	0.19	0.81	3.93	0.05	0.05	39.92	0.19	0.81	3.92	0.09	0.09
39.98	0.19	0.81	3.91	0.06	0.06	40.03	0.18	0.82	3.90	0.04	0.04
40.13	0.18	0.82	3.88	0.11	0.10	40.16	0.18	0.82	3.88	0.03	0.03
40.24	0.18	0.82	3.87	0.08	0.08	40.29	0.18	0.82	3.86	0.05	0.05
40.37	0.18	0.82	3.85	0.08	0.07	40.45	2.00	0.00	3.83	0.08	0.00
40.50	2.00	0.00	3.83	0.05	0.00	40.55	2.00	0.00	3.82	0.05	0.00
40.62	2.00	0.00	3.81	0.07	0.00	40.70	2.00	0.00	3.80	0.08	0.00
40.76	2.00	0.00	3.79	0.06	0.00	40.83	2.00	0.00	3.78	0.07	0.00
40.91	2.00	0.00	3.77	0.08	0.00	40.97	2.00	0.00	3.76	0.06	0.00
41.02	0.20	0.80	3.75	0.05	0.04	41.10	0.24	0.76	3.74	0.09	0.07
41.16	0.26	0.74	3.73	0.06	0.05	41.23	0.27	0.73	3.72	0.07	0.06
41.29	0.27	0.73	3.71	0.05	0.04	41.35	0.27	0.73	3.70	0.06	0.05
41.44	0.27	0.73	3.68	0.09	0.08	41.49	0.26	0.74	3.68	0.05	0.04
41.55	0.27	0.73	3.67	0.06	0.05	41.64	0.28	0.72	3.65	0.09	0.07
41.70	0.28	0.72	3.64	0.06	0.05	41.76	0.28	0.72	3.64	0.06	0.04
41.81	0.28	0.72	3.63	0.05	0.04	41.87	0.28	0.72	3.62	0.06	0.04
41.95	0.28	0.72	3.61	0.08	0.07	42.02	0.28	0.72	3.60	0.07	0.05
42.07	0.27	0.73	3.59	0.05	0.04	42.15	0.28	0.72	3.58	0.08	0.06
42.21	0.29	0.71	3.57	0.07	0.05	42.28	0.30	0.70	3.56	0.07	0.05
42.33	0.29	0.71	3.55	0.05	0.04	42.41	0.26	0.74	3.54	0.08	0.06
42.48	0.22	0.78	3.53	0.07	0.06	42.54	2.00	0.00	3.52	0.06	0.00
42.59	2.00	0.00	3.51	0.05	0.00	42.68	2.00	0.00	3.50	0.09	0.00
42.75	2.00	0.00	3.48	0.07	0.00	42.81	2.00	0.00	3.48	0.05	0.00
42.85	2.00	0.00	3.47	0.04	0.00	42.93	2.00	0.00	3.46	0.08	0.00
43.01	2.00	0.00	3.45	0.08	0.00	43.07	2.00	0.00	3.44	0.06	0.00
43.12	2.00	0.00	3.43	0.05	0.00	43.20	2.00	0.00	3.42	0.09	0.00
43.28	2.00	0.00	3.40	0.07	0.00	43.32	2.00	0.00	3.40	0.04	0.00
43.40	0.19	0.81	3.39	0.08	0.06	43.48	0.20	0.80	3.37	0.08	0.07
43.53	0.21	0.79	3.37	0.05	0.04	43.57	0.21	0.79	3.36	0.04	0.04
43.67	0.24	0.76	3.34	0.10	0.08	43.71	0.26	0.74	3.34	0.03	0.03
43.77	0.27	0.73	3.33	0.06	0.05	43.88	0.27	0.73	3.31	0.11	0.08
43.93	0.27	0.73	3.30	0.05	0.04	43.99	0.27	0.73	3.30	0.06	0.04
44.04	0.27	0.73	3.29	0.05	0.04	44.15	0.27	0.73	3.27	0.11	0.08

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
44.17	0.27	0.73	3.27	0.03	0.02	44.25	0.28	0.72	3.26	0.08	0.06
44.30	0.28	0.72	3.25	0.05	0.04	44.36	0.28	0.72	3.24	0.06	0.04
44.44	0.29	0.71	3.23	0.08	0.05	44.50	0.31	0.69	3.22	0.07	0.05
44.58	0.34	0.66	3.21	0.08	0.05	44.67	0.36	0.64	3.19	0.09	0.05
44.72	0.39	0.61	3.18	0.05	0.03	44.77	0.39	0.61	3.18	0.05	0.03
44.83	0.38	0.62	3.17	0.06	0.03	44.92	0.37	0.63	3.15	0.10	0.06
44.98	0.36	0.64	3.14	0.06	0.04	45.02	0.35	0.65	3.14	0.03	0.02
45.08	0.35	0.65	3.13	0.07	0.04	45.19	0.34	0.66	3.11	0.11	0.07
45.24	0.33	0.67	3.10	0.05	0.03	45.30	0.33	0.67	3.10	0.05	0.03
45.38	0.32	0.68	3.08	0.08	0.05	45.45	0.31	0.69	3.07	0.07	0.05
45.49	0.31	0.69	3.07	0.04	0.03	45.57	0.30	0.70	3.05	0.08	0.05
45.62	0.30	0.70	3.05	0.04	0.03	45.71	0.30	0.70	3.03	0.09	0.06
45.76	0.30	0.70	3.03	0.05	0.03	45.83	0.30	0.70	3.02	0.07	0.05
45.87	0.30	0.70	3.01	0.05	0.03	45.96	0.30	0.70	3.00	0.08	0.05
46.01	0.30	0.70	2.99	0.05	0.04	46.08	0.29	0.71	2.98	0.07	0.04
46.13	0.29	0.71	2.97	0.05	0.03	46.23	0.28	0.72	2.95	0.10	0.06
46.28	0.28	0.72	2.95	0.06	0.04	46.34	0.28	0.72	2.94	0.06	0.04
46.44	0.27	0.73	2.92	0.09	0.06	46.46	0.27	0.73	2.92	0.02	0.02
46.55	0.26	0.74	2.91	0.09	0.06	46.60	0.26	0.74	2.90	0.05	0.03
46.70	0.26	0.74	2.88	0.10	0.07	46.76	0.26	0.74	2.87	0.07	0.04
46.80	0.26	0.74	2.87	0.04	0.03	46.85	0.26	0.74	2.86	0.05	0.03
46.92	0.28	0.72	2.85	0.06	0.04	47.00	0.26	0.74	2.84	0.08	0.05
47.07	0.24	0.76	2.83	0.07	0.05	47.12	0.38	0.62	2.82	0.05	0.03
47.21	0.61	0.39	2.81	0.09	0.03	47.25	0.66	0.34	2.80	0.04	0.01
47.32	0.94	0.06	2.79	0.08	0.00	47.38	0.89	0.11	2.78	0.06	0.01
47.44	1.25	0.00	2.77	0.06	0.00	47.53	1.30	0.00	2.76	0.09	0.00
47.59	1.50	0.00	2.75	0.06	0.00	47.64	1.42	0.00	2.74	0.05	0.00
47.74	1.65	0.00	2.72	0.10	0.00	47.79	1.63	0.00	2.72	0.05	0.00
47.85	1.71	0.00	2.71	0.06	0.00	47.90	1.60	0.00	2.70	0.05	0.00
47.98	1.72	0.00	2.69	0.07	0.00	48.05	1.61	0.00	2.68	0.07	0.00
48.11	1.60	0.00	2.67	0.06	0.00	48.17	1.56	0.00	2.66	0.06	0.00
48.26	1.44	0.00	2.65	0.09	0.00	48.31	1.46	0.00	2.64	0.05	0.00
48.37	1.29	0.00	2.63	0.07	0.00	48.43	1.24	0.00	2.62	0.06	0.00
48.52	1.02	0.00	2.61	0.09	0.00	48.58	0.95	0.05	2.60	0.06	0.00
48.63	0.88	0.12	2.59	0.05	0.00	48.72	0.72	0.28	2.58	0.09	0.02
48.80	0.58	0.42	2.56	0.08	0.02	48.83	0.71	0.29	2.56	0.03	0.01
48.90	0.52	0.48	2.55	0.07	0.03	49.00	0.49	0.51	2.53	0.10	0.04
49.04	0.50	0.50	2.53	0.04	0.01	49.09	0.52	0.48	2.52	0.05	0.02
49.16	0.47	0.53	2.51	0.07	0.03	49.24	0.42	0.58	2.50	0.08	0.04
49.30	0.42	0.58	2.49	0.06	0.03	49.37	0.37	0.63	2.48	0.06	0.03
49.42	0.45	0.55	2.47	0.05	0.02	49.51	0.43	0.57	2.45	0.09	0.04
49.55	0.47	0.53	2.45	0.04	0.02	49.63	0.48	0.52	2.44	0.08	0.03
49.68	0.46	0.54	2.43	0.05	0.02	49.76	0.46	0.54	2.42	0.08	0.03
49.84	0.43	0.57	2.40	0.08	0.03	49.88	0.41	0.59	2.40	0.04	0.02
49.94	0.40	0.60	2.39	0.05	0.02	50.00	2.00	0.00	2.38	0.06	0.00
50.09	2.00	0.00	2.37	0.09	0.00	50.14	2.00	0.00	2.36	0.05	0.00
50.20	2.00	0.00	2.35	0.05	0.00	50.30	2.00	0.00	2.33	0.10	0.00
50.35	2.00	0.00	2.33	0.05	0.00	50.40	2.00	0.00	2.32	0.05	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
50.51	2.00	0.00	2.30	0.10	0.00	50.56	2.00	0.00	2.29	0.05	0.00
50.61	2.00	0.00	2.29	0.05	0.00	50.66	2.00	0.00	2.28	0.05	0.00
50.73	2.00	0.00	2.27	0.06	0.00	50.82	2.00	0.00	2.26	0.09	0.00
50.87	2.00	0.00	2.25	0.06	0.00	50.92	2.00	0.00	2.24	0.05	0.00
50.99	2.00	0.00	2.23	0.06	0.00	51.08	2.00	0.00	2.22	0.09	0.00
51.13	2.00	0.00	2.21	0.05	0.00	51.19	2.00	0.00	2.20	0.06	0.00
51.27	2.00	0.00	2.19	0.08	0.00	51.34	2.00	0.00	2.18	0.08	0.00
51.40	2.00	0.00	2.17	0.05	0.00	51.49	2.00	0.00	2.15	0.09	0.00
51.54	2.00	0.00	2.15	0.05	0.00	51.61	2.00	0.00	2.13	0.07	0.00
51.66	2.00	0.00	2.13	0.05	0.00	51.71	2.00	0.00	2.12	0.05	0.00
51.81	2.00	0.00	2.10	0.11	0.00	51.86	2.00	0.00	2.10	0.05	0.00
51.94	2.00	0.00	2.08	0.08	0.00	51.99	2.00	0.00	2.08	0.05	0.00
52.04	2.00	0.00	2.07	0.04	0.00	52.12	2.00	0.00	2.06	0.09	0.00
52.17	2.00	0.00	2.05	0.05	0.00	52.24	2.00	0.00	2.04	0.07	0.00
52.33	2.00	0.00	2.03	0.09	0.00	52.37	2.00	0.00	2.02	0.04	0.00
52.45	2.00	0.00	2.01	0.08	0.00	52.51	2.00	0.00	2.00	0.05	0.00
52.58	2.00	0.00	1.99	0.07	0.00	52.63	2.00	0.00	1.98	0.05	0.00
52.69	2.00	0.00	1.97	0.06	0.00	52.79	2.00	0.00	1.96	0.09	0.00
52.84	2.00	0.00	1.95	0.05	0.00	52.89	2.00	0.00	1.94	0.05	0.00
52.97	2.00	0.00	1.93	0.08	0.00	53.05	2.00	0.00	1.92	0.08	0.00
53.10	2.00	0.00	1.91	0.05	0.00	53.19	2.00	0.00	1.89	0.10	0.00
53.22	2.00	0.00	1.89	0.02	0.00	53.31	2.00	0.00	1.88	0.09	0.00
53.35	2.00	0.00	1.87	0.05	0.00	53.43	2.00	0.00	1.86	0.08	0.00
53.52	2.00	0.00	1.84	0.09	0.00	53.57	2.00	0.00	1.84	0.05	0.00
53.65	2.00	0.00	1.82	0.08	0.00	53.69	2.00	0.00	1.82	0.04	0.00
53.78	2.00	0.00	1.80	0.09	0.00	53.83	2.00	0.00	1.80	0.05	0.00
53.88	2.00	0.00	1.79	0.05	0.00	53.94	2.00	0.00	1.78	0.07	0.00
54.04	2.00	0.00	1.76	0.10	0.00	54.09	2.00	0.00	1.76	0.05	0.00
54.15	2.00	0.00	1.75	0.06	0.00	54.20	2.00	0.00	1.74	0.05	0.00
54.30	2.00	0.00	1.72	0.09	0.00	54.37	2.00	0.00	1.71	0.07	0.00
54.41	2.00	0.00	1.71	0.04	0.00	54.51	2.00	0.00	1.69	0.10	0.00
54.55	2.00	0.00	1.69	0.04	0.00	54.61	2.00	0.00	1.68	0.06	0.00
54.66	2.00	0.00	1.67	0.06	0.00	54.74	2.00	0.00	1.66	0.08	0.00
54.80	2.00	0.00	1.65	0.06	0.00	54.89	2.00	0.00	1.64	0.09	0.00
54.94	2.00	0.00	1.63	0.06	0.00	55.00	2.00	0.00	1.62	0.05	0.00
55.05	2.00	0.00	1.61	0.06	0.00	55.15	2.00	0.00	1.60	0.09	0.00
55.20	2.00	0.00	1.59	0.06	0.00	55.26	2.00	0.00	1.58	0.06	0.00
55.32	2.00	0.00	1.57	0.06	0.00	55.42	2.00	0.00	1.55	0.10	0.00
55.47	2.00	0.00	1.55	0.06	0.00	55.53	2.00	0.00	1.54	0.05	0.00
55.58	2.00	0.00	1.53	0.06	0.00	55.68	2.00	0.00	1.51	0.10	0.00
55.73	2.00	0.00	1.51	0.05	0.00	55.78	2.00	0.00	1.50	0.05	0.00
55.84	2.00	0.00	1.49	0.06	0.00	55.95	2.00	0.00	1.47	0.10	0.00
55.99	2.00	0.00	1.47	0.05	0.00	56.05	2.00	0.00	1.46	0.05	0.00
56.13	2.00	0.00	1.45	0.08	0.00	56.17	2.00	0.00	1.44	0.04	0.00
56.27	2.00	0.00	1.43	0.10	0.00	56.32	2.00	0.00	1.42	0.05	0.00
56.37	2.00	0.00	1.41	0.05	0.00	56.43	2.00	0.00	1.40	0.06	0.00
56.52	2.00	0.00	1.39	0.09	0.00	56.57	2.00	0.00	1.38	0.05	0.00
56.64	2.00	0.00	1.37	0.07	0.00	56.69	2.00	0.00	1.36	0.06	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
56.79	2.00	0.00	1.34	0.10	0.00	56.84	2.00	0.00	1.34	0.05	0.00
56.90	2.00	0.00	1.33	0.06	0.00	56.95	2.00	0.00	1.32	0.05	0.00
57.06	2.00	0.00	1.30	0.10	0.00	57.10	2.00	0.00	1.30	0.05	0.00
57.16	2.00	0.00	1.29	0.06	0.00	57.27	2.00	0.00	1.27	0.11	0.00
57.30	2.00	0.00	1.27	0.03	0.00	57.37	2.00	0.00	1.26	0.06	0.00
57.44	2.00	0.00	1.25	0.08	0.00	57.52	2.00	0.00	1.23	0.07	0.00
57.55	2.00	0.00	1.23	0.04	0.00	57.64	2.00	0.00	1.22	0.08	0.00
57.69	2.00	0.00	1.21	0.05	0.00	57.78	2.00	0.00	1.19	0.09	0.00
57.83	2.00	0.00	1.19	0.05	0.00	57.89	2.00	0.00	1.18	0.07	0.00
57.94	2.00	0.00	1.17	0.05	0.00	58.04	2.00	0.00	1.16	0.09	0.00
58.08	2.00	0.00	1.15	0.04	0.00	58.16	2.00	0.00	1.14	0.08	0.00
58.21	2.00	0.00	1.13	0.05	0.00	58.30	2.00	0.00	1.11	0.10	0.00
58.35	2.00	0.00	1.11	0.05	0.00	58.42	2.00	0.00	1.10	0.06	0.00
58.47	2.00	0.00	1.09	0.05	0.00	58.55	2.00	0.00	1.08	0.08	0.00
58.60	2.00	0.00	1.07	0.05	0.00	58.68	2.00	0.00	1.06	0.08	0.00
58.73	2.00	0.00	1.05	0.06	0.00	58.81	2.00	0.00	1.04	0.08	0.00
58.86	2.00	0.00	1.03	0.05	0.00	58.94	2.00	0.00	1.02	0.08	0.00
59.02	2.00	0.00	1.01	0.07	0.00	59.09	2.00	0.00	0.99	0.07	0.00
59.15	2.00	0.00	0.99	0.06	0.00	59.20	2.00	0.00	0.98	0.05	0.00
59.29	2.00	0.00	0.96	0.10	0.00	59.35	2.00	0.00	0.95	0.06	0.00
59.40	2.00	0.00	0.95	0.05	0.00	59.46	2.00	0.00	0.94	0.06	0.00
59.56	2.00	0.00	0.92	0.10	0.00	59.61	2.00	0.00	0.92	0.04	0.00
59.66	2.00	0.00	0.91	0.05	0.00	59.71	2.00	0.00	0.90	0.05	0.00
59.83	2.00	0.00	0.88	0.11	0.00	59.87	2.00	0.00	0.88	0.04	0.00
59.92	2.00	0.00	0.87	0.05	0.00	59.98	2.00	0.00	0.86	0.06	0.00
60.08	2.00	0.00	0.84	0.10	0.00	60.14	2.00	0.00	0.84	0.05	0.00
60.19	2.00	0.00	0.83	0.05	0.00	60.27	2.00	0.00	0.81	0.08	0.00
60.31	2.00	0.00	0.81	0.04	0.00	60.40	2.00	0.00	0.80	0.09	0.00
60.44	2.00	0.00	0.79	0.04	0.00	60.52	2.00	0.00	0.78	0.08	0.00
60.61	2.00	0.00	0.76	0.09	0.00	60.65	2.00	0.00	0.76	0.05	0.00
60.70	2.00	0.00	0.75	0.05	0.00	60.77	2.00	0.00	0.74	0.07	0.00
60.87	2.00	0.00	0.72	0.09	0.00	60.92	2.00	0.00	0.72	0.05	0.00
60.97	2.00	0.00	0.71	0.05	0.00	61.03	2.00	0.00	0.70	0.06	0.00
61.13	2.00	0.00	0.68	0.10	0.00	61.18	2.00	0.00	0.68	0.05	0.00
61.23	2.00	0.00	0.67	0.05	0.00	61.29	2.00	0.00	0.66	0.07	0.00
61.39	2.00	0.00	0.64	0.10	0.00	61.44	2.00	0.00	0.64	0.05	0.00
61.52	2.00	0.00	0.62	0.09	0.00	61.57	2.00	0.00	0.62	0.04	0.00
61.65	2.00	0.00	0.60	0.09	0.00	61.70	2.00	0.00	0.60	0.05	0.00
61.75	2.00	0.00	0.59	0.05	0.00	61.86	2.00	0.00	0.57	0.11	0.00
61.91	2.00	0.00	0.56	0.05	0.00	61.96	2.00	0.00	0.56	0.05	0.00
62.02	2.00	0.00	0.55	0.06	0.00	62.12	2.00	0.00	0.53	0.10	0.00
62.17	2.00	0.00	0.53	0.05	0.00	62.22	2.00	0.00	0.52	0.06	0.00
62.31	2.00	0.00	0.50	0.09	0.00	62.36	2.00	0.00	0.50	0.05	0.00
62.42	2.00	0.00	0.49	0.06	0.00	62.48	2.00	0.00	0.48	0.05	0.00
62.58	2.00	0.00	0.46	0.10	0.00	62.63	2.00	0.00	0.46	0.05	0.00
62.67	2.00	0.00	0.45	0.04	0.00	62.74	2.00	0.00	0.44	0.06	0.00
62.82	2.00	0.00	0.43	0.09	0.00	62.87	2.00	0.00	0.42	0.05	0.00
62.95	2.00	0.00	0.41	0.08	0.00	63.04	2.00	0.00	0.39	0.09	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.10	2.00	0.00	0.38	0.06	0.00	63.16	2.00	0.00	0.38	0.05	0.00
63.19	2.00	0.00	0.37	0.04	0.00	63.26	2.00	0.00	0.36	0.07	0.00
63.36	2.00	0.00	0.34	0.10	0.00	63.41	2.00	0.00	0.34	0.05	0.00
63.48	2.00	0.00	0.33	0.07	0.00	63.52	2.00	0.00	0.32	0.04	0.00
63.62	2.00	0.00	0.30	0.11	0.00	63.67	2.00	0.00	0.30	0.05	0.00
63.73	2.00	0.00	0.29	0.06	0.00	63.79	2.00	0.00	0.28	0.06	0.00
63.89	2.00	0.00	0.26	0.10	0.00	63.92	2.00	0.00	0.26	0.04	0.00
64.01	2.00	0.00	0.24	0.09	0.00	64.05	2.00	0.00	0.24	0.04	0.00
64.14	2.00	0.00	0.22	0.10	0.00	64.19	2.00	0.00	0.22	0.05	0.00
64.25	2.00	0.00	0.21	0.06	0.00	64.31	2.00	0.00	0.20	0.06	0.00
64.39	2.00	0.00	0.19	0.08	0.00	64.46	2.00	0.00	0.18	0.07	0.00
64.51	2.00	0.00	0.17	0.05	0.00	64.61	2.00	0.00	0.15	0.09	0.00
64.66	2.00	0.00	0.15	0.06	0.00	64.71	2.00	0.00	0.14	0.05	0.00
64.77	2.00	0.00	0.13	0.06	0.00	64.83	2.00	0.00	0.12	0.06	0.00
64.91	2.00	0.00	0.11	0.08	0.00	64.98	2.00	0.00	0.10	0.07	0.00
65.05	2.00	0.00	0.09	0.07	0.00	65.10	2.00	0.00	0.08	0.05	0.00
65.20	2.00	0.00	0.06	0.10	0.00	65.24	2.00	0.00	0.06	0.05	0.00
65.30	2.00	0.00	0.05	0.05	0.00	65.36	2.00	0.00	0.04	0.06	0.00
65.45	2.00	0.00	0.03	0.10	0.00	65.50	2.00	0.00	0.02	0.05	0.00
65.57	2.00	0.00	0.01	0.07	0.00	65.63	2.00	0.00	0.00	0.00	0.00
65.71	2.00	0.00	0.00	0.00	0.00	65.76	2.00	0.00	0.00	0.00	0.00
65.83	2.00	0.00	0.00	0.00	0.00	65.93	2.00	0.00	0.00	0.00	0.00
65.96	2.00	0.00	0.00	0.00	0.00	66.01	2.00	0.00	0.00	0.00	0.00
66.09	2.00	0.00	0.00	0.00	0.00	66.14	2.00	0.00	0.00	0.00	0.00
66.23	2.00	0.00	0.00	0.00	0.00	66.30	2.00	0.00	0.00	0.00	0.00
66.34	2.00	0.00	0.00	0.00	0.00	66.41	2.00	0.00	0.00	0.00	0.00
66.51	2.00	0.00	0.00	0.00	0.00	66.56	2.00	0.00	0.00	0.00	0.00
66.61	2.00	0.00	0.00	0.00	0.00	66.67	2.00	0.00	0.00	0.00	0.00
66.74	2.00	0.00	0.00	0.00	0.00	66.82	2.00	0.00	0.00	0.00	0.00
66.88	2.00	0.00	0.00	0.00	0.00	66.98	2.00	0.00	0.00	0.00	0.00
67.01	2.00	0.00	0.00	0.00	0.00	67.09	2.00	0.00	0.00	0.00	0.00
67.13	2.00	0.00	0.00	0.00	0.00	67.22	2.00	0.00	0.00	0.00	0.00
67.27	2.00	0.00	0.00	0.00	0.00	67.35	2.00	0.00	0.00	0.00	0.00
67.39	2.00	0.00	0.00	0.00	0.00	67.47	2.00	0.00	0.00	0.00	0.00
67.52	2.00	0.00	0.00	0.00	0.00	67.61	2.00	0.00	0.00	0.00	0.00
67.70	2.00	0.00	0.00	0.00	0.00	67.76	2.00	0.00	0.00	0.00	0.00
67.81	2.00	0.00	0.00	0.00	0.00	67.86	2.00	0.00	0.00	0.00	0.00
67.91	2.00	0.00	0.00	0.00	0.00	68.01	2.00	0.00	0.00	0.00	0.00
68.06	2.00	0.00	0.00	0.00	0.00	68.11	2.00	0.00	0.00	0.00	0.00
68.19	2.00	0.00	0.00	0.00	0.00	68.28	2.00	0.00	0.00	0.00	0.00
68.34	2.00	0.00	0.00	0.00	0.00	68.37	2.00	0.00	0.00	0.00	0.00
68.49	2.00	0.00	0.00	0.00	0.00	68.54	2.00	0.00	0.00	0.00	0.00
68.59	2.00	0.00	0.00	0.00	0.00	68.66	2.00	0.00	0.00	0.00	0.00
68.75	2.00	0.00	0.00	0.00	0.00	68.80	2.00	0.00	0.00	0.00	0.00
68.86	2.00	0.00	0.00	0.00	0.00	68.90	2.00	0.00	0.00	0.00	0.00
68.99	2.00	0.00	0.00	0.00	0.00	69.06	2.00	0.00	0.00	0.00	0.00
69.10	2.00	0.00	0.00	0.00	0.00	69.17	2.00	0.00	0.00	0.00	0.00
69.26	2.00	0.00	0.00	0.00	0.00	69.30	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
69.38	2.00	0.00	0.00	0.00	0.00	69.43	2.00	0.00	0.00	0.00	0.00
69.53	2.00	0.00	0.00	0.00	0.00	69.56	2.00	0.00	0.00	0.00	0.00
69.65	2.00	0.00	0.00	0.00	0.00	69.69	2.00	0.00	0.00	0.00	0.00
69.76	2.00	0.00	0.00	0.00	0.00	69.84	2.00	0.00	0.00	0.00	0.00
69.89	2.00	0.00	0.00	0.00	0.00	69.95	2.00	0.00	0.00	0.00	0.00
70.02	2.00	0.00	0.00	0.00	0.00	70.08	2.00	0.00	0.00	0.00	0.00
70.15	2.00	0.00	0.00	0.00	0.00	70.23	2.00	0.00	0.00	0.00	0.00
70.30	2.00	0.00	0.00	0.00	0.00	70.34	2.00	0.00	0.00	0.00	0.00
70.41	2.00	0.00	0.00	0.00	0.00	70.49	2.00	0.00	0.00	0.00	0.00
70.54	2.00	0.00	0.00	0.00	0.00	70.62	2.00	0.00	0.00	0.00	0.00
70.69	2.00	0.00	0.00	0.00	0.00	70.75	2.00	0.00	0.00	0.00	0.00
70.81	2.00	0.00	0.00	0.00	0.00	70.88	2.00	0.00	0.00	0.00	0.00
70.94	2.00	0.00	0.00	0.00	0.00	71.01	2.00	0.00	0.00	0.00	0.00
71.08	2.00	0.00	0.00	0.00	0.00	71.13	2.00	0.00	0.00	0.00	0.00
71.23	2.00	0.00	0.00	0.00	0.00	71.27	2.00	0.00	0.00	0.00	0.00
71.34	2.00	0.00	0.00	0.00	0.00	71.40	2.00	0.00	0.00	0.00	0.00
71.47	2.00	0.00	0.00	0.00	0.00	71.56	2.00	0.00	0.00	0.00	0.00
71.60	2.00	0.00	0.00	0.00	0.00	71.70	2.00	0.00	0.00	0.00	0.00
71.76	2.00	0.00	0.00	0.00	0.00	71.81	2.00	0.00	0.00	0.00	0.00
71.85	2.00	0.00	0.00	0.00	0.00	71.93	2.00	0.00	0.00	0.00	0.00
72.02	2.00	0.00	0.00	0.00	0.00	72.07	2.00	0.00	0.00	0.00	0.00
72.11	2.00	0.00	0.00	0.00	0.00	72.19	2.00	0.00	0.00	0.00	0.00
72.28	2.00	0.00	0.00	0.00	0.00	72.33	2.00	0.00	0.00	0.00	0.00
72.40	2.00	0.00	0.00	0.00	0.00	72.45	2.00	0.00	0.00	0.00	0.00
72.55	2.00	0.00	0.00	0.00	0.00	72.59	2.00	0.00	0.00	0.00	0.00
72.67	2.00	0.00	0.00	0.00	0.00	72.71	2.00	0.00	0.00	0.00	0.00
72.78	2.00	0.00	0.00	0.00	0.00	72.84	2.00	0.00	0.00	0.00	0.00
72.92	2.00	0.00	0.00	0.00	0.00	72.97	2.00	0.00	0.00	0.00	0.00
73.07	2.00	0.00	0.00	0.00	0.00	73.11	2.00	0.00	0.00	0.00	0.00
73.17	2.00	0.00	0.00	0.00	0.00	73.24	2.00	0.00	0.00	0.00	0.00
73.30	2.00	0.00	0.00	0.00	0.00	73.37	2.00	0.00	0.00	0.00	0.00
73.43	2.00	0.00	0.00	0.00	0.00	73.53	2.00	0.00	0.00	0.00	0.00
73.59	2.00	0.00	0.00	0.00	0.00	73.63	2.00	0.00	0.00	0.00	0.00
73.70	2.00	0.00	0.00	0.00	0.00	73.75	2.00	0.00	0.00	0.00	0.00
73.85	2.00	0.00	0.00	0.00	0.00	73.91	2.00	0.00	0.00	0.00	0.00
73.96	2.00	0.00	0.00	0.00	0.00	74.02	2.00	0.00	0.00	0.00	0.00
74.11	2.00	0.00	0.00	0.00	0.00	74.16	2.00	0.00	0.00	0.00	0.00
74.22	2.00	0.00	0.00	0.00	0.00	74.33	2.00	0.00	0.00	0.00	0.00
74.36	2.00	0.00	0.00	0.00	0.00	74.43	2.00	0.00	0.00	0.00	0.00
74.48	2.00	0.00	0.00	0.00	0.00	74.57	2.00	0.00	0.00	0.00	0.00
74.63	2.00	0.00	0.00	0.00	0.00	74.69	2.00	0.00	0.00	0.00	0.00
74.74	2.00	0.00	0.00	0.00	0.00	74.84	2.00	0.00	0.00	0.00	0.00
74.90	2.00	0.00	0.00	0.00	0.00	74.96	2.00	0.00	0.00	0.00	0.00
75.00	2.00	0.00	0.00	0.00	0.00	75.09	2.00	0.00	0.00	0.00	0.00
75.17	2.00	0.00	0.00	0.00	0.00	75.21	2.00	0.00	0.00	0.00	0.00
75.31	2.00	0.00	0.00	0.00	0.00	75.37	2.00	0.00	0.00	0.00	0.00
75.42	2.00	0.00	0.00	0.00	0.00	75.47	2.00	0.00	0.00	0.00	0.00
75.53	2.00	0.00	0.00	0.00	0.00	75.62	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
75.66	2.00	0.00	0.00	0.00	0.00	75.75	2.00	0.00	0.00	0.00	0.00
75.79	2.00	0.00	0.00	0.00	0.00	75.88	2.00	0.00	0.00	0.00	0.00
75.94	2.00	0.00	0.00	0.00	0.00	76.00	2.00	0.00	0.00	0.00	0.00
76.08	2.00	0.00	0.00	0.00	0.00	76.14	2.00	0.00	0.00	0.00	0.00
76.19	2.00	0.00	0.00	0.00	0.00	76.27	2.00	0.00	0.00	0.00	0.00
76.34	2.00	0.00	0.00	0.00	0.00	76.40	2.00	0.00	0.00	0.00	0.00
76.46	2.00	0.00	0.00	0.00	0.00	76.55	2.00	0.00	0.00	0.00	0.00
76.61	2.00	0.00	0.00	0.00	0.00	76.65	2.00	0.00	0.00	0.00	0.00
76.71	2.00	0.00	0.00	0.00	0.00	76.81	2.00	0.00	0.00	0.00	0.00
76.87	2.00	0.00	0.00	0.00	0.00	76.92	2.00	0.00	0.00	0.00	0.00
76.98	2.00	0.00	0.00	0.00	0.00	77.07	2.00	0.00	0.00	0.00	0.00
77.13	2.00	0.00	0.00	0.00	0.00	77.19	2.00	0.00	0.00	0.00	0.00
77.24	2.00	0.00	0.00	0.00	0.00	77.32	2.00	0.00	0.00	0.00	0.00
77.39	2.00	0.00	0.00	0.00	0.00	77.45	2.00	0.00	0.00	0.00	0.00
77.50	2.00	0.00	0.00	0.00	0.00	77.60	2.00	0.00	0.00	0.00	0.00
77.64	2.00	0.00	0.00	0.00	0.00	77.71	2.00	0.00	0.00	0.00	0.00
77.76	2.00	0.00	0.00	0.00	0.00	77.85	2.00	0.00	0.00	0.00	0.00
77.89	2.00	0.00	0.00	0.00	0.00	77.98	2.00	0.00	0.00	0.00	0.00
78.02	2.00	0.00	0.00	0.00	0.00	78.12	2.00	0.00	0.00	0.00	0.00
78.17	2.00	0.00	0.00	0.00	0.00	78.22	2.00	0.00	0.00	0.00	0.00
78.28	2.00	0.00	0.00	0.00	0.00	78.39	2.00	0.00	0.00	0.00	0.00
78.41	2.00	0.00	0.00	0.00	0.00	78.49	2.00	0.00	0.00	0.00	0.00
78.55	2.00	0.00	0.00	0.00	0.00	78.64	2.00	0.00	0.00	0.00	0.00
78.70	2.00	0.00	0.00	0.00	0.00	78.76	2.00	0.00	0.00	0.00	0.00
78.81	2.00	0.00	0.00	0.00	0.00	78.89	2.00	0.00	0.00	0.00	0.00
78.96	2.00	0.00	0.00	0.00	0.00	79.01	2.00	0.00	0.00	0.00	0.00
79.09	2.00	0.00	0.00	0.00	0.00	79.18	2.00	0.00	0.00	0.00	0.00
79.22	2.00	0.00	0.00	0.00	0.00	79.28	2.00	0.00	0.00	0.00	0.00
79.33	2.00	0.00	0.00	0.00	0.00	79.45	2.00	0.00	0.00	0.00	0.00
79.51	2.00	0.00	0.00	0.00	0.00	79.56	2.00	0.00	0.00	0.00	0.00
79.61	2.00	0.00	0.00	0.00	0.00	79.66	2.00	0.00	0.00	0.00	0.00
79.77	2.00	0.00	0.00	0.00	0.00	79.83	2.00	0.00	0.00	0.00	0.00
79.88	2.00	0.00	0.00	0.00	0.00	79.94	2.00	0.00	0.00	0.00	0.00
79.99	2.00	0.00	0.00	0.00	0.00	80.08	2.00	0.00	0.00	0.00	0.00
80.14	2.00	0.00	0.00	0.00	0.00	80.21	2.00	0.00	0.00	0.00	0.00
80.25	2.00	0.00	0.00	0.00	0.00	80.35	2.00	0.00	0.00	0.00	0.00
80.39	2.00	0.00	0.00	0.00	0.00	80.45	2.00	0.00	0.00	0.00	0.00
80.51	2.00	0.00	0.00	0.00	0.00	80.61	2.00	0.00	0.00	0.00	0.00
80.66	2.00	0.00	0.00	0.00	0.00	80.73	2.00	0.00	0.00	0.00	0.00
80.82	2.00	0.00	0.00	0.00	0.00	80.85	2.00	0.00	0.00	0.00	0.00
80.95	2.00	0.00	0.00	0.00	0.00	80.99	2.00	0.00	0.00	0.00	0.00
81.08	2.00	0.00	0.00	0.00	0.00	81.12	2.00	0.00	0.00	0.00	0.00
81.20	2.00	0.00	0.00	0.00	0.00	81.24	2.00	0.00	0.00	0.00	0.00
81.33	2.00	0.00	0.00	0.00	0.00	81.40	2.00	0.00	0.00	0.00	0.00
81.46	2.00	0.00	0.00	0.00	0.00	81.50	2.00	0.00	0.00	0.00	0.00
81.60	2.00	0.00	0.00	0.00	0.00	81.64	2.00	0.00	0.00	0.00	0.00
81.70	2.00	0.00	0.00	0.00	0.00	81.81	2.00	0.00	0.00	0.00	0.00
81.84	2.00	0.00	0.00	0.00	0.00	81.92	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
81.97	2.00	0.00	0.00	0.00	0.00	82.05	2.00	0.00	0.00	0.00	0.00
82.10	2.00	0.00	0.00	0.00	0.00	82.18	2.00	0.00	0.00	0.00	0.00
82.23	2.00	0.00	0.00	0.00	0.00	82.32	2.00	0.00	0.00	0.00	0.00
82.36	2.00	0.00	0.00	0.00	0.00	82.44	2.00	0.00	0.00	0.00	0.00
82.49	2.00	0.00	0.00	0.00	0.00	82.56	2.00	0.00	0.00	0.00	0.00
82.65	2.00	0.00	0.00	0.00	0.00	82.69	2.00	0.00	0.00	0.00	0.00
82.75	2.00	0.00	0.00	0.00	0.00	82.81	2.00	0.00	0.00	0.00	0.00
82.88	2.00	0.00	0.00	0.00	0.00	82.96	2.00	0.00	0.00	0.00	0.00
83.02	2.00	0.00	0.00	0.00	0.00	83.11	2.00	0.00	0.00	0.00	0.00
83.17	2.00	0.00	0.00	0.00	0.00	83.22	2.00	0.00	0.00	0.00	0.00
83.28	2.00	0.00	0.00	0.00	0.00	83.38	2.00	0.00	0.00	0.00	0.00
83.44	2.00	0.00	0.00	0.00	0.00	83.49	2.00	0.00	0.00	0.00	0.00
83.54	2.00	0.00	0.00	0.00	0.00	83.60	2.00	0.00	0.00	0.00	0.00
83.69	2.00	0.00	0.00	0.00	0.00	83.75	2.00	0.00	0.00	0.00	0.00
83.85	2.00	0.00	0.00	0.00	0.00	83.86	2.00	0.00	0.00	0.00	0.00
83.96	2.00	0.00	0.00	0.00	0.00	84.06	2.00	0.00	0.00	0.00	0.00
84.06	2.00	0.00	0.00	0.00	0.00	84.12	2.00	0.00	0.00	0.00	0.00
84.22	2.00	0.00	0.00	0.00	0.00	84.26	2.00	0.00	0.00	0.00	0.00
84.32	2.00	0.00	0.00	0.00	0.00	84.43	2.00	0.00	0.00	0.00	0.00
84.47	2.00	0.00	0.00	0.00	0.00	84.52	2.00	0.00	0.00	0.00	0.00
84.60	2.00	0.00	0.00	0.00	0.00	84.69	2.00	0.00	0.00	0.00	0.00
84.73	2.00	0.00	0.00	0.00	0.00	84.82	2.00	0.00	0.00	0.00	0.00
84.85	2.00	0.00	0.00	0.00	0.00	84.95	2.00	0.00	0.00	0.00	0.00
84.98	2.00	0.00	0.00	0.00	0.00	85.06	2.00	0.00	0.00	0.00	0.00
85.16	2.00	0.00	0.00	0.00	0.00	85.21	2.00	0.00	0.00	0.00	0.00
85.26	2.00	0.00	0.00	0.00	0.00	85.31	2.00	0.00	0.00	0.00	0.00
85.42	2.00	0.00	0.00	0.00	0.00	85.45	2.00	0.00	0.00	0.00	0.00
85.53	2.00	0.00	0.00	0.00	0.00	85.58	2.00	0.00	0.00	0.00	0.00
85.68	2.00	0.00	0.00	0.00	0.00	85.72	2.00	0.00	0.00	0.00	0.00
85.77	2.00	0.00	0.00	0.00	0.00	85.83	2.00	0.00	0.00	0.00	0.00
85.90	2.00	0.00	0.00	0.00	0.00	86.00	2.00	0.00	0.00	0.00	0.00
86.05	2.00	0.00	0.00	0.00	0.00	86.11	2.00	0.00	0.00	0.00	0.00
86.17	2.00	0.00	0.00	0.00	0.00	86.26	2.00	0.00	0.00	0.00	0.00
86.30	2.00	0.00	0.00	0.00	0.00	86.36	2.00	0.00	0.00	0.00	0.00
86.43	2.00	0.00	0.00	0.00	0.00	86.53	2.00	0.00	0.00	0.00	0.00
86.57	2.00	0.00	0.00	0.00	0.00	86.61	2.00	0.00	0.00	0.00	0.00
86.68	2.00	0.00	0.00	0.00	0.00	86.79	2.00	0.00	0.00	0.00	0.00
86.83	2.00	0.00	0.00	0.00	0.00	86.92	2.00	0.00	0.00	0.00	0.00
86.95	2.00	0.00	0.00	0.00	0.00	87.04	2.00	0.00	0.00	0.00	0.00
87.09	2.00	0.00	0.00	0.00	0.00	87.16	2.00	0.00	0.00	0.00	0.00
87.21	2.00	0.00	0.00	0.00	0.00	87.27	2.00	0.00	0.00	0.00	0.00
87.35	2.00	0.00	0.00	0.00	0.00	87.42	2.00	0.00	0.00	0.00	0.00
87.48	2.00	0.00	0.00	0.00	0.00	87.57	2.00	0.00	0.00	0.00	0.00
87.60	2.00	0.00	0.00	0.00	0.00	87.69	2.00	0.00	0.00	0.00	0.00
87.73	2.00	0.00	0.00	0.00	0.00	87.82	2.00	0.00	0.00	0.00	0.00
87.90	2.00	0.00	0.00	0.00	0.00	87.95	2.00	0.00	0.00	0.00	0.00
88.00	2.00	0.00	0.00	0.00	0.00	88.11	2.00	0.00	0.00	0.00	0.00
88.16	2.00	0.00	0.00	0.00	0.00	88.21	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
88.27	2.00	0.00	0.00	0.00	0.00	88.37	2.00	0.00	0.00	0.00	0.00
88.42	2.00	0.00	0.00	0.00	0.00	88.49	2.00	0.00	0.00	0.00	0.00
88.52	2.00	0.00	0.00	0.00	0.00	88.63	2.00	0.00	0.00	0.00	0.00
88.66	2.00	0.00	0.00	0.00	0.00	88.72	2.00	0.00	0.00	0.00	0.00
88.78	2.00	0.00	0.00	0.00	0.00	88.89	2.00	0.00	0.00	0.00	0.00
88.94	2.00	0.00	0.00	0.00	0.00	89.00	2.00	0.00	0.00	0.00	0.00
89.05	2.00	0.00	0.00	0.00	0.00	89.14	2.00	0.00	0.00	0.00	0.00
89.17	2.00	0.00	0.00	0.00	0.00	89.25	2.00	0.00	0.00	0.00	0.00
89.31	2.00	0.00	0.00	0.00	0.00	89.40	2.00	0.00	0.00	0.00	0.00
89.44	2.00	0.00	0.00	0.00	0.00	89.52	2.00	0.00	0.00	0.00	0.00
89.57	2.00	0.00	0.00	0.00	0.00	89.65	2.00	0.00	0.00	0.00	0.00
89.72	2.00	0.00	0.00	0.00	0.00	89.78	2.00	0.00	0.00	0.00	0.00
89.88	2.00	0.00	0.00	0.00	0.00	89.91	2.00	0.00	0.00	0.00	0.00
89.99	2.00	0.00	0.00	0.00	0.00	90.03	2.00	0.00	0.00	0.00	0.00
90.11	2.00	0.00	0.00	0.00	0.00	90.18	2.00	0.00	0.00	0.00	0.00
90.24	2.00	0.00	0.00	0.00	0.00	90.30	2.00	0.00	0.00	0.00	0.00
90.39	2.00	0.00	0.00	0.00	0.00	90.44	2.00	0.00	0.00	0.00	0.00
90.50	2.00	0.00	0.00	0.00	0.00	90.55	2.00	0.00	0.00	0.00	0.00
90.65	2.00	0.00	0.00	0.00	0.00	90.70	2.00	0.00	0.00	0.00	0.00
90.76	2.00	0.00	0.00	0.00	0.00	90.86	2.00	0.00	0.00	0.00	0.00
90.90	2.00	0.00	0.00	0.00	0.00	90.97	2.00	0.00	0.00	0.00	0.00
91.03	2.00	0.00	0.00	0.00	0.00	91.12	2.00	0.00	0.00	0.00	0.00
91.17	2.00	0.00	0.00	0.00	0.00	91.23	2.00	0.00	0.00	0.00	0.00
91.28	2.00	0.00	0.00	0.00	0.00	91.34	2.00	0.00	0.00	0.00	0.00
91.44	2.00	0.00	0.00	0.00	0.00	91.49	2.00	0.00	0.00	0.00	0.00
91.55	2.00	0.00	0.00	0.00	0.00	91.63	2.00	0.00	0.00	0.00	0.00
91.67	2.00	0.00	0.00	0.00	0.00	91.75	2.00	0.00	0.00	0.00	0.00
91.84	2.00	0.00	0.00	0.00	0.00	91.88	2.00	0.00	0.00	0.00	0.00
91.96	2.00	0.00	0.00	0.00	0.00	92.01	2.00	0.00	0.00	0.00	0.00
92.12	2.00	0.00	0.00	0.00	0.00	92.14	2.00	0.00	0.00	0.00	0.00
92.22	2.00	0.00	0.00	0.00	0.00	92.27	2.00	0.00	0.00	0.00	0.00
92.37	2.00	0.00	0.00	0.00	0.00	92.43	2.00	0.00	0.00	0.00	0.00
92.46	2.00	0.00	0.00	0.00	0.00	92.54	2.00	0.00	0.00	0.00	0.00
92.62	2.00	0.00	0.00	0.00	0.00	92.66	2.00	0.00	0.00	0.00	0.00
92.73	2.00	0.00	0.00	0.00	0.00	92.79	2.00	0.00	0.00	0.00	0.00
92.87	2.00	0.00	0.00	0.00	0.00	92.94	2.00	0.00	0.00	0.00	0.00
93.00	2.00	0.00	0.00	0.00	0.00	93.08	2.00	0.00	0.00	0.00	0.00
93.11	2.00	0.00	0.00	0.00	0.00	93.19	2.00	0.00	0.00	0.00	0.00
93.25	2.00	0.00	0.00	0.00	0.00	93.33	2.00	0.00	0.00	0.00	0.00
93.41	2.00	0.00	0.00	0.00	0.00	93.46	2.00	0.00	0.00	0.00	0.00
93.51	2.00	0.00	0.00	0.00	0.00	93.57	2.00	0.00	0.00	0.00	0.00
93.67	2.00	0.00	0.00	0.00	0.00	93.72	2.00	0.00	0.00	0.00	0.00
93.77	2.00	0.00	0.00	0.00	0.00	93.83	2.00	0.00	0.00	0.00	0.00
93.91	2.00	0.00	0.00	0.00	0.00	93.98	2.00	0.00	0.00	0.00	0.00
94.04	2.00	0.00	0.00	0.00	0.00	94.13	2.00	0.00	0.00	0.00	0.00
94.19	2.00	0.00	0.00	0.00	0.00	94.24	2.00	0.00	0.00	0.00	0.00
94.30	2.00	0.00	0.00	0.00	0.00	94.38	2.00	0.00	0.00	0.00	0.00
94.45	2.00	0.00	0.00	0.00	0.00	94.49	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.55	2.00	0.00	0.00	0.00	0.00	94.66	2.00	0.00	0.00	0.00	0.00
94.70	2.00	0.00	0.00	0.00	0.00	94.77	2.00	0.00	0.00	0.00	0.00
94.83	2.00	0.00	0.00	0.00	0.00	94.92	2.00	0.00	0.00	0.00	0.00
94.96	2.00	0.00	0.00	0.00	0.00	95.03	2.00	0.00	0.00	0.00	0.00
95.09	2.00	0.00	0.00	0.00	0.00	95.17	2.00	0.00	0.00	0.00	0.00
95.22	2.00	0.00	0.00	0.00	0.00	95.28	2.00	0.00	0.00	0.00	0.00
95.34	2.00	0.00	0.00	0.00	0.00	95.43	2.00	0.00	0.00	0.00	0.00
95.48	2.00	0.00	0.00	0.00	0.00	95.55	2.00	0.00	0.00	0.00	0.00
95.63	2.00	0.00	0.00	0.00	0.00	95.70	2.00	0.00	0.00	0.00	0.00
95.75	2.00	0.00	0.00	0.00	0.00	95.83	2.00	0.00	0.00	0.00	0.00
95.89	2.00	0.00	0.00	0.00	0.00	95.96	2.00	0.00	0.00	0.00	0.00
96.03	2.00	0.00	0.00	0.00	0.00	96.10	2.00	0.00	0.00	0.00	0.00
96.14	2.00	0.00	0.00	0.00	0.00	96.20	2.00	0.00	0.00	0.00	0.00
96.27	2.00	0.00	0.00	0.00	0.00	96.37	2.00	0.00	0.00	0.00	0.00
96.41	2.00	0.00	0.00	0.00	0.00	96.48	2.00	0.00	0.00	0.00	0.00
96.53	2.00	0.00	0.00	0.00	0.00	96.64	2.00	0.00	0.00	0.00	0.00
96.67	2.00	0.00	0.00	0.00	0.00	96.76	2.00	0.00	0.00	0.00	0.00
96.79	2.00	0.00	0.00	0.00	0.00	96.89	2.00	0.00	0.00	0.00	0.00
96.94	2.00	0.00	0.00	0.00	0.00	97.00	2.00	0.00	0.00	0.00	0.00
97.06	2.00	0.00	0.00	0.00	0.00	97.15	2.00	0.00	0.00	0.00	0.00
97.19	2.00	0.00	0.00	0.00	0.00	97.27	2.00	0.00	0.00	0.00	0.00
97.32	2.00	0.00	0.00	0.00	0.00	97.41	2.00	0.00	0.00	0.00	0.00
97.49	2.00	0.00	0.00	0.00	0.00	97.52	2.00	0.00	0.00	0.00	0.00
97.58	2.00	0.00	0.00	0.00	0.00	97.67	2.00	0.00	0.00	0.00	0.00
97.72	2.00	0.00	0.00	0.00	0.00	97.79	2.00	0.00	0.00	0.00	0.00
97.84	2.00	0.00	0.00	0.00	0.00	97.93	2.00	0.00	0.00	0.00	0.00
97.99	2.00	0.00	0.00	0.00	0.00	98.05	2.00	0.00	0.00	0.00	0.00
98.10	2.00	0.00	0.00	0.00	0.00	98.18	2.00	0.00	0.00	0.00	0.00
98.24	2.00	0.00	0.00	0.00	0.00	98.30	2.00	0.00	0.00	0.00	0.00
98.36	2.00	0.00	0.00	0.00	0.00	98.44	2.00	0.00	0.00	0.00	0.00
98.50	2.00	0.00	0.00	0.00	0.00	98.57	2.00	0.00	0.00	0.00	0.00
98.63	2.00	0.00	0.00	0.00	0.00	98.70	2.00	0.00	0.00	0.00	0.00
98.75	2.00	0.00	0.00	0.00	0.00	98.86	2.00	0.00	0.00	0.00	0.00
98.91	2.00	0.00	0.00	0.00	0.00	98.96	2.00	0.00	0.00	0.00	0.00
99.05	2.00	0.00	0.00	0.00	0.00	99.11	2.00	0.00	0.00	0.00	0.00
99.16	2.00	0.00	0.00	0.00	0.00	99.22	2.00	0.00	0.00	0.00	0.00
99.32	2.00	0.00	0.00	0.00	0.00	99.36	2.00	0.00	0.00	0.00	0.00
99.43	2.00	0.00	0.00	0.00	0.00	99.48	2.00	0.00	0.00	0.00	0.00
99.57	2.00	0.00	0.00	0.00	0.00	99.64	2.00	0.00	0.00	0.00	0.00
99.69	2.00	0.00	0.00	0.00	0.00	99.74	2.00	0.00	0.00	0.00	0.00
99.81	2.00	0.00	0.00	0.00	0.00	99.87	2.00	0.00	0.00	0.00	0.00
99.95	2.00	0.00	0.00	0.00	0.00	100.00	2.00	0.00	0.00	0.00	0.00
100.11	2.00	0.00	0.00	0.00	0.00	100.14	2.00	0.00	0.00	0.00	0.00
100.21	2.00	0.00	0.00	0.00	0.00	100.27	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI

Overall liquefaction potential: 33.51

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.07	4.06	-1.00	26.61	-26.61	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.16	4.06	-1.00	26.61	-26.61	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.21	4.06	-1.00	26.61	-26.61	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.30	3.03	6.80	7.07	48.10	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.35	2.16	41.68	1.58	65.77	15	361	0.43	0.004	0.01	13.34	0.01	0.000
0.40	1.82	93.74	1.12	105.29	21	528	0.43	0.003	0.00	13.34	0.00	0.000
0.47	1.69	141.54	1.03	145.96	27	674	0.42	0.002	0.00	13.34	0.00	0.000
0.57	1.69	161.47	1.03	166.99	31	773	0.41	0.002	0.00	13.34	0.00	0.000
0.62	1.75	163.87	1.07	175.06	33	837	0.41	0.002	0.00	13.34	0.00	0.000
0.66	1.79	160.78	1.10	176.93	34	870	0.41	0.002	0.00	13.34	0.00	0.000
0.74	1.84	155.57	1.14	177.48	35	901	0.41	0.003	0.00	13.34	0.00	0.000
0.79	1.88	143.97	1.17	168.54	34	872	0.41	0.003	0.00	13.34	0.00	0.000
0.89	1.89	134.53	1.18	158.79	32	826	0.42	0.004	0.00	13.34	0.00	0.000
0.92	1.89	125.49	1.18	147.89	30	769	0.42	0.004	0.00	13.34	0.00	0.000
1.00	1.91	121.20	1.20	145.34	29	763	0.42	0.005	0.00	13.34	0.00	0.000
1.08	1.96	114.12	1.25	142.48	29	763	0.42	0.005	0.00	13.34	0.00	0.000
1.14	2.04	101.68	1.35	137.45	29	752	0.42	0.006	0.00	13.34	0.00	0.000
1.19	2.12	92.24	1.49	137.20	30	755	0.42	0.006	0.00	13.34	0.00	0.000
1.25	2.19	85.36	1.64	140.24	31	766	0.42	0.006	0.00	13.34	0.00	0.000
1.32	2.22	83.19	1.72	143.38	33	777	0.42	0.007	0.00	13.34	0.00	0.000
1.38	2.25	78.91	1.80	142.22	33	765	0.42	0.007	0.00	13.34	0.00	0.000
1.46	2.26	75.76	1.83	138.26	32	742	0.42	0.008	0.00	13.34	0.00	0.000
1.53	2.25	74.67	1.79	133.97	31	721	0.42	0.009	0.01	13.34	0.01	0.000
1.58	2.22	75.20	1.71	128.71	29	699	0.42	0.010	0.01	13.34	0.01	0.000
1.69	2.18	75.73	1.63	123.47	28	675	0.42	0.012	0.01	13.34	0.01	0.000
1.72	2.14	75.83	1.54	116.67	26	641	0.42	0.013	0.01	13.34	0.01	0.000
1.79	2.12	74.00	1.50	110.94	24	610	0.42	0.015	0.01	13.34	0.01	0.000
1.85	2.12	70.36	1.49	104.91	23	577	0.43	0.018	0.02	13.34	0.01	0.000
1.92	2.13	65.63	1.52	99.59	22	548	0.43	0.022	0.02	13.34	0.02	0.000
2.00	2.16	61.35	1.58	97.18	22	533	0.43	0.025	0.02	13.34	0.02	0.000
2.05	2.17	59.83	1.61	96.08	21	526	0.43	0.027	0.02	13.34	0.02	0.000
2.11	2.20	58.26	1.68	97.60	22	532	0.43	0.027	0.02	13.34	0.02	0.000
2.17	2.19	59.38	1.65	97.97	22	535	0.43	0.028	0.03	13.34	0.02	0.000
2.25	2.17	62.66	1.59	99.83	22	547	0.43	0.028	0.02	13.34	0.02	0.000
2.36	2.10	69.87	1.46	102.15	22	562	0.43	0.028	0.03	13.34	0.02	0.001
2.37	2.03	81.76	1.34	109.68	23	599	0.43	0.024	0.02	13.34	0.02	0.000
2.47	1.97	93.89	1.26	118.15	24	634	0.42	0.023	0.02	13.34	0.02	0.000
2.50	1.89	110.50	1.18	130.16	26	676	0.42	0.020	0.01	13.34	0.01	0.000
2.58	1.84	119.97	1.14	136.58	27	692	0.42	0.020	0.01	13.34	0.01	0.000
2.63	1.86	120.46	1.15	139.10	27	713	0.42	0.019	0.01	13.34	0.01	0.000
2.73	1.93	112.59	1.22	136.92	28	724	0.42	0.020	0.01	13.34	0.01	0.000
2.76	2.02	101.34	1.32	133.82	28	729	0.42	0.020	0.01	13.34	0.01	0.000
2.84	2.07	92.04	1.40	129.00	28	708	0.42	0.022	0.01	13.34	0.01	0.000
2.94	2.11	82.95	1.48	122.82	27	676	0.42	0.026	0.02	13.34	0.02	0.000
2.98	2.13	76.41	1.52	115.83	25	637	0.42	0.030	0.02	13.34	0.02	0.000
3.04	2.14	68.89	1.53	105.15	23	578	0.42	0.041	0.03	13.34	0.03	0.000
3.10	2.11	61.47	1.48	91.12	20	501	0.43	0.066	0.07	13.34	0.06	0.001
3.15	2.09	55.76	1.44	80.17	17	441	0.43	0.110	0.13	13.34	0.12	0.002

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
3.25	2.08	55.21	1.41	78.06	17	429	0.43	0.132	0.16	13.34	0.15	0.004
3.29	2.10	57.81	1.46	84.37	18	464	0.43	0.098	0.11	13.34	0.10	0.001
3.36	2.10	62.77	1.46	91.45	20	503	0.43	0.076	0.08	13.34	0.07	0.001
3.42	2.06	71.99	1.39	100.16	21	550	0.43	0.058	0.05	13.34	0.05	0.001
3.48	2.01	84.51	1.31	110.54	23	600	0.42	0.046	0.04	13.34	0.04	0.001
3.57	1.96	96.59	1.25	121.02	25	649	0.42	0.038	0.03	13.34	0.03	0.001
3.64	1.94	104.25	1.23	128.62	26	685	0.42	0.034	0.02	13.34	0.02	0.000
3.69	1.95	105.62	1.25	131.53	27	703	0.42	0.033	0.02	13.34	0.02	0.000
3.76	1.98	102.12	1.28	130.51	27	704	0.42	0.034	0.02	13.34	0.02	0.000
3.85	2.02	96.60	1.33	128.11	27	698	0.42	0.036	0.03	13.34	0.02	0.001
3.90	2.06	89.32	1.39	124.44	27	683	0.42	0.039	0.03	13.34	0.03	0.000
3.97	2.10	83.46	1.46	121.74	26	670	0.42	0.042	0.03	13.34	0.03	0.001
4.02	2.15	76.87	1.54	118.64	26	652	0.42	0.047	0.03	13.34	0.03	0.000
4.11	2.17	72.19	1.61	115.91	26	635	0.42	0.052	0.04	13.34	0.04	0.001
4.16	2.21	66.92	1.68	112.39	25	612	0.42	0.060	0.04	13.34	0.04	0.001
4.25	2.23	62.93	1.74	109.44	25	592	0.42	0.069	0.05	13.34	0.05	0.001
4.29	2.26	58.31	1.82	106.24	25	570	0.42	0.080	0.06	13.34	0.06	0.001
4.38	2.28	54.86	1.89	103.75	24	553	0.43	0.093	0.07	13.34	0.07	0.001
4.42	2.30	51.81	1.96	101.36	24	536	0.43	0.106	0.09	13.34	0.08	0.001
4.47	2.32	49.74	2.00	99.60	24	524	0.43	0.119	0.10	13.34	0.09	0.001
4.54	2.33	47.87	2.04	97.81	23	512	0.43	0.135	0.11	13.34	0.11	0.002
4.63	2.34	46.39	2.08	96.32	23	502	0.43	0.152	0.13	13.34	0.12	0.003
4.67	2.34	45.60	2.08	94.99	23	494	0.43	0.165	0.14	13.34	0.13	0.001
4.73	2.34	45.35	2.08	94.18	23	491	0.43	0.176	0.15	13.34	0.14	0.002
4.80	2.33	45.35	2.05	93.18	22	487	0.43	0.188	0.17	13.34	0.16	0.002
4.89	2.32	45.54	2.02	92.20	22	483	0.43	0.203	0.18	13.34	0.17	0.004
4.94	2.30	46.18	1.96	90.71	21	479	0.43	0.216	0.20	13.34	0.19	0.002
5.01	2.28	47.36	1.89	89.36	21	476	0.43	0.230	0.22	13.34	0.21	0.004
5.11	2.26	48.58	1.82	88.41	20	475	0.43	0.243	0.24	13.34	0.23	0.005
5.15	2.24	49.71	1.77	88.23	20	476	0.43	0.246	0.24	13.34	0.23	0.003
5.20	2.23	50.64	1.75	88.55	20	479	0.43	0.243	0.24	13.34	0.23	0.002
5.26	2.22	52.26	1.71	89.36	20	485	0.43	0.236	0.23	13.34	0.22	0.003
5.36	2.21	53.68	1.68	90.36	20	492	0.42	0.232	0.23	13.34	0.21	0.006
5.41	2.20	54.80	1.67	91.47	21	498	0.42	0.223	0.22	13.34	0.20	0.002
5.47	2.21	54.99	1.68	92.36	21	503	0.42	0.220	0.21	13.34	0.20	0.003
5.53	2.21	55.03	1.69	93.15	21	506	0.42	0.218	0.20	13.34	0.19	0.003
5.58	2.18	54.93	1.61	88.60	20	485	0.42	0.273	0.28	13.34	0.26	0.003
5.68	2.13	54.96	1.51	83.24	18	458	0.43	0.377	0.42	13.34	0.40	0.009
5.77	2.07	55.25	1.41	77.87	17	428	0.43	0.560	0.70	13.34	0.66	0.014
5.79	2.06	56.17	1.39	77.87	17	427	0.43	0.572	0.72	13.34	0.68	0.005
5.89	2.05	57.15	1.37	78.45	17	430	0.43	0.576	0.72	13.34	0.68	0.015
5.93	2.05	57.35	1.37	78.69	17	431	0.43	0.577	0.72	13.34	0.68	0.007
5.97	2.05	57.50	1.37	78.81	17	432	0.43	0.584	0.72	13.34	0.69	0.007
6.04	2.05	57.20	1.38	78.81	17	432	0.43	0.600	0.74	13.34	0.70	0.011
6.10	2.05	57.64	1.38	79.32	17	435	0.43	0.595	0.73	13.34	0.69	0.010
6.20	2.06	57.73	1.38	79.76	17	437	0.43	0.599	0.73	13.34	0.69	0.016
6.24	2.05	58.42	1.37	80.31	17	440	0.43	0.589	0.71	13.34	0.68	0.006
6.33	2.05	58.94	1.36	80.45	17	441	0.42	0.610	0.74	13.34	0.70	0.016

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
6.40	2.04	59.38	1.35	80.42	17	440	0.43	0.634	0.77	13.34	0.73	0.012
6.46	2.04	59.38	1.35	80.14	17	438	0.42	0.664	0.81	13.34	0.77	0.011
6.51	2.04	59.23	1.35	79.91	17	437	0.43	0.689	0.85	13.34	0.80	0.010
6.56	2.04	58.98	1.35	79.74	17	436	0.42	0.711	0.87	13.34	0.83	0.011
6.66	2.04	59.02	1.35	79.86	17	437	0.42	0.732	0.90	13.34	0.85	0.019
6.72	2.04	59.55	1.35	80.33	17	439	0.42	0.728	0.89	13.34	0.84	0.012
6.77	2.03	60.82	1.34	81.34	17	444	0.42	0.699	0.84	13.34	0.80	0.010
6.87	2.01	62.73	1.32	82.74	17	450	0.42	0.672	0.80	13.34	0.76	0.019
6.92	2.00	64.79	1.30	84.22	18	457	0.42	0.633	0.74	13.34	0.70	0.008
6.97	1.98	67.05	1.28	85.65	18	462	0.42	0.605	0.70	13.34	0.66	0.009
7.03	1.96	69.01	1.26	86.64	18	465	0.42	0.600	0.69	13.34	0.66	0.009
7.13	1.95	70.52	1.24	87.29	18	466	0.42	0.616	0.71	13.34	0.67	0.015
7.19	1.94	71.30	1.23	87.48	18	465	0.43	0.637	0.73	13.34	0.70	0.011
7.25	1.93	71.69	1.22	87.61	18	465	0.43	0.650	0.75	13.34	0.71	0.009
7.29	1.93	72.17	1.22	88.10	18	467	0.43	0.644	0.74	13.34	0.70	0.008
7.40	1.93	72.66	1.22	88.80	18	471	0.43	0.638	0.72	13.34	0.69	0.017
7.45	1.94	73.44	1.23	90.10	18	479	0.43	0.595	0.66	13.34	0.63	0.008
7.51	1.94	74.37	1.23	91.63	19	488	0.43	0.549	0.60	13.34	0.57	0.008
7.55	1.95	75.93	1.24	94.23	19	503	0.43	0.475	0.50	13.34	0.47	0.005
7.65	1.96	77.45	1.25	97.20	20	521	0.42	0.410	0.41	13.34	0.39	0.009
7.71	1.98	79.11	1.27	100.55	21	542	0.42	0.347	0.33	13.34	0.31	0.004
7.76	1.99	80.14	1.29	103.27	21	559	0.42	0.305	0.28	13.34	0.27	0.004
7.82	2.01	80.87	1.31	105.87	22	575	0.42	0.272	0.24	13.34	0.23	0.003
7.88	1.98	81.07	1.28	103.47	21	558	0.42	0.318	0.29	13.34	0.28	0.004
7.97	1.95	79.69	1.24	98.66	20	535	0.43	0.401	0.40	13.34	0.38	0.009

Total estimated settlement: 0.44

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vd(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
8.02	96.41	0.31	3.33	1.00	0.02	8.09	100.42	0.32	3.20	1.00	0.03
8.18	105.79	0.34	3.03	1.00	0.03	8.23	110.77	0.36	2.89	1.00	0.02
8.27	110.81	0.36	2.89	1.00	0.02	8.34	113.41	0.37	2.82	1.00	0.02
8.45	116.74	0.38	2.73	1.00	0.04	8.47	117.93	0.39	2.70	1.00	0.01
8.55	118.70	0.39	2.69	1.00	0.03	8.60	119.04	0.39	2.68	1.00	0.02
8.70	119.22	0.39	2.67	1.00	0.03	8.76	118.80	0.38	2.68	1.00	0.02
8.81	118.83	0.38	2.68	1.00	0.02	8.87	116.89	0.37	2.73	1.00	0.02
8.96	114.17	0.36	2.80	1.00	0.03	9.02	110.88	0.34	2.89	1.00	0.02
9.07	110.09	0.34	2.91	1.00	0.02	9.12	110.74	0.34	2.89	1.00	0.02
9.19	112.39	0.34	2.85	1.00	0.02	9.28	107.25	0.32	2.99	1.00	0.03

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
9.34	110.96	0.33	2.88	1.00	0.02	9.39	111.84	0.34	2.86	1.00	0.02
9.45	112.07	0.34	2.86	1.00	0.02	9.52	112.44	0.34	2.85	1.00	0.02
9.60	112.21	0.33	2.85	1.00	0.03	9.65	110.92	0.33	2.89	1.00	0.02
9.71	107.74	0.32	2.98	1.00	0.02	9.80	104.44	0.30	3.07	1.00	0.03
9.86	108.36	0.32	2.96	1.00	0.02	9.91	105.10	0.30	3.05	1.00	0.02
9.98	107.43	0.31	2.98	1.00	0.02	10.06	108.32	0.31	2.96	1.00	0.03
10.11	108.52	0.31	2.95	1.00	0.02	10.17	108.19	0.31	2.96	1.00	0.02
10.24	108.66	0.31	2.95	1.00	0.02	10.32	108.18	0.31	2.96	1.00	0.03
10.38	108.24	0.31	2.96	1.00	0.02	10.43	108.65	0.31	2.95	1.00	0.02
10.53	108.33	0.30	2.96	1.00	0.04	10.57	108.23	0.30	2.96	1.00	0.01
10.64	107.89	0.30	2.97	1.00	0.02	10.70	107.71	0.30	2.98	1.00	0.02
10.76	106.88	0.30	3.00	1.00	0.02	10.85	106.32	0.29	3.02	1.00	0.03
10.91	105.60	0.29	3.04	1.00	0.02	10.98	103.79	0.28	3.09	1.00	0.03
11.07	102.60	0.28	3.13	1.00	0.03	11.12	102.20	0.28	3.14	1.00	0.02
11.16	101.07	0.27	3.18	1.00	0.02	11.23	98.42	0.27	3.27	1.00	0.03
11.32	95.04	0.26	3.38	1.00	0.04	11.37	93.73	0.25	3.43	1.00	0.02
11.42	95.54	0.26	3.37	1.00	0.02	11.54	95.11	0.25	3.38	1.00	0.05
11.55	89.54	0.24	3.59	1.00	0.01	11.63	92.85	0.25	3.46	1.00	0.03
11.68	92.80	0.25	3.47	1.00	0.02	11.79	91.93	0.24	3.50	1.00	0.05
11.83	31.62	2.00	0.00	1.00	0.00	11.89	31.95	2.00	0.00	1.00	0.00
11.95	32.18	2.00	0.00	1.00	0.00	12.04	31.95	2.00	0.00	1.00	0.00
12.10	31.46	2.00	0.00	1.00	0.00	12.16	31.29	2.00	0.00	1.00	0.00
12.22	31.62	2.00	0.00	1.00	0.00	12.28	31.96	2.00	0.00	1.00	0.00
12.35	31.55	2.00	0.00	1.00	0.00	12.42	31.16	2.00	0.00	1.00	0.00
12.47	30.68	2.00	0.00	1.00	0.00	12.56	30.36	2.00	0.00	1.00	0.00
12.63	30.28	2.00	0.00	1.00	0.00	12.69	30.00	2.00	0.00	1.00	0.00
12.74	29.64	2.00	0.00	1.00	0.00	12.82	29.54	2.00	0.00	1.00	0.00
12.87	29.48	2.00	0.00	1.00	0.00	12.93	29.42	2.00	0.00	1.00	0.00
12.99	89.98	0.23	3.57	1.00	0.03	13.10	90.25	0.23	3.56	1.00	0.05
13.14	90.08	0.23	3.57	1.00	0.02	13.19	90.17	0.23	3.57	1.00	0.02
13.26	92.76	0.23	3.47	1.00	0.03	13.36	97.29	0.24	3.30	1.00	0.04
13.39	98.40	0.25	3.27	1.00	0.01	13.46	99.23	0.25	3.24	1.00	0.03
13.52	101.21	0.25	3.17	1.00	0.02	13.61	105.27	0.26	3.05	1.00	0.03
13.66	104.05	0.26	3.08	1.00	0.02	13.73	99.41	0.25	3.23	1.00	0.03
13.83	87.31	0.22	3.68	1.00	0.04	13.88	85.67	0.21	3.75	1.00	0.02
13.92	89.19	0.22	3.61	1.00	0.02	13.99	94.62	0.23	3.40	1.00	0.03
14.06	94.41	0.23	3.41	1.00	0.03	14.14	94.24	0.23	3.41	1.00	0.03
14.19	94.49	0.23	3.40	1.00	0.02	14.25	96.36	0.23	3.34	1.00	0.02
14.33	98.52	0.24	3.26	1.00	0.03	14.40	100.77	0.24	3.19	1.00	0.03
14.46	102.26	0.25	3.14	1.00	0.02	14.54	103.12	0.25	3.11	1.00	0.03
14.58	103.45	0.25	3.10	1.00	0.02	14.67	103.38	0.25	3.11	1.00	0.03
14.71	103.49	0.25	3.10	1.00	0.02	14.79	102.56	0.25	3.13	1.00	0.03
14.87	101.97	0.24	3.15	1.00	0.03	14.90	102.34	0.24	3.14	1.00	0.01
14.98	101.33	0.24	3.17	1.00	0.03	15.03	102.59	0.24	3.13	1.00	0.02
15.10	102.47	0.24	3.13	1.00	0.03	15.19	102.32	0.24	3.14	1.00	0.03
15.23	103.64	0.25	3.10	1.00	0.02	15.30	104.39	0.25	3.07	1.00	0.03
15.39	104.99	0.25	3.06	1.00	0.03	15.44	107.19	0.25	2.99	1.00	0.02
15.49	108.04	0.26	2.97	1.00	0.02	15.57	108.61	0.26	2.95	1.00	0.03

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
15.64	110.25	0.26	2.90	1.00	0.02	15.71	109.93	0.26	2.91	1.00	0.02
15.76	110.53	0.26	2.90	1.00	0.02	15.82	110.18	0.26	2.91	1.00	0.02
15.90	110.08	0.26	2.91	1.00	0.03	15.97	110.03	0.26	2.91	1.00	0.02
16.02	110.06	0.26	2.91	1.00	0.02	16.11	110.11	0.26	2.91	1.00	0.03
16.18	110.09	0.26	2.91	1.00	0.03	16.23	110.14	0.26	2.91	1.00	0.02
16.33	109.97	0.26	2.91	1.00	0.03	16.34	110.00	0.26	2.91	1.00	0.01
16.43	109.73	0.26	2.92	1.00	0.03	16.48	109.52	0.26	2.92	1.00	0.02
16.55	109.49	0.25	2.93	1.00	0.02	16.64	109.68	0.25	2.92	1.00	0.04
16.69	109.67	0.25	2.92	1.00	0.02	16.75	109.88	0.25	2.91	1.00	0.02
16.80	109.83	0.25	2.92	1.00	0.02	16.88	110.71	0.26	2.89	1.00	0.03
16.96	112.17	0.26	2.85	1.00	0.03	17.01	112.49	0.26	2.84	1.00	0.02
17.07	112.62	0.26	2.84	1.00	0.02	17.17	115.04	0.27	2.78	1.00	0.03
17.22	114.69	0.27	2.79	1.00	0.02	17.29	116.02	0.27	2.75	1.00	0.02
17.33	115.96	0.27	2.75	1.00	0.02	17.42	117.04	0.27	2.73	1.00	0.03
17.49	119.14	0.28	2.68	1.00	0.02	17.53	119.15	0.28	2.68	1.00	0.01
17.60	113.90	0.26	2.81	1.00	0.02	17.69	106.95	0.24	3.00	1.00	0.03
17.74	98.23	0.22	3.27	1.00	0.02	17.79	101.62	0.23	3.16	1.00	0.02
17.86	108.75	0.25	2.95	1.00	0.02	17.95	107.26	0.24	2.99	1.00	0.03
18.01	117.54	0.27	2.71	1.00	0.02	18.06	117.78	0.27	2.71	1.00	0.02
18.12	121.47	0.29	2.62	1.00	0.02	18.18	123.73	0.30	2.57	1.00	0.02
18.27	125.89	0.31	2.52	1.00	0.03	18.33	125.60	0.30	2.53	1.00	0.02
18.38	126.61	0.31	2.51	1.00	0.02	18.48	127.25	0.31	2.49	1.00	0.03
18.51	127.13	0.31	2.49	1.00	0.01	18.57	125.71	0.30	2.53	1.00	0.02
18.64	126.51	0.31	2.51	1.00	0.02	18.75	127.40	0.31	2.49	1.00	0.03
18.80	128.82	0.32	2.46	1.00	0.02	18.85	129.96	0.32	2.44	1.00	0.01
18.90	131.33	0.33	2.41	1.00	0.01	18.99	132.78	0.34	2.38	1.00	0.02
19.06	133.25	0.34	2.37	1.00	0.02	19.11	133.32	0.34	2.37	1.00	0.02
19.21	133.32	0.34	2.37	1.00	0.03	19.27	132.79	0.34	2.38	1.00	0.02
19.32	130.69	0.33	2.42	1.00	0.02	19.37	128.94	0.32	2.46	1.00	0.01
19.47	131.61	0.33	2.40	1.00	0.03	19.52	134.31	0.35	2.35	1.00	0.02
19.56	139.59	0.38	2.25	1.00	0.01	19.64	148.99	0.47	2.09	1.00	0.02
19.73	153.71	0.52	2.02	1.00	0.02	19.79	155.33	0.54	1.99	1.00	0.01
19.84	157.72	0.58	1.86	1.00	0.01	19.89	158.31	0.59	1.83	1.00	0.01
20.00	158.72	0.60	1.80	1.00	0.02	20.03	158.17	0.59	1.84	1.00	0.01
20.11	156.22	0.56	1.96	1.00	0.02	20.16	154.76	0.53	2.00	1.00	0.01
20.21	153.48	0.52	2.02	1.00	0.01	20.32	149.19	0.46	2.09	1.00	0.03
20.37	146.92	0.44	2.12	1.00	0.01	20.42	144.31	0.41	2.17	1.00	0.01
20.50	139.59	0.38	2.25	1.00	0.02	20.58	136.23	0.35	2.31	1.00	0.02
20.63	135.06	0.34	2.33	1.00	0.01	20.68	134.44	0.34	2.35	1.00	0.01
20.75	135.87	0.35	2.32	1.00	0.02	20.84	139.74	0.37	2.25	1.00	0.02
20.88	143.41	0.40	2.18	1.00	0.01	20.98	154.46	0.52	2.01	1.00	0.02
21.00	161.55	0.64	1.64	1.00	0.00	21.08	161.44	0.63	1.64	1.00	0.02
21.14	161.41	0.63	1.64	1.00	0.01	21.22	175.73	1.03	0.72	1.00	0.01
21.28	177.48	1.10	0.62	1.00	0.00	21.35	176.74	1.07	0.66	1.00	0.01
21.41	174.56	0.98	0.79	1.00	0.01	21.48	171.10	0.86	1.02	1.00	0.01
21.54	170.88	0.86	1.04	1.00	0.01	21.60	170.67	0.85	1.06	1.00	0.01
21.68	170.36	0.84	1.08	1.00	0.01	21.73	170.47	0.84	1.07	1.00	0.01
21.81	170.44	0.84	1.08	1.00	0.01	21.85	169.54	0.81	1.15	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
21.94	167.90	0.77	1.28	1.00	0.01	22.04	169.28	0.80	1.17	1.00	0.01
22.07	170.80	0.85	1.06	1.00	0.00	22.15	175.19	0.99	0.77	1.00	0.01
22.19	177.44	1.08	0.64	1.00	0.00	22.30	182.01	1.31	0.40	1.00	0.01
22.36	186.43	1.59	0.20	1.00	0.00	22.41	188.04	1.71	0.13	1.00	0.00
22.46	188.98	1.79	0.09	1.00	0.00	22.51	189.07	1.79	0.09	1.00	0.00
22.61	185.68	1.53	0.23	1.00	0.00	22.66	184.33	1.44	0.30	1.00	0.00
22.71	182.95	1.35	0.36	1.00	0.00	22.78	180.60	1.22	0.48	1.00	0.00
22.87	178.27	1.11	0.60	1.00	0.01	22.93	177.51	1.08	0.65	1.00	0.00
22.99	175.35	0.99	0.78	1.00	0.01	23.04	173.78	0.93	0.88	1.00	0.00
23.12	170.13	0.82	1.13	1.00	0.01	23.18	167.58	0.75	1.33	1.00	0.01
23.24	161.68	0.62	1.63	1.00	0.01	23.30	158.58	0.57	1.81	1.00	0.01
23.40	153.44	0.49	2.02	1.00	0.02	23.45	150.86	0.46	2.06	1.00	0.01
23.51	145.37	0.41	2.15	1.00	0.01	23.56	141.90	0.38	2.21	1.00	0.01
23.63	130.09	0.30	2.43	1.00	0.02	23.72	128.05	0.29	2.48	1.00	0.03
23.79	122.26	0.27	2.60	1.00	0.02	23.84	121.92	0.27	2.61	1.00	0.02
23.91	118.12	0.25	2.70	1.00	0.02	23.98	120.25	0.26	2.65	1.00	0.02
24.02	123.99	0.28	2.56	1.00	0.01	24.10	125.13	0.28	2.54	1.00	0.02
24.19	120.76	0.26	2.64	1.00	0.03	24.25	120.99	0.26	2.63	1.00	0.02
24.31	107.04	0.22	3.00	1.00	0.02	24.36	101.92	0.21	3.15	1.00	0.02
24.42	97.10	0.20	3.31	1.00	0.02	24.49	28.38	2.00	0.00	1.00	0.00
24.56	25.50	2.00	0.00	1.00	0.00	24.62	20.91	2.00	0.00	1.00	0.00
24.67	18.52	2.00	0.00	1.00	0.00	24.78	14.87	2.00	0.00	1.00	0.00
24.84	12.13	2.00	0.00	1.00	0.00	24.89	11.25	2.00	0.00	1.00	0.00
24.93	10.59	2.00	0.00	1.00	0.00	25.04	9.55	2.00	0.00	1.00	0.00
25.09	9.17	2.00	0.00	1.00	0.00	25.15	8.09	2.00	0.00	1.00	0.00
25.20	7.72	2.00	0.00	1.00	0.00	25.30	8.06	2.00	0.00	1.00	0.00
25.36	7.90	2.00	0.00	1.00	0.00	25.41	8.04	2.00	0.00	1.00	0.00
25.50	8.24	2.00	0.00	1.00	0.00	25.56	8.37	2.00	0.00	1.00	0.00
25.62	8.22	2.00	0.00	1.00	0.00	25.66	6.44	2.00	0.00	1.00	0.00
25.76	7.84	2.00	0.00	1.00	0.00	25.81	7.76	2.00	0.00	1.00	0.00
25.87	7.68	2.00	0.00	1.00	0.00	25.92	7.53	2.00	0.00	1.00	0.00
26.02	7.52	2.00	0.00	1.00	0.00	26.08	7.44	2.00	0.00	1.00	0.00
26.13	7.29	2.00	0.00	1.00	0.00	26.18	7.28	2.00	0.00	1.00	0.00
26.25	7.20	2.00	0.00	1.00	0.00	26.35	7.32	2.00	0.00	1.00	0.00
26.40	7.60	2.00	0.00	1.00	0.00	26.48	7.80	2.00	0.00	1.00	0.00
26.54	8.34	2.00	0.00	1.00	0.00	26.59	8.96	2.00	0.00	1.00	0.00
26.64	9.30	2.00	0.00	1.00	0.00	26.75	10.11	2.00	0.00	1.00	0.00
26.79	10.04	2.00	0.00	1.00	0.00	26.86	10.02	2.00	0.00	1.00	0.00
26.91	9.94	2.00	0.00	1.00	0.00	27.02	9.72	2.00	0.00	1.00	0.00
27.05	9.56	2.00	0.00	1.00	0.00	27.12	9.07	2.00	0.00	1.00	0.00
27.17	8.78	2.00	0.00	1.00	0.00	27.27	8.28	2.00	0.00	1.00	0.00
27.32	8.27	2.00	0.00	1.00	0.00	27.38	8.26	2.00	0.00	1.00	0.00
27.45	8.59	2.00	0.00	1.00	0.00	27.53	8.99	2.00	0.00	1.00	0.00
27.59	9.11	2.00	0.00	1.00	0.00	27.63	9.38	2.00	0.00	1.00	0.00
27.69	9.78	2.00	0.00	1.00	0.00	27.80	13.55	2.00	0.00	1.00	0.00
27.84	15.20	2.00	0.00	1.00	0.00	27.89	16.51	2.00	0.00	1.00	0.00
27.97	16.83	2.00	0.00	1.00	0.00	28.06	15.55	2.00	0.00	1.00	0.00
28.10	14.71	2.00	0.00	1.00	0.00	28.17	13.10	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
28.27	11.64	2.00	0.00	1.00	0.00	28.32	11.09	2.00	0.00	1.00	0.00
28.36	10.60	2.00	0.00	1.00	0.00	28.43	9.84	2.00	0.00	1.00	0.00
28.51	9.02	2.00	0.00	1.00	0.00	28.57	10.22	2.00	0.00	1.00	0.00
28.62	11.56	2.00	0.00	1.00	0.00	28.68	12.91	2.00	0.00	1.00	0.00
28.77	16.44	2.00	0.00	1.00	0.00	28.83	18.33	2.00	0.00	1.00	0.00
28.88	21.20	2.00	0.00	1.00	0.00	28.94	27.77	2.00	0.00	1.00	0.00
29.04	94.48	0.19	3.40	1.00	0.04	29.09	104.53	0.21	3.07	1.00	0.02
29.14	111.16	0.22	2.88	1.00	0.02	29.22	121.53	0.25	2.62	1.00	0.03
29.29	128.05	0.28	2.48	1.00	0.02	29.34	129.26	0.29	2.45	1.00	0.01
29.41	133.43	0.31	2.37	1.00	0.02	29.48	135.12	0.32	2.33	1.00	0.02
29.54	135.28	0.32	2.33	1.00	0.01	29.62	135.10	0.31	2.33	1.00	0.02
29.66	136.56	0.32	2.31	1.00	0.01	29.75	133.48	0.31	2.36	1.00	0.02
29.81	132.89	0.30	2.38	1.00	0.02	29.88	128.32	0.28	2.47	1.00	0.02
29.93	126.41	0.27	2.51	1.00	0.02	30.02	120.72	0.25	2.64	1.00	0.03
30.08	118.14	0.24	2.70	1.00	0.02	30.13	116.55	0.24	2.74	1.00	0.02
30.22	115.35	0.23	2.77	1.00	0.03	30.27	117.60	0.24	2.71	1.00	0.02
30.34	115.92	0.24	2.75	1.00	0.02	30.40	117.66	0.24	2.71	1.00	0.02
30.50	120.29	0.25	2.65	1.00	0.03	30.55	123.37	0.26	2.58	1.00	0.02
30.59	124.26	0.26	2.56	1.00	0.01	30.65	124.86	0.27	2.54	1.00	0.02
30.75	123.97	0.26	2.56	1.00	0.03	30.81	120.78	0.25	2.64	1.00	0.02
30.87	120.06	0.25	2.65	1.00	0.02	30.92	118.44	0.24	2.69	1.00	0.02
30.97	119.42	0.25	2.67	1.00	0.02	31.07	109.95	0.22	2.91	1.00	0.03
31.11	110.35	0.22	2.90	1.00	0.01	31.18	115.20	0.23	2.77	1.00	0.02
31.27	112.00	0.22	2.86	1.00	0.03	31.33	110.25	0.22	2.90	1.00	0.02
31.38	108.13	0.21	2.96	1.00	0.02	31.44	105.89	0.21	3.03	1.00	0.02
31.54	101.07	0.20	3.18	1.00	0.04	31.57	99.84	0.20	3.22	1.00	0.01
31.64	96.32	0.19	3.34	1.00	0.03	31.70	31.72	2.00	0.00	1.00	0.00
31.78	27.63	2.00	0.00	1.00	0.00	31.84	24.33	2.00	0.00	1.00	0.00
31.90	21.80	2.00	0.00	1.00	0.00	31.96	19.08	2.00	0.00	1.00	0.00
32.04	17.10	2.00	0.00	1.00	0.00	32.11	18.12	2.00	0.00	1.00	0.00
32.16	23.23	2.00	0.00	1.00	0.00	32.23	105.49	0.21	3.04	1.00	0.02
32.32	127.67	0.27	2.48	1.00	0.03	32.38	129.36	0.28	2.45	1.00	0.02
32.42	131.24	0.29	2.41	1.00	0.01	32.49	133.28	0.30	2.37	1.00	0.02
32.56	133.84	0.30	2.36	1.00	0.02	32.63	133.30	0.30	2.37	1.00	0.02
32.69	134.35	0.31	2.35	1.00	0.01	32.77	128.44	0.28	2.47	1.00	0.03
32.81	125.81	0.27	2.52	1.00	0.01	32.90	114.92	0.23	2.78	1.00	0.03
32.95	110.81	0.22	2.89	1.00	0.02	33.04	106.22	0.21	3.02	1.00	0.03
33.08	108.30	0.21	2.96	1.00	0.02	33.15	117.09	0.24	2.73	1.00	0.02
33.21	122.76	0.25	2.59	1.00	0.02	33.30	143.72	0.37	2.18	1.00	0.02
33.34	145.53	0.38	2.15	1.00	0.01	33.42	152.07	0.44	2.04	1.00	0.02
33.50	152.01	0.44	2.04	1.00	0.02	33.54	147.20	0.39	2.12	1.00	0.01
33.63	149.55	0.41	2.08	1.00	0.02	33.67	151.61	0.44	2.05	1.00	0.01
33.75	155.59	0.48	1.99	1.00	0.02	33.83	158.13	0.51	1.84	1.00	0.02
33.89	156.50	0.49	1.94	1.00	0.01	33.94	142.52	0.36	2.20	1.00	0.01
33.99	127.06	0.27	2.50	1.00	0.02	34.10	126.79	0.27	2.50	1.00	0.03
34.15	126.92	0.27	2.50	1.00	0.01	34.20	126.85	0.27	2.50	1.00	0.02
34.28	126.38	0.27	2.51	1.00	0.02	34.36	126.87	0.27	2.50	1.00	0.02
34.41	130.73	0.29	2.42	1.00	0.01	34.45	131.89	0.29	2.40	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
34.52	137.51	0.32	2.29	1.00	0.02	34.60	141.57	0.35	2.22	1.00	0.02
34.67	145.58	0.38	2.15	1.00	0.02	34.72	148.85	0.41	2.09	1.00	0.01
34.82	149.60	0.41	2.08	1.00	0.02	34.85	151.32	0.43	2.05	1.00	0.01
34.92	148.64	0.40	2.10	1.00	0.02	34.98	150.51	0.42	2.07	1.00	0.02
35.09	143.67	0.36	2.18	1.00	0.03	35.14	144.90	0.37	2.16	1.00	0.01
35.18	144.29	0.37	2.17	1.00	0.01	35.24	143.95	0.36	2.17	1.00	0.02
35.35	137.53	0.32	2.29	1.00	0.03	35.40	137.67	0.32	2.29	1.00	0.01
35.45	140.20	0.34	2.24	1.00	0.01	35.52	135.79	0.31	2.32	1.00	0.02
35.61	127.72	0.27	2.48	1.00	0.03	35.66	125.66	0.26	2.53	1.00	0.01
35.70	122.21	0.25	2.60	1.00	0.01	35.77	106.88	0.21	3.00	1.00	0.03
35.87	31.41	2.00	0.00	1.00	0.00	35.92	26.13	2.00	0.00	1.00	0.00
35.97	22.48	2.00	0.00	1.00	0.00	36.03	16.70	2.00	0.00	1.00	0.00
36.13	13.52	2.00	0.00	1.00	0.00	36.18	12.49	2.00	0.00	1.00	0.00
36.23	11.89	2.00	0.00	1.00	0.00	36.30	11.28	2.00	0.00	1.00	0.00
36.39	11.92	2.00	0.00	1.00	0.00	36.44	11.37	2.00	0.00	1.00	0.00
36.51	11.96	2.00	0.00	1.00	0.00	36.56	12.24	2.00	0.00	1.00	0.00
36.65	12.70	2.00	0.00	1.00	0.00	36.70	12.81	2.00	0.00	1.00	0.00
36.75	12.80	2.00	0.00	1.00	0.00	36.82	13.15	2.00	0.00	1.00	0.00
36.91	13.00	2.00	0.00	1.00	0.00	36.97	12.64	2.00	0.00	1.00	0.00
37.03	11.74	2.00	0.00	1.00	0.00	37.08	11.38	2.00	0.00	1.00	0.00
37.18	11.13	2.00	0.00	1.00	0.00	37.21	10.94	2.00	0.00	1.00	0.00
37.29	10.64	2.00	0.00	1.00	0.00	37.39	9.92	2.00	0.00	1.00	0.00
37.43	9.63	2.00	0.00	1.00	0.00	37.48	8.64	2.00	0.00	1.00	0.00
37.55	9.21	2.00	0.00	1.00	0.00	37.63	9.31	2.00	0.00	1.00	0.00
37.68	9.08	2.00	0.00	1.00	0.00	37.78	8.60	2.00	0.00	1.00	0.00
37.83	8.31	2.00	0.00	1.00	0.00	37.89	8.13	2.00	0.00	1.00	0.00
37.93	8.01	2.00	0.00	1.00	0.00	38.02	8.06	2.00	0.00	1.00	0.00
38.06	8.06	2.00	0.00	1.00	0.00	38.15	8.00	2.00	0.00	1.00	0.00
38.19	7.99	2.00	0.00	1.00	0.00	38.30	7.99	2.00	0.00	1.00	0.00
38.36	7.99	2.00	0.00	1.00	0.00	38.42	8.38	2.00	0.00	1.00	0.00
38.47	8.83	2.00	0.00	1.00	0.00	38.56	9.92	2.00	0.00	1.00	0.00
38.58	10.14	2.00	0.00	1.00	0.00	38.67	10.13	2.00	0.00	1.00	0.00
38.73	10.25	2.00	0.00	1.00	0.00	38.83	10.59	2.00	0.00	1.00	0.00
38.89	11.80	2.00	0.00	1.00	0.00	38.93	12.66	2.00	0.00	1.00	0.00
38.99	13.82	2.00	0.00	1.00	0.00	39.06	16.34	2.00	0.00	1.00	0.00
39.13	17.52	2.00	0.00	1.00	0.00	39.20	19.37	2.00	0.00	1.00	0.00
39.25	19.60	2.00	0.00	1.00	0.00	39.31	20.31	2.00	0.00	1.00	0.00
39.41	21.48	2.00	0.00	1.00	0.00	39.46	22.68	2.00	0.00	1.00	0.00
39.51	24.52	2.00	0.00	1.00	0.00	39.57	29.50	2.00	0.00	1.00	0.00
39.67	94.58	0.18	3.40	1.00	0.04	39.72	95.78	0.19	3.36	1.00	0.02
39.78	97.03	0.19	3.31	1.00	0.03	39.83	97.01	0.19	3.31	1.00	0.02
39.92	96.23	0.19	3.34	1.00	0.04	39.98	96.12	0.19	3.35	1.00	0.02
40.03	95.49	0.18	3.37	1.00	0.02	40.13	95.22	0.18	3.38	1.00	0.04
40.16	94.95	0.18	3.39	1.00	0.01	40.24	94.55	0.18	3.40	1.00	0.03
40.29	93.96	0.18	3.42	1.00	0.02	40.37	92.97	0.18	3.46	1.00	0.03
40.45	31.53	2.00	0.00	1.00	0.00	40.50	30.80	2.00	0.00	1.00	0.00
40.55	30.25	2.00	0.00	1.00	0.00	40.62	30.96	2.00	0.00	1.00	0.00
40.70	31.11	2.00	0.00	1.00	0.00	40.76	31.92	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
40.83	32.53	2.00	0.00	1.00	0.00	40.91	34.02	2.00	0.00	1.00	0.00
40.97	37.18	2.00	0.00	1.00	0.00	41.02	105.13	0.20	3.05	1.00	0.02
41.10	118.54	0.24	2.69	1.00	0.03	41.16	124.77	0.26	2.55	1.00	0.02
41.23	127.72	0.27	2.48	1.00	0.02	41.29	128.32	0.27	2.47	1.00	0.02
41.35	127.96	0.27	2.48	1.00	0.02	41.44	127.41	0.27	2.49	1.00	0.03
41.49	126.68	0.26	2.50	1.00	0.02	41.55	127.09	0.27	2.50	1.00	0.02
41.64	129.77	0.28	2.44	1.00	0.03	41.70	130.84	0.28	2.42	1.00	0.02
41.76	131.22	0.28	2.41	1.00	0.02	41.81	130.73	0.28	2.42	1.00	0.02
41.87	129.64	0.28	2.44	1.00	0.02	41.95	129.30	0.28	2.45	1.00	0.02
42.02	129.29	0.28	2.45	1.00	0.02	42.07	129.11	0.27	2.45	1.00	0.02
42.15	130.81	0.28	2.42	1.00	0.02	42.21	133.16	0.29	2.37	1.00	0.02
42.28	133.95	0.30	2.36	1.00	0.02	42.33	133.15	0.29	2.37	1.00	0.01
42.41	124.21	0.26	2.56	1.00	0.02	42.48	113.50	0.22	2.82	1.00	0.02
42.54	37.38	2.00	0.00	1.00	0.00	42.59	31.45	2.00	0.00	1.00	0.00
42.68	23.68	2.00	0.00	1.00	0.00	42.75	19.74	2.00	0.00	1.00	0.00
42.81	17.92	2.00	0.00	1.00	0.00	42.85	16.23	2.00	0.00	1.00	0.00
42.93	14.56	2.00	0.00	1.00	0.00	43.01	15.18	2.00	0.00	1.00	0.00
43.07	15.06	2.00	0.00	1.00	0.00	43.12	14.59	2.00	0.00	1.00	0.00
43.20	14.42	2.00	0.00	1.00	0.00	43.28	18.80	2.00	0.00	1.00	0.00
43.32	23.79	2.00	0.00	1.00	0.00	43.40	96.92	0.19	3.32	1.00	0.03
43.48	105.64	0.20	3.04	1.00	0.03	43.53	108.61	0.21	2.95	1.00	0.02
43.57	107.36	0.21	2.99	1.00	0.02	43.67	120.44	0.24	2.64	1.00	0.03
43.71	124.25	0.26	2.56	1.00	0.01	43.77	127.05	0.27	2.50	1.00	0.02
43.88	128.69	0.27	2.46	1.00	0.03	43.93	127.80	0.27	2.48	1.00	0.02
43.99	127.48	0.27	2.49	1.00	0.02	44.04	129.05	0.27	2.45	1.00	0.01
44.15	127.74	0.27	2.48	1.00	0.03	44.17	129.23	0.27	2.45	1.00	0.01
44.25	129.32	0.28	2.45	1.00	0.02	44.30	129.86	0.28	2.44	1.00	0.02
44.36	130.90	0.28	2.42	1.00	0.02	44.44	133.20	0.29	2.37	1.00	0.02
44.50	136.68	0.31	2.30	1.00	0.02	44.58	140.84	0.34	2.23	1.00	0.02
44.67	144.89	0.36	2.16	1.00	0.02	44.72	147.96	0.39	2.11	1.00	0.01
44.77	147.78	0.39	2.11	1.00	0.01	44.83	147.22	0.38	2.12	1.00	0.01
44.92	146.04	0.37	2.14	1.00	0.02	44.98	144.51	0.36	2.16	1.00	0.02
45.02	143.21	0.35	2.19	1.00	0.01	45.08	142.24	0.35	2.20	1.00	0.02
45.19	141.50	0.34	2.22	1.00	0.03	45.24	139.65	0.33	2.25	1.00	0.01
45.30	139.47	0.33	2.25	1.00	0.01	45.38	137.71	0.32	2.28	1.00	0.02
45.45	136.76	0.31	2.30	1.00	0.02	45.49	136.32	0.31	2.31	1.00	0.01
45.57	135.35	0.30	2.33	1.00	0.02	45.62	135.22	0.30	2.33	1.00	0.01
45.71	134.21	0.30	2.35	1.00	0.03	45.76	134.72	0.30	2.34	1.00	0.01
45.83	134.11	0.30	2.35	1.00	0.02	45.87	133.87	0.30	2.36	1.00	0.01
45.96	133.86	0.30	2.36	1.00	0.02	46.01	133.98	0.30	2.36	1.00	0.02
46.08	132.85	0.29	2.38	1.00	0.02	46.13	133.10	0.29	2.37	1.00	0.02
46.23	130.74	0.28	2.42	1.00	0.03	46.28	130.37	0.28	2.43	1.00	0.02
46.34	129.39	0.28	2.45	1.00	0.02	46.44	128.29	0.27	2.47	1.00	0.03
46.46	127.85	0.27	2.48	1.00	0.01	46.55	126.43	0.26	2.51	1.00	0.03
46.60	126.21	0.26	2.51	1.00	0.02	46.70	125.33	0.26	2.53	1.00	0.03
46.76	126.43	0.26	2.51	1.00	0.02	46.80	125.02	0.26	2.54	1.00	0.01
46.85	125.78	0.26	2.52	1.00	0.01	46.92	130.14	0.28	2.43	1.00	0.02
47.00	126.01	0.26	2.52	1.00	0.02	47.07	118.70	0.24	2.69	1.00	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
47.12	146.51	0.38	2.13	1.00	0.01	47.21	165.22	0.61	1.44	1.00	0.02
47.25	167.74	0.66	1.32	1.00	0.01	47.32	177.73	0.94	0.83	1.00	0.01
47.38	176.19	0.89	0.93	1.00	0.01	47.44	184.55	1.25	0.45	1.00	0.00
47.53	185.44	1.30	0.40	1.00	0.00	47.59	188.75	1.50	0.25	1.00	0.00
47.64	187.44	1.42	0.31	1.00	0.00	47.74	190.76	1.65	0.16	1.00	0.00
47.79	190.46	1.63	0.17	1.00	0.00	47.85	191.53	1.71	0.13	1.00	0.00
47.90	190.12	1.60	0.19	1.00	0.00	47.98	191.63	1.72	0.12	1.00	0.00
48.05	190.19	1.61	0.19	1.00	0.00	48.11	190.18	1.60	0.19	1.00	0.00
48.17	189.56	1.56	0.21	1.00	0.00	48.26	187.87	1.44	0.29	1.00	0.00
48.31	188.09	1.46	0.28	1.00	0.00	48.37	185.36	1.29	0.41	1.00	0.00
48.43	184.48	1.24	0.45	1.00	0.00	48.52	179.80	1.02	0.70	1.00	0.01
48.58	177.99	0.95	0.81	1.00	0.01	48.63	176.03	0.88	0.94	1.00	0.01
48.72	170.39	0.72	1.21	1.00	0.01	48.80	163.60	0.58	1.53	1.00	0.01
48.83	169.90	0.71	1.23	1.00	0.00	48.90	159.19	0.52	1.77	1.00	0.02
49.00	157.32	0.49	1.89	1.00	0.02	49.04	158.30	0.50	1.83	1.00	0.01
49.09	159.43	0.52	1.76	1.00	0.01	49.16	155.97	0.47	1.98	1.00	0.02
49.24	151.33	0.42	2.05	1.00	0.02	49.30	150.67	0.42	2.06	1.00	0.02
49.37	145.91	0.37	2.14	1.00	0.02	49.42	154.05	0.45	2.01	1.00	0.01
49.51	152.58	0.43	2.04	1.00	0.02	49.55	155.40	0.47	1.99	1.00	0.01
49.63	156.13	0.48	1.97	1.00	0.02	49.68	155.03	0.46	2.00	1.00	0.01
49.76	155.26	0.46	2.00	1.00	0.02	49.84	151.83	0.43	2.05	1.00	0.02
49.88	150.45	0.41	2.07	1.00	0.01	49.94	149.07	0.40	2.09	1.00	0.01
50.00	136.80	2.00	0.00	1.00	0.00	50.09	131.93	2.00	0.00	1.00	0.00
50.14	127.37	2.00	0.00	1.00	0.00	50.20	122.70	2.00	0.00	1.00	0.00
50.30	118.32	2.00	0.00	1.00	0.00	50.35	116.34	2.00	0.00	1.00	0.00
50.40	115.02	2.00	0.00	1.00	0.00	50.51	113.43	2.00	0.00	1.00	0.00
50.56	114.16	2.00	0.00	1.00	0.00	50.61	116.64	2.00	0.00	1.00	0.00
50.66	119.58	2.00	0.00	1.00	0.00	50.73	122.48	2.00	0.00	1.00	0.00
50.82	129.93	2.00	0.00	1.00	0.00	50.87	137.83	2.00	0.00	1.00	0.00
50.92	140.88	2.00	0.00	1.00	0.00	50.99	141.48	2.00	0.00	1.00	0.00
51.08	140.32	2.00	0.00	1.00	0.00	51.13	140.54	2.00	0.00	1.00	0.00
51.19	140.09	2.00	0.00	1.00	0.00	51.27	136.01	2.00	0.00	1.00	0.00
51.34	128.18	2.00	0.00	1.00	0.00	51.40	124.09	2.00	0.00	1.00	0.00
51.49	116.12	2.00	0.00	1.00	0.00	51.54	112.91	2.00	0.00	1.00	0.00
51.61	109.95	2.00	0.00	1.00	0.00	51.66	108.85	2.00	0.00	1.00	0.00
51.71	108.63	2.00	0.00	1.00	0.00	51.81	105.85	2.00	0.00	1.00	0.00
51.86	106.68	2.00	0.00	1.00	0.00	51.94	106.13	2.00	0.00	1.00	0.00
51.99	111.62	2.00	0.00	1.00	0.00	52.04	113.58	2.00	0.00	1.00	0.00
52.12	114.88	2.00	0.00	1.00	0.00	52.17	114.96	2.00	0.00	1.00	0.00
52.24	49.55	2.00	0.00	1.00	0.00	52.33	50.29	2.00	0.00	1.00	0.00
52.37	117.25	2.00	0.00	1.00	0.00	52.45	122.37	2.00	0.00	1.00	0.00
52.51	124.98	2.00	0.00	1.00	0.00	52.58	130.54	2.00	0.00	1.00	0.00
52.63	132.55	2.00	0.00	1.00	0.00	52.69	137.83	2.00	0.00	1.00	0.00
52.79	144.80	2.00	0.00	1.00	0.00	52.84	148.81	2.00	0.00	1.00	0.00
52.89	151.94	2.00	0.00	1.00	0.00	52.97	155.69	2.00	0.00	1.00	0.00
53.05	156.68	2.00	0.00	1.00	0.00	53.10	156.50	2.00	0.00	1.00	0.00
53.19	157.54	2.00	0.00	1.00	0.00	53.22	157.81	2.00	0.00	1.00	0.00
53.31	157.33	2.00	0.00	1.00	0.00	53.35	157.11	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
53.43	156.13	2.00	0.00	1.00	0.00	53.52	154.35	2.00	0.00	1.00	0.00
53.57	152.72	2.00	0.00	1.00	0.00	53.65	149.57	2.00	0.00	1.00	0.00
53.69	147.98	2.00	0.00	1.00	0.00	53.78	143.69	2.00	0.00	1.00	0.00
53.83	140.90	2.00	0.00	1.00	0.00	53.88	138.48	2.00	0.00	1.00	0.00
53.94	132.77	2.00	0.00	1.00	0.00	54.04	127.48	2.00	0.00	1.00	0.00
54.09	125.97	2.00	0.00	1.00	0.00	54.15	122.67	2.00	0.00	1.00	0.00
54.20	121.69	2.00	0.00	1.00	0.00	54.30	117.96	2.00	0.00	1.00	0.00
54.37	113.13	2.00	0.00	1.00	0.00	54.41	111.96	2.00	0.00	1.00	0.00
54.51	107.70	2.00	0.00	1.00	0.00	54.55	47.95	2.00	0.00	1.00	0.00
54.61	34.72	2.00	0.00	1.00	0.00	54.66	47.57	2.00	0.00	1.00	0.00
54.74	123.98	2.00	0.00	1.00	0.00	54.80	135.84	2.00	0.00	1.00	0.00
54.89	167.60	2.00	0.00	1.00	0.00	54.94	179.54	2.00	0.00	1.00	0.00
55.00	184.87	2.00	0.00	1.00	0.00	55.05	169.00	2.00	0.00	1.00	0.00
55.15	171.43	2.00	0.00	1.00	0.00	55.20	167.49	2.00	0.00	1.00	0.00
55.26	172.67	2.00	0.00	1.00	0.00	55.32	175.28	2.00	0.00	1.00	0.00
55.42	175.81	2.00	0.00	1.00	0.00	55.47	181.73	2.00	0.00	1.00	0.00
55.53	187.70	2.00	0.00	1.00	0.00	55.58	190.92	2.00	0.00	1.00	0.00
55.68	192.44	2.00	0.00	1.00	0.00	55.73	193.14	2.00	0.00	1.00	0.00
55.78	189.42	2.00	0.00	1.00	0.00	55.84	182.86	2.00	0.00	1.00	0.00
55.95	178.09	2.00	0.00	1.00	0.00	55.99	178.41	2.00	0.00	1.00	0.00
56.05	185.44	2.00	0.00	1.00	0.00	56.13	177.52	2.00	0.00	1.00	0.00
56.17	182.54	2.00	0.00	1.00	0.00	56.27	186.21	2.00	0.00	1.00	0.00
56.32	185.02	2.00	0.00	1.00	0.00	56.37	185.59	2.00	0.00	1.00	0.00
56.43	183.98	2.00	0.00	1.00	0.00	56.52	183.55	2.00	0.00	1.00	0.00
56.57	182.39	2.00	0.00	1.00	0.00	56.64	183.05	2.00	0.00	1.00	0.00
56.69	182.46	2.00	0.00	1.00	0.00	56.79	181.79	2.00	0.00	1.00	0.00
56.84	182.79	2.00	0.00	1.00	0.00	56.90	180.30	2.00	0.00	1.00	0.00
56.95	180.98	2.00	0.00	1.00	0.00	57.06	179.47	2.00	0.00	1.00	0.00
57.10	180.66	2.00	0.00	1.00	0.00	57.16	179.50	2.00	0.00	1.00	0.00
57.27	180.41	2.00	0.00	1.00	0.00	57.30	179.48	2.00	0.00	1.00	0.00
57.37	179.22	2.00	0.00	1.00	0.00	57.44	177.90	2.00	0.00	1.00	0.00
57.52	177.02	2.00	0.00	1.00	0.00	57.55	176.07	2.00	0.00	1.00	0.00
57.64	174.53	2.00	0.00	1.00	0.00	57.69	172.89	2.00	0.00	1.00	0.00
57.78	170.00	2.00	0.00	1.00	0.00	57.83	168.69	2.00	0.00	1.00	0.00
57.89	165.23	2.00	0.00	1.00	0.00	57.94	165.10	2.00	0.00	1.00	0.00
58.04	164.21	2.00	0.00	1.00	0.00	58.08	164.26	2.00	0.00	1.00	0.00
58.16	166.79	2.00	0.00	1.00	0.00	58.21	166.07	2.00	0.00	1.00	0.00
58.30	170.22	2.00	0.00	1.00	0.00	58.35	167.10	2.00	0.00	1.00	0.00
58.42	168.71	2.00	0.00	1.00	0.00	58.47	163.83	2.00	0.00	1.00	0.00
58.55	163.22	2.00	0.00	1.00	0.00	58.60	162.30	2.00	0.00	1.00	0.00
58.68	158.76	2.00	0.00	1.00	0.00	58.73	159.40	2.00	0.00	1.00	0.00
58.81	156.94	2.00	0.00	1.00	0.00	58.86	164.88	2.00	0.00	1.00	0.00
58.94	167.59	2.00	0.00	1.00	0.00	59.02	176.65	2.00	0.00	1.00	0.00
59.09	176.86	2.00	0.00	1.00	0.00	59.15	184.79	2.00	0.00	1.00	0.00
59.20	184.91	2.00	0.00	1.00	0.00	59.29	190.20	2.00	0.00	1.00	0.00
59.35	189.82	2.00	0.00	1.00	0.00	59.40	186.59	2.00	0.00	1.00	0.00
59.46	184.96	2.00	0.00	1.00	0.00	59.56	187.85	2.00	0.00	1.00	0.00
59.61	186.88	2.00	0.00	1.00	0.00	59.66	190.05	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
59.71	194.63	2.00	0.00	1.00	0.00	59.83	195.10	2.00	0.00	1.00	0.00
59.87	197.73	2.00	0.00	1.00	0.00	59.92	197.61	2.00	0.00	1.00	0.00
59.98	194.32	2.00	0.00	1.00	0.00	60.08	190.47	2.00	0.00	1.00	0.00
60.14	187.08	2.00	0.00	1.00	0.00	60.19	184.02	2.00	0.00	1.00	0.00
60.27	178.90	2.00	0.00	1.00	0.00	60.31	177.09	2.00	0.00	1.00	0.00
60.40	174.96	2.00	0.00	1.00	0.00	60.44	174.03	2.00	0.00	1.00	0.00
60.52	173.00	2.00	0.00	1.00	0.00	60.61	169.08	2.00	0.00	1.00	0.00
60.65	166.62	2.00	0.00	1.00	0.00	60.70	165.65	2.00	0.00	1.00	0.00
60.77	163.65	2.00	0.00	1.00	0.00	60.87	160.58	2.00	0.00	1.00	0.00
60.92	160.78	2.00	0.00	1.00	0.00	60.97	159.19	2.00	0.00	1.00	0.00
61.03	140.81	2.00	0.00	1.00	0.00	61.13	119.46	2.00	0.00	1.00	0.00
61.18	45.32	2.00	0.00	1.00	0.00	61.23	38.22	2.00	0.00	1.00	0.00
61.29	28.56	2.00	0.00	1.00	0.00	61.39	22.86	2.00	0.00	1.00	0.00
61.44	20.92	2.00	0.00	1.00	0.00	61.52	18.48	2.00	0.00	1.00	0.00
61.57	17.49	2.00	0.00	1.00	0.00	61.65	14.70	2.00	0.00	1.00	0.00
61.70	13.42	2.00	0.00	1.00	0.00	61.75	12.36	2.00	0.00	1.00	0.00
61.86	10.96	2.00	0.00	1.00	0.00	61.91	10.80	2.00	0.00	1.00	0.00
61.96	10.85	2.00	0.00	1.00	0.00	62.02	11.40	2.00	0.00	1.00	0.00
62.12	11.14	2.00	0.00	1.00	0.00	62.17	9.76	2.00	0.00	1.00	0.00
62.22	10.69	2.00	0.00	1.00	0.00	62.31	10.73	2.00	0.00	1.00	0.00
62.36	10.63	2.00	0.00	1.00	0.00	62.42	10.77	2.00	0.00	1.00	0.00
62.48	11.07	2.00	0.00	1.00	0.00	62.58	11.91	2.00	0.00	1.00	0.00
62.63	12.36	2.00	0.00	1.00	0.00	62.67	12.90	2.00	0.00	1.00	0.00
62.74	14.57	2.00	0.00	1.00	0.00	62.82	16.09	2.00	0.00	1.00	0.00
62.87	17.37	2.00	0.00	1.00	0.00	62.95	23.49	2.00	0.00	1.00	0.00
63.04	35.65	2.00	0.00	1.00	0.00	63.10	116.33	2.00	0.00	1.00	0.00
63.16	123.13	2.00	0.00	1.00	0.00	63.19	129.09	2.00	0.00	1.00	0.00
63.26	138.39	2.00	0.00	1.00	0.00	63.36	142.78	2.00	0.00	1.00	0.00
63.41	144.41	2.00	0.00	1.00	0.00	63.48	148.20	2.00	0.00	1.00	0.00
63.52	150.88	2.00	0.00	1.00	0.00	63.62	154.60	2.00	0.00	1.00	0.00
63.67	156.88	2.00	0.00	1.00	0.00	63.73	157.95	2.00	0.00	1.00	0.00
63.79	160.09	2.00	0.00	1.00	0.00	63.89	159.71	2.00	0.00	1.00	0.00
63.92	158.62	2.00	0.00	1.00	0.00	64.01	154.91	2.00	0.00	1.00	0.00
64.05	153.37	2.00	0.00	1.00	0.00	64.14	150.29	2.00	0.00	1.00	0.00
64.19	149.20	2.00	0.00	1.00	0.00	64.25	147.62	2.00	0.00	1.00	0.00
64.31	146.70	2.00	0.00	1.00	0.00	64.39	146.12	2.00	0.00	1.00	0.00
64.46	146.47	2.00	0.00	1.00	0.00	64.51	147.27	2.00	0.00	1.00	0.00
64.61	150.38	2.00	0.00	1.00	0.00	64.66	152.81	2.00	0.00	1.00	0.00
64.71	155.96	2.00	0.00	1.00	0.00	64.77	158.51	2.00	0.00	1.00	0.00
64.83	163.55	2.00	0.00	1.00	0.00	64.91	168.07	2.00	0.00	1.00	0.00
64.98	163.81	2.00	0.00	1.00	0.00	65.05	173.17	2.00	0.00	1.00	0.00
65.10	175.66	2.00	0.00	1.00	0.00	65.20	178.24	2.00	0.00	1.00	0.00
65.24	179.05	2.00	0.00	1.00	0.00	65.30	179.22	2.00	0.00	1.00	0.00
65.36	179.75	2.00	0.00	1.00	0.00	65.45	177.30	2.00	0.00	1.00	0.00
65.50	176.24	2.00	0.00	1.00	0.00	65.57	174.12	2.00	0.00	1.00	0.00
65.63	174.06	2.00	0.00	1.00	0.00	65.71	171.83	2.00	0.00	1.00	0.00
65.76	169.37	2.00	0.00	1.00	0.00	65.83	165.87	2.00	0.00	1.00	0.00
65.93	162.91	2.00	0.00	1.00	0.00	65.96	161.69	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
66.01	160.63	2.00	0.00	1.00	0.00	66.09	158.65	2.00	0.00	1.00	0.00
66.14	158.09	2.00	0.00	1.00	0.00	66.23	157.56	2.00	0.00	1.00	0.00
66.30	155.39	2.00	0.00	1.00	0.00	66.34	154.90	2.00	0.00	1.00	0.00
66.41	149.54	2.00	0.00	1.00	0.00	66.51	141.97	2.00	0.00	1.00	0.00
66.56	138.87	2.00	0.00	1.00	0.00	66.61	135.07	2.00	0.00	1.00	0.00
66.67	131.65	2.00	0.00	1.00	0.00	66.74	122.22	2.00	0.00	1.00	0.00
66.82	48.28	2.00	0.00	1.00	0.00	66.88	44.81	2.00	0.00	1.00	0.00
66.98	39.26	2.00	0.00	1.00	0.00	67.01	37.14	2.00	0.00	1.00	0.00
67.09	34.23	2.00	0.00	1.00	0.00	67.13	33.11	2.00	0.00	1.00	0.00
67.22	31.28	2.00	0.00	1.00	0.00	67.27	30.85	2.00	0.00	1.00	0.00
67.35	30.08	2.00	0.00	1.00	0.00	67.39	29.24	2.00	0.00	1.00	0.00
67.47	25.40	2.00	0.00	1.00	0.00	67.52	23.20	2.00	0.00	1.00	0.00
67.61	19.25	2.00	0.00	1.00	0.00	67.70	15.96	2.00	0.00	1.00	0.00
67.76	12.79	2.00	0.00	1.00	0.00	67.81	13.18	2.00	0.00	1.00	0.00
67.86	12.54	2.00	0.00	1.00	0.00	67.91	11.96	2.00	0.00	1.00	0.00
68.01	11.42	2.00	0.00	1.00	0.00	68.06	11.32	2.00	0.00	1.00	0.00
68.11	11.56	2.00	0.00	1.00	0.00	68.19	12.08	2.00	0.00	1.00	0.00
68.28	12.80	2.00	0.00	1.00	0.00	68.34	13.29	2.00	0.00	1.00	0.00
68.37	13.53	2.00	0.00	1.00	0.00	68.49	21.63	2.00	0.00	1.00	0.00
68.54	27.25	2.00	0.00	1.00	0.00	68.59	43.49	2.00	0.00	1.00	0.00
68.66	121.62	2.00	0.00	1.00	0.00	68.75	125.88	2.00	0.00	1.00	0.00
68.80	127.03	2.00	0.00	1.00	0.00	68.86	128.18	2.00	0.00	1.00	0.00
68.90	128.42	2.00	0.00	1.00	0.00	68.99	129.42	2.00	0.00	1.00	0.00
69.06	130.59	2.00	0.00	1.00	0.00	69.10	131.14	2.00	0.00	1.00	0.00
69.17	133.79	2.00	0.00	1.00	0.00	69.26	137.47	2.00	0.00	1.00	0.00
69.30	138.44	2.00	0.00	1.00	0.00	69.38	138.53	2.00	0.00	1.00	0.00
69.43	137.82	2.00	0.00	1.00	0.00	69.53	136.08	2.00	0.00	1.00	0.00
69.56	136.36	2.00	0.00	1.00	0.00	69.65	135.28	2.00	0.00	1.00	0.00
69.69	134.25	2.00	0.00	1.00	0.00	69.76	130.99	2.00	0.00	1.00	0.00
69.84	127.47	2.00	0.00	1.00	0.00	69.89	125.52	2.00	0.00	1.00	0.00
69.95	119.57	2.00	0.00	1.00	0.00	70.02	111.69	2.00	0.00	1.00	0.00
70.08	43.53	2.00	0.00	1.00	0.00	70.15	38.88	2.00	0.00	1.00	0.00
70.23	28.78	2.00	0.00	1.00	0.00	70.30	25.95	2.00	0.00	1.00	0.00
70.34	27.77	2.00	0.00	1.00	0.00	70.41	22.68	2.00	0.00	1.00	0.00
70.49	19.65	2.00	0.00	1.00	0.00	70.54	16.64	2.00	0.00	1.00	0.00
70.62	13.55	2.00	0.00	1.00	0.00	70.69	12.82	2.00	0.00	1.00	0.00
70.75	12.67	2.00	0.00	1.00	0.00	70.81	12.71	2.00	0.00	1.00	0.00
70.88	11.80	2.00	0.00	1.00	0.00	70.94	10.99	2.00	0.00	1.00	0.00
71.01	10.56	2.00	0.00	1.00	0.00	71.08	10.46	2.00	0.00	1.00	0.00
71.13	10.51	2.00	0.00	1.00	0.00	71.23	10.79	2.00	0.00	1.00	0.00
71.27	10.97	2.00	0.00	1.00	0.00	71.34	11.63	2.00	0.00	1.00	0.00
71.40	12.63	2.00	0.00	1.00	0.00	71.47	13.64	2.00	0.00	1.00	0.00
71.56	14.36	2.00	0.00	1.00	0.00	71.60	14.45	2.00	0.00	1.00	0.00
71.70	14.25	2.00	0.00	1.00	0.00	71.76	14.24	2.00	0.00	1.00	0.00
71.81	14.39	2.00	0.00	1.00	0.00	71.85	14.67	2.00	0.00	1.00	0.00
71.93	17.46	2.00	0.00	1.00	0.00	72.02	20.41	2.00	0.00	1.00	0.00
72.07	20.76	2.00	0.00	1.00	0.00	72.11	20.75	2.00	0.00	1.00	0.00
72.19	21.51	2.00	0.00	1.00	0.00	72.28	26.66	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
72.33	32.07	2.00	0.00	1.00	0.00	72.40	41.00	2.00	0.00	1.00	0.00
72.45	41.00	2.00	0.00	1.00	0.00	72.55	35.82	2.00	0.00	1.00	0.00
72.59	31.85	2.00	0.00	1.00	0.00	72.67	24.91	2.00	0.00	1.00	0.00
72.71	22.16	2.00	0.00	1.00	0.00	72.78	18.17	2.00	0.00	1.00	0.00
72.84	16.15	2.00	0.00	1.00	0.00	72.92	12.96	2.00	0.00	1.00	0.00
72.97	12.29	2.00	0.00	1.00	0.00	73.07	11.01	2.00	0.00	1.00	0.00
73.11	10.87	2.00	0.00	1.00	0.00	73.17	10.54	2.00	0.00	1.00	0.00
73.24	10.07	2.00	0.00	1.00	0.00	73.30	9.79	2.00	0.00	1.00	0.00
73.37	10.04	2.00	0.00	1.00	0.00	73.43	9.73	2.00	0.00	1.00	0.00
73.53	10.01	2.00	0.00	1.00	0.00	73.59	9.96	2.00	0.00	1.00	0.00
73.63	9.82	2.00	0.00	1.00	0.00	73.70	9.63	2.00	0.00	1.00	0.00
73.75	9.31	2.00	0.00	1.00	0.00	73.85	9.12	2.00	0.00	1.00	0.00
73.91	9.25	2.00	0.00	1.00	0.00	73.96	9.43	2.00	0.00	1.00	0.00
74.02	10.26	2.00	0.00	1.00	0.00	74.11	11.28	2.00	0.00	1.00	0.00
74.16	11.61	2.00	0.00	1.00	0.00	74.22	12.17	2.00	0.00	1.00	0.00
74.33	13.29	2.00	0.00	1.00	0.00	74.36	14.20	2.00	0.00	1.00	0.00
74.43	15.11	2.00	0.00	1.00	0.00	74.48	16.80	2.00	0.00	1.00	0.00
74.57	19.00	2.00	0.00	1.00	0.00	74.63	21.19	2.00	0.00	1.00	0.00
74.69	28.88	2.00	0.00	1.00	0.00	74.74	34.10	2.00	0.00	1.00	0.00
74.84	44.37	2.00	0.00	1.00	0.00	74.90	50.84	2.00	0.00	1.00	0.00
74.96	52.58	2.00	0.00	1.00	0.00	75.00	53.63	2.00	0.00	1.00	0.00
75.09	54.37	2.00	0.00	1.00	0.00	75.17	54.99	2.00	0.00	1.00	0.00
75.21	56.19	2.00	0.00	1.00	0.00	75.31	62.06	2.00	0.00	1.00	0.00
75.37	143.23	2.00	0.00	1.00	0.00	75.42	149.09	2.00	0.00	1.00	0.00
75.47	153.99	2.00	0.00	1.00	0.00	75.53	164.51	2.00	0.00	1.00	0.00
75.62	171.60	2.00	0.00	1.00	0.00	75.66	171.68	2.00	0.00	1.00	0.00
75.75	176.23	2.00	0.00	1.00	0.00	75.79	175.81	2.00	0.00	1.00	0.00
75.88	180.93	2.00	0.00	1.00	0.00	75.94	184.89	2.00	0.00	1.00	0.00
76.00	188.12	2.00	0.00	1.00	0.00	76.08	168.86	2.00	0.00	1.00	0.00
76.14	184.53	2.00	0.00	1.00	0.00	76.19	175.15	2.00	0.00	1.00	0.00
76.27	163.36	2.00	0.00	1.00	0.00	76.34	152.69	2.00	0.00	1.00	0.00
76.40	145.38	2.00	0.00	1.00	0.00	76.46	145.35	2.00	0.00	1.00	0.00
76.55	141.66	2.00	0.00	1.00	0.00	76.61	140.86	2.00	0.00	1.00	0.00
76.65	135.14	2.00	0.00	1.00	0.00	76.71	126.99	2.00	0.00	1.00	0.00
76.81	47.61	2.00	0.00	1.00	0.00	76.87	38.37	2.00	0.00	1.00	0.00
76.92	36.84	2.00	0.00	1.00	0.00	76.98	32.57	2.00	0.00	1.00	0.00
77.07	28.75	2.00	0.00	1.00	0.00	77.13	24.87	2.00	0.00	1.00	0.00
77.19	21.89	2.00	0.00	1.00	0.00	77.24	19.11	2.00	0.00	1.00	0.00
77.32	17.06	2.00	0.00	1.00	0.00	77.39	16.81	2.00	0.00	1.00	0.00
77.45	16.66	2.00	0.00	1.00	0.00	77.50	17.14	2.00	0.00	1.00	0.00
77.60	18.15	2.00	0.00	1.00	0.00	77.64	19.07	2.00	0.00	1.00	0.00
77.71	21.48	2.00	0.00	1.00	0.00	77.76	23.52	2.00	0.00	1.00	0.00
77.85	27.44	2.00	0.00	1.00	0.00	77.89	28.89	2.00	0.00	1.00	0.00
77.98	30.02	2.00	0.00	1.00	0.00	78.02	30.18	2.00	0.00	1.00	0.00
78.12	29.92	2.00	0.00	1.00	0.00	78.17	29.57	2.00	0.00	1.00	0.00
78.22	29.25	2.00	0.00	1.00	0.00	78.28	29.74	2.00	0.00	1.00	0.00
78.39	35.49	2.00	0.00	1.00	0.00	78.41	38.10	2.00	0.00	1.00	0.00
78.49	43.32	2.00	0.00	1.00	0.00	78.55	47.67	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
78.64	116.04	2.00	0.00	1.00	0.00	78.70	118.15	2.00	0.00	1.00	0.00
78.76	120.31	2.00	0.00	1.00	0.00	78.81	121.33	2.00	0.00	1.00	0.00
78.89	123.74	2.00	0.00	1.00	0.00	78.96	126.49	2.00	0.00	1.00	0.00
79.01	127.41	2.00	0.00	1.00	0.00	79.09	129.12	2.00	0.00	1.00	0.00
79.18	127.87	2.00	0.00	1.00	0.00	79.22	126.66	2.00	0.00	1.00	0.00
79.28	126.07	2.00	0.00	1.00	0.00	79.33	120.38	2.00	0.00	1.00	0.00
79.45	122.42	2.00	0.00	1.00	0.00	79.51	119.47	2.00	0.00	1.00	0.00
79.56	118.15	2.00	0.00	1.00	0.00	79.61	116.71	2.00	0.00	1.00	0.00
79.66	50.00	2.00	0.00	1.00	0.00	79.77	46.89	2.00	0.00	1.00	0.00
79.83	45.99	2.00	0.00	1.00	0.00	79.88	45.14	2.00	0.00	1.00	0.00
79.94	43.34	2.00	0.00	1.00	0.00	79.99	42.23	2.00	0.00	1.00	0.00
80.08	40.34	2.00	0.00	1.00	0.00	80.14	39.17	2.00	0.00	1.00	0.00
80.21	37.46	2.00	0.00	1.00	0.00	80.25	36.72	2.00	0.00	1.00	0.00
80.35	34.08	2.00	0.00	1.00	0.00	80.39	32.63	2.00	0.00	1.00	0.00
80.45	31.29	2.00	0.00	1.00	0.00	80.51	28.57	2.00	0.00	1.00	0.00
80.61	25.14	2.00	0.00	1.00	0.00	80.66	22.73	2.00	0.00	1.00	0.00
80.73	18.43	2.00	0.00	1.00	0.00	80.82	14.59	2.00	0.00	1.00	0.00
80.85	13.75	2.00	0.00	1.00	0.00	80.95	13.23	2.00	0.00	1.00	0.00
80.99	12.73	2.00	0.00	1.00	0.00	81.08	11.94	2.00	0.00	1.00	0.00
81.12	11.85	2.00	0.00	1.00	0.00	81.20	11.85	2.00	0.00	1.00	0.00
81.24	11.89	2.00	0.00	1.00	0.00	81.33	12.43	2.00	0.00	1.00	0.00
81.40	13.34	2.00	0.00	1.00	0.00	81.46	14.17	2.00	0.00	1.00	0.00
81.50	15.66	2.00	0.00	1.00	0.00	81.60	20.86	2.00	0.00	1.00	0.00
81.64	24.41	2.00	0.00	1.00	0.00	81.70	30.34	2.00	0.00	1.00	0.00
81.81	32.78	2.00	0.00	1.00	0.00	81.84	33.88	2.00	0.00	1.00	0.00
81.92	38.88	2.00	0.00	1.00	0.00	81.97	105.30	2.00	0.00	1.00	0.00
82.05	110.32	2.00	0.00	1.00	0.00	82.10	111.22	2.00	0.00	1.00	0.00
82.18	112.39	2.00	0.00	1.00	0.00	82.23	113.40	2.00	0.00	1.00	0.00
82.32	117.96	2.00	0.00	1.00	0.00	82.36	121.36	2.00	0.00	1.00	0.00
82.44	133.61	2.00	0.00	1.00	0.00	82.49	138.06	2.00	0.00	1.00	0.00
82.56	145.24	2.00	0.00	1.00	0.00	82.65	147.99	2.00	0.00	1.00	0.00
82.69	148.67	2.00	0.00	1.00	0.00	82.75	148.99	2.00	0.00	1.00	0.00
82.81	147.07	2.00	0.00	1.00	0.00	82.88	144.82	2.00	0.00	1.00	0.00
82.96	144.08	2.00	0.00	1.00	0.00	83.02	141.61	2.00	0.00	1.00	0.00
83.11	137.13	2.00	0.00	1.00	0.00	83.17	133.73	2.00	0.00	1.00	0.00
83.22	130.19	2.00	0.00	1.00	0.00	83.28	60.24	2.00	0.00	1.00	0.00
83.38	128.00	2.00	0.00	1.00	0.00	83.44	135.75	2.00	0.00	1.00	0.00
83.49	138.81	2.00	0.00	1.00	0.00	83.54	139.57	2.00	0.00	1.00	0.00
83.60	139.27	2.00	0.00	1.00	0.00	83.69	139.50	2.00	0.00	1.00	0.00
83.75	139.62	2.00	0.00	1.00	0.00	83.85	140.73	2.00	0.00	1.00	0.00
83.86	140.99	2.00	0.00	1.00	0.00	83.96	142.36	2.00	0.00	1.00	0.00
84.06	143.44	2.00	0.00	1.00	0.00	84.06	143.90	2.00	0.00	1.00	0.00
84.12	144.10	2.00	0.00	1.00	0.00	84.22	142.60	2.00	0.00	1.00	0.00
84.26	141.89	2.00	0.00	1.00	0.00	84.32	139.34	2.00	0.00	1.00	0.00
84.43	135.45	2.00	0.00	1.00	0.00	84.47	133.94	2.00	0.00	1.00	0.00
84.52	132.08	2.00	0.00	1.00	0.00	84.60	127.77	2.00	0.00	1.00	0.00
84.69	123.33	2.00	0.00	1.00	0.00	84.73	54.47	2.00	0.00	1.00	0.00
84.82	54.39	2.00	0.00	1.00	0.00	84.85	120.82	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
84.95	120.32	2.00	0.00	1.00	0.00	84.98	120.91	2.00	0.00	1.00	0.00
85.06	122.30	2.00	0.00	1.00	0.00	85.16	123.66	2.00	0.00	1.00	0.00
85.21	123.30	2.00	0.00	1.00	0.00	85.26	123.13	2.00	0.00	1.00	0.00
85.31	121.53	2.00	0.00	1.00	0.00	85.42	118.99	2.00	0.00	1.00	0.00
85.45	117.99	2.00	0.00	1.00	0.00	85.53	117.91	2.00	0.00	1.00	0.00
85.58	117.86	2.00	0.00	1.00	0.00	85.68	117.79	2.00	0.00	1.00	0.00
85.72	119.61	2.00	0.00	1.00	0.00	85.77	112.83	2.00	0.00	1.00	0.00
85.83	124.60	2.00	0.00	1.00	0.00	85.90	126.14	2.00	0.00	1.00	0.00
86.00	126.35	2.00	0.00	1.00	0.00	86.05	125.90	2.00	0.00	1.00	0.00
86.11	124.93	2.00	0.00	1.00	0.00	86.17	124.26	2.00	0.00	1.00	0.00
86.26	121.75	2.00	0.00	1.00	0.00	86.30	120.38	2.00	0.00	1.00	0.00
86.36	118.91	2.00	0.00	1.00	0.00	86.43	116.88	2.00	0.00	1.00	0.00
86.53	111.95	2.00	0.00	1.00	0.00	86.57	110.11	2.00	0.00	1.00	0.00
86.61	109.58	2.00	0.00	1.00	0.00	86.68	108.72	2.00	0.00	1.00	0.00
86.79	42.39	2.00	0.00	1.00	0.00	86.83	42.54	2.00	0.00	1.00	0.00
86.92	42.48	2.00	0.00	1.00	0.00	86.95	104.86	2.00	0.00	1.00	0.00
87.04	115.66	2.00	0.00	1.00	0.00	87.09	120.30	2.00	0.00	1.00	0.00
87.16	125.51	2.00	0.00	1.00	0.00	87.21	127.18	2.00	0.00	1.00	0.00
87.27	124.65	2.00	0.00	1.00	0.00	87.35	128.99	2.00	0.00	1.00	0.00
87.42	130.43	2.00	0.00	1.00	0.00	87.48	133.95	2.00	0.00	1.00	0.00
87.57	140.15	2.00	0.00	1.00	0.00	87.60	140.87	2.00	0.00	1.00	0.00
87.69	145.08	2.00	0.00	1.00	0.00	87.73	143.36	2.00	0.00	1.00	0.00
87.82	145.71	2.00	0.00	1.00	0.00	87.90	148.43	2.00	0.00	1.00	0.00
87.95	149.50	2.00	0.00	1.00	0.00	88.00	151.03	2.00	0.00	1.00	0.00
88.11	160.62	2.00	0.00	1.00	0.00	88.16	163.28	2.00	0.00	1.00	0.00
88.21	163.85	2.00	0.00	1.00	0.00	88.27	167.79	2.00	0.00	1.00	0.00
88.37	169.76	2.00	0.00	1.00	0.00	88.42	165.58	2.00	0.00	1.00	0.00
88.49	169.08	2.00	0.00	1.00	0.00	88.52	168.42	2.00	0.00	1.00	0.00
88.63	173.41	2.00	0.00	1.00	0.00	88.66	175.32	2.00	0.00	1.00	0.00
88.72	176.41	2.00	0.00	1.00	0.00	88.78	182.74	2.00	0.00	1.00	0.00
88.89	190.30	2.00	0.00	1.00	0.00	88.94	193.51	2.00	0.00	1.00	0.00
89.00	199.64	2.00	0.00	1.00	0.00	89.05	200.31	2.00	0.00	1.00	0.00
89.14	205.21	2.00	0.00	1.00	0.00	89.17	206.36	2.00	0.00	1.00	0.00
89.25	209.82	2.00	0.00	1.00	0.00	89.31	219.82	2.00	0.00	1.00	0.00
89.40	230.03	2.00	0.00	1.00	0.00	89.44	234.41	2.00	0.00	1.00	0.00
89.52	240.28	2.00	0.00	1.00	0.00	89.57	241.44	2.00	0.00	1.00	0.00
89.65	241.27	2.00	0.00	1.00	0.00	89.72	237.65	2.00	0.00	1.00	0.00
89.78	235.56	2.00	0.00	1.00	0.00	89.88	228.76	2.00	0.00	1.00	0.00
89.91	224.01	2.00	0.00	1.00	0.00	89.99	216.64	2.00	0.00	1.00	0.00
90.03	198.75	2.00	0.00	1.00	0.00	90.11	201.64	2.00	0.00	1.00	0.00
90.18	197.99	2.00	0.00	1.00	0.00	90.24	196.22	2.00	0.00	1.00	0.00
90.30	194.72	2.00	0.00	1.00	0.00	90.39	195.67	2.00	0.00	1.00	0.00
90.44	196.39	2.00	0.00	1.00	0.00	90.50	200.93	2.00	0.00	1.00	0.00
90.55	204.77	2.00	0.00	1.00	0.00	90.65	208.07	2.00	0.00	1.00	0.00
90.70	207.68	2.00	0.00	1.00	0.00	90.76	202.00	2.00	0.00	1.00	0.00
90.86	190.79	2.00	0.00	1.00	0.00	90.90	185.20	2.00	0.00	1.00	0.00
90.97	180.45	2.00	0.00	1.00	0.00	91.03	173.96	2.00	0.00	1.00	0.00
91.12	172.77	2.00	0.00	1.00	0.00	91.17	176.89	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
91.23	180.95	2.00	0.00	1.00	0.00	91.28	185.61	2.00	0.00	1.00	0.00
91.34	192.34	2.00	0.00	1.00	0.00	91.44	200.41	2.00	0.00	1.00	0.00
91.49	204.42	2.00	0.00	1.00	0.00	91.55	210.18	2.00	0.00	1.00	0.00
91.63	213.89	2.00	0.00	1.00	0.00	91.67	219.07	2.00	0.00	1.00	0.00
91.75	218.39	2.00	0.00	1.00	0.00	91.84	216.01	2.00	0.00	1.00	0.00
91.88	219.01	2.00	0.00	1.00	0.00	91.96	214.37	2.00	0.00	1.00	0.00
92.01	212.87	2.00	0.00	1.00	0.00	92.12	205.69	2.00	0.00	1.00	0.00
92.14	201.81	2.00	0.00	1.00	0.00	92.22	198.87	2.00	0.00	1.00	0.00
92.27	198.26	2.00	0.00	1.00	0.00	92.37	200.98	2.00	0.00	1.00	0.00
92.43	182.53	2.00	0.00	1.00	0.00	92.46	188.07	2.00	0.00	1.00	0.00
92.54	190.52	2.00	0.00	1.00	0.00	92.62	183.95	2.00	0.00	1.00	0.00
92.66	182.74	2.00	0.00	1.00	0.00	92.73	174.89	2.00	0.00	1.00	0.00
92.79	165.54	2.00	0.00	1.00	0.00	92.87	154.71	2.00	0.00	1.00	0.00
92.94	142.11	2.00	0.00	1.00	0.00	93.00	58.97	2.00	0.00	1.00	0.00
93.08	50.91	2.00	0.00	1.00	0.00	93.11	48.44	2.00	0.00	1.00	0.00
93.19	45.81	2.00	0.00	1.00	0.00	93.25	42.82	2.00	0.00	1.00	0.00
93.33	38.10	2.00	0.00	1.00	0.00	93.41	30.84	2.00	0.00	1.00	0.00
93.46	25.53	2.00	0.00	1.00	0.00	93.51	23.41	2.00	0.00	1.00	0.00
93.57	19.62	2.00	0.00	1.00	0.00	93.67	16.39	2.00	0.00	1.00	0.00
93.72	14.12	2.00	0.00	1.00	0.00	93.77	13.24	2.00	0.00	1.00	0.00
93.83	12.12	2.00	0.00	1.00	0.00	93.91	11.64	2.00	0.00	1.00	0.00
93.98	11.85	2.00	0.00	1.00	0.00	94.04	12.49	2.00	0.00	1.00	0.00
94.13	13.14	2.00	0.00	1.00	0.00	94.19	13.31	2.00	0.00	1.00	0.00
94.24	13.79	2.00	0.00	1.00	0.00	94.30	16.43	2.00	0.00	1.00	0.00
94.38	20.89	2.00	0.00	1.00	0.00	94.45	23.92	2.00	0.00	1.00	0.00
94.49	24.18	2.00	0.00	1.00	0.00	94.55	23.79	2.00	0.00	1.00	0.00
94.66	23.67	2.00	0.00	1.00	0.00	94.70	25.96	2.00	0.00	1.00	0.00
94.77	28.85	2.00	0.00	1.00	0.00	94.83	26.04	2.00	0.00	1.00	0.00
94.92	20.95	2.00	0.00	1.00	0.00	94.96	18.23	2.00	0.00	1.00	0.00
95.03	13.65	2.00	0.00	1.00	0.00	95.09	11.20	2.00	0.00	1.00	0.00
95.17	10.47	2.00	0.00	1.00	0.00	95.22	11.11	2.00	0.00	1.00	0.00
95.28	10.26	2.00	0.00	1.00	0.00	95.34	11.02	2.00	0.00	1.00	0.00
95.43	12.85	2.00	0.00	1.00	0.00	95.48	12.94	2.00	0.00	1.00	0.00
95.55	14.36	2.00	0.00	1.00	0.00	95.63	15.02	2.00	0.00	1.00	0.00
95.70	13.75	2.00	0.00	1.00	0.00	95.75	13.27	2.00	0.00	1.00	0.00
95.83	12.96	2.00	0.00	1.00	0.00	95.89	14.26	2.00	0.00	1.00	0.00
95.96	15.08	2.00	0.00	1.00	0.00	96.03	15.91	2.00	0.00	1.00	0.00
96.10	15.60	2.00	0.00	1.00	0.00	96.14	15.25	2.00	0.00	1.00	0.00
96.20	15.33	2.00	0.00	1.00	0.00	96.27	15.35	2.00	0.00	1.00	0.00
96.37	15.34	2.00	0.00	1.00	0.00	96.41	15.36	2.00	0.00	1.00	0.00
96.48	15.84	2.00	0.00	1.00	0.00	96.53	15.22	2.00	0.00	1.00	0.00
96.64	15.08	2.00	0.00	1.00	0.00	96.67	15.30	2.00	0.00	1.00	0.00
96.76	16.31	2.00	0.00	1.00	0.00	96.79	15.60	2.00	0.00	1.00	0.00
96.89	13.85	2.00	0.00	1.00	0.00	96.94	13.54	2.00	0.00	1.00	0.00
97.00	13.50	2.00	0.00	1.00	0.00	97.06	13.24	2.00	0.00	1.00	0.00
97.15	13.23	2.00	0.00	1.00	0.00	97.19	13.32	2.00	0.00	1.00	0.00
97.27	14.78	2.00	0.00	1.00	0.00	97.32	17.39	2.00	0.00	1.00	0.00
97.41	28.34	2.00	0.00	1.00	0.00	97.49	42.27	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
97.52	46.09	2.00	0.00	1.00	0.00	97.58	48.06	2.00	0.00	1.00	0.00
97.67	47.84	2.00	0.00	1.00	0.00	97.72	47.73	2.00	0.00	1.00	0.00
97.79	43.96	2.00	0.00	1.00	0.00	97.84	42.07	2.00	0.00	1.00	0.00
97.93	39.52	2.00	0.00	1.00	0.00	97.99	33.84	2.00	0.00	1.00	0.00
98.05	30.45	2.00	0.00	1.00	0.00	98.10	27.76	2.00	0.00	1.00	0.00
98.18	24.12	2.00	0.00	1.00	0.00	98.24	22.99	2.00	0.00	1.00	0.00
98.30	21.78	2.00	0.00	1.00	0.00	98.36	21.82	2.00	0.00	1.00	0.00
98.44	20.85	2.00	0.00	1.00	0.00	98.50	20.61	2.00	0.00	1.00	0.00
98.57	20.38	2.00	0.00	1.00	0.00	98.63	19.38	2.00	0.00	1.00	0.00
98.70	31.16	2.00	0.00	1.00	0.00	98.75	33.85	2.00	0.00	1.00	0.00
98.86	34.88	2.00	0.00	1.00	0.00	98.91	37.43	2.00	0.00	1.00	0.00
98.96	44.48	2.00	0.00	1.00	0.00	99.05	54.92	2.00	0.00	1.00	0.00
99.11	70.82	2.00	0.00	1.00	0.00	99.16	154.89	2.00	0.00	1.00	0.00
99.22	174.52	2.00	0.00	1.00	0.00	99.32	212.26	2.00	0.00	1.00	0.00
99.36	217.08	2.00	0.00	1.00	0.00	99.43	239.05	2.00	0.00	1.00	0.00
99.48	236.54	2.00	0.00	1.00	0.00	99.57	237.60	2.00	0.00	1.00	0.00
99.64	243.64	2.00	0.00	1.00	0.00	99.69	245.69	2.00	0.00	1.00	0.00
99.74	237.06	2.00	0.00	1.00	0.00	99.81	221.14	2.00	0.00	1.00	0.00
99.87	157.60	2.00	0.00	1.00	0.00	99.95	162.87	2.00	0.00	1.00	0.00
100.00	195.38	2.00	0.00	1.00	0.00	100.11	185.35	2.00	0.00	1.00	0.00
100.14	185.47	2.00	0.00	1.00	0.00	100.21	191.13	2.00	0.00	1.00	0.00
100.27	196.24	2.00	0.00	1.00	0.00						

Total estimated settlement: 8.81

Abbreviations

$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

Converse Consultants
717 South Myrtle Avenue
Monrovia, CA 91016
http://www.converseconsultants.com

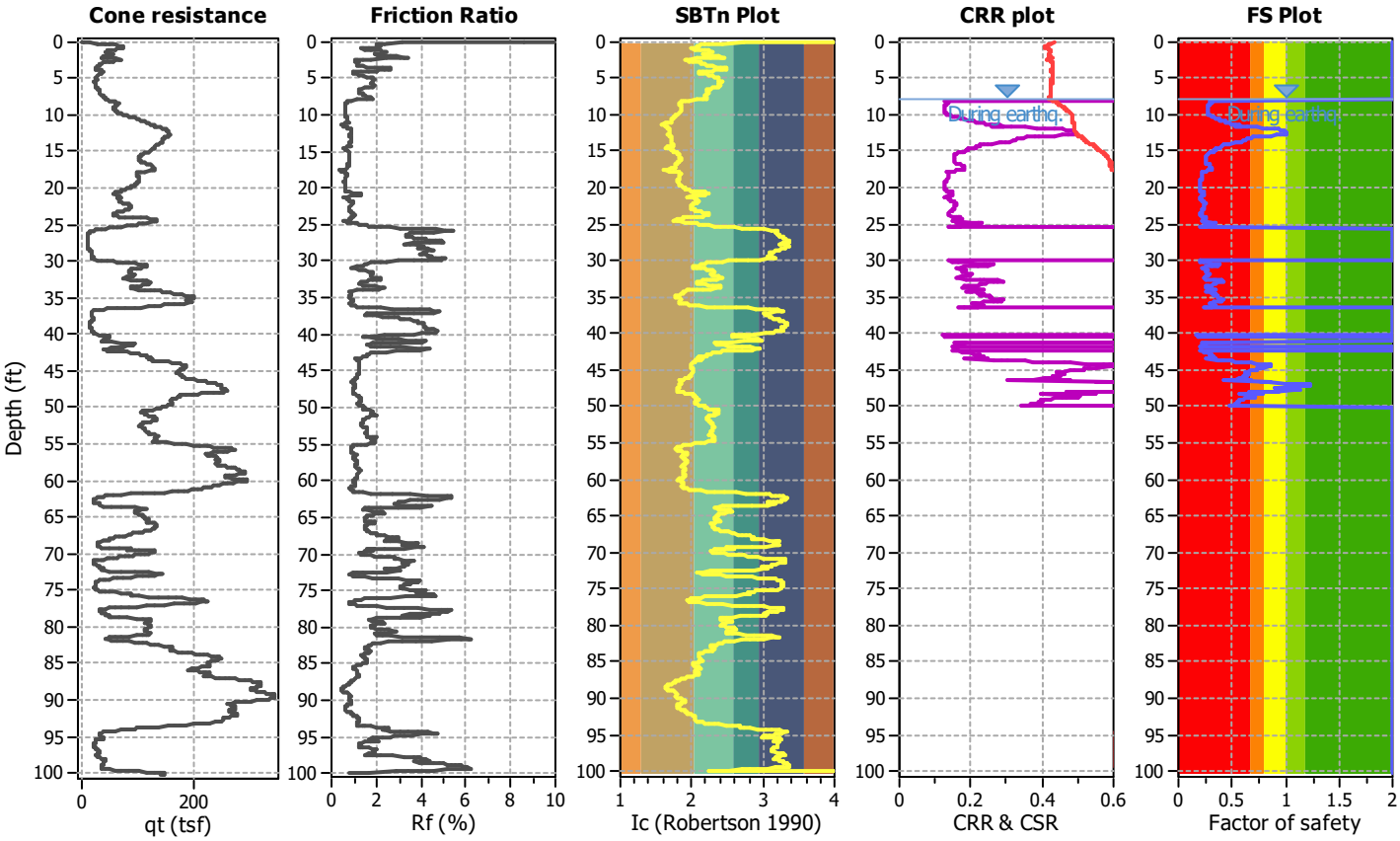
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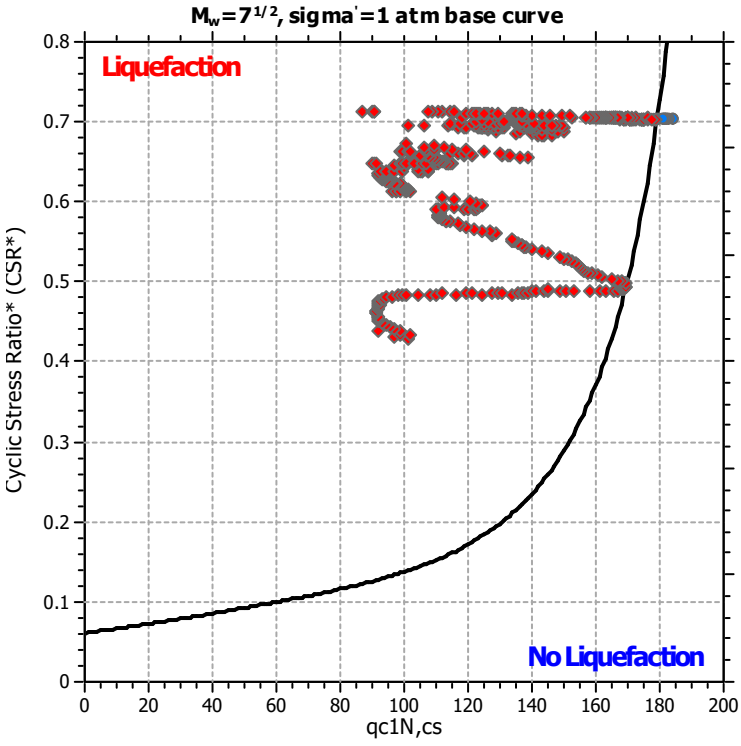
Project title : New Student Housing Project **Location : Cerritos Community College**

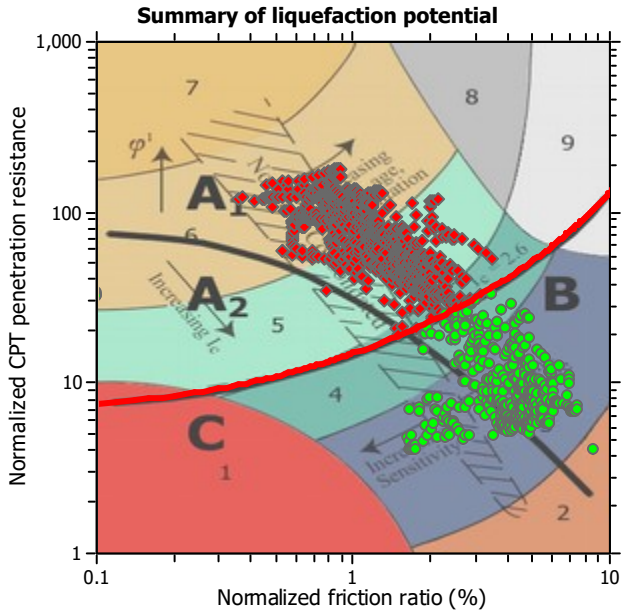
CPT file : CPT-2

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	38.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	8.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.74	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

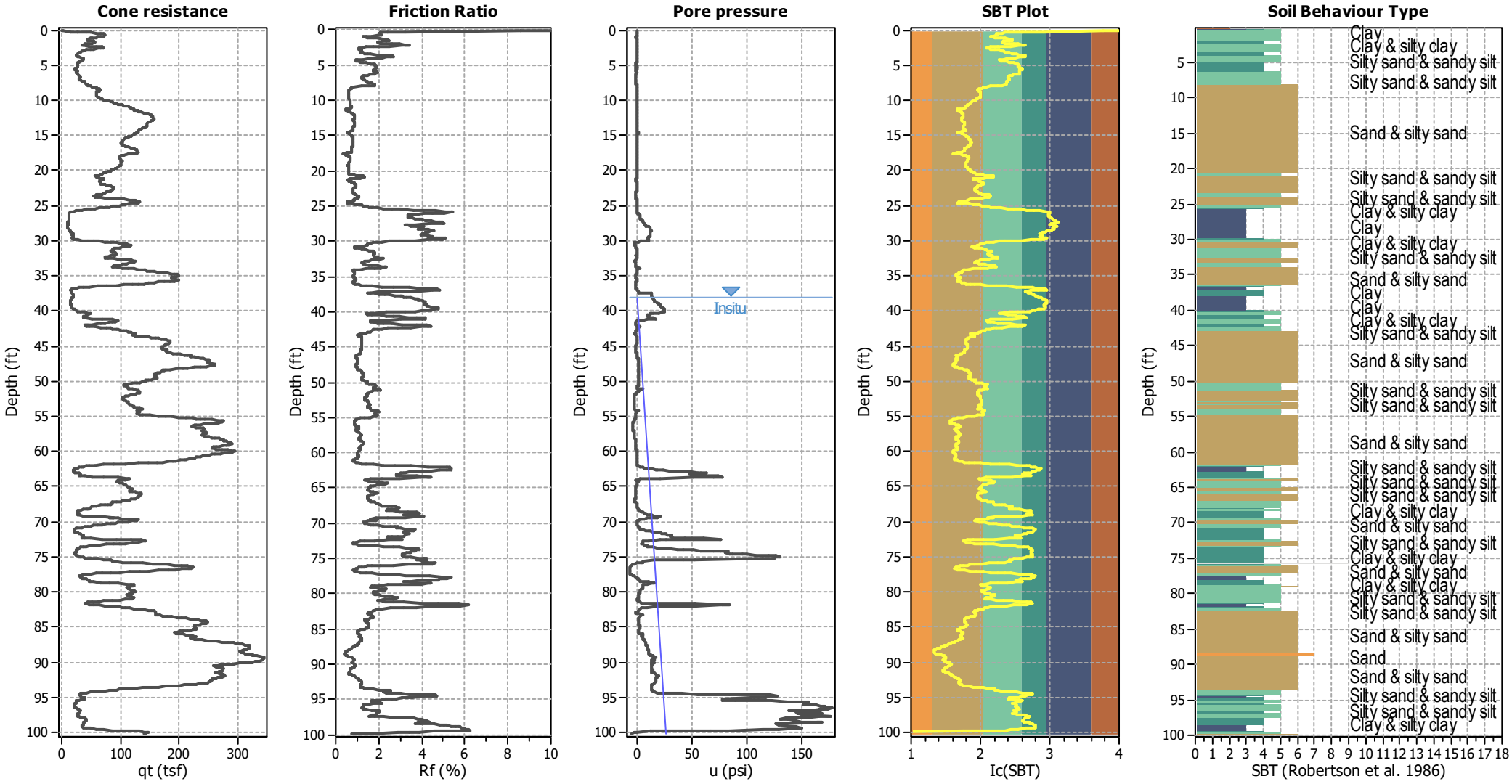






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



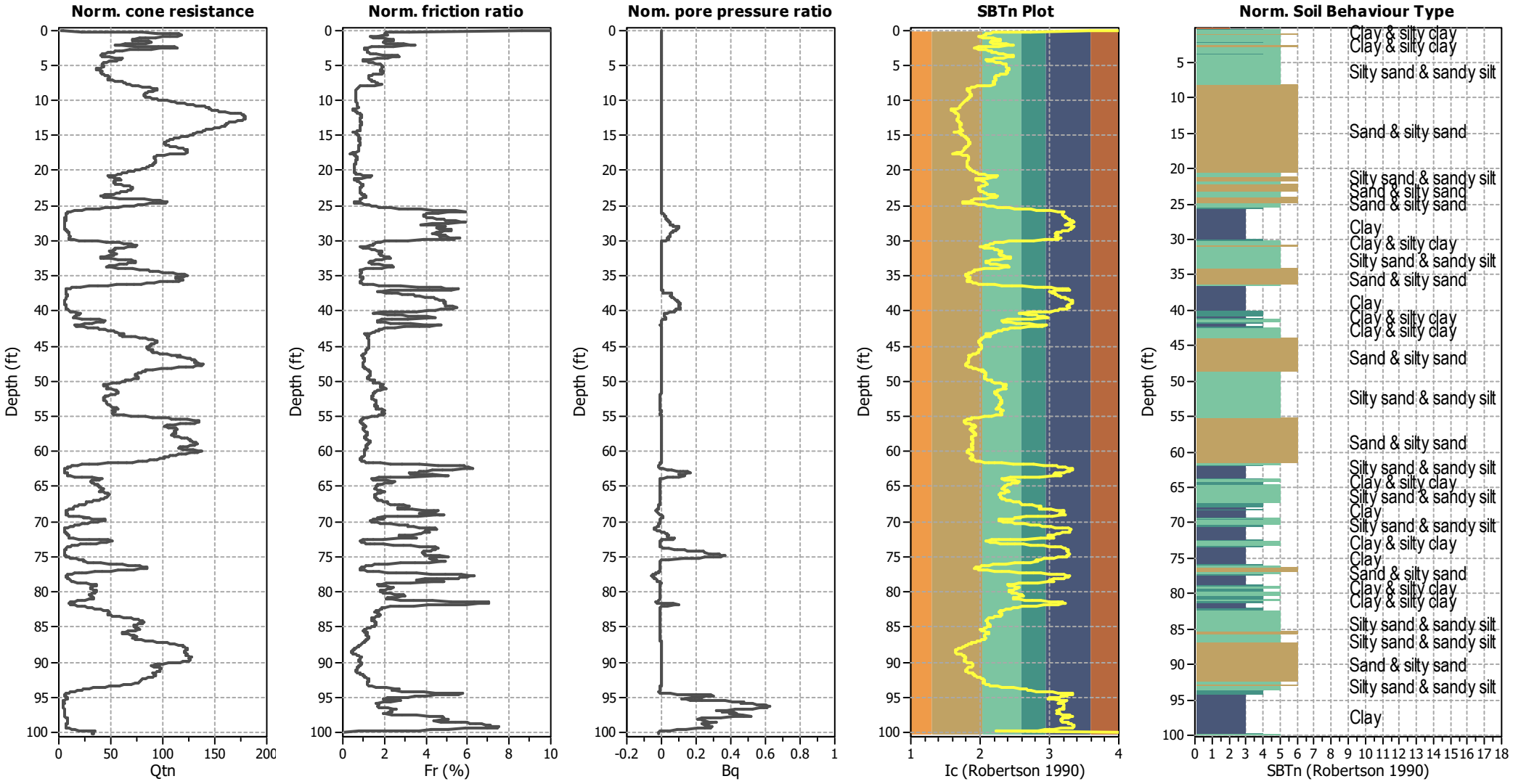
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



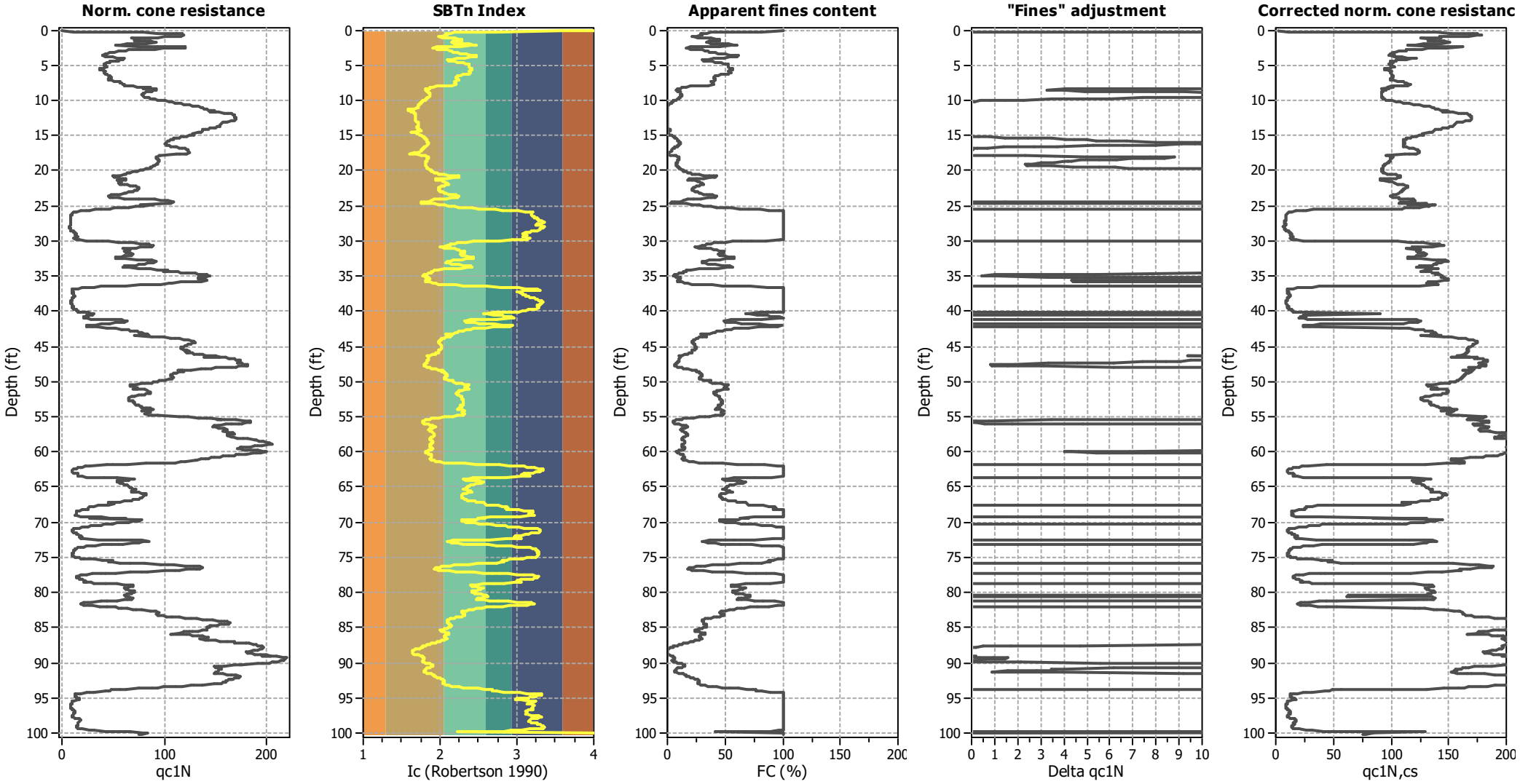
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

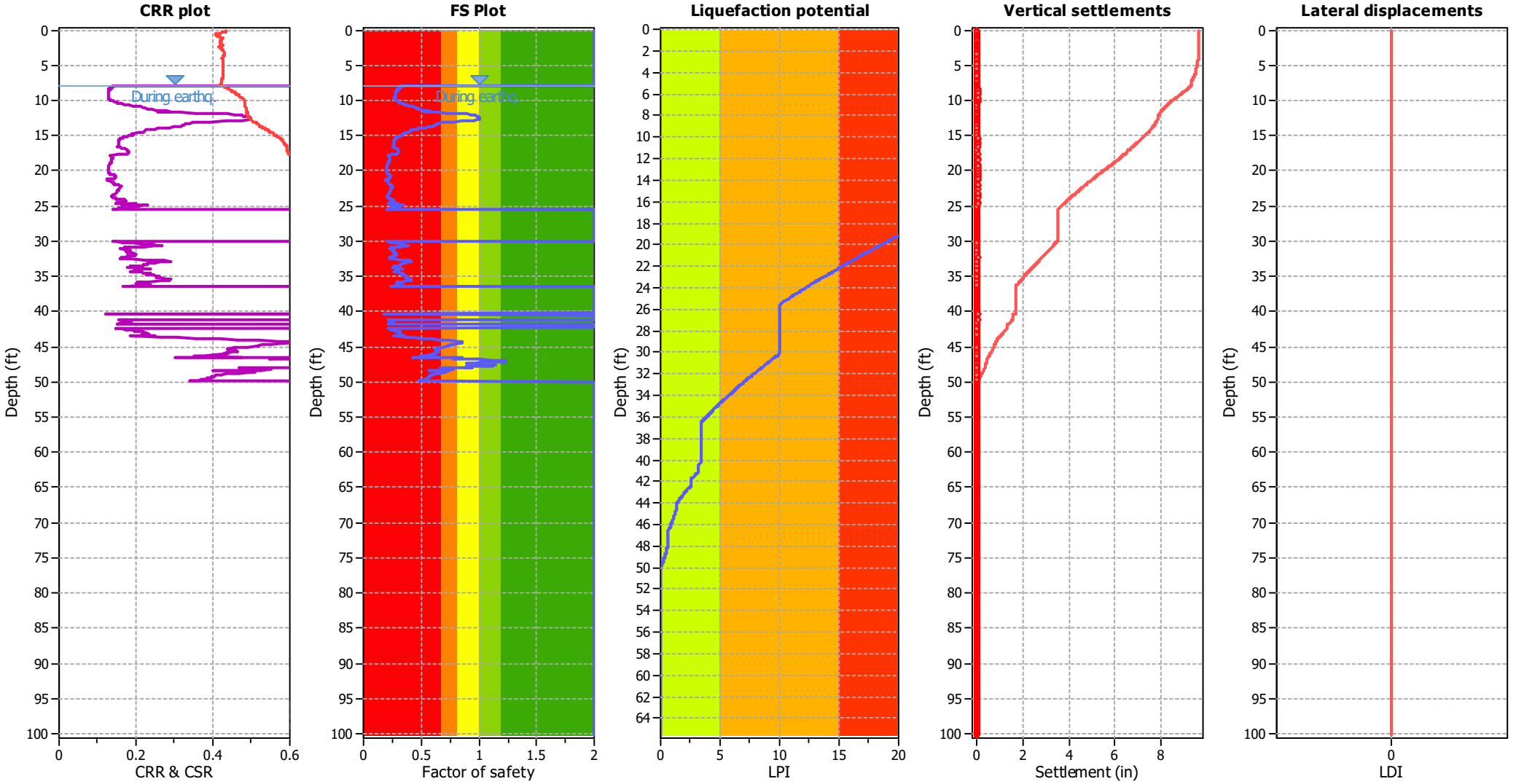
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

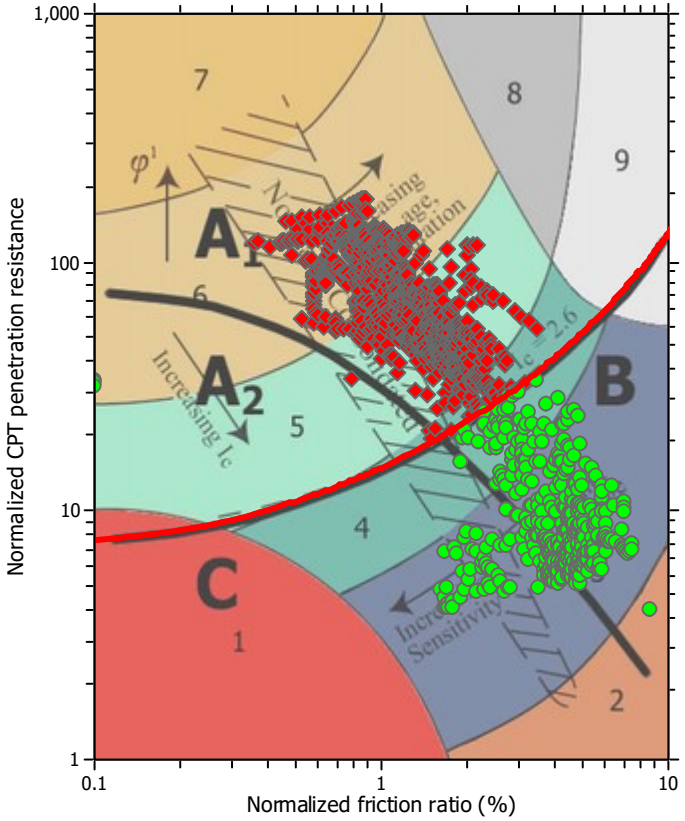
F.S. color scheme

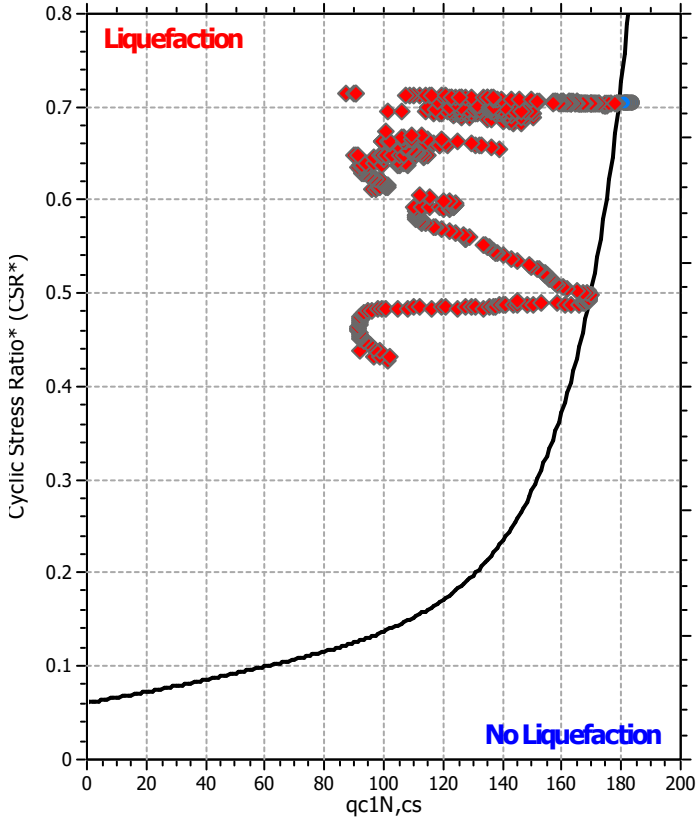
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

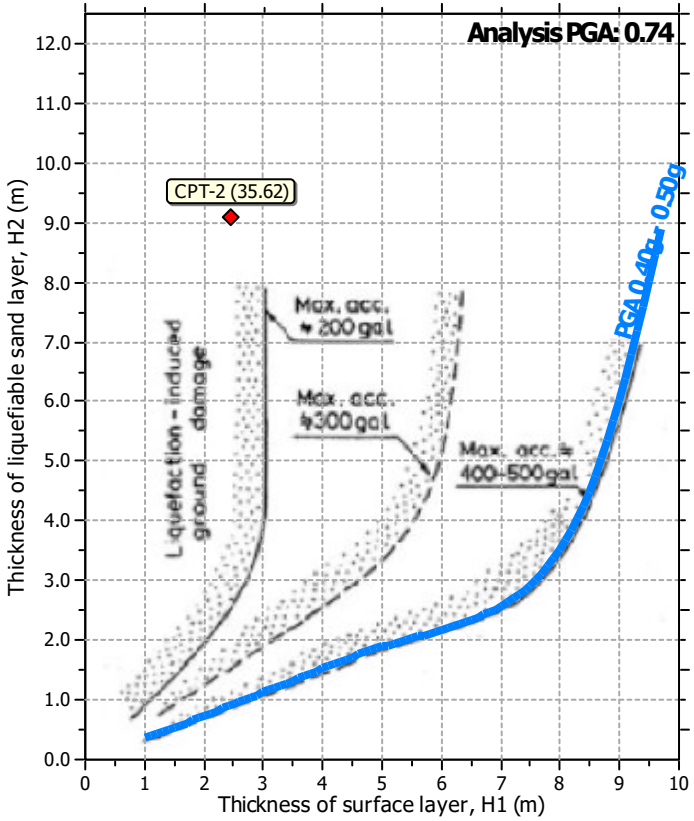
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



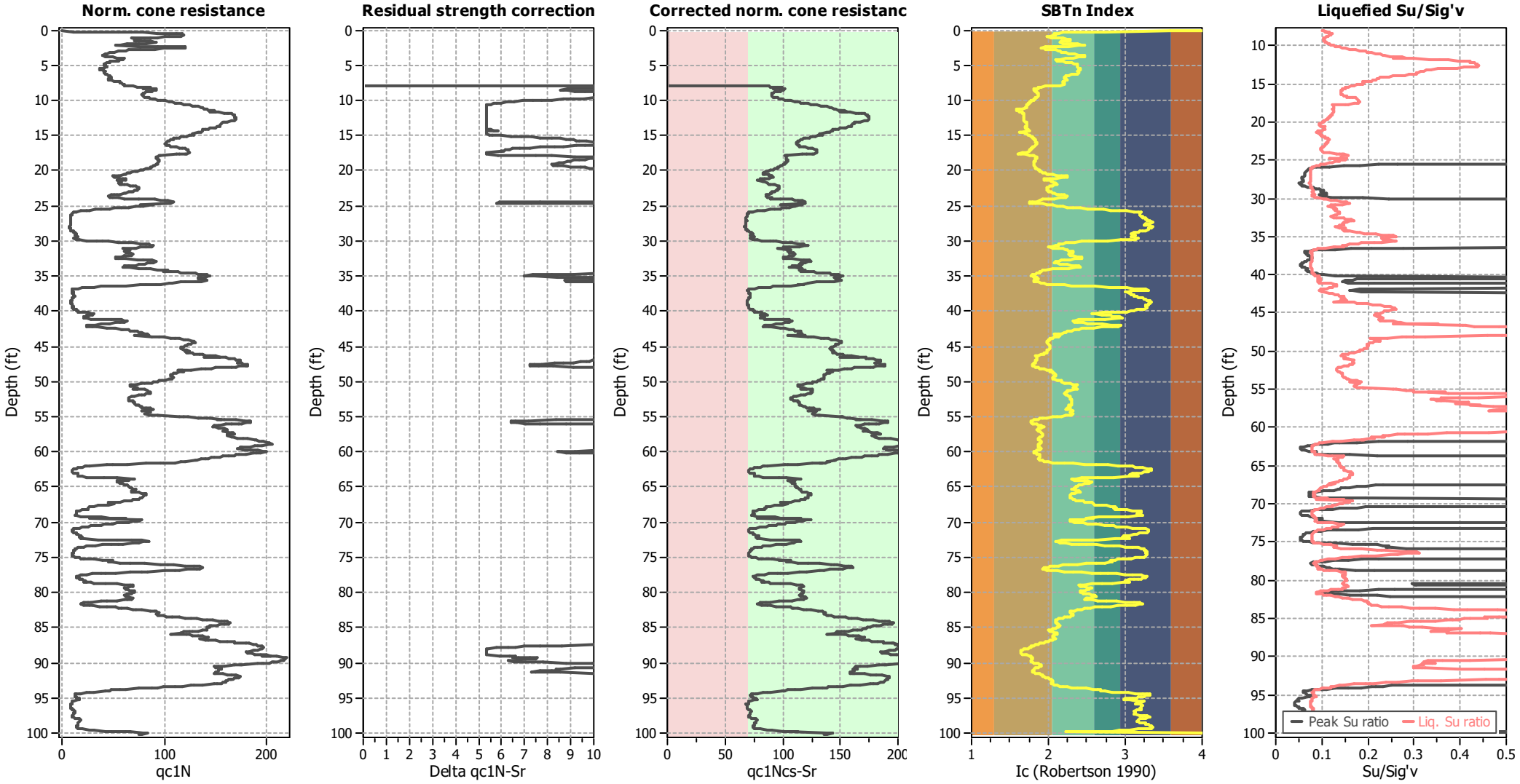




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.10	2.00	0.00	9.98	0.03	0.00	0.13	2.00	0.00	9.98	0.03	0.00
0.21	2.00	0.00	9.97	0.08	0.00	0.31	2.00	0.00	9.95	0.10	0.00
0.34	2.00	0.00	9.95	0.03	0.00	0.40	2.00	0.00	9.94	0.07	0.00
0.47	2.00	0.00	9.93	0.07	0.00	0.57	2.00	0.00	9.91	0.10	0.00
0.61	2.00	0.00	9.91	0.04	0.00	0.68	2.00	0.00	9.90	0.07	0.00
0.72	2.00	0.00	9.89	0.05	0.00	0.82	2.00	0.00	9.87	0.10	0.00
0.87	2.00	0.00	9.87	0.05	0.00	0.93	2.00	0.00	9.86	0.06	0.00
1.01	2.00	0.00	9.85	0.07	0.00	1.08	2.00	0.00	9.84	0.07	0.00
1.14	2.00	0.00	9.83	0.06	0.00	1.19	2.00	0.00	9.82	0.05	0.00
1.26	2.00	0.00	9.81	0.07	0.00	1.35	2.00	0.00	9.79	0.09	0.00
1.40	2.00	0.00	9.79	0.05	0.00	1.46	2.00	0.00	9.78	0.06	0.00
1.52	2.00	0.00	9.77	0.06	0.00	1.60	2.00	0.00	9.76	0.08	0.00
1.65	2.00	0.00	9.75	0.05	0.00	1.71	2.00	0.00	9.74	0.07	0.00
1.78	2.00	0.00	9.73	0.07	0.00	1.87	2.00	0.00	9.71	0.09	0.00
1.93	2.00	0.00	9.71	0.06	0.00	1.97	2.00	0.00	9.70	0.04	0.00
2.04	2.00	0.00	9.69	0.07	0.00	2.14	2.00	0.00	9.67	0.11	0.00
2.18	2.00	0.00	9.67	0.03	0.00	2.24	2.00	0.00	9.66	0.06	0.00
2.35	2.00	0.00	9.64	0.10	0.00	2.39	2.00	0.00	9.64	0.04	0.00
2.46	2.00	0.00	9.63	0.07	0.00	2.50	2.00	0.00	9.62	0.04	0.00
2.61	2.00	0.00	9.60	0.10	0.00	2.65	2.00	0.00	9.60	0.04	0.00
2.75	2.00	0.00	9.58	0.10	0.00	2.76	2.00	0.00	9.58	0.01	0.00
2.86	2.00	0.00	9.56	0.10	0.00	2.91	2.00	0.00	9.56	0.05	0.00
3.02	2.00	0.00	9.54	0.10	0.00	3.03	2.00	0.00	9.54	0.01	0.00
3.12	2.00	0.00	9.52	0.10	0.00	3.17	2.00	0.00	9.52	0.05	0.00
3.22	2.00	0.00	9.51	0.05	0.00	3.29	2.00	0.00	9.50	0.07	0.00
3.38	2.00	0.00	9.49	0.09	0.00	3.44	2.00	0.00	9.48	0.06	0.00
3.48	2.00	0.00	9.47	0.04	0.00	3.55	2.00	0.00	9.46	0.07	0.00
3.65	2.00	0.00	9.44	0.10	0.00	3.69	2.00	0.00	9.44	0.04	0.00
3.76	2.00	0.00	9.43	0.07	0.00	3.85	2.00	0.00	9.41	0.09	0.00
3.90	2.00	0.00	9.41	0.05	0.00	3.95	2.00	0.00	9.40	0.05	0.00
4.02	2.00	0.00	9.39	0.07	0.00	4.11	2.00	0.00	9.37	0.09	0.00
4.16	2.00	0.00	9.37	0.05	0.00	4.21	2.00	0.00	9.36	0.05	0.00
4.31	2.00	0.00	9.34	0.10	0.00	4.37	2.00	0.00	9.33	0.06	0.00
4.42	2.00	0.00	9.33	0.05	0.00	4.47	2.00	0.00	9.32	0.05	0.00
4.53	2.00	0.00	9.31	0.06	0.00	4.60	2.00	0.00	9.30	0.07	0.00
4.68	2.00	0.00	9.29	0.08	0.00	4.73	2.00	0.00	9.28	0.05	0.00
4.83	2.00	0.00	9.26	0.11	0.00	4.88	2.00	0.00	9.26	0.05	0.00
4.93	2.00	0.00	9.25	0.05	0.00	5.03	2.00	0.00	9.23	0.10	0.00
5.09	2.00	0.00	9.22	0.06	0.00	5.14	2.00	0.00	9.22	0.05	0.00
5.25	2.00	0.00	9.20	0.10	0.00	5.29	2.00	0.00	9.19	0.05	0.00
5.35	2.00	0.00	9.18	0.05	0.00	5.38	2.00	0.00	9.18	0.03	0.00
5.46	2.00	0.00	9.17	0.08	0.00	5.55	2.00	0.00	9.15	0.09	0.00
5.59	2.00	0.00	9.15	0.04	0.00	5.65	2.00	0.00	9.14	0.07	0.00
5.72	2.00	0.00	9.13	0.07	0.00	5.81	2.00	0.00	9.12	0.09	0.00
5.86	2.00	0.00	9.11	0.05	0.00	5.92	2.00	0.00	9.10	0.06	0.00
5.98	2.00	0.00	9.09	0.06	0.00	6.08	2.00	0.00	9.07	0.10	0.00
6.13	2.00	0.00	9.07	0.05	0.00	6.20	2.00	0.00	9.05	0.08	0.00
6.24	2.00	0.00	9.05	0.03	0.00	6.33	2.00	0.00	9.04	0.09	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
6.38	2.00	0.00	9.03	0.06	0.00	6.43	2.00	0.00	9.02	0.05	0.00
6.54	2.00	0.00	9.00	0.11	0.00	6.59	2.00	0.00	9.00	0.05	0.00
6.63	2.00	0.00	8.99	0.04	0.00	6.70	2.00	0.00	8.98	0.07	0.00
6.80	2.00	0.00	8.96	0.10	0.00	6.84	2.00	0.00	8.96	0.05	0.00
6.91	2.00	0.00	8.95	0.07	0.00	6.96	2.00	0.00	8.94	0.05	0.00
7.05	2.00	0.00	8.93	0.09	0.00	7.10	2.00	0.00	8.92	0.05	0.00
7.16	2.00	0.00	8.91	0.06	0.00	7.27	2.00	0.00	8.89	0.10	0.00
7.31	2.00	0.00	8.89	0.04	0.00	7.39	2.00	0.00	8.87	0.08	0.00
7.43	2.00	0.00	8.87	0.04	0.00	7.52	2.00	0.00	8.85	0.09	0.00
7.58	2.00	0.00	8.84	0.06	0.00	7.65	2.00	0.00	8.83	0.07	0.00
7.70	2.00	0.00	8.83	0.05	0.00	7.79	2.00	0.00	8.81	0.09	0.00
7.83	2.00	0.00	8.81	0.05	0.00	7.92	2.00	0.00	8.79	0.08	0.00
8.00	2.00	0.00	8.78	0.08	0.00	8.04	0.32	0.68	8.77	0.05	0.09
8.09	0.31	0.69	8.77	0.04	0.08	8.16	0.31	0.69	8.76	0.07	0.13
8.20	0.32	0.68	8.75	0.04	0.08	8.29	0.29	0.71	8.74	0.08	0.16
8.36	0.31	0.69	8.73	0.07	0.14	8.41	0.30	0.70	8.72	0.05	0.09
8.51	0.30	0.70	8.70	0.10	0.19	8.56	0.29	0.71	8.69	0.05	0.10
8.62	0.29	0.71	8.69	0.05	0.10	8.67	0.29	0.71	8.68	0.05	0.10
8.73	0.28	0.72	8.67	0.06	0.11	8.81	0.28	0.72	8.66	0.08	0.15
8.87	0.28	0.72	8.65	0.05	0.10	8.93	0.28	0.72	8.64	0.06	0.11
9.03	0.28	0.72	8.62	0.10	0.19	9.09	0.28	0.72	8.62	0.06	0.11
9.12	0.28	0.72	8.61	0.04	0.07	9.19	0.27	0.73	8.60	0.06	0.12
9.28	0.27	0.73	8.59	0.09	0.18	9.34	0.27	0.73	8.58	0.06	0.11
9.40	0.27	0.73	8.57	0.06	0.11	9.50	0.27	0.73	8.55	0.10	0.20
9.55	0.27	0.73	8.54	0.05	0.09	9.60	0.27	0.73	8.54	0.05	0.10
9.66	0.27	0.73	8.53	0.05	0.10	9.72	0.27	0.73	8.52	0.06	0.12
9.81	0.27	0.73	8.50	0.09	0.17	9.86	0.27	0.73	8.50	0.05	0.10
9.95	0.27	0.73	8.48	0.09	0.17	10.02	0.28	0.72	8.47	0.07	0.12
10.07	0.28	0.72	8.47	0.05	0.09	10.11	0.29	0.71	8.46	0.04	0.08
10.19	0.30	0.70	8.45	0.07	0.13	10.28	0.31	0.69	8.43	0.09	0.16
10.33	0.31	0.69	8.43	0.05	0.09	10.37	0.32	0.68	8.42	0.05	0.08
10.45	0.34	0.66	8.41	0.07	0.12	10.54	0.35	0.65	8.39	0.09	0.15
10.58	0.36	0.64	8.39	0.04	0.07	10.65	0.38	0.62	8.38	0.07	0.11
10.75	0.39	0.61	8.36	0.10	0.15	10.79	0.40	0.60	8.36	0.04	0.07
10.83	0.41	0.59	8.35	0.04	0.06	10.90	0.43	0.57	8.34	0.07	0.10
11.00	0.45	0.55	8.32	0.10	0.15	11.06	0.46	0.54	8.31	0.05	0.07
11.10	0.46	0.54	8.31	0.04	0.06	11.16	0.47	0.53	8.30	0.06	0.08
11.26	0.48	0.52	8.28	0.10	0.13	11.31	0.49	0.51	8.28	0.05	0.07
11.40	0.52	0.48	8.26	0.09	0.11	11.43	0.53	0.47	8.26	0.02	0.03
11.52	0.57	0.43	8.24	0.09	0.10	11.59	0.60	0.40	8.23	0.07	0.07
11.62	0.52	0.48	8.23	0.03	0.04	11.69	0.64	0.36	8.22	0.07	0.06
11.78	0.73	0.27	8.20	0.10	0.07	11.82	0.79	0.21	8.20	0.04	0.02
11.90	0.83	0.17	8.19	0.08	0.03	11.94	0.90	0.10	8.18	0.05	0.01
12.04	0.93	0.07	8.17	0.09	0.02	12.10	0.96	0.04	8.16	0.06	0.01
12.15	0.97	0.03	8.15	0.05	0.00	12.21	0.97	0.03	8.14	0.06	0.00
12.31	0.98	0.02	8.12	0.10	0.00	12.36	1.00	0.00	8.12	0.05	0.00
12.41	1.01	0.00	8.11	0.05	0.00	12.47	1.00	0.00	8.10	0.06	0.00
12.57	1.00	0.00	8.08	0.10	0.00	12.61	1.00	0.00	8.08	0.04	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
12.67	1.00	0.00	8.07	0.06	0.00	12.73	1.00	0.00	8.06	0.06	0.00
12.82	0.95	0.05	8.05	0.09	0.01	12.88	0.91	0.09	8.04	0.05	0.01
12.93	0.86	0.14	8.03	0.06	0.02	13.03	0.77	0.23	8.01	0.10	0.05
13.07	0.74	0.26	8.01	0.04	0.03	13.14	0.70	0.30	8.00	0.06	0.05
13.19	0.68	0.32	7.99	0.05	0.04	13.29	0.66	0.34	7.97	0.10	0.09
13.35	0.64	0.36	7.97	0.05	0.05	13.39	0.64	0.36	7.96	0.04	0.04
13.49	0.62	0.38	7.94	0.11	0.10	13.56	0.62	0.38	7.93	0.07	0.06
13.60	0.61	0.39	7.93	0.04	0.04	13.65	0.61	0.39	7.92	0.05	0.05
13.74	0.59	0.41	7.91	0.09	0.09	13.81	0.57	0.43	7.90	0.06	0.07
13.87	0.55	0.45	7.89	0.06	0.07	13.91	0.53	0.47	7.88	0.05	0.05
14.02	0.48	0.52	7.86	0.11	0.13	14.05	0.46	0.54	7.86	0.03	0.04
14.11	0.44	0.56	7.85	0.06	0.08	14.18	0.42	0.58	7.84	0.07	0.10
14.26	0.41	0.59	7.83	0.08	0.11	14.33	0.41	0.59	7.82	0.07	0.10
14.37	0.41	0.59	7.81	0.04	0.06	14.47	0.40	0.60	7.79	0.10	0.15
14.54	0.39	0.61	7.78	0.06	0.09	14.59	0.38	0.62	7.78	0.05	0.07
14.65	0.38	0.62	7.77	0.06	0.09	14.73	0.34	0.66	7.76	0.08	0.12
14.78	0.34	0.66	7.75	0.05	0.09	14.84	0.34	0.66	7.74	0.05	0.09
14.94	0.34	0.66	7.72	0.10	0.15	14.99	0.33	0.67	7.72	0.05	0.08
15.04	0.32	0.68	7.71	0.05	0.08	15.10	0.31	0.69	7.70	0.05	0.09
15.18	0.30	0.70	7.69	0.09	0.15	15.26	0.29	0.71	7.67	0.07	0.12
15.30	0.29	0.71	7.67	0.04	0.07	15.41	0.28	0.72	7.65	0.11	0.18
15.46	0.27	0.73	7.64	0.05	0.09	15.50	0.27	0.73	7.64	0.04	0.06
15.56	0.27	0.73	7.63	0.07	0.11	15.67	0.27	0.73	7.61	0.10	0.17
15.72	0.26	0.74	7.60	0.05	0.09	15.75	0.26	0.74	7.60	0.04	0.06
15.82	0.26	0.74	7.59	0.07	0.12	15.91	0.26	0.74	7.57	0.09	0.16
15.98	0.26	0.74	7.57	0.06	0.11	16.03	0.26	0.74	7.56	0.05	0.09
16.08	0.26	0.74	7.55	0.05	0.09	16.18	0.26	0.74	7.53	0.10	0.17
16.22	0.26	0.74	7.53	0.04	0.07	16.29	0.26	0.74	7.52	0.06	0.11
16.34	0.26	0.74	7.51	0.06	0.10	16.42	0.26	0.74	7.50	0.08	0.14
16.49	0.26	0.74	7.49	0.07	0.12	16.54	0.26	0.74	7.48	0.05	0.08
16.65	0.26	0.74	7.46	0.11	0.18	16.70	0.26	0.74	7.45	0.06	0.10
16.76	0.27	0.73	7.45	0.05	0.09	16.84	0.28	0.72	7.43	0.09	0.14
16.87	0.29	0.71	7.43	0.02	0.04	16.96	0.30	0.70	7.41	0.10	0.15
17.01	0.30	0.70	7.41	0.05	0.08	17.10	0.30	0.70	7.39	0.09	0.14
17.13	0.30	0.70	7.39	0.03	0.05	17.22	0.30	0.70	7.38	0.09	0.14
17.27	0.30	0.70	7.37	0.05	0.08	17.33	0.30	0.70	7.36	0.06	0.09
17.43	0.31	0.69	7.34	0.10	0.15	17.48	0.31	0.69	7.34	0.05	0.07
17.56	0.30	0.70	7.32	0.08	0.13	17.59	0.29	0.71	7.32	0.03	0.05
17.69	0.27	0.73	7.30	0.10	0.16	17.74	0.26	0.74	7.30	0.05	0.08
17.79	0.22	0.78	7.29	0.05	0.09	17.86	0.22	0.78	7.28	0.07	0.12
17.92	0.22	0.78	7.27	0.06	0.10	17.98	0.22	0.78	7.26	0.06	0.11
18.06	0.23	0.77	7.25	0.08	0.14	18.11	0.23	0.77	7.24	0.05	0.09
18.22	0.23	0.77	7.22	0.10	0.18	18.27	0.22	0.78	7.22	0.05	0.09
18.33	0.22	0.78	7.21	0.06	0.10	18.38	0.22	0.78	7.20	0.05	0.09
18.48	0.22	0.78	7.18	0.10	0.18	18.53	0.22	0.78	7.18	0.05	0.08
18.59	0.22	0.78	7.17	0.06	0.10	18.64	0.22	0.78	7.16	0.05	0.08
18.71	0.22	0.78	7.15	0.07	0.13	18.77	0.22	0.78	7.14	0.06	0.11
18.84	0.22	0.78	7.13	0.06	0.11	18.91	0.21	0.79	7.12	0.08	0.13

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
19.00	0.21	0.79	7.10	0.09	0.16	19.05	0.21	0.79	7.10	0.05	0.09
19.11	0.21	0.79	7.09	0.05	0.09	19.21	0.21	0.79	7.07	0.10	0.18
19.26	0.21	0.79	7.06	0.05	0.09	19.32	0.20	0.80	7.06	0.06	0.10
19.36	0.20	0.80	7.05	0.04	0.07	19.43	0.20	0.80	7.04	0.07	0.12
19.52	0.20	0.80	7.02	0.10	0.16	19.57	0.20	0.80	7.02	0.05	0.08
19.62	0.20	0.80	7.01	0.06	0.10	19.72	0.20	0.80	6.99	0.10	0.17
19.78	0.20	0.80	6.99	0.06	0.10	19.83	0.20	0.80	6.98	0.05	0.09
19.91	0.20	0.80	6.97	0.08	0.13	19.95	0.20	0.80	6.96	0.04	0.07
20.04	0.20	0.80	6.95	0.09	0.15	20.09	0.20	0.80	6.94	0.05	0.08
20.16	0.20	0.80	6.93	0.08	0.13	20.25	0.20	0.80	6.91	0.08	0.14
20.30	0.20	0.80	6.91	0.05	0.08	20.36	0.20	0.80	6.90	0.07	0.11
20.45	0.21	0.79	6.88	0.09	0.15	20.50	0.21	0.79	6.88	0.05	0.09
20.56	0.23	0.77	6.87	0.05	0.09	20.65	0.23	0.77	6.85	0.09	0.15
20.67	0.23	0.77	6.85	0.02	0.03	20.77	0.23	0.77	6.83	0.10	0.16
20.82	0.23	0.77	6.83	0.05	0.08	20.91	0.23	0.77	6.81	0.10	0.16
20.94	0.23	0.77	6.81	0.02	0.03	21.02	0.23	0.77	6.80	0.09	0.14
21.07	0.22	0.78	6.79	0.05	0.08	21.18	0.21	0.79	6.77	0.10	0.17
21.23	0.19	0.81	6.76	0.06	0.09	21.28	0.19	0.81	6.76	0.04	0.07
21.33	0.21	0.79	6.75	0.05	0.09	21.42	0.20	0.80	6.74	0.09	0.15
21.48	0.21	0.79	6.73	0.06	0.09	21.53	0.21	0.79	6.72	0.06	0.09
21.59	0.21	0.79	6.71	0.06	0.09	21.67	0.21	0.79	6.70	0.08	0.12
21.72	0.22	0.78	6.69	0.05	0.08	21.79	0.22	0.78	6.68	0.07	0.11
21.89	0.22	0.78	6.66	0.11	0.17	21.93	0.23	0.77	6.66	0.04	0.06
22.00	0.23	0.77	6.65	0.07	0.10	22.05	0.24	0.76	6.64	0.05	0.08
22.15	0.25	0.75	6.62	0.10	0.15	22.18	0.25	0.75	6.62	0.03	0.04
22.26	0.25	0.75	6.61	0.08	0.12	22.34	0.25	0.75	6.59	0.09	0.13
22.40	0.24	0.76	6.59	0.05	0.08	22.47	0.24	0.76	6.58	0.07	0.11
22.52	0.24	0.76	6.57	0.05	0.07	22.62	0.24	0.76	6.55	0.10	0.16
22.67	0.23	0.77	6.54	0.05	0.08	22.72	0.23	0.77	6.54	0.05	0.07
22.77	0.23	0.77	6.53	0.05	0.08	22.86	0.23	0.77	6.52	0.08	0.13
22.94	0.23	0.77	6.50	0.08	0.12	22.99	0.23	0.77	6.50	0.05	0.07
23.04	0.23	0.77	6.49	0.05	0.07	23.10	0.23	0.77	6.48	0.07	0.10
23.20	0.22	0.78	6.46	0.10	0.15	23.25	0.23	0.77	6.46	0.05	0.07
23.33	0.22	0.78	6.44	0.08	0.13	23.36	0.22	0.78	6.44	0.03	0.05
23.45	0.21	0.79	6.43	0.09	0.13	23.50	0.21	0.79	6.42	0.05	0.08
23.58	0.21	0.79	6.41	0.08	0.13	23.65	0.21	0.79	6.40	0.07	0.11
23.71	0.21	0.79	6.39	0.06	0.09	23.79	0.21	0.79	6.37	0.08	0.13
23.83	0.21	0.79	6.37	0.04	0.05	23.92	0.22	0.78	6.35	0.09	0.14
23.96	0.22	0.78	6.35	0.04	0.06	24.04	0.24	0.76	6.34	0.08	0.12
24.13	0.26	0.74	6.32	0.09	0.13	24.18	0.25	0.75	6.32	0.05	0.07
24.22	0.26	0.74	6.31	0.04	0.06	24.28	0.26	0.74	6.30	0.06	0.09
24.38	0.26	0.74	6.28	0.10	0.15	24.42	0.23	0.77	6.28	0.04	0.06
24.48	0.23	0.77	6.27	0.06	0.08	24.59	0.22	0.78	6.25	0.11	0.16
24.64	0.22	0.78	6.25	0.05	0.07	24.68	0.23	0.77	6.24	0.04	0.06
24.75	0.30	0.70	6.23	0.07	0.09	24.82	0.24	0.76	6.22	0.07	0.10
24.89	0.35	0.65	6.21	0.07	0.09	24.94	0.33	0.67	6.20	0.05	0.07
25.05	0.31	0.69	6.18	0.11	0.14	25.10	0.31	0.69	6.17	0.05	0.07
25.14	0.30	0.70	6.17	0.04	0.06	25.21	0.28	0.72	6.16	0.06	0.09

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
25.27	0.26	0.74	6.15	0.07	0.09	25.36	0.23	0.77	6.14	0.08	0.12
25.41	0.23	0.77	6.13	0.05	0.07	25.46	0.21	0.79	6.12	0.06	0.09
25.57	2.00	0.00	6.10	0.10	0.00	25.62	2.00	0.00	6.10	0.05	0.00
25.66	2.00	0.00	6.09	0.04	0.00	25.73	2.00	0.00	6.08	0.07	0.00
25.83	2.00	0.00	6.06	0.10	0.00	25.88	2.00	0.00	6.06	0.05	0.00
25.96	2.00	0.00	6.04	0.08	0.00	25.99	2.00	0.00	6.04	0.04	0.00
26.09	2.00	0.00	6.02	0.09	0.00	26.14	2.00	0.00	6.02	0.05	0.00
26.19	2.00	0.00	6.01	0.05	0.00	26.29	2.00	0.00	5.99	0.10	0.00
26.32	2.00	0.00	5.99	0.03	0.00	26.38	2.00	0.00	5.98	0.06	0.00
26.45	2.00	0.00	5.97	0.07	0.00	26.55	2.00	0.00	5.95	0.10	0.00
26.59	2.00	0.00	5.95	0.04	0.00	26.68	2.00	0.00	5.93	0.08	0.00
26.71	2.00	0.00	5.93	0.03	0.00	26.81	2.00	0.00	5.91	0.10	0.00
26.86	2.00	0.00	5.91	0.06	0.00	26.92	2.00	0.00	5.90	0.06	0.00
26.99	2.00	0.00	5.89	0.06	0.00	27.07	2.00	0.00	5.87	0.08	0.00
27.12	2.00	0.00	5.87	0.05	0.00	27.22	2.00	0.00	5.85	0.10	0.00
27.27	2.00	0.00	5.84	0.05	0.00	27.33	2.00	0.00	5.83	0.06	0.00
27.38	2.00	0.00	5.83	0.05	0.00	27.43	2.00	0.00	5.82	0.05	0.00
27.54	2.00	0.00	5.80	0.11	0.00	27.59	2.00	0.00	5.80	0.05	0.00
27.69	2.00	0.00	5.78	0.10	0.00	27.73	2.00	0.00	5.77	0.04	0.00
27.79	2.00	0.00	5.76	0.06	0.00	27.84	2.00	0.00	5.76	0.05	0.00
27.91	2.00	0.00	5.75	0.06	0.00	27.97	2.00	0.00	5.74	0.06	0.00
28.03	2.00	0.00	5.73	0.07	0.00	28.11	2.00	0.00	5.72	0.07	0.00
28.16	2.00	0.00	5.71	0.06	0.00	28.26	2.00	0.00	5.69	0.10	0.00
28.29	2.00	0.00	5.69	0.03	0.00	28.36	2.00	0.00	5.68	0.07	0.00
28.45	2.00	0.00	5.66	0.08	0.00	28.48	2.00	0.00	5.66	0.04	0.00
28.57	2.00	0.00	5.65	0.09	0.00	28.62	2.00	0.00	5.64	0.05	0.00
28.71	2.00	0.00	5.62	0.09	0.00	28.78	2.00	0.00	5.61	0.07	0.00
28.83	2.00	0.00	5.61	0.05	0.00	28.88	2.00	0.00	5.60	0.05	0.00
28.96	2.00	0.00	5.59	0.07	0.00	29.04	2.00	0.00	5.57	0.09	0.00
29.09	2.00	0.00	5.57	0.05	0.00	29.14	2.00	0.00	5.56	0.04	0.00
29.23	2.00	0.00	5.55	0.09	0.00	29.30	2.00	0.00	5.53	0.07	0.00
29.35	2.00	0.00	5.53	0.05	0.00	29.45	2.00	0.00	5.51	0.10	0.00
29.48	2.00	0.00	5.51	0.03	0.00	29.56	2.00	0.00	5.50	0.08	0.00
29.60	2.00	0.00	5.49	0.04	0.00	29.66	2.00	0.00	5.48	0.06	0.00
29.76	2.00	0.00	5.46	0.10	0.00	29.81	2.00	0.00	5.46	0.05	0.00
29.86	2.00	0.00	5.45	0.04	0.00	29.93	2.00	0.00	5.44	0.08	0.00
30.02	2.00	0.00	5.42	0.09	0.00	30.07	0.20	0.80	5.42	0.05	0.07
30.12	0.21	0.79	5.41	0.05	0.06	30.18	0.24	0.76	5.40	0.06	0.08
30.29	0.27	0.73	5.38	0.10	0.12	30.32	0.28	0.72	5.38	0.03	0.04
30.39	0.31	0.69	5.37	0.07	0.08	30.49	0.34	0.66	5.35	0.10	0.11
30.54	0.36	0.64	5.35	0.05	0.05	30.59	0.37	0.63	5.34	0.05	0.05
30.64	0.39	0.61	5.33	0.06	0.06	30.75	0.37	0.63	5.31	0.10	0.11
30.80	0.32	0.68	5.31	0.05	0.05	30.86	0.26	0.74	5.30	0.06	0.08
30.94	0.24	0.76	5.28	0.08	0.10	31.01	0.25	0.75	5.27	0.07	0.08
31.06	0.26	0.74	5.27	0.05	0.06	31.11	0.23	0.77	5.26	0.05	0.06
31.19	0.26	0.74	5.25	0.08	0.09	31.25	0.27	0.73	5.24	0.06	0.07
31.35	0.27	0.73	5.22	0.10	0.12	31.40	0.26	0.74	5.21	0.05	0.06
31.43	0.26	0.74	5.21	0.03	0.04	31.50	0.25	0.75	5.20	0.07	0.08

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.58	0.26	0.74	5.19	0.08	0.09	31.66	0.26	0.74	5.18	0.08	0.10
31.70	0.26	0.74	5.17	0.04	0.05	31.77	0.28	0.72	5.16	0.06	0.07
31.86	0.29	0.71	5.14	0.10	0.11	31.92	0.29	0.71	5.14	0.06	0.06
31.98	0.29	0.71	5.13	0.06	0.06	32.03	0.28	0.72	5.12	0.05	0.06
32.10	0.27	0.73	5.11	0.07	0.08	32.18	0.25	0.75	5.10	0.08	0.09
32.23	0.25	0.75	5.09	0.04	0.05	32.33	0.23	0.77	5.07	0.11	0.13
32.38	0.23	0.77	5.07	0.05	0.05	32.43	0.23	0.77	5.06	0.05	0.07
32.49	0.24	0.76	5.05	0.06	0.07	32.57	0.27	0.73	5.04	0.08	0.09
32.64	0.32	0.68	5.03	0.07	0.07	32.69	0.34	0.66	5.02	0.05	0.05
32.75	0.40	0.60	5.01	0.06	0.05	32.85	0.42	0.58	4.99	0.11	0.10
32.90	0.40	0.60	4.99	0.04	0.04	32.95	0.38	0.62	4.98	0.06	0.05
33.05	0.36	0.64	4.96	0.10	0.10	33.10	0.35	0.65	4.96	0.05	0.05
33.16	0.34	0.66	4.95	0.06	0.06	33.22	0.33	0.67	4.94	0.06	0.06
33.30	0.32	0.68	4.93	0.08	0.08	33.34	0.33	0.67	4.92	0.04	0.04
33.42	0.32	0.68	4.91	0.09	0.09	33.47	0.31	0.69	4.90	0.05	0.05
33.56	0.28	0.72	4.88	0.09	0.10	33.60	0.26	0.74	4.88	0.04	0.04
33.69	0.29	0.71	4.87	0.08	0.09	33.73	0.25	0.75	4.86	0.05	0.05
33.82	0.28	0.72	4.85	0.08	0.09	33.89	0.33	0.67	4.83	0.08	0.07
33.94	0.34	0.66	4.83	0.05	0.05	33.99	0.32	0.68	4.82	0.05	0.05
34.09	0.29	0.71	4.80	0.10	0.10	34.14	0.28	0.72	4.80	0.05	0.06
34.20	0.29	0.71	4.79	0.05	0.05	34.29	0.27	0.73	4.77	0.09	0.10
34.34	0.29	0.71	4.77	0.05	0.06	34.41	0.31	0.69	4.76	0.07	0.07
34.47	0.31	0.69	4.75	0.06	0.06	34.56	0.33	0.67	4.73	0.09	0.08
34.61	0.33	0.67	4.73	0.05	0.05	34.66	0.34	0.66	4.72	0.05	0.05
34.71	0.32	0.68	4.71	0.05	0.05	34.80	0.33	0.67	4.70	0.08	0.08
34.87	0.35	0.65	4.69	0.07	0.07	34.91	0.37	0.63	4.68	0.05	0.04
35.02	0.37	0.63	4.66	0.10	0.09	35.06	0.37	0.63	4.66	0.04	0.04
35.12	0.37	0.63	4.65	0.06	0.06	35.18	0.36	0.64	4.64	0.06	0.05
35.26	0.38	0.62	4.63	0.08	0.07	35.33	0.40	0.60	4.62	0.07	0.06
35.39	0.42	0.58	4.61	0.05	0.04	35.44	0.40	0.60	4.60	0.05	0.04
35.53	0.41	0.59	4.58	0.09	0.08	35.58	0.39	0.61	4.58	0.05	0.04
35.65	0.38	0.62	4.57	0.07	0.06	35.73	0.34	0.66	4.56	0.08	0.07
35.79	0.33	0.67	4.55	0.07	0.06	35.85	0.29	0.71	4.54	0.06	0.06
35.91	0.31	0.69	4.53	0.06	0.05	35.99	0.29	0.71	4.52	0.08	0.08
36.02	0.32	0.68	4.51	0.04	0.03	36.12	0.31	0.69	4.50	0.10	0.09
36.16	0.34	0.66	4.49	0.04	0.04	36.25	0.31	0.69	4.48	0.09	0.08
36.31	0.32	0.68	4.47	0.06	0.06	36.37	0.26	0.74	4.46	0.06	0.06
36.42	0.24	0.76	4.45	0.05	0.05	36.52	2.00	0.00	4.43	0.09	0.00
36.55	2.00	0.00	4.43	0.04	0.00	36.63	2.00	0.00	4.42	0.08	0.00
36.69	2.00	0.00	4.41	0.05	0.00	36.78	2.00	0.00	4.39	0.10	0.00
36.82	2.00	0.00	4.39	0.04	0.00	36.90	2.00	0.00	4.38	0.08	0.00
36.99	2.00	0.00	4.36	0.09	0.00	37.03	2.00	0.00	4.36	0.04	0.00
37.10	2.00	0.00	4.35	0.07	0.00	37.15	2.00	0.00	4.34	0.05	0.00
37.24	2.00	0.00	4.32	0.10	0.00	37.29	2.00	0.00	4.32	0.04	0.00
37.35	2.00	0.00	4.31	0.06	0.00	37.41	2.00	0.00	4.30	0.06	0.00
37.50	2.00	0.00	4.29	0.09	0.00	37.55	2.00	0.00	4.28	0.06	0.00
37.61	2.00	0.00	4.27	0.05	0.00	37.70	2.00	0.00	4.25	0.09	0.00
37.76	2.00	0.00	4.25	0.06	0.00	37.80	2.00	0.00	4.24	0.04	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
37.87	2.00	0.00	4.23	0.07	0.00	37.93	2.00	0.00	4.22	0.06	0.00
38.02	2.00	0.00	4.20	0.10	0.00	38.08	2.00	0.00	4.20	0.05	0.00
38.14	2.00	0.00	4.19	0.06	0.00	38.21	2.00	0.00	4.18	0.07	0.00
38.28	2.00	0.00	4.17	0.07	0.00	38.34	2.00	0.00	4.16	0.06	0.00
38.39	2.00	0.00	4.15	0.06	0.00	38.48	2.00	0.00	4.14	0.09	0.00
38.54	2.00	0.00	4.13	0.06	0.00	38.59	2.00	0.00	4.12	0.04	0.00
38.67	2.00	0.00	4.11	0.08	0.00	38.75	2.00	0.00	4.09	0.08	0.00
38.80	2.00	0.00	4.09	0.04	0.00	38.85	2.00	0.00	4.08	0.05	0.00
38.95	2.00	0.00	4.06	0.10	0.00	39.01	2.00	0.00	4.06	0.06	0.00
39.06	2.00	0.00	4.05	0.05	0.00	39.11	2.00	0.00	4.04	0.06	0.00
39.21	2.00	0.00	4.03	0.09	0.00	39.26	2.00	0.00	4.02	0.05	0.00
39.32	2.00	0.00	4.01	0.06	0.00	39.38	2.00	0.00	4.00	0.05	0.00
39.48	2.00	0.00	3.98	0.10	0.00	39.52	2.00	0.00	3.98	0.04	0.00
39.58	2.00	0.00	3.97	0.06	0.00	39.67	2.00	0.00	3.95	0.09	0.00
39.71	2.00	0.00	3.95	0.04	0.00	39.78	2.00	0.00	3.94	0.07	0.00
39.83	2.00	0.00	3.93	0.05	0.00	39.90	2.00	0.00	3.92	0.06	0.00
39.99	2.00	0.00	3.90	0.10	0.00	40.04	2.00	0.00	3.90	0.05	0.00
40.10	2.00	0.00	3.89	0.06	0.00	40.21	2.00	0.00	3.87	0.11	0.00
40.25	0.17	0.83	3.87	0.05	0.05	40.32	0.18	0.82	3.85	0.07	0.07
40.36	0.18	0.82	3.85	0.04	0.04	40.45	0.18	0.82	3.84	0.08	0.08
40.51	2.00	0.00	3.83	0.06	0.00	40.56	2.00	0.00	3.82	0.05	0.00
40.66	2.00	0.00	3.80	0.10	0.00	40.68	2.00	0.00	3.80	0.02	0.00
40.75	2.00	0.00	3.79	0.07	0.00	40.82	2.00	0.00	3.78	0.07	0.00
40.93	2.00	0.00	3.76	0.10	0.00	40.96	2.00	0.00	3.76	0.04	0.00
41.03	2.00	0.00	3.75	0.07	0.00	41.08	2.00	0.00	3.74	0.05	0.00
41.17	0.22	0.78	3.73	0.09	0.08	41.24	0.25	0.75	3.72	0.06	0.06
41.28	0.25	0.75	3.71	0.04	0.04	41.34	0.26	0.74	3.70	0.06	0.05
41.41	0.26	0.74	3.69	0.07	0.05	41.50	0.25	0.75	3.68	0.09	0.08
41.55	0.24	0.76	3.67	0.06	0.05	41.63	0.23	0.77	3.66	0.07	0.06
41.71	0.21	0.79	3.64	0.08	0.07	41.74	0.21	0.79	3.64	0.04	0.03
41.80	2.00	0.00	3.63	0.06	0.00	41.91	2.00	0.00	3.61	0.11	0.00
41.96	2.00	0.00	3.60	0.05	0.00	42.02	2.00	0.00	3.60	0.05	0.00
42.07	2.00	0.00	3.59	0.05	0.00	42.15	2.00	0.00	3.58	0.08	0.00
42.22	2.00	0.00	3.57	0.07	0.00	42.27	2.00	0.00	3.56	0.05	0.00
42.35	0.21	0.79	3.55	0.09	0.07	42.43	0.22	0.78	3.53	0.08	0.06
42.49	0.23	0.77	3.53	0.05	0.05	42.57	0.24	0.76	3.51	0.08	0.07
42.59	0.25	0.75	3.51	0.02	0.02	42.69	0.27	0.73	3.49	0.10	0.08
42.74	0.28	0.72	3.49	0.05	0.04	42.80	0.30	0.70	3.48	0.07	0.05
42.90	0.31	0.69	3.46	0.09	0.07	42.95	0.31	0.69	3.46	0.05	0.04
43.00	0.32	0.68	3.45	0.05	0.04	43.05	0.32	0.68	3.44	0.05	0.04
43.16	0.33	0.67	3.42	0.11	0.07	43.21	0.31	0.69	3.42	0.05	0.03
43.28	0.30	0.70	3.40	0.08	0.06	43.32	0.30	0.70	3.40	0.04	0.03
43.42	0.31	0.69	3.38	0.10	0.07	43.46	0.35	0.65	3.38	0.04	0.03
43.51	0.26	0.74	3.37	0.05	0.04	43.58	0.37	0.63	3.36	0.07	0.04
43.67	0.41	0.59	3.34	0.09	0.05	43.72	0.43	0.57	3.34	0.05	0.03
43.79	0.50	0.50	3.33	0.06	0.03	43.84	0.53	0.47	3.32	0.05	0.02
43.92	0.60	0.40	3.31	0.09	0.04	43.99	0.66	0.34	3.30	0.07	0.02
44.04	0.68	0.32	3.29	0.05	0.02	44.12	0.74	0.26	3.28	0.07	0.02

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
44.20	0.81	0.19	3.26	0.09	0.02	44.24	0.84	0.16	3.26	0.04	0.01
44.30	0.84	0.16	3.25	0.06	0.01	44.36	0.86	0.14	3.24	0.06	0.01
44.45	0.86	0.14	3.23	0.09	0.01	44.51	0.83	0.17	3.22	0.06	0.01
44.55	0.84	0.16	3.21	0.04	0.01	44.67	0.78	0.22	3.19	0.11	0.02
44.72	0.76	0.24	3.18	0.05	0.01	44.76	0.75	0.25	3.18	0.04	0.01
44.82	0.73	0.27	3.17	0.06	0.02	44.93	0.74	0.26	3.15	0.11	0.03
44.98	0.74	0.26	3.15	0.05	0.01	45.04	0.69	0.31	3.14	0.06	0.02
45.08	0.68	0.32	3.13	0.05	0.01	45.18	0.65	0.35	3.11	0.10	0.03
45.23	0.63	0.37	3.11	0.05	0.02	45.29	0.63	0.37	3.10	0.06	0.02
45.34	0.62	0.38	3.09	0.05	0.02	45.42	0.64	0.36	3.08	0.08	0.03
45.50	0.65	0.35	3.07	0.08	0.02	45.54	0.63	0.37	3.06	0.04	0.01
45.63	0.66	0.34	3.05	0.09	0.03	45.70	0.63	0.37	3.04	0.07	0.02
45.73	0.64	0.36	3.03	0.03	0.01	45.80	0.62	0.38	3.02	0.07	0.02
45.90	0.62	0.38	3.01	0.09	0.03	45.96	0.61	0.39	3.00	0.06	0.02
46.02	0.63	0.37	2.99	0.06	0.02	46.07	0.59	0.41	2.98	0.05	0.02
46.13	0.61	0.39	2.97	0.06	0.02	46.21	0.58	0.42	2.96	0.08	0.03
46.27	0.53	0.47	2.95	0.06	0.02	46.37	0.50	0.50	2.93	0.10	0.04
46.43	0.52	0.48	2.92	0.06	0.02	46.47	0.68	0.32	2.92	0.04	0.01
46.52	0.43	0.57	2.91	0.05	0.03	46.62	0.85	0.15	2.90	0.09	0.01
46.68	0.78	0.22	2.89	0.06	0.01	46.72	0.85	0.15	2.88	0.05	0.01
46.79	1.01	0.00	2.87	0.07	0.00	46.87	1.10	0.00	2.86	0.07	0.00
46.94	1.15	0.00	2.85	0.07	0.00	46.99	1.23	0.00	2.84	0.05	0.00
47.09	1.23	0.00	2.82	0.10	0.00	47.13	1.18	0.00	2.82	0.04	0.00
47.20	1.09	0.00	2.81	0.06	0.00	47.26	1.03	0.00	2.80	0.06	0.00
47.33	0.96	0.04	2.79	0.08	0.00	47.40	0.89	0.11	2.78	0.07	0.01
47.46	0.98	0.02	2.77	0.06	0.00	47.51	0.98	0.02	2.76	0.05	0.00
47.61	1.14	0.00	2.74	0.10	0.00	47.66	1.13	0.00	2.74	0.05	0.00
47.72	1.12	0.00	2.73	0.06	0.00	47.79	1.08	0.00	2.72	0.07	0.00
47.87	0.89	0.11	2.70	0.08	0.01	47.92	0.89	0.11	2.70	0.05	0.00
47.97	0.94	0.06	2.69	0.05	0.00	48.08	0.66	0.34	2.67	0.11	0.03
48.13	0.72	0.28	2.66	0.05	0.01	48.17	0.71	0.29	2.66	0.04	0.01
48.23	0.78	0.22	2.65	0.06	0.01	48.34	0.75	0.25	2.63	0.11	0.02
48.37	0.57	0.43	2.63	0.03	0.01	48.44	0.71	0.29	2.62	0.06	0.01
48.55	0.70	0.30	2.60	0.11	0.03	48.59	0.72	0.28	2.60	0.04	0.01
48.64	0.72	0.28	2.59	0.05	0.01	48.70	0.71	0.29	2.58	0.06	0.01
48.79	0.66	0.34	2.56	0.09	0.02	48.84	0.64	0.36	2.56	0.05	0.01
48.90	0.62	0.38	2.55	0.06	0.02	48.96	0.60	0.40	2.54	0.06	0.02
49.06	0.58	0.42	2.52	0.10	0.03	49.09	0.58	0.42	2.52	0.03	0.01
49.16	0.57	0.43	2.51	0.07	0.02	49.21	0.56	0.44	2.50	0.05	0.02
49.29	0.57	0.43	2.49	0.08	0.02	49.37	0.56	0.44	2.48	0.08	0.03
49.42	0.56	0.44	2.47	0.06	0.02	49.48	0.55	0.45	2.46	0.06	0.02
49.57	0.55	0.45	2.45	0.08	0.03	49.63	0.54	0.46	2.44	0.07	0.02
49.70	0.53	0.47	2.43	0.06	0.02	49.77	0.51	0.49	2.41	0.08	0.03
49.84	0.50	0.50	2.40	0.07	0.03	49.90	0.48	0.52	2.40	0.06	0.02
49.94	0.49	0.51	2.39	0.05	0.02	50.03	2.00	0.00	2.38	0.09	0.00
50.07	2.00	0.00	2.37	0.04	0.00	50.15	2.00	0.00	2.36	0.08	0.00
50.20	2.00	0.00	2.35	0.05	0.00	50.30	2.00	0.00	2.33	0.10	0.00
50.34	2.00	0.00	2.33	0.04	0.00	50.41	2.00	0.00	2.32	0.06	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
50.47	2.00	0.00	2.31	0.06	0.00	50.57	2.00	0.00	2.29	0.10	0.00
50.62	2.00	0.00	2.29	0.05	0.00	50.67	2.00	0.00	2.28	0.05	0.00
50.76	2.00	0.00	2.26	0.08	0.00	50.83	2.00	0.00	2.25	0.07	0.00
50.86	2.00	0.00	2.25	0.04	0.00	50.92	2.00	0.00	2.24	0.06	0.00
50.99	2.00	0.00	2.23	0.07	0.00	51.06	2.00	0.00	2.22	0.07	0.00
51.14	2.00	0.00	2.21	0.08	0.00	51.20	2.00	0.00	2.20	0.06	0.00
51.25	2.00	0.00	2.19	0.05	0.00	51.34	2.00	0.00	2.18	0.09	0.00
51.40	2.00	0.00	2.17	0.06	0.00	51.45	2.00	0.00	2.16	0.05	0.00
51.56	2.00	0.00	2.14	0.10	0.00	51.61	2.00	0.00	2.13	0.05	0.00
51.66	2.00	0.00	2.13	0.05	0.00	51.72	2.00	0.00	2.12	0.07	0.00
51.81	2.00	0.00	2.10	0.08	0.00	51.87	2.00	0.00	2.10	0.06	0.00
51.92	2.00	0.00	2.09	0.06	0.00	51.98	2.00	0.00	2.08	0.05	0.00
52.08	2.00	0.00	2.06	0.10	0.00	52.13	2.00	0.00	2.06	0.05	0.00
52.18	2.00	0.00	2.05	0.05	0.00	52.26	2.00	0.00	2.04	0.08	0.00
52.32	2.00	0.00	2.03	0.07	0.00	52.36	2.00	0.00	2.02	0.04	0.00
52.47	2.00	0.00	2.00	0.11	0.00	52.50	2.00	0.00	2.00	0.03	0.00
52.58	2.00	0.00	1.99	0.08	0.00	52.65	2.00	0.00	1.98	0.08	0.00
52.75	2.00	0.00	1.96	0.09	0.00	52.80	2.00	0.00	1.95	0.06	0.00
52.85	2.00	0.00	1.95	0.05	0.00	52.91	2.00	0.00	1.94	0.06	0.00
52.95	2.00	0.00	1.93	0.05	0.00	53.08	2.00	0.00	1.91	0.12	0.00
53.12	2.00	0.00	1.90	0.04	0.00	53.16	2.00	0.00	1.90	0.05	0.00
53.24	2.00	0.00	1.89	0.07	0.00	53.29	2.00	0.00	1.88	0.05	0.00
53.37	2.00	0.00	1.87	0.09	0.00	53.42	2.00	0.00	1.86	0.05	0.00
53.50	2.00	0.00	1.85	0.08	0.00	53.59	2.00	0.00	1.83	0.09	0.00
53.63	2.00	0.00	1.83	0.04	0.00	53.68	2.00	0.00	1.82	0.05	0.00
53.78	2.00	0.00	1.80	0.10	0.00	53.84	2.00	0.00	1.79	0.06	0.00
53.89	2.00	0.00	1.79	0.05	0.00	53.94	2.00	0.00	1.78	0.05	0.00
54.04	2.00	0.00	1.76	0.10	0.00	54.08	2.00	0.00	1.76	0.04	0.00
54.15	2.00	0.00	1.75	0.07	0.00	54.23	2.00	0.00	1.74	0.08	0.00
54.29	2.00	0.00	1.73	0.06	0.00	54.34	2.00	0.00	1.72	0.06	0.00
54.40	2.00	0.00	1.71	0.06	0.00	54.47	2.00	0.00	1.70	0.06	0.00
54.55	2.00	0.00	1.69	0.08	0.00	54.60	2.00	0.00	1.68	0.06	0.00
54.69	2.00	0.00	1.67	0.09	0.00	54.76	2.00	0.00	1.66	0.07	0.00
54.81	2.00	0.00	1.65	0.05	0.00	54.86	2.00	0.00	1.64	0.05	0.00
54.99	2.00	0.00	1.62	0.13	0.00	55.02	2.00	0.00	1.62	0.03	0.00
55.07	2.00	0.00	1.61	0.05	0.00	55.14	2.00	0.00	1.60	0.07	0.00
55.22	2.00	0.00	1.58	0.08	0.00	55.27	2.00	0.00	1.58	0.05	0.00
55.33	2.00	0.00	1.57	0.06	0.00	55.42	2.00	0.00	1.55	0.08	0.00
55.47	2.00	0.00	1.55	0.05	0.00	55.52	2.00	0.00	1.54	0.05	0.00
55.61	2.00	0.00	1.52	0.09	0.00	55.67	2.00	0.00	1.52	0.06	0.00
55.73	2.00	0.00	1.51	0.05	0.00	55.78	2.00	0.00	1.50	0.05	0.00
55.89	2.00	0.00	1.48	0.11	0.00	55.94	2.00	0.00	1.48	0.05	0.00
55.98	2.00	0.00	1.47	0.04	0.00	56.04	2.00	0.00	1.46	0.06	0.00
56.10	2.00	0.00	1.45	0.06	0.00	56.19	2.00	0.00	1.44	0.08	0.00
56.24	2.00	0.00	1.43	0.05	0.00	56.34	2.00	0.00	1.41	0.10	0.00
56.40	2.00	0.00	1.40	0.06	0.00	56.45	2.00	0.00	1.40	0.05	0.00
56.51	2.00	0.00	1.39	0.06	0.00	56.59	2.00	0.00	1.38	0.08	0.00
56.66	2.00	0.00	1.37	0.07	0.00	56.70	2.00	0.00	1.36	0.04	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
56.76	2.00	0.00	1.35	0.06	0.00	56.87	2.00	0.00	1.33	0.11	0.00
56.90	2.00	0.00	1.33	0.03	0.00	56.97	2.00	0.00	1.32	0.07	0.00
57.02	2.00	0.00	1.31	0.05	0.00	57.09	2.00	0.00	1.30	0.06	0.00
57.19	2.00	0.00	1.29	0.10	0.00	57.23	2.00	0.00	1.28	0.05	0.00
57.28	2.00	0.00	1.27	0.05	0.00	57.39	2.00	0.00	1.25	0.11	0.00
57.42	2.00	0.00	1.25	0.03	0.00	57.48	2.00	0.00	1.24	0.06	0.00
57.58	2.00	0.00	1.22	0.10	0.00	57.65	2.00	0.00	1.21	0.07	0.00
57.70	2.00	0.00	1.21	0.05	0.00	57.76	2.00	0.00	1.20	0.06	0.00
57.85	2.00	0.00	1.18	0.10	0.00	57.90	2.00	0.00	1.18	0.05	0.00
57.94	2.00	0.00	1.17	0.04	0.00	58.01	2.00	0.00	1.16	0.07	0.00
58.11	2.00	0.00	1.14	0.09	0.00	58.14	2.00	0.00	1.14	0.03	0.00
58.22	2.00	0.00	1.13	0.08	0.00	58.27	2.00	0.00	1.12	0.05	0.00
58.35	2.00	0.00	1.11	0.08	0.00	58.42	2.00	0.00	1.10	0.07	0.00
58.48	2.00	0.00	1.09	0.06	0.00	58.53	2.00	0.00	1.08	0.05	0.00
58.63	2.00	0.00	1.06	0.10	0.00	58.69	2.00	0.00	1.06	0.05	0.00
58.74	2.00	0.00	1.05	0.05	0.00	58.83	2.00	0.00	1.03	0.09	0.00
58.86	2.00	0.00	1.03	0.03	0.00	58.92	2.00	0.00	1.02	0.06	0.00
59.00	2.00	0.00	1.01	0.07	0.00	59.10	2.00	0.00	0.99	0.10	0.00
59.14	2.00	0.00	0.99	0.04	0.00	59.20	2.00	0.00	0.98	0.06	0.00
59.26	2.00	0.00	0.97	0.06	0.00	59.36	2.00	0.00	0.95	0.10	0.00
59.41	2.00	0.00	0.95	0.05	0.00	59.46	2.00	0.00	0.94	0.05	0.00
59.52	2.00	0.00	0.93	0.06	0.00	59.60	2.00	0.00	0.92	0.08	0.00
59.66	2.00	0.00	0.91	0.05	0.00	59.73	2.00	0.00	0.90	0.07	0.00
59.83	2.00	0.00	0.88	0.10	0.00	59.89	2.00	0.00	0.87	0.06	0.00
59.93	2.00	0.00	0.87	0.04	0.00	59.98	2.00	0.00	0.86	0.05	0.00
60.05	2.00	0.00	0.85	0.07	0.00	60.14	2.00	0.00	0.83	0.10	0.00
60.19	2.00	0.00	0.83	0.05	0.00	60.24	2.00	0.00	0.82	0.05	0.00
60.33	2.00	0.00	0.81	0.09	0.00	60.40	2.00	0.00	0.80	0.07	0.00
60.45	2.00	0.00	0.79	0.05	0.00	60.50	2.00	0.00	0.78	0.05	0.00
60.60	2.00	0.00	0.76	0.10	0.00	60.66	2.00	0.00	0.75	0.06	0.00
60.71	2.00	0.00	0.75	0.04	0.00	60.80	2.00	0.00	0.73	0.09	0.00
60.84	2.00	0.00	0.73	0.04	0.00	60.91	2.00	0.00	0.72	0.07	0.00
60.97	2.00	0.00	0.71	0.05	0.00	61.05	2.00	0.00	0.70	0.08	0.00
61.12	2.00	0.00	0.68	0.07	0.00	61.18	2.00	0.00	0.68	0.05	0.00
61.23	2.00	0.00	0.67	0.05	0.00	61.32	2.00	0.00	0.66	0.09	0.00
61.37	2.00	0.00	0.65	0.05	0.00	61.42	2.00	0.00	0.64	0.05	0.00
61.52	2.00	0.00	0.62	0.09	0.00	61.58	2.00	0.00	0.62	0.06	0.00
61.63	2.00	0.00	0.61	0.05	0.00	61.69	2.00	0.00	0.60	0.06	0.00
61.78	2.00	0.00	0.58	0.10	0.00	61.83	2.00	0.00	0.58	0.05	0.00
61.89	2.00	0.00	0.57	0.05	0.00	61.99	2.00	0.00	0.55	0.10	0.00
62.04	2.00	0.00	0.54	0.05	0.00	62.10	2.00	0.00	0.54	0.05	0.00
62.15	2.00	0.00	0.53	0.05	0.00	62.24	2.00	0.00	0.52	0.08	0.00
62.30	2.00	0.00	0.51	0.06	0.00	62.35	2.00	0.00	0.50	0.06	0.00
62.42	2.00	0.00	0.49	0.07	0.00	62.50	2.00	0.00	0.47	0.08	0.00
62.55	2.00	0.00	0.47	0.05	0.00	62.60	2.00	0.00	0.46	0.05	0.00
62.68	2.00	0.00	0.45	0.08	0.00	62.77	2.00	0.00	0.43	0.08	0.00
62.82	2.00	0.00	0.43	0.06	0.00	62.87	2.00	0.00	0.42	0.04	0.00
62.95	2.00	0.00	0.41	0.08	0.00	63.03	2.00	0.00	0.39	0.09	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.08	2.00	0.00	0.39	0.05	0.00	63.15	2.00	0.00	0.38	0.07	0.00
63.19	2.00	0.00	0.37	0.04	0.00	63.29	2.00	0.00	0.35	0.10	0.00
63.34	2.00	0.00	0.35	0.05	0.00	63.45	2.00	0.00	0.33	0.11	0.00
63.47	2.00	0.00	0.33	0.02	0.00	63.55	2.00	0.00	0.32	0.08	0.00
63.60	2.00	0.00	0.31	0.05	0.00	63.69	2.00	0.00	0.29	0.09	0.00
63.72	2.00	0.00	0.29	0.03	0.00	63.80	2.00	0.00	0.28	0.09	0.00
63.86	2.00	0.00	0.27	0.05	0.00	63.95	2.00	0.00	0.25	0.09	0.00
63.99	2.00	0.00	0.25	0.04	0.00	64.07	2.00	0.00	0.24	0.08	0.00
64.12	2.00	0.00	0.23	0.05	0.00	64.19	2.00	0.00	0.22	0.07	0.00
64.25	2.00	0.00	0.21	0.06	0.00	64.34	2.00	0.00	0.19	0.09	0.00
64.39	2.00	0.00	0.19	0.06	0.00	64.45	2.00	0.00	0.18	0.05	0.00
64.54	2.00	0.00	0.16	0.09	0.00	64.60	2.00	0.00	0.15	0.06	0.00
64.66	2.00	0.00	0.15	0.05	0.00	64.71	2.00	0.00	0.14	0.05	0.00
64.78	2.00	0.00	0.13	0.07	0.00	64.84	2.00	0.00	0.12	0.06	0.00
64.91	2.00	0.00	0.11	0.08	0.00	65.01	2.00	0.00	0.09	0.10	0.00
65.07	2.00	0.00	0.08	0.05	0.00	65.12	2.00	0.00	0.08	0.06	0.00
65.16	2.00	0.00	0.07	0.04	0.00	65.23	2.00	0.00	0.06	0.07	0.00
65.32	2.00	0.00	0.05	0.09	0.00	65.38	2.00	0.00	0.04	0.06	0.00
65.43	2.00	0.00	0.03	0.05	0.00	65.49	2.00	0.00	0.02	0.06	0.00
65.57	2.00	0.00	0.01	0.09	0.00	65.64	2.00	0.00	0.00	0.00	0.00
65.69	2.00	0.00	0.00	0.00	0.00	65.78	2.00	0.00	0.00	0.00	0.00
65.82	2.00	0.00	0.00	0.00	0.00	65.90	2.00	0.00	0.00	0.00	0.00
65.94	2.00	0.00	0.00	0.00	0.00	66.04	2.00	0.00	0.00	0.00	0.00
66.11	2.00	0.00	0.00	0.00	0.00	66.16	2.00	0.00	0.00	0.00	0.00
66.25	2.00	0.00	0.00	0.00	0.00	66.28	2.00	0.00	0.00	0.00	0.00
66.36	2.00	0.00	0.00	0.00	0.00	66.42	2.00	0.00	0.00	0.00	0.00
66.52	2.00	0.00	0.00	0.00	0.00	66.55	2.00	0.00	0.00	0.00	0.00
66.63	2.00	0.00	0.00	0.00	0.00	66.68	2.00	0.00	0.00	0.00	0.00
66.76	2.00	0.00	0.00	0.00	0.00	66.84	2.00	0.00	0.00	0.00	0.00
66.88	2.00	0.00	0.00	0.00	0.00	66.93	2.00	0.00	0.00	0.00	0.00
67.03	2.00	0.00	0.00	0.00	0.00	67.06	2.00	0.00	0.00	0.00	0.00
67.14	2.00	0.00	0.00	0.00	0.00	67.20	2.00	0.00	0.00	0.00	0.00
67.29	2.00	0.00	0.00	0.00	0.00	67.34	2.00	0.00	0.00	0.00	0.00
67.39	2.00	0.00	0.00	0.00	0.00	67.50	2.00	0.00	0.00	0.00	0.00
67.55	2.00	0.00	0.00	0.00	0.00	67.59	2.00	0.00	0.00	0.00	0.00
67.66	2.00	0.00	0.00	0.00	0.00	67.75	2.00	0.00	0.00	0.00	0.00
67.81	2.00	0.00	0.00	0.00	0.00	67.87	2.00	0.00	0.00	0.00	0.00
67.92	2.00	0.00	0.00	0.00	0.00	68.01	2.00	0.00	0.00	0.00	0.00
68.08	2.00	0.00	0.00	0.00	0.00	68.12	2.00	0.00	0.00	0.00	0.00
68.22	2.00	0.00	0.00	0.00	0.00	68.27	2.00	0.00	0.00	0.00	0.00
68.32	2.00	0.00	0.00	0.00	0.00	68.38	2.00	0.00	0.00	0.00	0.00
68.47	2.00	0.00	0.00	0.00	0.00	68.52	2.00	0.00	0.00	0.00	0.00
68.59	2.00	0.00	0.00	0.00	0.00	68.65	2.00	0.00	0.00	0.00	0.00
68.73	2.00	0.00	0.00	0.00	0.00	68.80	2.00	0.00	0.00	0.00	0.00
68.86	2.00	0.00	0.00	0.00	0.00	68.90	2.00	0.00	0.00	0.00	0.00
68.98	2.00	0.00	0.00	0.00	0.00	69.06	2.00	0.00	0.00	0.00	0.00
69.11	2.00	0.00	0.00	0.00	0.00	69.19	2.00	0.00	0.00	0.00	0.00
69.23	2.00	0.00	0.00	0.00	0.00	69.32	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
69.37	2.00	0.00	0.00	0.00	0.00	69.43	2.00	0.00	0.00	0.00	0.00
69.50	2.00	0.00	0.00	0.00	0.00	69.56	2.00	0.00	0.00	0.00	0.00
69.65	2.00	0.00	0.00	0.00	0.00	69.71	2.00	0.00	0.00	0.00	0.00
69.76	2.00	0.00	0.00	0.00	0.00	69.86	2.00	0.00	0.00	0.00	0.00
69.92	2.00	0.00	0.00	0.00	0.00	69.95	2.00	0.00	0.00	0.00	0.00
70.02	2.00	0.00	0.00	0.00	0.00	70.12	2.00	0.00	0.00	0.00	0.00
70.17	2.00	0.00	0.00	0.00	0.00	70.23	2.00	0.00	0.00	0.00	0.00
70.28	2.00	0.00	0.00	0.00	0.00	70.38	2.00	0.00	0.00	0.00	0.00
70.42	2.00	0.00	0.00	0.00	0.00	70.48	2.00	0.00	0.00	0.00	0.00
70.55	2.00	0.00	0.00	0.00	0.00	70.63	2.00	0.00	0.00	0.00	0.00
70.70	2.00	0.00	0.00	0.00	0.00	70.74	2.00	0.00	0.00	0.00	0.00
70.81	2.00	0.00	0.00	0.00	0.00	70.89	2.00	0.00	0.00	0.00	0.00
70.95	2.00	0.00	0.00	0.00	0.00	71.00	2.00	0.00	0.00	0.00	0.00
71.10	2.00	0.00	0.00	0.00	0.00	71.14	2.00	0.00	0.00	0.00	0.00
71.21	2.00	0.00	0.00	0.00	0.00	71.30	2.00	0.00	0.00	0.00	0.00
71.33	2.00	0.00	0.00	0.00	0.00	71.43	2.00	0.00	0.00	0.00	0.00
71.47	2.00	0.00	0.00	0.00	0.00	71.52	2.00	0.00	0.00	0.00	0.00
71.60	2.00	0.00	0.00	0.00	0.00	71.65	2.00	0.00	0.00	0.00	0.00
71.73	2.00	0.00	0.00	0.00	0.00	71.82	2.00	0.00	0.00	0.00	0.00
71.88	2.00	0.00	0.00	0.00	0.00	71.94	2.00	0.00	0.00	0.00	0.00
71.99	2.00	0.00	0.00	0.00	0.00	72.09	2.00	0.00	0.00	0.00	0.00
72.14	2.00	0.00	0.00	0.00	0.00	72.20	2.00	0.00	0.00	0.00	0.00
72.25	2.00	0.00	0.00	0.00	0.00	72.31	2.00	0.00	0.00	0.00	0.00
72.40	2.00	0.00	0.00	0.00	0.00	72.45	2.00	0.00	0.00	0.00	0.00
72.51	2.00	0.00	0.00	0.00	0.00	72.60	2.00	0.00	0.00	0.00	0.00
72.65	2.00	0.00	0.00	0.00	0.00	72.72	2.00	0.00	0.00	0.00	0.00
72.78	2.00	0.00	0.00	0.00	0.00	72.84	2.00	0.00	0.00	0.00	0.00
72.93	2.00	0.00	0.00	0.00	0.00	72.98	2.00	0.00	0.00	0.00	0.00
73.07	2.00	0.00	0.00	0.00	0.00	73.11	2.00	0.00	0.00	0.00	0.00
73.17	2.00	0.00	0.00	0.00	0.00	73.24	2.00	0.00	0.00	0.00	0.00
73.33	2.00	0.00	0.00	0.00	0.00	73.38	2.00	0.00	0.00	0.00	0.00
73.45	2.00	0.00	0.00	0.00	0.00	73.50	2.00	0.00	0.00	0.00	0.00
73.59	2.00	0.00	0.00	0.00	0.00	73.66	2.00	0.00	0.00	0.00	0.00
73.71	2.00	0.00	0.00	0.00	0.00	73.76	2.00	0.00	0.00	0.00	0.00
73.84	2.00	0.00	0.00	0.00	0.00	73.91	2.00	0.00	0.00	0.00	0.00
73.97	2.00	0.00	0.00	0.00	0.00	74.04	2.00	0.00	0.00	0.00	0.00
74.10	2.00	0.00	0.00	0.00	0.00	74.17	2.00	0.00	0.00	0.00	0.00
74.22	2.00	0.00	0.00	0.00	0.00	74.30	2.00	0.00	0.00	0.00	0.00
74.38	2.00	0.00	0.00	0.00	0.00	74.43	2.00	0.00	0.00	0.00	0.00
74.53	2.00	0.00	0.00	0.00	0.00	74.55	2.00	0.00	0.00	0.00	0.00
74.64	2.00	0.00	0.00	0.00	0.00	74.69	2.00	0.00	0.00	0.00	0.00
74.77	2.00	0.00	0.00	0.00	0.00	74.84	2.00	0.00	0.00	0.00	0.00
74.90	2.00	0.00	0.00	0.00	0.00	74.95	2.00	0.00	0.00	0.00	0.00
75.05	2.00	0.00	0.00	0.00	0.00	75.11	2.00	0.00	0.00	0.00	0.00
75.15	2.00	0.00	0.00	0.00	0.00	75.20	2.00	0.00	0.00	0.00	0.00
75.27	2.00	0.00	0.00	0.00	0.00	75.36	2.00	0.00	0.00	0.00	0.00
75.41	2.00	0.00	0.00	0.00	0.00	75.46	2.00	0.00	0.00	0.00	0.00
75.55	2.00	0.00	0.00	0.00	0.00	75.61	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
75.66	2.00	0.00	0.00	0.00	0.00	75.75	2.00	0.00	0.00	0.00	0.00
75.82	2.00	0.00	0.00	0.00	0.00	75.87	2.00	0.00	0.00	0.00	0.00
75.94	2.00	0.00	0.00	0.00	0.00	76.03	2.00	0.00	0.00	0.00	0.00
76.07	2.00	0.00	0.00	0.00	0.00	76.12	2.00	0.00	0.00	0.00	0.00
76.18	2.00	0.00	0.00	0.00	0.00	76.28	2.00	0.00	0.00	0.00	0.00
76.33	2.00	0.00	0.00	0.00	0.00	76.39	2.00	0.00	0.00	0.00	0.00
76.44	2.00	0.00	0.00	0.00	0.00	76.55	2.00	0.00	0.00	0.00	0.00
76.58	2.00	0.00	0.00	0.00	0.00	76.64	2.00	0.00	0.00	0.00	0.00
76.74	2.00	0.00	0.00	0.00	0.00	76.80	2.00	0.00	0.00	0.00	0.00
76.84	2.00	0.00	0.00	0.00	0.00	76.91	2.00	0.00	0.00	0.00	0.00
77.01	2.00	0.00	0.00	0.00	0.00	77.04	2.00	0.00	0.00	0.00	0.00
77.11	2.00	0.00	0.00	0.00	0.00	77.21	2.00	0.00	0.00	0.00	0.00
77.27	2.00	0.00	0.00	0.00	0.00	77.31	2.00	0.00	0.00	0.00	0.00
77.39	2.00	0.00	0.00	0.00	0.00	77.47	2.00	0.00	0.00	0.00	0.00
77.53	2.00	0.00	0.00	0.00	0.00	77.57	2.00	0.00	0.00	0.00	0.00
77.66	2.00	0.00	0.00	0.00	0.00	77.73	2.00	0.00	0.00	0.00	0.00
77.79	2.00	0.00	0.00	0.00	0.00	77.83	2.00	0.00	0.00	0.00	0.00
77.89	2.00	0.00	0.00	0.00	0.00	77.96	2.00	0.00	0.00	0.00	0.00
78.05	2.00	0.00	0.00	0.00	0.00	78.10	2.00	0.00	0.00	0.00	0.00
78.18	2.00	0.00	0.00	0.00	0.00	78.22	2.00	0.00	0.00	0.00	0.00
78.31	2.00	0.00	0.00	0.00	0.00	78.35	2.00	0.00	0.00	0.00	0.00
78.46	2.00	0.00	0.00	0.00	0.00	78.49	2.00	0.00	0.00	0.00	0.00
78.56	2.00	0.00	0.00	0.00	0.00	78.62	2.00	0.00	0.00	0.00	0.00
78.69	2.00	0.00	0.00	0.00	0.00	78.76	2.00	0.00	0.00	0.00	0.00
78.83	2.00	0.00	0.00	0.00	0.00	78.89	2.00	0.00	0.00	0.00	0.00
78.95	2.00	0.00	0.00	0.00	0.00	79.02	2.00	0.00	0.00	0.00	0.00
79.10	2.00	0.00	0.00	0.00	0.00	79.15	2.00	0.00	0.00	0.00	0.00
79.22	2.00	0.00	0.00	0.00	0.00	79.30	2.00	0.00	0.00	0.00	0.00
79.36	2.00	0.00	0.00	0.00	0.00	79.41	2.00	0.00	0.00	0.00	0.00
79.46	2.00	0.00	0.00	0.00	0.00	79.53	2.00	0.00	0.00	0.00	0.00
79.62	2.00	0.00	0.00	0.00	0.00	79.68	2.00	0.00	0.00	0.00	0.00
79.72	2.00	0.00	0.00	0.00	0.00	79.80	2.00	0.00	0.00	0.00	0.00
79.87	2.00	0.00	0.00	0.00	0.00	79.93	2.00	0.00	0.00	0.00	0.00
80.01	2.00	0.00	0.00	0.00	0.00	80.05	2.00	0.00	0.00	0.00	0.00
80.14	2.00	0.00	0.00	0.00	0.00	80.19	2.00	0.00	0.00	0.00	0.00
80.29	2.00	0.00	0.00	0.00	0.00	80.34	2.00	0.00	0.00	0.00	0.00
80.40	2.00	0.00	0.00	0.00	0.00	80.47	2.00	0.00	0.00	0.00	0.00
80.56	2.00	0.00	0.00	0.00	0.00	80.60	2.00	0.00	0.00	0.00	0.00
80.66	2.00	0.00	0.00	0.00	0.00	80.75	2.00	0.00	0.00	0.00	0.00
80.81	2.00	0.00	0.00	0.00	0.00	80.86	2.00	0.00	0.00	0.00	0.00
80.91	2.00	0.00	0.00	0.00	0.00	80.97	2.00	0.00	0.00	0.00	0.00
81.06	2.00	0.00	0.00	0.00	0.00	81.12	2.00	0.00	0.00	0.00	0.00
81.18	2.00	0.00	0.00	0.00	0.00	81.26	2.00	0.00	0.00	0.00	0.00
81.30	2.00	0.00	0.00	0.00	0.00	81.39	2.00	0.00	0.00	0.00	0.00
81.43	2.00	0.00	0.00	0.00	0.00	81.52	2.00	0.00	0.00	0.00	0.00
81.60	2.00	0.00	0.00	0.00	0.00	81.64	2.00	0.00	0.00	0.00	0.00
81.70	2.00	0.00	0.00	0.00	0.00	81.76	2.00	0.00	0.00	0.00	0.00
81.86	2.00	0.00	0.00	0.00	0.00	81.92	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
81.97	2.00	0.00	0.00	0.00	0.00	82.02	2.00	0.00	0.00	0.00	0.00
82.13	2.00	0.00	0.00	0.00	0.00	82.18	2.00	0.00	0.00	0.00	0.00
82.25	2.00	0.00	0.00	0.00	0.00	82.31	2.00	0.00	0.00	0.00	0.00
82.39	2.00	0.00	0.00	0.00	0.00	82.42	2.00	0.00	0.00	0.00	0.00
82.49	2.00	0.00	0.00	0.00	0.00	82.59	2.00	0.00	0.00	0.00	0.00
82.64	2.00	0.00	0.00	0.00	0.00	82.69	2.00	0.00	0.00	0.00	0.00
82.77	2.00	0.00	0.00	0.00	0.00	82.83	2.00	0.00	0.00	0.00	0.00
82.90	2.00	0.00	0.00	0.00	0.00	82.96	2.00	0.00	0.00	0.00	0.00
83.01	2.00	0.00	0.00	0.00	0.00	83.11	2.00	0.00	0.00	0.00	0.00
83.15	2.00	0.00	0.00	0.00	0.00	83.21	2.00	0.00	0.00	0.00	0.00
83.30	2.00	0.00	0.00	0.00	0.00	83.36	2.00	0.00	0.00	0.00	0.00
83.41	2.00	0.00	0.00	0.00	0.00	83.47	2.00	0.00	0.00	0.00	0.00
83.56	2.00	0.00	0.00	0.00	0.00	83.62	2.00	0.00	0.00	0.00	0.00
83.68	2.00	0.00	0.00	0.00	0.00	83.73	2.00	0.00	0.00	0.00	0.00
83.82	2.00	0.00	0.00	0.00	0.00	83.88	2.00	0.00	0.00	0.00	0.00
83.94	2.00	0.00	0.00	0.00	0.00	84.03	2.00	0.00	0.00	0.00	0.00
84.09	2.00	0.00	0.00	0.00	0.00	84.14	2.00	0.00	0.00	0.00	0.00
84.19	2.00	0.00	0.00	0.00	0.00	84.28	2.00	0.00	0.00	0.00	0.00
84.35	2.00	0.00	0.00	0.00	0.00	84.39	2.00	0.00	0.00	0.00	0.00
84.45	2.00	0.00	0.00	0.00	0.00	84.53	2.00	0.00	0.00	0.00	0.00
84.60	2.00	0.00	0.00	0.00	0.00	84.65	2.00	0.00	0.00	0.00	0.00
84.74	2.00	0.00	0.00	0.00	0.00	84.80	2.00	0.00	0.00	0.00	0.00
84.86	2.00	0.00	0.00	0.00	0.00	84.92	2.00	0.00	0.00	0.00	0.00
84.98	2.00	0.00	0.00	0.00	0.00	85.06	2.00	0.00	0.00	0.00	0.00
85.12	2.00	0.00	0.00	0.00	0.00	85.18	2.00	0.00	0.00	0.00	0.00
85.25	2.00	0.00	0.00	0.00	0.00	85.32	2.00	0.00	0.00	0.00	0.00
85.39	2.00	0.00	0.00	0.00	0.00	85.46	2.00	0.00	0.00	0.00	0.00
85.53	2.00	0.00	0.00	0.00	0.00	85.58	2.00	0.00	0.00	0.00	0.00
85.65	2.00	0.00	0.00	0.00	0.00	85.74	2.00	0.00	0.00	0.00	0.00
85.79	2.00	0.00	0.00	0.00	0.00	85.83	2.00	0.00	0.00	0.00	0.00
85.89	2.00	0.00	0.00	0.00	0.00	86.00	2.00	0.00	0.00	0.00	0.00
86.05	2.00	0.00	0.00	0.00	0.00	86.11	2.00	0.00	0.00	0.00	0.00
86.16	2.00	0.00	0.00	0.00	0.00	86.25	2.00	0.00	0.00	0.00	0.00
86.31	2.00	0.00	0.00	0.00	0.00	86.37	2.00	0.00	0.00	0.00	0.00
86.42	2.00	0.00	0.00	0.00	0.00	86.50	2.00	0.00	0.00	0.00	0.00
86.58	2.00	0.00	0.00	0.00	0.00	86.62	2.00	0.00	0.00	0.00	0.00
86.68	2.00	0.00	0.00	0.00	0.00	86.79	2.00	0.00	0.00	0.00	0.00
86.82	2.00	0.00	0.00	0.00	0.00	86.89	2.00	0.00	0.00	0.00	0.00
86.95	2.00	0.00	0.00	0.00	0.00	87.03	2.00	0.00	0.00	0.00	0.00
87.10	2.00	0.00	0.00	0.00	0.00	87.14	2.00	0.00	0.00	0.00	0.00
87.25	2.00	0.00	0.00	0.00	0.00	87.30	2.00	0.00	0.00	0.00	0.00
87.36	2.00	0.00	0.00	0.00	0.00	87.41	2.00	0.00	0.00	0.00	0.00
87.50	2.00	0.00	0.00	0.00	0.00	87.55	2.00	0.00	0.00	0.00	0.00
87.62	2.00	0.00	0.00	0.00	0.00	87.67	2.00	0.00	0.00	0.00	0.00
87.77	2.00	0.00	0.00	0.00	0.00	87.81	2.00	0.00	0.00	0.00	0.00
87.89	2.00	0.00	0.00	0.00	0.00	87.97	2.00	0.00	0.00	0.00	0.00
88.02	2.00	0.00	0.00	0.00	0.00	88.08	2.00	0.00	0.00	0.00	0.00
88.19	2.00	0.00	0.00	0.00	0.00	88.23	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
88.29	2.00	0.00	0.00	0.00	0.00	88.33	2.00	0.00	0.00	0.00	0.00
88.39	2.00	0.00	0.00	0.00	0.00	88.45	2.00	0.00	0.00	0.00	0.00
88.54	2.00	0.00	0.00	0.00	0.00	88.60	2.00	0.00	0.00	0.00	0.00
88.69	2.00	0.00	0.00	0.00	0.00	88.72	2.00	0.00	0.00	0.00	0.00
88.80	2.00	0.00	0.00	0.00	0.00	88.86	2.00	0.00	0.00	0.00	0.00
88.94	2.00	0.00	0.00	0.00	0.00	89.01	2.00	0.00	0.00	0.00	0.00
89.07	2.00	0.00	0.00	0.00	0.00	89.13	2.00	0.00	0.00	0.00	0.00
89.18	2.00	0.00	0.00	0.00	0.00	89.24	2.00	0.00	0.00	0.00	0.00
89.32	2.00	0.00	0.00	0.00	0.00	89.37	2.00	0.00	0.00	0.00	0.00
89.44	2.00	0.00	0.00	0.00	0.00	89.52	2.00	0.00	0.00	0.00	0.00
89.58	2.00	0.00	0.00	0.00	0.00	89.64	2.00	0.00	0.00	0.00	0.00
89.74	2.00	0.00	0.00	0.00	0.00	89.79	2.00	0.00	0.00	0.00	0.00
89.85	2.00	0.00	0.00	0.00	0.00	89.90	2.00	0.00	0.00	0.00	0.00
90.00	2.00	0.00	0.00	0.00	0.00	90.06	2.00	0.00	0.00	0.00	0.00
90.11	2.00	0.00	0.00	0.00	0.00	90.16	2.00	0.00	0.00	0.00	0.00
90.27	2.00	0.00	0.00	0.00	0.00	90.29	2.00	0.00	0.00	0.00	0.00
90.37	2.00	0.00	0.00	0.00	0.00	90.42	2.00	0.00	0.00	0.00	0.00
90.52	2.00	0.00	0.00	0.00	0.00	90.58	2.00	0.00	0.00	0.00	0.00
90.63	2.00	0.00	0.00	0.00	0.00	90.72	2.00	0.00	0.00	0.00	0.00
90.78	2.00	0.00	0.00	0.00	0.00	90.83	2.00	0.00	0.00	0.00	0.00
90.89	2.00	0.00	0.00	0.00	0.00	90.97	2.00	0.00	0.00	0.00	0.00
91.04	2.00	0.00	0.00	0.00	0.00	91.09	2.00	0.00	0.00	0.00	0.00
91.15	2.00	0.00	0.00	0.00	0.00	91.25	2.00	0.00	0.00	0.00	0.00
91.29	2.00	0.00	0.00	0.00	0.00	91.36	2.00	0.00	0.00	0.00	0.00
91.44	2.00	0.00	0.00	0.00	0.00	91.49	2.00	0.00	0.00	0.00	0.00
91.55	2.00	0.00	0.00	0.00	0.00	91.61	2.00	0.00	0.00	0.00	0.00
91.67	2.00	0.00	0.00	0.00	0.00	91.75	2.00	0.00	0.00	0.00	0.00
91.81	2.00	0.00	0.00	0.00	0.00	91.91	2.00	0.00	0.00	0.00	0.00
91.96	2.00	0.00	0.00	0.00	0.00	92.01	2.00	0.00	0.00	0.00	0.00
92.07	2.00	0.00	0.00	0.00	0.00	92.14	2.00	0.00	0.00	0.00	0.00
92.21	2.00	0.00	0.00	0.00	0.00	92.28	2.00	0.00	0.00	0.00	0.00
92.37	2.00	0.00	0.00	0.00	0.00	92.42	2.00	0.00	0.00	0.00	0.00
92.47	2.00	0.00	0.00	0.00	0.00	92.54	2.00	0.00	0.00	0.00	0.00
92.60	2.00	0.00	0.00	0.00	0.00	92.68	2.00	0.00	0.00	0.00	0.00
92.74	2.00	0.00	0.00	0.00	0.00	92.79	2.00	0.00	0.00	0.00	0.00
92.87	2.00	0.00	0.00	0.00	0.00	92.94	2.00	0.00	0.00	0.00	0.00
93.00	2.00	0.00	0.00	0.00	0.00	93.05	2.00	0.00	0.00	0.00	0.00
93.14	2.00	0.00	0.00	0.00	0.00	93.21	2.00	0.00	0.00	0.00	0.00
93.26	2.00	0.00	0.00	0.00	0.00	93.32	2.00	0.00	0.00	0.00	0.00
93.41	2.00	0.00	0.00	0.00	0.00	93.47	2.00	0.00	0.00	0.00	0.00
93.52	2.00	0.00	0.00	0.00	0.00	93.57	2.00	0.00	0.00	0.00	0.00
93.65	2.00	0.00	0.00	0.00	0.00	93.72	2.00	0.00	0.00	0.00	0.00
93.78	2.00	0.00	0.00	0.00	0.00	93.88	2.00	0.00	0.00	0.00	0.00
93.93	2.00	0.00	0.00	0.00	0.00	93.99	2.00	0.00	0.00	0.00	0.00
94.03	2.00	0.00	0.00	0.00	0.00	94.14	2.00	0.00	0.00	0.00	0.00
94.19	2.00	0.00	0.00	0.00	0.00	94.25	2.00	0.00	0.00	0.00	0.00
94.34	2.00	0.00	0.00	0.00	0.00	94.38	2.00	0.00	0.00	0.00	0.00
94.44	2.00	0.00	0.00	0.00	0.00	94.50	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.56	2.00	0.00	0.00	0.00	0.00	94.64	2.00	0.00	0.00	0.00	0.00
94.74	2.00	0.00	0.00	0.00	0.00	94.78	2.00	0.00	0.00	0.00	0.00
94.84	2.00	0.00	0.00	0.00	0.00	94.89	2.00	0.00	0.00	0.00	0.00
94.99	2.00	0.00	0.00	0.00	0.00	95.01	2.00	0.00	0.00	0.00	0.00
95.10	2.00	0.00	0.00	0.00	0.00	95.15	2.00	0.00	0.00	0.00	0.00
95.24	2.00	0.00	0.00	0.00	0.00	95.31	2.00	0.00	0.00	0.00	0.00
95.34	2.00	0.00	0.00	0.00	0.00	95.42	2.00	0.00	0.00	0.00	0.00
95.49	2.00	0.00	0.00	0.00	0.00	95.56	2.00	0.00	0.00	0.00	0.00
95.61	2.00	0.00	0.00	0.00	0.00	95.72	2.00	0.00	0.00	0.00	0.00
95.77	2.00	0.00	0.00	0.00	0.00	95.82	2.00	0.00	0.00	0.00	0.00
95.91	2.00	0.00	0.00	0.00	0.00	95.97	2.00	0.00	0.00	0.00	0.00
96.02	2.00	0.00	0.00	0.00	0.00	96.08	2.00	0.00	0.00	0.00	0.00
96.16	2.00	0.00	0.00	0.00	0.00	96.22	2.00	0.00	0.00	0.00	0.00
96.28	2.00	0.00	0.00	0.00	0.00	96.33	2.00	0.00	0.00	0.00	0.00
96.41	2.00	0.00	0.00	0.00	0.00	96.48	2.00	0.00	0.00	0.00	0.00
96.54	2.00	0.00	0.00	0.00	0.00	96.64	2.00	0.00	0.00	0.00	0.00
96.69	2.00	0.00	0.00	0.00	0.00	96.75	2.00	0.00	0.00	0.00	0.00
96.79	2.00	0.00	0.00	0.00	0.00	96.85	2.00	0.00	0.00	0.00	0.00
96.96	2.00	0.00	0.00	0.00	0.00	97.00	2.00	0.00	0.00	0.00	0.00
97.08	2.00	0.00	0.00	0.00	0.00	97.13	2.00	0.00	0.00	0.00	0.00
97.21	2.00	0.00	0.00	0.00	0.00	97.26	2.00	0.00	0.00	0.00	0.00
97.36	2.00	0.00	0.00	0.00	0.00	97.38	2.00	0.00	0.00	0.00	0.00
97.47	2.00	0.00	0.00	0.00	0.00	97.52	2.00	0.00	0.00	0.00	0.00
97.58	2.00	0.00	0.00	0.00	0.00	97.68	2.00	0.00	0.00	0.00	0.00
97.73	2.00	0.00	0.00	0.00	0.00	97.78	2.00	0.00	0.00	0.00	0.00
97.84	2.00	0.00	0.00	0.00	0.00	97.93	2.00	0.00	0.00	0.00	0.00
97.99	2.00	0.00	0.00	0.00	0.00	98.06	2.00	0.00	0.00	0.00	0.00
98.11	2.00	0.00	0.00	0.00	0.00	98.20	2.00	0.00	0.00	0.00	0.00
98.24	2.00	0.00	0.00	0.00	0.00	98.32	2.00	0.00	0.00	0.00	0.00
98.36	2.00	0.00	0.00	0.00	0.00	98.45	2.00	0.00	0.00	0.00	0.00
98.50	2.00	0.00	0.00	0.00	0.00	98.61	2.00	0.00	0.00	0.00	0.00
98.62	2.00	0.00	0.00	0.00	0.00	98.70	2.00	0.00	0.00	0.00	0.00
98.78	2.00	0.00	0.00	0.00	0.00	98.86	2.00	0.00	0.00	0.00	0.00
98.91	2.00	0.00	0.00	0.00	0.00	98.95	2.00	0.00	0.00	0.00	0.00
99.02	2.00	0.00	0.00	0.00	0.00	99.12	2.00	0.00	0.00	0.00	0.00
99.17	2.00	0.00	0.00	0.00	0.00	99.21	2.00	0.00	0.00	0.00	0.00
99.28	2.00	0.00	0.00	0.00	0.00	99.38	2.00	0.00	0.00	0.00	0.00
99.41	2.00	0.00	0.00	0.00	0.00	99.48	2.00	0.00	0.00	0.00	0.00
99.58	2.00	0.00	0.00	0.00	0.00	99.64	2.00	0.00	0.00	0.00	0.00
99.69	2.00	0.00	0.00	0.00	0.00	99.75	2.00	0.00	0.00	0.00	0.00
99.84	2.00	0.00	0.00	0.00	0.00	99.89	2.00	0.00	0.00	0.00	0.00
99.95	2.00	0.00	0.00	0.00	0.00	100.00	2.00	0.00	0.00	0.00	0.00
100.10	2.00	0.00	0.00	0.00	0.00	100.16	2.00	0.00	0.00	0.00	0.00
100.21	2.00	0.00	0.00	0.00	0.00						

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI

Overall liquefaction potential: 35.62

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.10	4.06	0.09	26.61	2.37	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.13	3.59	4.02	15.73	63.21	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.21	2.73	22.34	4.24	94.80	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.31	2.42	44.98	2.41	108.25	27	542	0.43	0.002	0.00	13.34	0.00	0.000
0.34	2.25	67.47	1.80	121.52	28	654	0.42	0.002	0.00	13.34	0.00	0.000
0.40	2.19	80.24	1.64	131.87	30	720	0.42	0.002	0.00	13.34	0.00	0.000
0.47	2.14	94.88	1.53	144.84	32	796	0.42	0.002	0.00	13.34	0.00	0.000
0.57	2.09	107.55	1.44	155.18	34	853	0.41	0.002	0.00	13.34	0.00	0.000
0.61	2.08	115.70	1.41	163.40	35	898	0.41	0.002	0.00	13.34	0.00	0.000
0.68	2.08	117.95	1.42	167.05	36	918	0.41	0.002	0.00	13.34	0.00	0.000
0.72	2.09	118.33	1.43	169.78	37	934	0.41	0.003	0.00	13.34	0.00	0.000
0.82	2.07	117.78	1.40	164.57	35	903	0.41	0.003	0.00	13.34	0.00	0.000
0.87	2.03	113.30	1.33	151.22	32	825	0.41	0.004	0.00	13.34	0.00	0.000
0.93	1.98	107.21	1.27	136.66	28	737	0.42	0.005	0.00	13.34	0.00	0.000
1.01	1.99	99.43	1.29	127.79	26	691	0.42	0.006	0.00	13.34	0.00	0.000
1.08	2.04	93.33	1.36	126.84	27	694	0.42	0.006	0.00	13.34	0.00	0.000
1.14	2.13	82.66	1.51	124.83	27	686	0.42	0.007	0.00	13.34	0.00	0.000
1.19	2.19	77.16	1.64	126.32	28	690	0.42	0.007	0.00	13.34	0.00	0.000
1.26	2.25	71.85	1.80	129.25	30	695	0.42	0.007	0.00	13.34	0.00	0.000
1.35	2.26	72.53	1.82	132.31	31	710	0.42	0.008	0.00	13.34	0.00	0.000
1.40	2.28	70.61	1.90	134.02	31	713	0.42	0.008	0.00	13.34	0.00	0.000
1.46	2.29	70.51	1.90	134.20	31	714	0.42	0.009	0.00	13.34	0.00	0.000
1.52	2.26	73.90	1.82	134.43	31	722	0.42	0.009	0.01	13.34	0.00	0.000
1.60	2.22	79.00	1.71	135.18	31	734	0.42	0.009	0.01	13.34	0.01	0.000
1.65	2.17	85.68	1.59	136.55	30	748	0.42	0.009	0.01	13.34	0.01	0.000
1.71	2.14	89.41	1.54	137.50	30	755	0.42	0.010	0.01	13.34	0.01	0.000
1.78	2.15	88.27	1.55	136.71	30	751	0.42	0.010	0.01	13.34	0.01	0.000
1.87	2.19	83.09	1.64	135.94	30	743	0.42	0.011	0.01	13.34	0.01	0.000
1.93	2.24	76.70	1.78	136.27	31	735	0.42	0.012	0.01	13.34	0.01	0.000
1.97	2.31	70.41	1.97	138.85	33	733	0.42	0.012	0.01	13.34	0.01	0.000
2.04	2.37	64.31	2.19	140.61	34	723	0.42	0.013	0.01	13.34	0.01	0.000
2.14	2.43	57.97	2.45	142.16	36	707	0.43	0.015	0.01	13.34	0.01	0.000
2.18	2.47	54.13	2.63	142.48	36	694	0.43	0.016	0.01	13.34	0.01	0.000
2.24	2.40	60.37	2.32	140.01	34	708	0.43	0.016	0.01	13.34	0.01	0.000
2.35	2.27	73.82	1.86	137.36	32	734	0.42	0.016	0.01	13.34	0.01	0.000
2.39	2.08	96.51	1.43	137.75	30	757	0.42	0.015	0.01	13.34	0.01	0.000
2.46	1.97	111.29	1.26	140.74	29	757	0.41	0.016	0.01	13.34	0.01	0.000
2.50	1.91	114.48	1.20	137.72	28	725	0.42	0.018	0.01	13.34	0.01	0.000
2.61	1.92	107.64	1.21	130.26	26	687	0.42	0.021	0.01	13.34	0.01	0.000
2.65	1.94	97.61	1.23	119.78	24	636	0.42	0.025	0.02	13.34	0.02	0.000
2.75	1.97	88.61	1.26	111.83	23	601	0.42	0.031	0.03	13.34	0.02	0.001
2.76	2.03	76.97	1.34	102.86	22	561	0.43	0.038	0.03	13.34	0.03	0.000
2.86	2.09	67.57	1.44	97.18	21	534	0.43	0.046	0.04	13.34	0.04	0.001
2.91	2.13	61.03	1.51	91.95	20	506	0.43	0.057	0.06	13.34	0.05	0.001
3.02	2.14	57.79	1.54	88.73	20	488	0.43	0.069	0.07	13.34	0.07	0.002
3.03	2.16	54.35	1.57	85.18	19	467	0.43	0.081	0.09	13.34	0.08	0.000
3.12	2.17	52.23	1.60	83.38	19	457	0.43	0.094	0.10	13.34	0.10	0.002
3.17	2.18	50.35	1.62	81.81	18	447	0.43	0.106	0.12	13.34	0.11	0.001

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
3.22	2.20	48.87	1.67	81.59	18	445	0.43	0.112	0.12	13.34	0.12	0.001
3.29	2.23	46.80	1.75	81.72	19	442	0.43	0.120	0.13	13.34	0.12	0.002
3.38	2.27	44.68	1.84	82.34	19	441	0.43	0.128	0.14	13.34	0.13	0.003
3.44	2.30	43.10	1.94	83.80	20	444	0.43	0.130	0.13	13.34	0.13	0.002
3.48	2.34	41.58	2.09	86.74	21	451	0.43	0.124	0.12	13.34	0.11	0.001
3.55	2.39	41.23	2.28	93.86	23	477	0.43	0.103	0.09	13.34	0.08	0.001
3.65	2.45	40.29	2.53	101.93	26	502	0.43	0.090	0.07	13.34	0.06	0.001
3.69	2.48	41.02	2.65	108.57	28	528	0.43	0.077	0.05	13.34	0.05	0.001
3.76	2.47	41.99	2.64	111.03	28	540	0.43	0.074	0.05	13.34	0.05	0.001
3.85	2.44	45.08	2.48	111.59	28	554	0.43	0.071	0.05	13.34	0.05	0.001
3.90	2.39	49.01	2.27	111.48	27	567	0.43	0.067	0.05	13.34	0.04	0.000
3.95	2.33	54.46	2.05	111.40	27	582	0.43	0.063	0.04	13.34	0.04	0.000
4.02	2.28	58.43	1.89	110.60	26	589	0.42	0.063	0.05	13.34	0.04	0.001
4.11	2.22	60.48	1.71	103.56	24	562	0.42	0.076	0.06	13.34	0.06	0.001
4.16	2.16	59.70	1.57	93.80	21	515	0.43	0.108	0.10	13.34	0.10	0.001
4.21	2.10	58.51	1.45	84.64	18	466	0.43	0.167	0.19	13.34	0.18	0.002
4.31	2.09	56.98	1.44	81.77	18	450	0.43	0.206	0.24	13.34	0.23	0.006
4.37	2.11	55.25	1.47	81.33	18	447	0.43	0.217	0.25	13.34	0.24	0.003
4.42	2.13	53.62	1.52	81.25	18	447	0.43	0.225	0.26	13.34	0.25	0.003
4.47	2.17	50.82	1.59	80.86	18	443	0.43	0.240	0.27	13.34	0.26	0.003
4.53	2.20	48.50	1.66	80.58	18	439	0.43	0.258	0.29	13.34	0.28	0.004
4.60	2.23	45.99	1.75	80.28	18	434	0.43	0.283	0.31	13.34	0.30	0.005
4.68	2.25	44.90	1.80	80.89	19	435	0.43	0.293	0.32	13.34	0.30	0.006
4.73	2.29	43.08	1.93	83.19	20	441	0.43	0.281	0.29	13.34	0.27	0.003
4.83	2.33	41.99	2.06	86.32	21	451	0.43	0.267	0.26	13.34	0.24	0.006
4.88	2.36	41.35	2.16	89.39	22	461	0.43	0.246	0.22	13.34	0.21	0.002
4.93	2.37	41.49	2.19	90.82	22	467	0.43	0.238	0.21	13.34	0.20	0.003
5.03	2.38	41.48	2.21	91.82	22	470	0.43	0.241	0.21	13.34	0.20	0.005
5.09	2.38	41.62	2.23	92.62	23	474	0.43	0.239	0.21	13.34	0.20	0.003
5.14	2.38	42.41	2.21	93.90	23	481	0.43	0.228	0.19	13.34	0.18	0.002
5.25	2.37	42.84	2.21	94.63	23	485	0.43	0.231	0.19	13.34	0.18	0.005
5.29	2.37	42.69	2.20	94.04	23	482	0.43	0.242	0.21	13.34	0.20	0.002
5.35	2.38	41.50	2.23	92.44	23	473	0.43	0.273	0.24	13.34	0.22	0.003
5.38	2.39	39.93	2.26	90.40	22	460	0.43	0.315	0.28	13.34	0.26	0.002
5.46	2.40	38.10	2.33	88.75	22	448	0.43	0.372	0.33	13.34	0.32	0.006
5.55	2.42	36.53	2.40	87.57	22	439	0.43	0.435	0.39	13.34	0.37	0.008
5.59	2.42	36.18	2.41	87.25	22	436	0.43	0.455	0.41	13.34	0.39	0.003
5.65	2.41	37.15	2.34	87.05	21	439	0.43	0.454	0.42	13.34	0.40	0.006
5.72	2.39	38.76	2.26	87.78	21	447	0.43	0.426	0.39	13.34	0.37	0.006
5.81	2.38	40.18	2.22	89.04	22	456	0.43	0.399	0.36	13.34	0.34	0.007
5.86	2.38	40.96	2.23	91.17	22	466	0.43	0.365	0.32	13.34	0.31	0.004
5.92	2.39	41.11	2.25	92.69	23	472	0.43	0.351	0.30	13.34	0.29	0.004
5.98	2.39	40.90	2.29	93.51	23	475	0.43	0.351	0.30	13.34	0.28	0.004
6.08	2.40	40.70	2.30	93.62	23	474	0.43	0.366	0.31	13.34	0.29	0.007
6.13	2.39	40.89	2.27	92.89	23	472	0.43	0.382	0.33	13.34	0.31	0.004
6.20	2.38	41.37	2.22	91.83	22	470	0.43	0.405	0.35	13.34	0.34	0.006
6.24	2.35	42.06	2.13	89.50	22	463	0.43	0.442	0.40	13.34	0.38	0.003
6.33	2.33	42.84	2.03	87.05	21	456	0.43	0.499	0.48	13.34	0.45	0.010

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
6.38	2.30	43.72	1.94	84.59	20	448	0.43	0.560	0.56	13.34	0.54	0.007
6.43	2.27	45.09	1.85	83.37	19	446	0.43	0.586	0.61	13.34	0.58	0.007
6.54	2.25	46.31	1.79	82.78	19	446	0.42	0.614	0.65	13.34	0.62	0.016
6.59	2.23	47.58	1.74	82.59	19	447	0.42	0.616	0.66	13.34	0.63	0.007
6.63	2.22	48.36	1.71	82.72	19	449	0.42	0.614	0.66	13.34	0.63	0.007
6.70	2.21	48.89	1.69	82.77	19	450	0.42	0.623	0.67	13.34	0.64	0.011
6.80	2.21	49.08	1.69	82.76	19	450	0.42	0.646	0.70	13.34	0.66	0.015
6.84	2.21	48.63	1.70	82.62	19	449	0.42	0.669	0.72	13.34	0.69	0.008
6.91	2.22	47.99	1.72	82.52	19	448	0.42	0.699	0.75	13.34	0.72	0.012
6.96	2.23	47.49	1.75	83.02	19	449	0.42	0.699	0.74	13.34	0.71	0.008
7.05	2.24	47.58	1.77	84.12	19	454	0.42	0.680	0.71	13.34	0.67	0.014
7.10	2.24	48.76	1.76	85.84	20	464	0.42	0.617	0.63	13.34	0.60	0.007
7.16	2.22	51.21	1.73	88.52	20	480	0.42	0.527	0.52	13.34	0.49	0.007
7.27	2.21	54.00	1.69	91.36	21	497	0.42	0.456	0.44	13.34	0.42	0.010
7.31	2.20	56.99	1.66	94.83	21	517	0.42	0.380	0.35	13.34	0.33	0.003
7.39	2.19	59.10	1.65	97.31	22	531	0.42	0.342	0.31	13.34	0.29	0.006
7.43	2.19	61.31	1.64	100.70	23	550	0.42	0.294	0.25	13.34	0.24	0.002
7.52	2.20	62.73	1.66	103.96	23	567	0.42	0.264	0.22	13.34	0.21	0.005
7.58	2.20	64.39	1.68	108.02	24	588	0.42	0.229	0.18	13.34	0.17	0.002
7.65	2.21	65.71	1.69	111.12	25	604	0.42	0.208	0.16	13.34	0.15	0.003
7.70	2.21	67.03	1.69	113.61	26	618	0.42	0.193	0.14	13.34	0.14	0.002
7.79	2.21	67.76	1.70	114.92	26	625	0.42	0.189	0.14	13.34	0.13	0.003
7.83	2.21	68.69	1.69	116.23	26	632	0.42	0.183	0.13	13.34	0.12	0.001
7.92	2.15	70.60	1.55	109.56	24	602	0.42	0.230	0.18	13.34	0.17	0.003
8.00	2.06	73.53	1.39	102.27	22	561	0.42	0.321	0.29	13.34	0.27	0.005

Total estimated settlement: 0.35

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vd(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
8.04	101.15	0.32	3.18	1.00	0.02	8.09	96.95	0.31	3.32	1.00	0.02
8.16	98.97	0.31	3.25	1.00	0.03	8.20	101.68	0.32	3.16	1.00	0.02
8.29	91.71	0.29	3.51	1.00	0.04	8.36	98.52	0.31	3.26	1.00	0.03
8.41	96.72	0.30	3.32	1.00	0.02	8.51	95.52	0.30	3.37	1.00	0.04
8.56	94.35	0.29	3.41	1.00	0.02	8.62	93.39	0.29	3.44	1.00	0.02
8.67	93.25	0.29	3.45	1.00	0.02	8.73	91.98	0.28	3.50	1.00	0.03
8.81	92.00	0.28	3.50	1.00	0.03	8.87	92.00	0.28	3.50	1.00	0.02
8.93	91.97	0.28	3.50	1.00	0.03	9.03	91.25	0.28	3.52	1.00	0.04
9.09	91.31	0.28	3.52	1.00	0.02	9.12	91.56	0.28	3.51	1.00	0.02
9.19	91.25	0.27	3.52	1.00	0.03	9.28	91.75	0.27	3.50	1.00	0.04

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
9.34	91.97	0.27	3.50	1.00	0.02	9.40	91.83	0.27	3.50	1.00	0.02
9.50	92.45	0.27	3.48	1.00	0.04	9.55	91.84	0.27	3.50	1.00	0.02
9.60	92.15	0.27	3.49	1.00	0.02	9.66	92.37	0.27	3.48	1.00	0.02
9.72	93.05	0.27	3.46	1.00	0.03	9.81	93.53	0.27	3.44	1.00	0.04
9.86	94.42	0.27	3.41	1.00	0.02	9.95	96.03	0.27	3.35	1.00	0.04
10.02	98.09	0.28	3.28	1.00	0.03	10.07	99.50	0.28	3.23	1.00	0.02
10.11	100.92	0.29	3.18	1.00	0.02	10.19	104.42	0.30	3.07	1.00	0.03
10.28	108.32	0.31	2.96	1.00	0.03	10.33	110.21	0.31	2.91	1.00	0.02
10.37	112.11	0.32	2.85	1.00	0.02	10.45	116.00	0.34	2.75	1.00	0.02
10.54	119.44	0.35	2.67	1.00	0.03	10.58	121.03	0.36	2.63	1.00	0.01
10.65	124.53	0.38	2.55	1.00	0.02	10.75	127.70	0.39	2.48	1.00	0.03
10.79	129.33	0.40	2.45	1.00	0.01	10.83	130.80	0.41	2.42	1.00	0.01
10.90	133.67	0.43	2.36	1.00	0.02	11.00	135.77	0.45	2.32	1.00	0.03
11.06	136.75	0.46	2.30	1.00	0.01	11.10	137.39	0.46	2.29	1.00	0.01
11.16	138.82	0.47	2.26	1.00	0.02	11.26	140.25	0.48	2.24	1.00	0.03
11.31	141.14	0.49	2.22	1.00	0.01	11.40	143.64	0.52	2.18	1.00	0.02
11.43	145.14	0.53	2.15	1.00	0.01	11.52	148.46	0.57	2.10	1.00	0.02
11.59	150.38	0.60	2.07	1.00	0.02	11.62	144.79	0.52	2.16	1.00	0.01
11.69	153.25	0.64	2.03	1.00	0.02	11.78	158.26	0.73	1.60	1.00	0.02
11.82	161.14	0.79	1.33	1.00	0.01	11.90	163.23	0.83	1.17	1.00	0.01
11.94	165.57	0.90	1.00	1.00	0.01	12.04	166.84	0.93	0.93	1.00	0.01
12.10	167.90	0.96	0.86	1.00	0.01	12.15	168.10	0.97	0.85	1.00	0.01
12.21	168.44	0.97	0.83	1.00	0.01	12.31	168.78	0.98	0.82	1.00	0.01
12.36	169.26	1.00	0.79	1.00	0.00	12.41	169.53	1.01	0.78	1.00	0.01
12.47	169.42	1.00	0.79	1.00	0.01	12.57	169.57	1.00	0.78	1.00	0.01
12.61	169.63	1.00	0.78	1.00	0.00	12.67	169.60	1.00	0.79	1.00	0.01
12.73	169.58	1.00	0.79	1.00	0.01	12.82	168.22	0.95	0.88	1.00	0.01
12.88	166.97	0.91	0.96	1.00	0.01	12.93	165.25	0.86	1.08	1.00	0.01
13.03	161.88	0.77	1.35	1.00	0.02	13.07	160.59	0.74	1.48	1.00	0.01
13.14	158.61	0.70	1.69	1.00	0.01	13.19	157.46	0.68	1.83	1.00	0.01
13.29	156.51	0.66	1.94	1.00	0.02	13.35	155.64	0.64	1.99	1.00	0.01
13.39	155.45	0.64	1.99	1.00	0.01	13.49	154.79	0.62	2.00	1.00	0.03
13.56	154.49	0.62	2.01	1.00	0.02	13.60	154.31	0.61	2.01	1.00	0.01
13.65	153.97	0.61	2.01	1.00	0.01	13.74	152.67	0.59	2.03	1.00	0.02
13.81	151.48	0.57	2.05	1.00	0.02	13.87	149.95	0.55	2.08	1.00	0.01
13.91	148.75	0.53	2.10	1.00	0.01	14.02	144.76	0.48	2.16	1.00	0.03
14.05	143.18	0.46	2.19	1.00	0.01	14.11	140.30	0.44	2.24	1.00	0.02
14.18	137.92	0.42	2.28	1.00	0.02	14.26	137.56	0.41	2.29	1.00	0.02
14.33	137.05	0.41	2.30	1.00	0.02	14.37	137.06	0.41	2.30	1.00	0.01
14.47	135.74	0.40	2.32	1.00	0.03	14.54	134.60	0.39	2.34	1.00	0.02
14.59	134.05	0.38	2.35	1.00	0.01	14.65	133.53	0.38	2.36	1.00	0.02
14.73	127.53	0.34	2.49	1.00	0.02	14.78	127.37	0.34	2.49	1.00	0.02
14.84	127.21	0.34	2.49	1.00	0.02	14.94	128.55	0.34	2.46	1.00	0.03
14.99	126.73	0.33	2.50	1.00	0.02	15.04	124.28	0.32	2.56	1.00	0.02
15.10	122.07	0.31	2.61	1.00	0.02	15.18	119.27	0.30	2.67	1.00	0.03
15.26	117.74	0.29	2.71	1.00	0.02	15.30	116.60	0.29	2.74	1.00	0.01
15.41	114.08	0.28	2.80	1.00	0.04	15.46	113.08	0.27	2.83	1.00	0.02
15.50	112.82	0.27	2.84	1.00	0.01	15.56	112.18	0.27	2.85	1.00	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
15.67	111.15	0.27	2.88	1.00	0.04	15.72	110.77	0.26	2.89	1.00	0.02
15.75	110.73	0.26	2.89	1.00	0.01	15.82	110.77	0.26	2.89	1.00	0.02
15.91	110.52	0.26	2.90	1.00	0.03	15.98	111.00	0.26	2.88	1.00	0.02
16.03	111.10	0.26	2.88	1.00	0.02	16.08	111.36	0.26	2.87	1.00	0.02
16.18	111.28	0.26	2.88	1.00	0.03	16.22	111.33	0.26	2.87	1.00	0.01
16.29	111.19	0.26	2.88	1.00	0.02	16.34	110.74	0.26	2.89	1.00	0.02
16.42	110.63	0.26	2.89	1.00	0.03	16.49	110.86	0.26	2.89	1.00	0.02
16.54	110.10	0.26	2.91	1.00	0.02	16.65	112.59	0.26	2.84	1.00	0.04
16.70	112.74	0.26	2.84	1.00	0.02	16.76	115.48	0.27	2.77	1.00	0.02
16.84	118.47	0.28	2.69	1.00	0.03	16.87	120.01	0.29	2.65	1.00	0.01
16.96	121.94	0.30	2.61	1.00	0.03	17.01	122.46	0.30	2.60	1.00	0.02
17.10	123.21	0.30	2.58	1.00	0.03	17.13	123.29	0.30	2.58	1.00	0.01
17.22	123.24	0.30	2.58	1.00	0.03	17.27	123.32	0.30	2.58	1.00	0.02
17.33	124.00	0.30	2.56	1.00	0.02	17.43	124.46	0.31	2.55	1.00	0.03
17.48	124.39	0.31	2.55	1.00	0.01	17.56	122.31	0.30	2.60	1.00	0.03
17.59	120.38	0.29	2.65	1.00	0.01	17.69	115.46	0.27	2.77	1.00	0.03
17.74	112.19	0.26	2.85	1.00	0.02	17.79	96.13	0.22	3.34	1.00	0.02
17.86	97.42	0.22	3.30	1.00	0.03	17.92	97.66	0.22	3.29	1.00	0.02
17.98	98.84	0.22	3.25	1.00	0.03	18.06	100.72	0.23	3.19	1.00	0.03
18.11	101.57	0.23	3.16	1.00	0.02	18.22	101.18	0.23	3.17	1.00	0.04
18.27	100.41	0.22	3.20	1.00	0.02	18.33	99.90	0.22	3.22	1.00	0.02
18.38	99.61	0.22	3.23	1.00	0.02	18.48	99.84	0.22	3.22	1.00	0.04
18.53	99.58	0.22	3.23	1.00	0.02	18.59	99.49	0.22	3.23	1.00	0.02
18.64	99.28	0.22	3.24	1.00	0.02	18.71	98.98	0.22	3.25	1.00	0.03
18.77	98.50	0.22	3.26	1.00	0.02	18.84	97.64	0.22	3.29	1.00	0.02
18.91	96.72	0.21	3.32	1.00	0.03	19.00	95.67	0.21	3.36	1.00	0.04
19.05	95.02	0.21	3.38	1.00	0.02	19.11	94.41	0.21	3.41	1.00	0.02
19.21	93.78	0.21	3.43	1.00	0.04	19.26	93.06	0.21	3.46	1.00	0.02
19.32	92.90	0.20	3.46	1.00	0.02	19.36	92.98	0.20	3.46	1.00	0.02
19.43	92.75	0.20	3.47	1.00	0.03	19.52	92.59	0.20	3.47	1.00	0.04
19.57	92.57	0.20	3.47	1.00	0.02	19.62	92.58	0.20	3.47	1.00	0.02
19.72	92.35	0.20	3.48	1.00	0.04	19.78	91.71	0.20	3.51	1.00	0.02
19.83	92.64	0.20	3.47	1.00	0.02	19.91	91.60	0.20	3.51	1.00	0.03
19.95	92.46	0.20	3.48	1.00	0.02	20.04	91.82	0.20	3.50	1.00	0.04
20.09	92.98	0.20	3.46	1.00	0.02	20.16	92.96	0.20	3.46	1.00	0.03
20.25	92.70	0.20	3.47	1.00	0.03	20.30	94.32	0.20	3.41	1.00	0.02
20.36	94.22	0.20	3.41	1.00	0.03	20.45	96.75	0.21	3.32	1.00	0.04
20.50	99.29	0.21	3.24	1.00	0.02	20.56	104.65	0.23	3.07	1.00	0.02
20.65	105.68	0.23	3.04	1.00	0.03	20.67	107.78	0.23	2.97	1.00	0.01
20.77	105.53	0.23	3.04	1.00	0.04	20.82	105.29	0.23	3.05	1.00	0.02
20.91	106.81	0.23	3.00	1.00	0.04	20.94	107.81	0.23	2.97	1.00	0.01
21.02	107.45	0.23	2.98	1.00	0.03	21.07	104.62	0.22	3.07	1.00	0.02
21.18	99.74	0.21	3.22	1.00	0.04	21.23	90.53	0.19	3.55	1.00	0.02
21.28	90.10	0.19	3.57	1.00	0.02	21.33	96.75	0.21	3.32	1.00	0.02
21.42	91.29	0.20	3.52	1.00	0.04	21.48	98.46	0.21	3.26	1.00	0.02
21.53	99.19	0.21	3.24	1.00	0.02	21.59	100.53	0.21	3.20	1.00	0.02
21.67	100.68	0.21	3.19	1.00	0.03	21.72	103.53	0.22	3.10	1.00	0.02
21.79	102.89	0.22	3.12	1.00	0.03	21.89	105.56	0.22	3.04	1.00	0.04

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
21.93	106.72	0.23	3.00	1.00	0.01	22.00	109.75	0.23	2.92	1.00	0.02
22.05	110.53	0.24	2.90	1.00	0.02	22.15	113.72	0.25	2.81	1.00	0.03
22.18	113.89	0.25	2.81	1.00	0.01	22.26	114.79	0.25	2.78	1.00	0.03
22.34	114.59	0.25	2.79	1.00	0.03	22.40	113.15	0.24	2.83	1.00	0.02
22.47	112.71	0.24	2.84	1.00	0.02	22.52	111.67	0.24	2.87	1.00	0.02
22.62	111.13	0.24	2.88	1.00	0.04	22.67	110.48	0.23	2.90	1.00	0.02
22.72	110.33	0.23	2.90	1.00	0.02	22.77	110.47	0.23	2.90	1.00	0.02
22.86	110.03	0.23	2.91	1.00	0.03	22.94	109.41	0.23	2.93	1.00	0.03
22.99	109.40	0.23	2.93	1.00	0.02	23.04	109.38	0.23	2.93	1.00	0.02
23.10	108.37	0.23	2.96	1.00	0.02	23.20	106.97	0.22	3.00	1.00	0.04
23.25	107.46	0.23	2.98	1.00	0.02	23.33	104.91	0.22	3.06	1.00	0.03
23.36	104.83	0.22	3.06	1.00	0.01	23.45	102.00	0.21	3.15	1.00	0.03
23.50	101.63	0.21	3.16	1.00	0.02	23.58	99.64	0.21	3.22	1.00	0.03
23.65	99.01	0.21	3.25	1.00	0.03	23.71	99.19	0.21	3.24	1.00	0.02
23.79	101.35	0.21	3.17	1.00	0.03	23.83	102.06	0.21	3.15	1.00	0.01
23.92	107.06	0.22	2.99	1.00	0.03	23.96	106.94	0.22	3.00	1.00	0.01
24.04	114.42	0.24	2.79	1.00	0.03	24.13	119.02	0.26	2.68	1.00	0.03
24.18	116.91	0.25	2.73	1.00	0.02	24.22	119.00	0.26	2.68	1.00	0.01
24.28	121.26	0.26	2.63	1.00	0.02	24.38	120.61	0.26	2.64	1.00	0.03
24.42	110.14	0.23	2.91	1.00	0.01	24.48	108.72	0.23	2.95	1.00	0.02
24.59	107.02	0.22	3.00	1.00	0.04	24.64	106.35	0.22	3.02	1.00	0.02
24.68	109.50	0.23	2.93	1.00	0.01	24.75	130.69	0.30	2.42	1.00	0.02
24.82	114.75	0.24	2.78	1.00	0.02	24.89	138.83	0.35	2.26	1.00	0.02
24.94	136.21	0.33	2.31	1.00	0.02	25.05	132.45	0.31	2.39	1.00	0.03
25.10	132.93	0.31	2.38	1.00	0.01	25.14	129.76	0.30	2.44	1.00	0.01
25.21	124.81	0.28	2.55	1.00	0.02	25.27	119.27	0.26	2.67	1.00	0.02
25.36	112.54	0.23	2.84	1.00	0.03	25.41	109.50	0.23	2.93	1.00	0.02
25.46	100.73	0.21	3.19	1.00	0.02	25.57	32.36	2.00	0.00	1.00	0.00
25.62	26.54	2.00	0.00	1.00	0.00	25.66	23.88	2.00	0.00	1.00	0.00
25.73	18.13	2.00	0.00	1.00	0.00	25.83	14.04	2.00	0.00	1.00	0.00
25.88	12.81	2.00	0.00	1.00	0.00	25.96	11.14	2.00	0.00	1.00	0.00
25.99	10.71	2.00	0.00	1.00	0.00	26.09	10.05	2.00	0.00	1.00	0.00
26.14	9.90	2.00	0.00	1.00	0.00	26.19	9.61	2.00	0.00	1.00	0.00
26.29	9.23	2.00	0.00	1.00	0.00	26.32	9.23	2.00	0.00	1.00	0.00
26.38	9.08	2.00	0.00	1.00	0.00	26.45	9.00	2.00	0.00	1.00	0.00
26.55	8.83	2.00	0.00	1.00	0.00	26.59	8.76	2.00	0.00	1.00	0.00
26.68	8.53	2.00	0.00	1.00	0.00	26.71	8.45	2.00	0.00	1.00	0.00
26.81	8.44	2.00	0.00	1.00	0.00	26.86	8.43	2.00	0.00	1.00	0.00
26.92	8.42	2.00	0.00	1.00	0.00	26.99	8.47	2.00	0.00	1.00	0.00
27.07	8.67	2.00	0.00	1.00	0.00	27.12	8.59	2.00	0.00	1.00	0.00
27.22	8.09	2.00	0.00	1.00	0.00	27.27	7.94	2.00	0.00	1.00	0.00
27.33	7.93	2.00	0.00	1.00	0.00	27.38	7.92	2.00	0.00	1.00	0.00
27.43	7.92	2.00	0.00	1.00	0.00	27.54	8.17	2.00	0.00	1.00	0.00
27.59	8.23	2.00	0.00	1.00	0.00	27.69	8.28	2.00	0.00	1.00	0.00
27.73	8.21	2.00	0.00	1.00	0.00	27.79	8.00	2.00	0.00	1.00	0.00
27.84	7.99	2.00	0.00	1.00	0.00	27.91	7.23	2.00	0.00	1.00	0.00
27.97	6.82	2.00	0.00	1.00	0.00	28.03	7.35	2.00	0.00	1.00	0.00
28.11	7.40	2.00	0.00	1.00	0.00	28.16	7.60	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
28.26	7.85	2.00	0.00	1.00	0.00	28.29	7.92	2.00	0.00	1.00	0.00
28.36	8.17	2.00	0.00	1.00	0.00	28.45	8.70	2.00	0.00	1.00	0.00
28.48	9.17	2.00	0.00	1.00	0.00	28.57	10.30	2.00	0.00	1.00	0.00
28.62	10.83	2.00	0.00	1.00	0.00	28.71	11.55	2.00	0.00	1.00	0.00
28.78	11.94	2.00	0.00	1.00	0.00	28.83	12.34	2.00	0.00	1.00	0.00
28.88	13.07	2.00	0.00	1.00	0.00	28.96	14.34	2.00	0.00	1.00	0.00
29.04	13.84	2.00	0.00	1.00	0.00	29.09	13.15	2.00	0.00	1.00	0.00
29.14	13.79	2.00	0.00	1.00	0.00	29.23	12.18	2.00	0.00	1.00	0.00
29.30	13.71	2.00	0.00	1.00	0.00	29.35	14.71	2.00	0.00	1.00	0.00
29.45	15.15	2.00	0.00	1.00	0.00	29.48	14.67	2.00	0.00	1.00	0.00
29.56	12.30	2.00	0.00	1.00	0.00	29.60	14.54	2.00	0.00	1.00	0.00
29.66	12.01	2.00	0.00	1.00	0.00	29.76	14.39	2.00	0.00	1.00	0.00
29.81	15.65	2.00	0.00	1.00	0.00	29.86	17.67	2.00	0.00	1.00	0.00
29.93	23.74	2.00	0.00	1.00	0.00	30.02	34.38	2.00	0.00	1.00	0.00
30.07	101.37	0.20	3.17	1.00	0.02	30.12	106.25	0.21	3.02	1.00	0.02
30.18	116.74	0.24	2.73	1.00	0.02	30.29	126.15	0.27	2.52	1.00	0.03
30.32	128.62	0.28	2.46	1.00	0.01	30.39	134.96	0.31	2.34	1.00	0.02
30.49	140.30	0.34	2.24	1.00	0.03	30.54	142.07	0.36	2.21	1.00	0.01
30.59	143.50	0.37	2.18	1.00	0.01	30.64	146.37	0.39	2.13	1.00	0.01
30.75	143.29	0.37	2.19	1.00	0.03	30.80	136.11	0.32	2.31	1.00	0.01
30.86	123.76	0.26	2.57	1.00	0.02	30.94	118.71	0.24	2.69	1.00	0.03
31.01	119.41	0.25	2.67	1.00	0.02	31.06	124.39	0.26	2.55	1.00	0.02
31.11	113.77	0.23	2.81	1.00	0.02	31.19	123.15	0.26	2.58	1.00	0.02
31.25	125.51	0.27	2.53	1.00	0.02	31.35	126.05	0.27	2.52	1.00	0.03
31.40	124.64	0.26	2.55	1.00	0.02	31.43	124.22	0.26	2.56	1.00	0.01
31.50	121.61	0.25	2.62	1.00	0.02	31.58	125.12	0.26	2.54	1.00	0.02
31.66	123.32	0.26	2.58	1.00	0.03	31.70	124.67	0.26	2.55	1.00	0.01
31.77	128.21	0.28	2.47	1.00	0.02	31.86	130.61	0.29	2.42	1.00	0.03
31.92	131.30	0.29	2.41	1.00	0.02	31.98	130.03	0.29	2.43	1.00	0.02
32.03	129.31	0.28	2.45	1.00	0.01	32.10	126.57	0.27	2.51	1.00	0.02
32.18	122.48	0.25	2.60	1.00	0.03	32.23	121.13	0.25	2.63	1.00	0.01
32.33	115.15	0.23	2.77	1.00	0.04	32.38	114.74	0.23	2.78	1.00	0.02
32.43	114.61	0.23	2.79	1.00	0.02	32.49	117.72	0.24	2.71	1.00	0.02
32.57	125.53	0.27	2.53	1.00	0.02	32.64	137.28	0.32	2.29	1.00	0.02
32.69	140.70	0.34	2.23	1.00	0.01	32.75	147.56	0.40	2.11	1.00	0.01
32.85	150.04	0.42	2.07	1.00	0.03	32.90	147.82	0.40	2.11	1.00	0.01
32.95	146.14	0.38	2.14	1.00	0.01	33.05	142.85	0.36	2.19	1.00	0.03
33.10	141.50	0.35	2.22	1.00	0.01	33.16	140.13	0.34	2.24	1.00	0.02
33.22	139.28	0.33	2.26	1.00	0.02	33.30	137.66	0.32	2.29	1.00	0.02
33.34	139.09	0.33	2.26	1.00	0.01	33.42	136.51	0.32	2.31	1.00	0.02
33.47	136.06	0.31	2.32	1.00	0.01	33.56	128.99	0.28	2.46	1.00	0.03
33.60	125.10	0.26	2.54	1.00	0.01	33.69	130.48	0.29	2.42	1.00	0.02
33.73	122.31	0.25	2.60	1.00	0.01	33.82	128.19	0.28	2.47	1.00	0.02
33.89	138.34	0.33	2.27	1.00	0.02	33.94	140.35	0.34	2.24	1.00	0.01
33.99	136.89	0.32	2.30	1.00	0.01	34.09	130.62	0.29	2.42	1.00	0.03
34.14	130.00	0.28	2.43	1.00	0.02	34.20	131.22	0.29	2.41	1.00	0.02
34.29	126.00	0.27	2.52	1.00	0.03	34.34	132.16	0.29	2.39	1.00	0.02
34.41	135.09	0.31	2.33	1.00	0.02	34.47	136.10	0.31	2.31	1.00	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
34.56	139.45	0.33	2.25	1.00	0.02	34.61	138.15	0.33	2.28	1.00	0.01
34.66	140.46	0.34	2.23	1.00	0.01	34.71	138.06	0.32	2.28	1.00	0.01
34.80	139.37	0.33	2.25	1.00	0.02	34.87	142.23	0.35	2.20	1.00	0.02
34.91	144.07	0.37	2.17	1.00	0.01	35.02	145.17	0.37	2.15	1.00	0.03
35.06	144.09	0.37	2.17	1.00	0.01	35.12	144.34	0.37	2.17	1.00	0.02
35.18	144.02	0.36	2.17	1.00	0.02	35.26	146.26	0.38	2.14	1.00	0.02
35.33	148.73	0.40	2.10	1.00	0.02	35.39	150.27	0.42	2.07	1.00	0.01
35.44	148.62	0.40	2.10	1.00	0.01	35.53	149.40	0.41	2.08	1.00	0.02
35.58	147.57	0.39	2.11	1.00	0.01	35.65	146.29	0.38	2.14	1.00	0.02
35.73	139.87	0.34	2.25	1.00	0.02	35.79	138.36	0.33	2.27	1.00	0.02
35.85	132.05	0.29	2.39	1.00	0.02	35.91	134.88	0.31	2.34	1.00	0.02
35.99	131.32	0.29	2.41	1.00	0.02	36.02	136.97	0.32	2.30	1.00	0.01
36.12	135.32	0.31	2.33	1.00	0.03	36.16	140.76	0.34	2.23	1.00	0.01
36.25	136.26	0.31	2.31	1.00	0.02	36.31	137.15	0.32	2.30	1.00	0.02
36.37	124.19	0.26	2.56	1.00	0.02	36.42	118.21	0.24	2.70	1.00	0.02
36.52	38.34	2.00	0.00	1.00	0.00	36.55	31.81	2.00	0.00	1.00	0.00
36.63	22.44	2.00	0.00	1.00	0.00	36.69	19.28	2.00	0.00	1.00	0.00
36.78	15.55	2.00	0.00	1.00	0.00	36.82	13.20	2.00	0.00	1.00	0.00
36.90	10.53	2.00	0.00	1.00	0.00	36.99	9.81	2.00	0.00	1.00	0.00
37.03	9.75	2.00	0.00	1.00	0.00	37.10	9.91	2.00	0.00	1.00	0.00
37.15	10.14	2.00	0.00	1.00	0.00	37.24	10.53	2.00	0.00	1.00	0.00
37.29	10.70	2.00	0.00	1.00	0.00	37.35	10.92	2.00	0.00	1.00	0.00
37.41	11.26	2.00	0.00	1.00	0.00	37.50	10.09	2.00	0.00	1.00	0.00
37.55	11.47	2.00	0.00	1.00	0.00	37.61	11.82	2.00	0.00	1.00	0.00
37.70	11.80	2.00	0.00	1.00	0.00	37.76	12.02	2.00	0.00	1.00	0.00
37.80	12.13	2.00	0.00	1.00	0.00	37.87	12.18	2.00	0.00	1.00	0.00
37.93	11.88	2.00	0.00	1.00	0.00	38.02	11.51	2.00	0.00	1.00	0.00
38.08	10.81	2.00	0.00	1.00	0.00	38.14	10.46	2.00	0.00	1.00	0.00
38.21	10.34	2.00	0.00	1.00	0.00	38.28	10.39	2.00	0.00	1.00	0.00
38.34	9.93	2.00	0.00	1.00	0.00	38.39	9.46	2.00	0.00	1.00	0.00
38.48	9.12	2.00	0.00	1.00	0.00	38.54	8.94	2.00	0.00	1.00	0.00
38.59	8.82	2.00	0.00	1.00	0.00	38.67	8.59	2.00	0.00	1.00	0.00
38.75	8.81	2.00	0.00	1.00	0.00	38.80	8.59	2.00	0.00	1.00	0.00
38.85	8.81	2.00	0.00	1.00	0.00	38.95	8.97	2.00	0.00	1.00	0.00
39.01	9.26	2.00	0.00	1.00	0.00	39.06	9.48	2.00	0.00	1.00	0.00
39.11	9.76	2.00	0.00	1.00	0.00	39.21	10.45	2.00	0.00	1.00	0.00
39.26	10.67	2.00	0.00	1.00	0.00	39.32	10.78	2.00	0.00	1.00	0.00
39.38	10.15	2.00	0.00	1.00	0.00	39.48	10.79	2.00	0.00	1.00	0.00
39.52	10.42	2.00	0.00	1.00	0.00	39.58	10.82	2.00	0.00	1.00	0.00
39.67	11.27	2.00	0.00	1.00	0.00	39.71	11.78	2.00	0.00	1.00	0.00
39.78	12.93	2.00	0.00	1.00	0.00	39.83	13.56	2.00	0.00	1.00	0.00
39.90	14.43	2.00	0.00	1.00	0.00	39.99	14.95	2.00	0.00	1.00	0.00
40.04	15.64	2.00	0.00	1.00	0.00	40.10	17.14	2.00	0.00	1.00	0.00
40.21	25.60	2.00	0.00	1.00	0.00	40.25	86.98	0.17	3.70	1.00	0.02
40.32	90.12	0.18	3.57	1.00	0.03	40.36	90.67	0.18	3.55	1.00	0.02
40.45	90.46	0.18	3.55	1.00	0.04	40.51	30.35	2.00	0.00	1.00	0.00
40.56	23.92	2.00	0.00	1.00	0.00	40.66	26.98	2.00	0.00	1.00	0.00
40.68	25.88	2.00	0.00	1.00	0.00	40.75	24.12	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
40.82	21.95	2.00	0.00	1.00	0.00	40.93	23.97	2.00	0.00	1.00	0.00
40.96	20.62	2.00	0.00	1.00	0.00	41.03	23.79	2.00	0.00	1.00	0.00
41.08	27.90	2.00	0.00	1.00	0.00	41.17	112.16	0.22	2.85	1.00	0.03
41.24	122.13	0.25	2.61	1.00	0.02	41.28	124.05	0.25	2.56	1.00	0.01
41.34	126.40	0.26	2.51	1.00	0.02	41.41	125.84	0.26	2.52	1.00	0.02
41.50	123.07	0.25	2.58	1.00	0.03	41.55	119.49	0.24	2.67	1.00	0.02
41.63	115.56	0.23	2.76	1.00	0.02	41.71	110.38	0.21	2.90	1.00	0.03
41.74	108.51	0.21	2.95	1.00	0.01	41.80	38.68	2.00	0.00	1.00	0.00
41.91	32.19	2.00	0.00	1.00	0.00	41.96	26.82	2.00	0.00	1.00	0.00
42.02	25.37	2.00	0.00	1.00	0.00	42.07	24.52	2.00	0.00	1.00	0.00
42.15	24.24	2.00	0.00	1.00	0.00	42.22	29.44	2.00	0.00	1.00	0.00
42.27	33.65	2.00	0.00	1.00	0.00	42.35	107.39	0.21	2.99	1.00	0.03
42.43	114.07	0.22	2.80	1.00	0.03	42.49	115.81	0.23	2.76	1.00	0.02
42.57	121.06	0.24	2.63	1.00	0.03	42.59	122.74	0.25	2.59	1.00	0.01
42.69	127.68	0.27	2.48	1.00	0.03	42.74	129.58	0.28	2.44	1.00	0.01
42.80	133.58	0.30	2.36	1.00	0.02	42.90	136.37	0.31	2.31	1.00	0.02
42.95	136.91	0.31	2.30	1.00	0.01	43.00	137.65	0.32	2.29	1.00	0.01
43.05	138.10	0.32	2.28	1.00	0.01	43.16	139.87	0.33	2.25	1.00	0.03
43.21	137.18	0.31	2.29	1.00	0.01	43.28	134.67	0.30	2.34	1.00	0.02
43.32	134.76	0.30	2.34	1.00	0.01	43.42	137.03	0.31	2.30	1.00	0.03
43.46	143.10	0.35	2.19	1.00	0.01	43.51	125.22	0.26	2.54	1.00	0.02
43.58	145.71	0.37	2.14	1.00	0.02	43.67	149.65	0.41	2.08	1.00	0.02
43.72	152.21	0.43	2.04	1.00	0.01	43.79	158.13	0.50	1.84	1.00	0.01
43.84	160.50	0.53	1.70	1.00	0.01	43.92	164.17	0.60	1.50	1.00	0.02
43.99	167.49	0.66	1.33	1.00	0.01	44.04	168.48	0.68	1.29	1.00	0.01
44.12	171.00	0.74	1.18	1.00	0.01	44.20	173.61	0.81	1.08	1.00	0.01
44.24	174.57	0.84	1.03	1.00	0.01	44.30	174.66	0.84	1.03	1.00	0.01
44.36	175.10	0.86	1.00	1.00	0.01	44.45	175.10	0.86	1.00	1.00	0.01
44.51	174.35	0.83	1.05	1.00	0.01	44.55	174.51	0.84	1.04	1.00	0.01
44.67	172.56	0.78	1.12	1.00	0.02	44.72	171.65	0.76	1.15	1.00	0.01
44.76	171.49	0.75	1.16	1.00	0.01	44.82	170.72	0.73	1.19	1.00	0.01
44.93	170.90	0.74	1.19	1.00	0.02	44.98	170.77	0.74	1.19	1.00	0.01
45.04	169.10	0.69	1.26	1.00	0.01	45.08	168.59	0.68	1.28	1.00	0.01
45.18	166.95	0.65	1.36	1.00	0.02	45.23	165.91	0.63	1.41	1.00	0.01
45.29	166.16	0.63	1.40	1.00	0.01	45.34	165.61	0.62	1.42	1.00	0.01
45.42	166.33	0.64	1.39	1.00	0.01	45.50	167.24	0.65	1.35	1.00	0.01
45.54	166.13	0.63	1.40	1.00	0.01	45.63	167.46	0.66	1.34	1.00	0.01
45.70	166.18	0.63	1.40	1.00	0.01	45.73	166.50	0.64	1.38	1.00	0.01
45.80	165.73	0.62	1.42	1.00	0.01	45.90	165.63	0.62	1.42	1.00	0.02
45.96	165.05	0.61	1.45	1.00	0.01	46.02	165.82	0.63	1.41	1.00	0.01
46.07	163.96	0.59	1.51	1.00	0.01	46.13	165.25	0.61	1.44	1.00	0.01
46.21	163.21	0.58	1.55	1.00	0.02	46.27	160.11	0.53	1.72	1.00	0.01
46.37	157.82	0.50	1.86	1.00	0.02	46.43	159.57	0.52	1.75	1.00	0.01
46.47	168.28	0.68	1.30	1.00	0.01	46.52	151.70	0.43	2.05	1.00	0.01
46.62	175.02	0.85	1.01	1.00	0.01	46.68	172.48	0.78	1.12	1.00	0.01
46.72	174.81	0.85	1.02	1.00	0.01	46.79	179.41	1.01	0.72	1.00	0.01
46.87	181.63	1.10	0.60	1.00	0.01	46.94	182.59	1.15	0.55	1.00	0.00
46.99	184.15	1.23	0.46	1.00	0.00	47.09	184.20	1.23	0.46	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
47.13	183.25	1.18	0.51	1.00	0.00	47.20	181.25	1.09	0.62	1.00	0.00
47.26	179.90	1.03	0.70	1.00	0.00	47.33	178.26	0.96	0.79	1.00	0.01
47.40	176.18	0.89	0.93	1.00	0.01	47.46	178.66	0.98	0.77	1.00	0.01
47.51	178.76	0.98	0.76	1.00	0.00	47.61	182.39	1.14	0.56	1.00	0.01
47.66	182.12	1.13	0.57	1.00	0.00	47.72	182.04	1.12	0.58	1.00	0.00
47.79	181.00	1.08	0.63	1.00	0.01	47.87	176.19	0.89	0.93	1.00	0.01
47.92	176.04	0.89	0.94	1.00	0.01	47.97	177.56	0.94	0.84	1.00	0.00
48.08	167.74	0.66	1.32	1.00	0.02	48.13	170.03	0.72	1.22	1.00	0.01
48.17	169.82	0.71	1.23	1.00	0.01	48.23	172.65	0.78	1.11	1.00	0.01
48.34	171.24	0.75	1.17	1.00	0.02	48.37	162.47	0.57	1.59	1.00	0.01
48.44	169.92	0.71	1.23	1.00	0.01	48.55	169.51	0.70	1.24	1.00	0.02
48.59	169.99	0.72	1.22	1.00	0.01	48.64	170.28	0.72	1.21	1.00	0.01
48.70	169.78	0.71	1.23	1.00	0.01	48.79	167.62	0.66	1.33	1.00	0.01
48.84	166.78	0.64	1.37	1.00	0.01	48.90	165.29	0.62	1.44	1.00	0.01
48.96	164.43	0.60	1.48	1.00	0.01	49.06	163.25	0.58	1.54	1.00	0.02
49.09	163.31	0.58	1.54	1.00	0.00	49.16	162.94	0.57	1.56	1.00	0.01
49.21	162.13	0.56	1.61	1.00	0.01	49.29	162.83	0.57	1.57	1.00	0.01
49.37	162.42	0.56	1.59	1.00	0.01	49.42	161.96	0.56	1.61	1.00	0.01
49.48	161.40	0.55	1.65	1.00	0.01	49.57	161.44	0.55	1.64	1.00	0.02
49.63	160.64	0.54	1.69	1.00	0.01	49.70	159.87	0.53	1.73	1.00	0.01
49.77	159.00	0.51	1.79	1.00	0.02	49.84	157.85	0.50	1.86	1.00	0.02
49.90	156.78	0.48	1.92	1.00	0.01	49.94	156.89	0.49	1.92	1.00	0.01
50.03	155.87	2.00	0.00	1.00	0.00	50.07	155.04	2.00	0.00	1.00	0.00
50.15	150.58	2.00	0.00	1.00	0.00	50.20	150.43	2.00	0.00	1.00	0.00
50.30	144.29	2.00	0.00	1.00	0.00	50.34	142.97	2.00	0.00	1.00	0.00
50.41	136.86	2.00	0.00	1.00	0.00	50.47	132.36	2.00	0.00	1.00	0.00
50.57	131.15	2.00	0.00	1.00	0.00	50.62	131.50	2.00	0.00	1.00	0.00
50.67	132.60	2.00	0.00	1.00	0.00	50.76	134.68	2.00	0.00	1.00	0.00
50.83	136.17	2.00	0.00	1.00	0.00	50.86	137.40	2.00	0.00	1.00	0.00
50.92	139.13	2.00	0.00	1.00	0.00	50.99	140.81	2.00	0.00	1.00	0.00
51.06	134.41	2.00	0.00	1.00	0.00	51.14	148.44	2.00	0.00	1.00	0.00
51.20	149.22	2.00	0.00	1.00	0.00	51.25	148.64	2.00	0.00	1.00	0.00
51.34	148.49	2.00	0.00	1.00	0.00	51.40	148.60	2.00	0.00	1.00	0.00
51.45	148.67	2.00	0.00	1.00	0.00	51.56	149.84	2.00	0.00	1.00	0.00
51.61	148.96	2.00	0.00	1.00	0.00	51.66	148.52	2.00	0.00	1.00	0.00
51.72	147.18	2.00	0.00	1.00	0.00	51.81	144.87	2.00	0.00	1.00	0.00
51.87	143.01	2.00	0.00	1.00	0.00	51.92	140.36	2.00	0.00	1.00	0.00
51.98	137.38	2.00	0.00	1.00	0.00	52.08	132.82	2.00	0.00	1.00	0.00
52.13	131.23	2.00	0.00	1.00	0.00	52.18	129.05	2.00	0.00	1.00	0.00
52.26	126.84	2.00	0.00	1.00	0.00	52.32	126.01	2.00	0.00	1.00	0.00
52.36	125.60	2.00	0.00	1.00	0.00	52.47	125.63	2.00	0.00	1.00	0.00
52.50	125.78	2.00	0.00	1.00	0.00	52.58	126.06	2.00	0.00	1.00	0.00
52.65	128.05	2.00	0.00	1.00	0.00	52.75	129.68	2.00	0.00	1.00	0.00
52.80	132.28	2.00	0.00	1.00	0.00	52.85	132.92	2.00	0.00	1.00	0.00
52.91	134.13	2.00	0.00	1.00	0.00	52.95	134.28	2.00	0.00	1.00	0.00
53.08	133.94	2.00	0.00	1.00	0.00	53.12	134.06	2.00	0.00	1.00	0.00
53.16	134.40	2.00	0.00	1.00	0.00	53.24	134.98	2.00	0.00	1.00	0.00
53.29	135.19	2.00	0.00	1.00	0.00	53.37	136.78	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
53.42	137.33	2.00	0.00	1.00	0.00	53.50	139.42	2.00	0.00	1.00	0.00
53.59	140.60	2.00	0.00	1.00	0.00	53.63	141.37	2.00	0.00	1.00	0.00
53.68	142.49	2.00	0.00	1.00	0.00	53.78	146.21	2.00	0.00	1.00	0.00
53.84	151.14	2.00	0.00	1.00	0.00	53.89	152.96	2.00	0.00	1.00	0.00
53.94	155.30	2.00	0.00	1.00	0.00	54.04	157.09	2.00	0.00	1.00	0.00
54.08	143.70	2.00	0.00	1.00	0.00	54.15	151.11	2.00	0.00	1.00	0.00
54.23	154.24	2.00	0.00	1.00	0.00	54.29	152.71	2.00	0.00	1.00	0.00
54.34	151.66	2.00	0.00	1.00	0.00	54.40	150.73	2.00	0.00	1.00	0.00
54.47	149.79	2.00	0.00	1.00	0.00	54.55	148.90	2.00	0.00	1.00	0.00
54.60	148.42	2.00	0.00	1.00	0.00	54.69	148.82	2.00	0.00	1.00	0.00
54.76	151.95	2.00	0.00	1.00	0.00	54.81	155.12	2.00	0.00	1.00	0.00
54.86	158.49	2.00	0.00	1.00	0.00	54.99	180.87	2.00	0.00	1.00	0.00
55.02	182.50	2.00	0.00	1.00	0.00	55.07	180.51	2.00	0.00	1.00	0.00
55.14	180.42	2.00	0.00	1.00	0.00	55.22	174.07	2.00	0.00	1.00	0.00
55.27	167.28	2.00	0.00	1.00	0.00	55.33	173.95	2.00	0.00	1.00	0.00
55.42	165.58	2.00	0.00	1.00	0.00	55.47	168.22	2.00	0.00	1.00	0.00
55.52	172.95	2.00	0.00	1.00	0.00	55.61	179.21	2.00	0.00	1.00	0.00
55.67	182.69	2.00	0.00	1.00	0.00	55.73	184.97	2.00	0.00	1.00	0.00
55.78	184.51	2.00	0.00	1.00	0.00	55.89	180.89	2.00	0.00	1.00	0.00
55.94	176.90	2.00	0.00	1.00	0.00	55.98	175.32	2.00	0.00	1.00	0.00
56.04	171.16	2.00	0.00	1.00	0.00	56.10	171.48	2.00	0.00	1.00	0.00
56.19	172.18	2.00	0.00	1.00	0.00	56.24	178.44	2.00	0.00	1.00	0.00
56.34	178.98	2.00	0.00	1.00	0.00	56.40	183.64	2.00	0.00	1.00	0.00
56.45	185.11	2.00	0.00	1.00	0.00	56.51	184.84	2.00	0.00	1.00	0.00
56.59	183.14	2.00	0.00	1.00	0.00	56.66	181.56	2.00	0.00	1.00	0.00
56.70	176.96	2.00	0.00	1.00	0.00	56.76	177.03	2.00	0.00	1.00	0.00
56.87	175.89	2.00	0.00	1.00	0.00	56.90	177.97	2.00	0.00	1.00	0.00
56.97	177.73	2.00	0.00	1.00	0.00	57.02	185.67	2.00	0.00	1.00	0.00
57.09	185.11	2.00	0.00	1.00	0.00	57.19	191.74	2.00	0.00	1.00	0.00
57.23	196.31	2.00	0.00	1.00	0.00	57.28	199.28	2.00	0.00	1.00	0.00
57.39	202.69	2.00	0.00	1.00	0.00	57.42	203.67	2.00	0.00	1.00	0.00
57.48	203.87	2.00	0.00	1.00	0.00	57.58	199.48	2.00	0.00	1.00	0.00
57.65	199.58	2.00	0.00	1.00	0.00	57.70	197.94	2.00	0.00	1.00	0.00
57.76	194.04	2.00	0.00	1.00	0.00	57.85	196.07	2.00	0.00	1.00	0.00
57.90	192.82	2.00	0.00	1.00	0.00	57.94	189.57	2.00	0.00	1.00	0.00
58.01	190.57	2.00	0.00	1.00	0.00	58.11	195.67	2.00	0.00	1.00	0.00
58.14	200.14	2.00	0.00	1.00	0.00	58.22	208.48	2.00	0.00	1.00	0.00
58.27	212.37	2.00	0.00	1.00	0.00	58.35	217.19	2.00	0.00	1.00	0.00
58.42	224.32	2.00	0.00	1.00	0.00	58.48	228.36	2.00	0.00	1.00	0.00
58.53	230.22	2.00	0.00	1.00	0.00	58.63	233.81	2.00	0.00	1.00	0.00
58.69	233.88	2.00	0.00	1.00	0.00	58.74	231.86	2.00	0.00	1.00	0.00
58.83	233.69	2.00	0.00	1.00	0.00	58.86	230.88	2.00	0.00	1.00	0.00
58.92	228.51	2.00	0.00	1.00	0.00	59.00	224.33	2.00	0.00	1.00	0.00
59.10	215.79	2.00	0.00	1.00	0.00	59.14	211.94	2.00	0.00	1.00	0.00
59.20	208.74	2.00	0.00	1.00	0.00	59.26	205.16	2.00	0.00	1.00	0.00
59.36	199.99	2.00	0.00	1.00	0.00	59.41	201.94	2.00	0.00	1.00	0.00
59.46	202.74	2.00	0.00	1.00	0.00	59.52	202.19	2.00	0.00	1.00	0.00
59.60	204.22	2.00	0.00	1.00	0.00	59.66	202.42	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
59.73	203.70	2.00	0.00	1.00	0.00	59.83	203.49	2.00	0.00	1.00	0.00
59.89	204.35	2.00	0.00	1.00	0.00	59.93	203.78	2.00	0.00	1.00	0.00
59.98	203.89	2.00	0.00	1.00	0.00	60.05	203.76	2.00	0.00	1.00	0.00
60.14	199.93	2.00	0.00	1.00	0.00	60.19	198.15	2.00	0.00	1.00	0.00
60.24	198.39	2.00	0.00	1.00	0.00	60.33	195.64	2.00	0.00	1.00	0.00
60.40	194.49	2.00	0.00	1.00	0.00	60.45	194.48	2.00	0.00	1.00	0.00
60.50	192.77	2.00	0.00	1.00	0.00	60.60	188.24	2.00	0.00	1.00	0.00
60.66	182.89	2.00	0.00	1.00	0.00	60.71	179.97	2.00	0.00	1.00	0.00
60.80	173.90	2.00	0.00	1.00	0.00	60.84	168.93	2.00	0.00	1.00	0.00
60.91	161.50	2.00	0.00	1.00	0.00	60.97	156.33	2.00	0.00	1.00	0.00
61.05	152.74	2.00	0.00	1.00	0.00	61.12	152.22	2.00	0.00	1.00	0.00
61.18	155.33	2.00	0.00	1.00	0.00	61.23	161.26	2.00	0.00	1.00	0.00
61.32	156.54	2.00	0.00	1.00	0.00	61.37	162.16	2.00	0.00	1.00	0.00
61.42	163.70	2.00	0.00	1.00	0.00	61.52	163.94	2.00	0.00	1.00	0.00
61.58	158.50	2.00	0.00	1.00	0.00	61.63	160.59	2.00	0.00	1.00	0.00
61.69	148.39	2.00	0.00	1.00	0.00	61.78	129.81	2.00	0.00	1.00	0.00
61.83	50.17	2.00	0.00	1.00	0.00	61.89	44.07	2.00	0.00	1.00	0.00
61.99	27.48	2.00	0.00	1.00	0.00	62.04	24.17	2.00	0.00	1.00	0.00
62.10	22.76	2.00	0.00	1.00	0.00	62.15	19.88	2.00	0.00	1.00	0.00
62.24	18.10	2.00	0.00	1.00	0.00	62.30	15.67	2.00	0.00	1.00	0.00
62.35	14.34	2.00	0.00	1.00	0.00	62.42	12.08	2.00	0.00	1.00	0.00
62.50	11.33	2.00	0.00	1.00	0.00	62.55	10.59	2.00	0.00	1.00	0.00
62.60	10.34	2.00	0.00	1.00	0.00	62.68	9.99	2.00	0.00	1.00	0.00
62.77	10.03	2.00	0.00	1.00	0.00	62.82	10.08	2.00	0.00	1.00	0.00
62.87	10.12	2.00	0.00	1.00	0.00	62.95	10.37	2.00	0.00	1.00	0.00
63.03	11.25	2.00	0.00	1.00	0.00	63.08	12.33	2.00	0.00	1.00	0.00
63.15	15.14	2.00	0.00	1.00	0.00	63.19	16.00	2.00	0.00	1.00	0.00
63.29	15.89	2.00	0.00	1.00	0.00	63.34	15.63	2.00	0.00	1.00	0.00
63.45	15.27	2.00	0.00	1.00	0.00	63.47	15.57	2.00	0.00	1.00	0.00
63.55	19.48	2.00	0.00	1.00	0.00	63.60	24.07	2.00	0.00	1.00	0.00
63.69	41.26	2.00	0.00	1.00	0.00	63.72	116.80	2.00	0.00	1.00	0.00
63.80	134.88	2.00	0.00	1.00	0.00	63.86	134.17	2.00	0.00	1.00	0.00
63.95	129.84	2.00	0.00	1.00	0.00	63.99	128.63	2.00	0.00	1.00	0.00
64.07	123.06	2.00	0.00	1.00	0.00	64.12	122.11	2.00	0.00	1.00	0.00
64.19	117.85	2.00	0.00	1.00	0.00	64.25	122.83	2.00	0.00	1.00	0.00
64.34	120.04	2.00	0.00	1.00	0.00	64.39	122.07	2.00	0.00	1.00	0.00
64.45	122.12	2.00	0.00	1.00	0.00	64.54	124.33	2.00	0.00	1.00	0.00
64.60	125.71	2.00	0.00	1.00	0.00	64.66	126.68	2.00	0.00	1.00	0.00
64.71	127.96	2.00	0.00	1.00	0.00	64.78	128.73	2.00	0.00	1.00	0.00
64.84	129.09	2.00	0.00	1.00	0.00	64.91	129.35	2.00	0.00	1.00	0.00
65.01	129.98	2.00	0.00	1.00	0.00	65.07	130.28	2.00	0.00	1.00	0.00
65.12	131.17	2.00	0.00	1.00	0.00	65.16	131.73	2.00	0.00	1.00	0.00
65.23	133.49	2.00	0.00	1.00	0.00	65.32	136.15	2.00	0.00	1.00	0.00
65.38	136.16	2.00	0.00	1.00	0.00	65.43	136.45	2.00	0.00	1.00	0.00
65.49	135.90	2.00	0.00	1.00	0.00	65.57	134.60	2.00	0.00	1.00	0.00
65.64	134.96	2.00	0.00	1.00	0.00	65.69	135.58	2.00	0.00	1.00	0.00
65.78	140.39	2.00	0.00	1.00	0.00	65.82	141.71	2.00	0.00	1.00	0.00
65.90	145.06	2.00	0.00	1.00	0.00	65.94	146.92	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
66.04	147.80	2.00	0.00	1.00	0.00	66.11	148.01	2.00	0.00	1.00	0.00
66.16	147.13	2.00	0.00	1.00	0.00	66.25	145.10	2.00	0.00	1.00	0.00
66.28	144.47	2.00	0.00	1.00	0.00	66.36	144.25	2.00	0.00	1.00	0.00
66.42	144.41	2.00	0.00	1.00	0.00	66.52	143.66	2.00	0.00	1.00	0.00
66.55	143.05	2.00	0.00	1.00	0.00	66.63	141.50	2.00	0.00	1.00	0.00
66.68	140.59	2.00	0.00	1.00	0.00	66.76	138.26	2.00	0.00	1.00	0.00
66.84	135.05	2.00	0.00	1.00	0.00	66.88	133.58	2.00	0.00	1.00	0.00
66.93	132.11	2.00	0.00	1.00	0.00	67.03	128.02	2.00	0.00	1.00	0.00
67.06	126.13	2.00	0.00	1.00	0.00	67.14	122.17	2.00	0.00	1.00	0.00
67.20	120.92	2.00	0.00	1.00	0.00	67.29	109.20	2.00	0.00	1.00	0.00
67.34	109.56	2.00	0.00	1.00	0.00	67.39	117.22	2.00	0.00	1.00	0.00
67.50	110.14	2.00	0.00	1.00	0.00	67.55	43.62	2.00	0.00	1.00	0.00
67.59	40.95	2.00	0.00	1.00	0.00	67.66	35.93	2.00	0.00	1.00	0.00
67.75	31.67	2.00	0.00	1.00	0.00	67.81	29.72	2.00	0.00	1.00	0.00
67.87	26.87	2.00	0.00	1.00	0.00	67.92	26.12	2.00	0.00	1.00	0.00
68.01	24.98	2.00	0.00	1.00	0.00	68.08	25.39	2.00	0.00	1.00	0.00
68.12	25.33	2.00	0.00	1.00	0.00	68.22	23.23	2.00	0.00	1.00	0.00
68.27	21.54	2.00	0.00	1.00	0.00	68.32	19.80	2.00	0.00	1.00	0.00
68.38	16.36	2.00	0.00	1.00	0.00	68.47	13.83	2.00	0.00	1.00	0.00
68.52	13.85	2.00	0.00	1.00	0.00	68.59	13.85	2.00	0.00	1.00	0.00
68.65	13.87	2.00	0.00	1.00	0.00	68.73	14.65	2.00	0.00	1.00	0.00
68.80	14.84	2.00	0.00	1.00	0.00	68.86	14.15	2.00	0.00	1.00	0.00
68.90	13.65	2.00	0.00	1.00	0.00	68.98	13.31	2.00	0.00	1.00	0.00
69.06	13.74	2.00	0.00	1.00	0.00	69.11	14.32	2.00	0.00	1.00	0.00
69.19	17.99	2.00	0.00	1.00	0.00	69.23	23.24	2.00	0.00	1.00	0.00
69.32	38.30	2.00	0.00	1.00	0.00	69.37	109.91	2.00	0.00	1.00	0.00
69.43	130.51	2.00	0.00	1.00	0.00	69.50	84.33	2.00	0.00	1.00	0.00
69.56	144.19	2.00	0.00	1.00	0.00	69.65	142.96	2.00	0.00	1.00	0.00
69.71	143.85	2.00	0.00	1.00	0.00	69.76	142.35	2.00	0.00	1.00	0.00
69.86	138.23	2.00	0.00	1.00	0.00	69.92	134.39	2.00	0.00	1.00	0.00
69.95	132.85	2.00	0.00	1.00	0.00	70.02	128.81	2.00	0.00	1.00	0.00
70.12	122.49	2.00	0.00	1.00	0.00	70.17	117.56	2.00	0.00	1.00	0.00
70.23	113.68	2.00	0.00	1.00	0.00	70.28	112.70	2.00	0.00	1.00	0.00
70.38	40.63	2.00	0.00	1.00	0.00	70.42	37.71	2.00	0.00	1.00	0.00
70.48	32.16	2.00	0.00	1.00	0.00	70.55	28.97	2.00	0.00	1.00	0.00
70.63	26.01	2.00	0.00	1.00	0.00	70.70	22.12	2.00	0.00	1.00	0.00
70.74	20.04	2.00	0.00	1.00	0.00	70.81	16.78	2.00	0.00	1.00	0.00
70.89	13.70	2.00	0.00	1.00	0.00	70.95	11.49	2.00	0.00	1.00	0.00
71.00	10.97	2.00	0.00	1.00	0.00	71.10	10.54	2.00	0.00	1.00	0.00
71.14	10.35	2.00	0.00	1.00	0.00	71.21	10.55	2.00	0.00	1.00	0.00
71.30	10.43	2.00	0.00	1.00	0.00	71.33	10.57	2.00	0.00	1.00	0.00
71.43	11.23	2.00	0.00	1.00	0.00	71.47	11.65	2.00	0.00	1.00	0.00
71.52	12.26	2.00	0.00	1.00	0.00	71.60	13.69	2.00	0.00	1.00	0.00
71.65	14.37	2.00	0.00	1.00	0.00	71.73	15.24	2.00	0.00	1.00	0.00
71.82	15.82	2.00	0.00	1.00	0.00	71.88	16.45	2.00	0.00	1.00	0.00
71.94	18.17	2.00	0.00	1.00	0.00	71.99	19.06	2.00	0.00	1.00	0.00
72.09	19.16	2.00	0.00	1.00	0.00	72.14	18.35	2.00	0.00	1.00	0.00
72.20	16.57	2.00	0.00	1.00	0.00	72.25	18.14	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
72.31	17.94	2.00	0.00	1.00	0.00	72.40	21.75	2.00	0.00	1.00	0.00
72.45	34.85	2.00	0.00	1.00	0.00	72.51	116.27	2.00	0.00	1.00	0.00
72.60	129.99	2.00	0.00	1.00	0.00	72.65	136.25	2.00	0.00	1.00	0.00
72.72	139.29	2.00	0.00	1.00	0.00	72.78	134.27	2.00	0.00	1.00	0.00
72.84	133.93	2.00	0.00	1.00	0.00	72.93	131.11	2.00	0.00	1.00	0.00
72.98	128.56	2.00	0.00	1.00	0.00	73.07	120.05	2.00	0.00	1.00	0.00
73.11	117.55	2.00	0.00	1.00	0.00	73.17	111.23	2.00	0.00	1.00	0.00
73.24	40.26	2.00	0.00	1.00	0.00	73.33	32.63	2.00	0.00	1.00	0.00
73.38	29.09	2.00	0.00	1.00	0.00	73.45	23.90	2.00	0.00	1.00	0.00
73.50	21.82	2.00	0.00	1.00	0.00	73.59	18.26	2.00	0.00	1.00	0.00
73.66	15.22	2.00	0.00	1.00	0.00	73.71	14.40	2.00	0.00	1.00	0.00
73.76	13.92	2.00	0.00	1.00	0.00	73.84	13.06	2.00	0.00	1.00	0.00
73.91	12.35	2.00	0.00	1.00	0.00	73.97	12.06	2.00	0.00	1.00	0.00
74.04	11.40	2.00	0.00	1.00	0.00	74.10	11.26	2.00	0.00	1.00	0.00
74.17	11.30	2.00	0.00	1.00	0.00	74.22	11.34	2.00	0.00	1.00	0.00
74.30	11.15	2.00	0.00	1.00	0.00	74.38	10.77	2.00	0.00	1.00	0.00
74.43	10.54	2.00	0.00	1.00	0.00	74.53	10.26	2.00	0.00	1.00	0.00
74.55	10.17	2.00	0.00	1.00	0.00	74.64	10.12	2.00	0.00	1.00	0.00
74.69	10.20	2.00	0.00	1.00	0.00	74.77	10.48	2.00	0.00	1.00	0.00
74.84	11.31	2.00	0.00	1.00	0.00	74.90	11.96	2.00	0.00	1.00	0.00
74.95	12.76	2.00	0.00	1.00	0.00	75.05	14.65	2.00	0.00	1.00	0.00
75.11	17.05	2.00	0.00	1.00	0.00	75.15	18.91	2.00	0.00	1.00	0.00
75.20	21.90	2.00	0.00	1.00	0.00	75.27	31.00	2.00	0.00	1.00	0.00
75.36	40.38	2.00	0.00	1.00	0.00	75.41	39.31	2.00	0.00	1.00	0.00
75.46	49.29	2.00	0.00	1.00	0.00	75.55	47.96	2.00	0.00	1.00	0.00
75.61	48.91	2.00	0.00	1.00	0.00	75.66	45.18	2.00	0.00	1.00	0.00
75.75	48.50	2.00	0.00	1.00	0.00	75.82	56.42	2.00	0.00	1.00	0.00
75.87	67.14	2.00	0.00	1.00	0.00	75.94	153.45	2.00	0.00	1.00	0.00
76.03	168.78	2.00	0.00	1.00	0.00	76.07	173.56	2.00	0.00	1.00	0.00
76.12	176.71	2.00	0.00	1.00	0.00	76.18	185.25	2.00	0.00	1.00	0.00
76.28	188.09	2.00	0.00	1.00	0.00	76.33	188.27	2.00	0.00	1.00	0.00
76.39	187.02	2.00	0.00	1.00	0.00	76.44	180.83	2.00	0.00	1.00	0.00
76.55	175.50	2.00	0.00	1.00	0.00	76.58	168.39	2.00	0.00	1.00	0.00
76.64	165.88	2.00	0.00	1.00	0.00	76.74	159.99	2.00	0.00	1.00	0.00
76.80	158.08	2.00	0.00	1.00	0.00	76.84	160.51	2.00	0.00	1.00	0.00
76.91	158.37	2.00	0.00	1.00	0.00	77.01	144.47	2.00	0.00	1.00	0.00
77.04	143.08	2.00	0.00	1.00	0.00	77.11	132.62	2.00	0.00	1.00	0.00
77.21	117.29	2.00	0.00	1.00	0.00	77.27	42.59	2.00	0.00	1.00	0.00
77.31	38.49	2.00	0.00	1.00	0.00	77.39	29.29	2.00	0.00	1.00	0.00
77.47	24.34	2.00	0.00	1.00	0.00	77.53	19.78	2.00	0.00	1.00	0.00
77.57	17.97	2.00	0.00	1.00	0.00	77.66	15.09	2.00	0.00	1.00	0.00
77.73	15.04	2.00	0.00	1.00	0.00	77.79	14.56	2.00	0.00	1.00	0.00
77.83	14.89	2.00	0.00	1.00	0.00	77.89	15.73	2.00	0.00	1.00	0.00
77.96	16.35	2.00	0.00	1.00	0.00	78.05	17.25	2.00	0.00	1.00	0.00
78.10	17.78	2.00	0.00	1.00	0.00	78.18	18.89	2.00	0.00	1.00	0.00
78.22	19.76	2.00	0.00	1.00	0.00	78.31	21.68	2.00	0.00	1.00	0.00
78.35	22.72	2.00	0.00	1.00	0.00	78.46	24.42	2.00	0.00	1.00	0.00
78.49	24.52	2.00	0.00	1.00	0.00	78.56	21.65	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
78.62	28.50	2.00	0.00	1.00	0.00	78.69	31.37	2.00	0.00	1.00	0.00
78.76	42.53	2.00	0.00	1.00	0.00	78.83	119.56	2.00	0.00	1.00	0.00
78.89	127.92	2.00	0.00	1.00	0.00	78.95	133.29	2.00	0.00	1.00	0.00
79.02	135.92	2.00	0.00	1.00	0.00	79.10	136.60	2.00	0.00	1.00	0.00
79.15	136.47	2.00	0.00	1.00	0.00	79.22	135.17	2.00	0.00	1.00	0.00
79.30	132.56	2.00	0.00	1.00	0.00	79.36	130.03	2.00	0.00	1.00	0.00
79.41	129.50	2.00	0.00	1.00	0.00	79.46	129.23	2.00	0.00	1.00	0.00
79.53	130.49	2.00	0.00	1.00	0.00	79.62	132.04	2.00	0.00	1.00	0.00
79.68	134.29	2.00	0.00	1.00	0.00	79.72	134.84	2.00	0.00	1.00	0.00
79.80	136.33	2.00	0.00	1.00	0.00	79.87	137.40	2.00	0.00	1.00	0.00
79.93	137.89	2.00	0.00	1.00	0.00	80.01	136.87	2.00	0.00	1.00	0.00
80.05	136.26	2.00	0.00	1.00	0.00	80.14	135.11	2.00	0.00	1.00	0.00
80.19	133.63	2.00	0.00	1.00	0.00	80.29	131.58	2.00	0.00	1.00	0.00
80.34	130.73	2.00	0.00	1.00	0.00	80.40	128.95	2.00	0.00	1.00	0.00
80.47	62.26	2.00	0.00	1.00	0.00	80.56	62.06	2.00	0.00	1.00	0.00
80.60	64.40	2.00	0.00	1.00	0.00	80.66	135.32	2.00	0.00	1.00	0.00
80.75	137.25	2.00	0.00	1.00	0.00	80.81	138.29	2.00	0.00	1.00	0.00
80.86	137.64	2.00	0.00	1.00	0.00	80.91	136.61	2.00	0.00	1.00	0.00
80.97	135.48	2.00	0.00	1.00	0.00	81.06	130.60	2.00	0.00	1.00	0.00
81.12	128.56	2.00	0.00	1.00	0.00	81.18	53.43	2.00	0.00	1.00	0.00
81.26	43.64	2.00	0.00	1.00	0.00	81.30	37.98	2.00	0.00	1.00	0.00
81.39	28.69	2.00	0.00	1.00	0.00	81.43	25.13	2.00	0.00	1.00	0.00
81.52	21.11	2.00	0.00	1.00	0.00	81.60	18.63	2.00	0.00	1.00	0.00
81.64	21.34	2.00	0.00	1.00	0.00	81.70	18.24	2.00	0.00	1.00	0.00
81.76	21.57	2.00	0.00	1.00	0.00	81.86	26.89	2.00	0.00	1.00	0.00
81.92	30.13	2.00	0.00	1.00	0.00	81.97	36.46	2.00	0.00	1.00	0.00
82.02	44.50	2.00	0.00	1.00	0.00	82.13	52.56	2.00	0.00	1.00	0.00
82.18	121.33	2.00	0.00	1.00	0.00	82.25	124.63	2.00	0.00	1.00	0.00
82.31	130.01	2.00	0.00	1.00	0.00	82.39	136.93	2.00	0.00	1.00	0.00
82.42	139.83	2.00	0.00	1.00	0.00	82.49	145.53	2.00	0.00	1.00	0.00
82.59	154.82	2.00	0.00	1.00	0.00	82.64	159.04	2.00	0.00	1.00	0.00
82.69	160.18	2.00	0.00	1.00	0.00	82.77	162.36	2.00	0.00	1.00	0.00
82.83	162.81	2.00	0.00	1.00	0.00	82.90	162.52	2.00	0.00	1.00	0.00
82.96	161.81	2.00	0.00	1.00	0.00	83.01	162.08	2.00	0.00	1.00	0.00
83.11	162.21	2.00	0.00	1.00	0.00	83.15	163.05	2.00	0.00	1.00	0.00
83.21	164.43	2.00	0.00	1.00	0.00	83.30	165.34	2.00	0.00	1.00	0.00
83.36	169.86	2.00	0.00	1.00	0.00	83.41	172.64	2.00	0.00	1.00	0.00
83.47	178.13	2.00	0.00	1.00	0.00	83.56	185.49	2.00	0.00	1.00	0.00
83.62	189.34	2.00	0.00	1.00	0.00	83.68	193.04	2.00	0.00	1.00	0.00
83.73	198.93	2.00	0.00	1.00	0.00	83.82	204.17	2.00	0.00	1.00	0.00
83.88	207.33	2.00	0.00	1.00	0.00	83.94	214.15	2.00	0.00	1.00	0.00
84.03	220.32	2.00	0.00	1.00	0.00	84.09	223.87	2.00	0.00	1.00	0.00
84.14	227.13	2.00	0.00	1.00	0.00	84.19	230.58	2.00	0.00	1.00	0.00
84.28	232.82	2.00	0.00	1.00	0.00	84.35	235.29	2.00	0.00	1.00	0.00
84.39	234.59	2.00	0.00	1.00	0.00	84.45	234.53	2.00	0.00	1.00	0.00
84.53	230.03	2.00	0.00	1.00	0.00	84.60	226.44	2.00	0.00	1.00	0.00
84.65	223.04	2.00	0.00	1.00	0.00	84.74	217.91	2.00	0.00	1.00	0.00
84.80	215.40	2.00	0.00	1.00	0.00	84.86	212.25	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
84.92	212.85	2.00	0.00	1.00	0.00	84.98	208.22	2.00	0.00	1.00	0.00
85.06	206.57	2.00	0.00	1.00	0.00	85.12	204.30	2.00	0.00	1.00	0.00
85.18	201.91	2.00	0.00	1.00	0.00	85.25	198.64	2.00	0.00	1.00	0.00
85.32	194.02	2.00	0.00	1.00	0.00	85.39	188.31	2.00	0.00	1.00	0.00
85.46	184.17	2.00	0.00	1.00	0.00	85.53	180.70	2.00	0.00	1.00	0.00
85.58	179.35	2.00	0.00	1.00	0.00	85.65	175.74	2.00	0.00	1.00	0.00
85.74	174.93	2.00	0.00	1.00	0.00	85.79	176.18	2.00	0.00	1.00	0.00
85.83	180.11	2.00	0.00	1.00	0.00	85.89	166.28	2.00	0.00	1.00	0.00
86.00	184.96	2.00	0.00	1.00	0.00	86.05	184.98	2.00	0.00	1.00	0.00
86.11	187.37	2.00	0.00	1.00	0.00	86.16	192.36	2.00	0.00	1.00	0.00
86.25	197.79	2.00	0.00	1.00	0.00	86.31	200.60	2.00	0.00	1.00	0.00
86.37	203.70	2.00	0.00	1.00	0.00	86.42	204.66	2.00	0.00	1.00	0.00
86.50	201.28	2.00	0.00	1.00	0.00	86.58	199.37	2.00	0.00	1.00	0.00
86.62	197.97	2.00	0.00	1.00	0.00	86.68	196.12	2.00	0.00	1.00	0.00
86.79	200.70	2.00	0.00	1.00	0.00	86.82	199.09	2.00	0.00	1.00	0.00
86.89	206.18	2.00	0.00	1.00	0.00	86.95	206.65	2.00	0.00	1.00	0.00
87.03	211.41	2.00	0.00	1.00	0.00	87.10	214.84	2.00	0.00	1.00	0.00
87.14	209.51	2.00	0.00	1.00	0.00	87.25	213.54	2.00	0.00	1.00	0.00
87.30	208.24	2.00	0.00	1.00	0.00	87.36	207.59	2.00	0.00	1.00	0.00
87.41	201.98	2.00	0.00	1.00	0.00	87.50	200.06	2.00	0.00	1.00	0.00
87.55	196.52	2.00	0.00	1.00	0.00	87.62	196.79	2.00	0.00	1.00	0.00
87.67	196.80	2.00	0.00	1.00	0.00	87.77	196.90	2.00	0.00	1.00	0.00
87.81	197.32	2.00	0.00	1.00	0.00	87.89	197.43	2.00	0.00	1.00	0.00
87.97	196.25	2.00	0.00	1.00	0.00	88.02	195.28	2.00	0.00	1.00	0.00
88.08	193.62	2.00	0.00	1.00	0.00	88.19	191.60	2.00	0.00	1.00	0.00
88.23	190.81	2.00	0.00	1.00	0.00	88.29	188.51	2.00	0.00	1.00	0.00
88.33	186.81	2.00	0.00	1.00	0.00	88.39	182.88	2.00	0.00	1.00	0.00
88.45	180.21	2.00	0.00	1.00	0.00	88.54	180.06	2.00	0.00	1.00	0.00
88.60	180.83	2.00	0.00	1.00	0.00	88.69	185.19	2.00	0.00	1.00	0.00
88.72	185.66	2.00	0.00	1.00	0.00	88.80	188.09	2.00	0.00	1.00	0.00
88.86	193.82	2.00	0.00	1.00	0.00	88.94	199.94	2.00	0.00	1.00	0.00
89.01	204.87	2.00	0.00	1.00	0.00	89.07	195.93	2.00	0.00	1.00	0.00
89.13	210.16	2.00	0.00	1.00	0.00	89.18	217.46	2.00	0.00	1.00	0.00
89.24	217.83	2.00	0.00	1.00	0.00	89.32	220.76	2.00	0.00	1.00	0.00
89.37	220.17	2.00	0.00	1.00	0.00	89.44	219.14	2.00	0.00	1.00	0.00
89.52	217.33	2.00	0.00	1.00	0.00	89.58	216.77	2.00	0.00	1.00	0.00
89.64	216.98	2.00	0.00	1.00	0.00	89.74	214.76	2.00	0.00	1.00	0.00
89.79	211.43	2.00	0.00	1.00	0.00	89.85	208.37	2.00	0.00	1.00	0.00
89.90	207.60	2.00	0.00	1.00	0.00	90.00	208.42	2.00	0.00	1.00	0.00
90.06	207.66	2.00	0.00	1.00	0.00	90.11	211.47	2.00	0.00	1.00	0.00
90.16	212.92	2.00	0.00	1.00	0.00	90.27	202.01	2.00	0.00	1.00	0.00
90.29	202.62	2.00	0.00	1.00	0.00	90.37	198.46	2.00	0.00	1.00	0.00
90.42	187.89	2.00	0.00	1.00	0.00	90.52	180.32	2.00	0.00	1.00	0.00
90.58	172.51	2.00	0.00	1.00	0.00	90.63	166.69	2.00	0.00	1.00	0.00
90.72	164.56	2.00	0.00	1.00	0.00	90.78	161.82	2.00	0.00	1.00	0.00
90.83	160.57	2.00	0.00	1.00	0.00	90.89	159.53	2.00	0.00	1.00	0.00
90.97	156.58	2.00	0.00	1.00	0.00	91.04	157.08	2.00	0.00	1.00	0.00
91.09	156.39	2.00	0.00	1.00	0.00	91.15	154.95	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
91.25	152.88	2.00	0.00	1.00	0.00	91.29	151.95	2.00	0.00	1.00	0.00
91.36	153.61	2.00	0.00	1.00	0.00	91.44	157.53	2.00	0.00	1.00	0.00
91.49	165.83	2.00	0.00	1.00	0.00	91.55	169.36	2.00	0.00	1.00	0.00
91.61	181.64	2.00	0.00	1.00	0.00	91.67	189.87	2.00	0.00	1.00	0.00
91.75	198.17	2.00	0.00	1.00	0.00	91.81	204.38	2.00	0.00	1.00	0.00
91.91	210.68	2.00	0.00	1.00	0.00	91.96	213.24	2.00	0.00	1.00	0.00
92.01	216.02	2.00	0.00	1.00	0.00	92.07	219.21	2.00	0.00	1.00	0.00
92.14	221.22	2.00	0.00	1.00	0.00	92.21	222.87	2.00	0.00	1.00	0.00
92.28	224.33	2.00	0.00	1.00	0.00	92.37	223.89	2.00	0.00	1.00	0.00
92.42	226.56	2.00	0.00	1.00	0.00	92.47	225.30	2.00	0.00	1.00	0.00
92.54	224.70	2.00	0.00	1.00	0.00	92.60	224.21	2.00	0.00	1.00	0.00
92.68	223.03	2.00	0.00	1.00	0.00	92.74	222.41	2.00	0.00	1.00	0.00
92.79	220.89	2.00	0.00	1.00	0.00	92.87	218.82	2.00	0.00	1.00	0.00
92.94	216.57	2.00	0.00	1.00	0.00	93.00	212.14	2.00	0.00	1.00	0.00
93.05	210.18	2.00	0.00	1.00	0.00	93.14	199.35	2.00	0.00	1.00	0.00
93.21	191.75	2.00	0.00	1.00	0.00	93.26	190.01	2.00	0.00	1.00	0.00
93.32	183.19	2.00	0.00	1.00	0.00	93.41	177.06	2.00	0.00	1.00	0.00
93.47	167.85	2.00	0.00	1.00	0.00	93.52	163.80	2.00	0.00	1.00	0.00
93.57	158.73	2.00	0.00	1.00	0.00	93.65	145.35	2.00	0.00	1.00	0.00
93.72	130.51	2.00	0.00	1.00	0.00	93.78	56.30	2.00	0.00	1.00	0.00
93.88	48.60	2.00	0.00	1.00	0.00	93.93	46.44	2.00	0.00	1.00	0.00
93.99	45.18	2.00	0.00	1.00	0.00	94.03	42.57	2.00	0.00	1.00	0.00
94.14	30.93	2.00	0.00	1.00	0.00	94.19	27.04	2.00	0.00	1.00	0.00
94.25	23.51	2.00	0.00	1.00	0.00	94.34	18.27	2.00	0.00	1.00	0.00
94.38	16.34	2.00	0.00	1.00	0.00	94.44	14.79	2.00	0.00	1.00	0.00
94.50	13.14	2.00	0.00	1.00	0.00	94.56	12.71	2.00	0.00	1.00	0.00
94.64	13.04	2.00	0.00	1.00	0.00	94.74	12.22	2.00	0.00	1.00	0.00
94.78	12.95	2.00	0.00	1.00	0.00	94.84	13.29	2.00	0.00	1.00	0.00
94.89	13.72	2.00	0.00	1.00	0.00	94.99	14.45	2.00	0.00	1.00	0.00
95.01	14.54	2.00	0.00	1.00	0.00	95.10	15.28	2.00	0.00	1.00	0.00
95.15	16.91	2.00	0.00	1.00	0.00	95.24	17.62	2.00	0.00	1.00	0.00
95.31	16.15	2.00	0.00	1.00	0.00	95.34	15.13	2.00	0.00	1.00	0.00
95.42	11.72	2.00	0.00	1.00	0.00	95.49	10.03	2.00	0.00	1.00	0.00
95.56	10.07	2.00	0.00	1.00	0.00	95.61	10.07	2.00	0.00	1.00	0.00
95.72	10.11	2.00	0.00	1.00	0.00	95.77	10.23	2.00	0.00	1.00	0.00
95.82	10.19	2.00	0.00	1.00	0.00	95.91	9.77	2.00	0.00	1.00	0.00
95.97	8.40	2.00	0.00	1.00	0.00	96.02	8.82	2.00	0.00	1.00	0.00
96.08	8.69	2.00	0.00	1.00	0.00	96.16	8.56	2.00	0.00	1.00	0.00
96.22	8.56	2.00	0.00	1.00	0.00	96.28	8.56	2.00	0.00	1.00	0.00
96.33	8.64	2.00	0.00	1.00	0.00	96.41	8.84	2.00	0.00	1.00	0.00
96.48	9.34	2.00	0.00	1.00	0.00	96.54	9.67	2.00	0.00	1.00	0.00
96.64	10.24	2.00	0.00	1.00	0.00	96.69	10.66	2.00	0.00	1.00	0.00
96.75	11.07	2.00	0.00	1.00	0.00	96.79	11.79	2.00	0.00	1.00	0.00
96.85	12.93	2.00	0.00	1.00	0.00	96.96	12.84	2.00	0.00	1.00	0.00
97.00	12.63	2.00	0.00	1.00	0.00	97.08	11.99	2.00	0.00	1.00	0.00
97.13	11.90	2.00	0.00	1.00	0.00	97.21	12.07	2.00	0.00	1.00	0.00
97.26	12.02	2.00	0.00	1.00	0.00	97.36	11.60	2.00	0.00	1.00	0.00
97.38	11.26	2.00	0.00	1.00	0.00	97.47	10.29	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
97.52	10.29	2.00	0.00	1.00	0.00	97.58	10.29	2.00	0.00	1.00	0.00
97.68	10.28	2.00	0.00	1.00	0.00	97.73	11.24	2.00	0.00	1.00	0.00
97.78	11.87	2.00	0.00	1.00	0.00	97.84	13.06	2.00	0.00	1.00	0.00
97.93	15.55	2.00	0.00	1.00	0.00	97.99	16.69	2.00	0.00	1.00	0.00
98.06	17.74	2.00	0.00	1.00	0.00	98.11	18.06	2.00	0.00	1.00	0.00
98.20	18.14	2.00	0.00	1.00	0.00	98.24	17.87	2.00	0.00	1.00	0.00
98.32	17.15	2.00	0.00	1.00	0.00	98.36	16.75	2.00	0.00	1.00	0.00
98.45	16.08	2.00	0.00	1.00	0.00	98.50	15.78	2.00	0.00	1.00	0.00
98.61	15.59	2.00	0.00	1.00	0.00	98.62	15.79	2.00	0.00	1.00	0.00
98.70	15.80	2.00	0.00	1.00	0.00	98.78	15.88	2.00	0.00	1.00	0.00
98.86	15.31	2.00	0.00	1.00	0.00	98.91	15.01	2.00	0.00	1.00	0.00
98.95	14.66	2.00	0.00	1.00	0.00	99.02	14.27	2.00	0.00	1.00	0.00
99.12	14.05	2.00	0.00	1.00	0.00	99.17	14.04	2.00	0.00	1.00	0.00
99.21	14.04	2.00	0.00	1.00	0.00	99.28	14.04	2.00	0.00	1.00	0.00
99.38	15.06	2.00	0.00	1.00	0.00	99.41	16.23	2.00	0.00	1.00	0.00
99.48	19.91	2.00	0.00	1.00	0.00	99.58	26.68	2.00	0.00	1.00	0.00
99.64	31.25	2.00	0.00	1.00	0.00	99.69	42.10	2.00	0.00	1.00	0.00
99.75	48.68	2.00	0.00	1.00	0.00	99.84	129.36	2.00	0.00	1.00	0.00
99.89	126.13	2.00	0.00	1.00	0.00	99.95	78.75	2.00	0.00	1.00	0.00
100.00	81.29	2.00	0.00	1.00	0.00	100.10	83.72	2.00	0.00	1.00	0.00
100.16	78.21	2.00	0.00	1.00	0.00	100.21	75.51	2.00	0.00	1.00	0.00

Total estimated settlement: 9.27

Abbreviations

$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

Converse Consultants
717 South Myrtle Avenue
Monrovia, CA 91016
http://www.converseconsultants.com

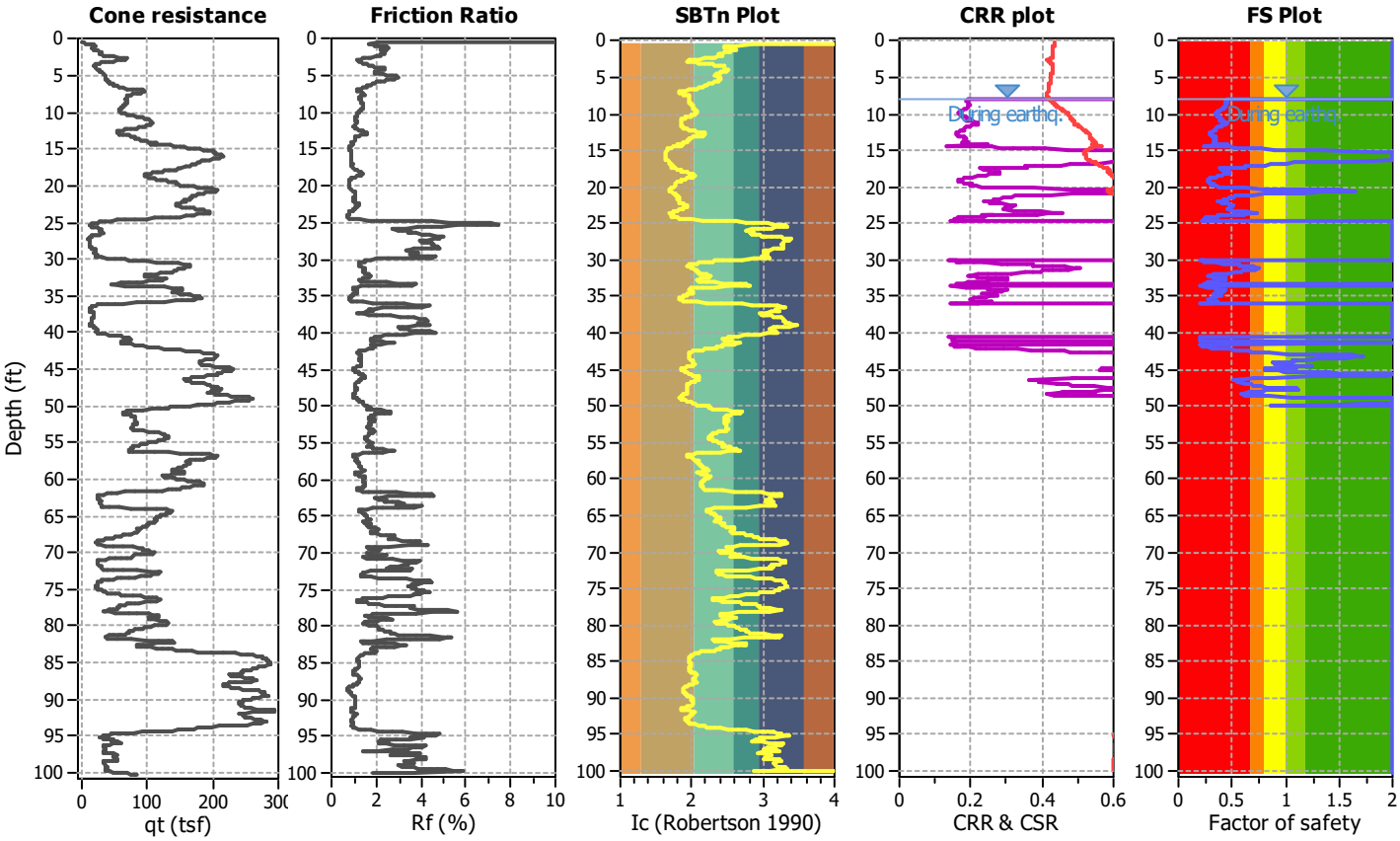
LIQUEFACTION ANALYSIS REPORT

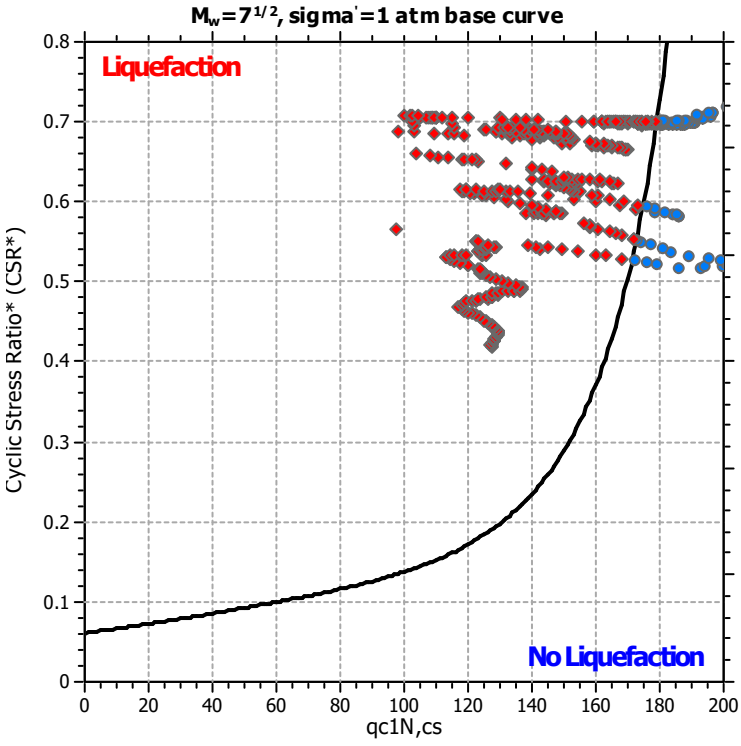
Project title : New Student Housing Project **Location : Cerritos Community College**

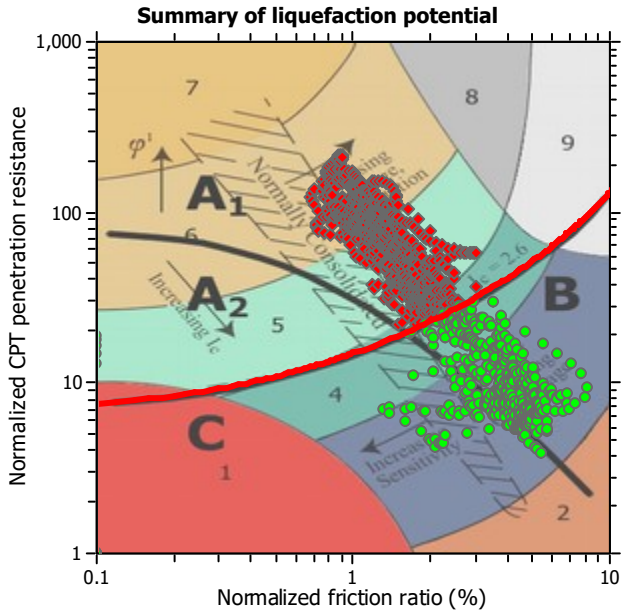
CPT file : CPT-3

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	38.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	8.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.74	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

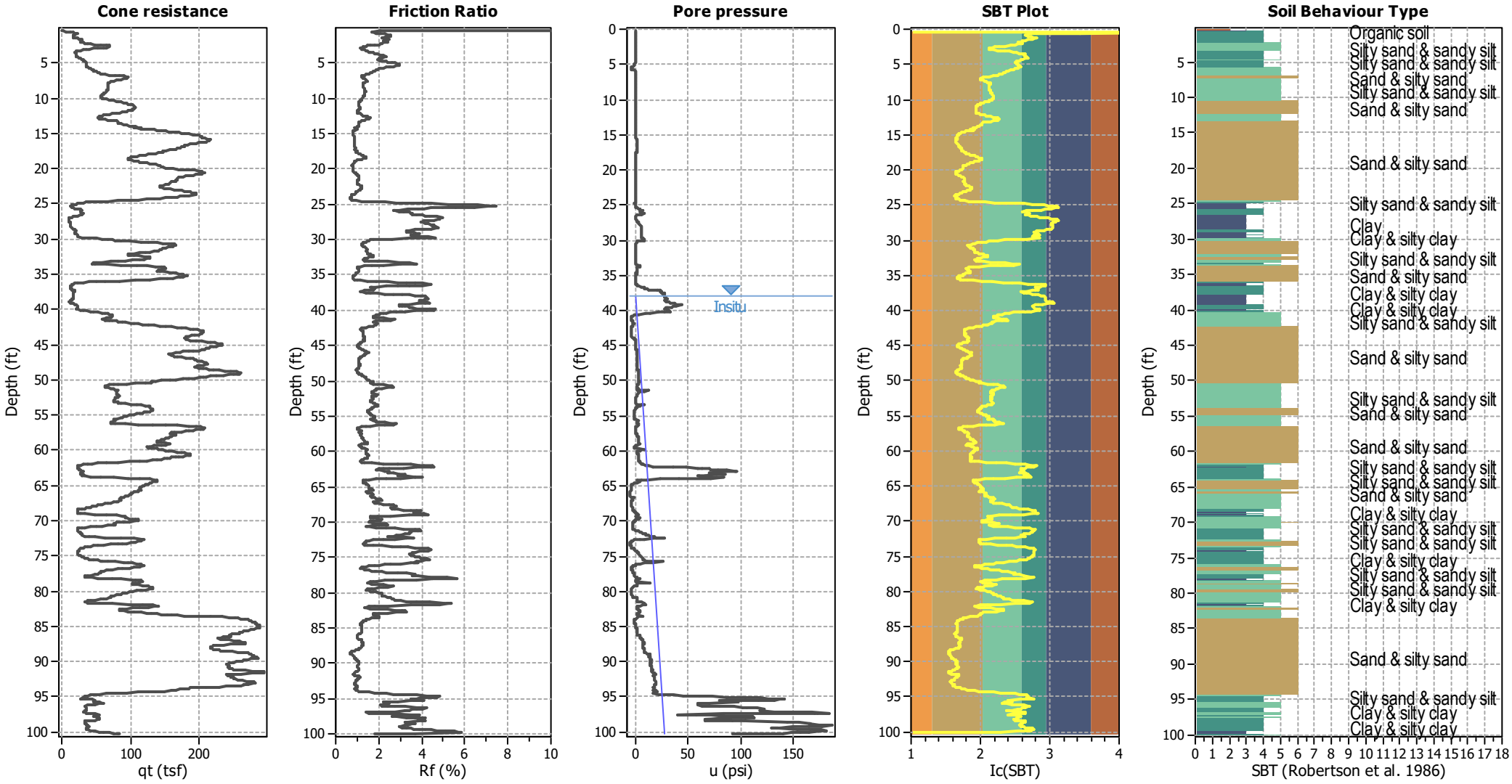






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



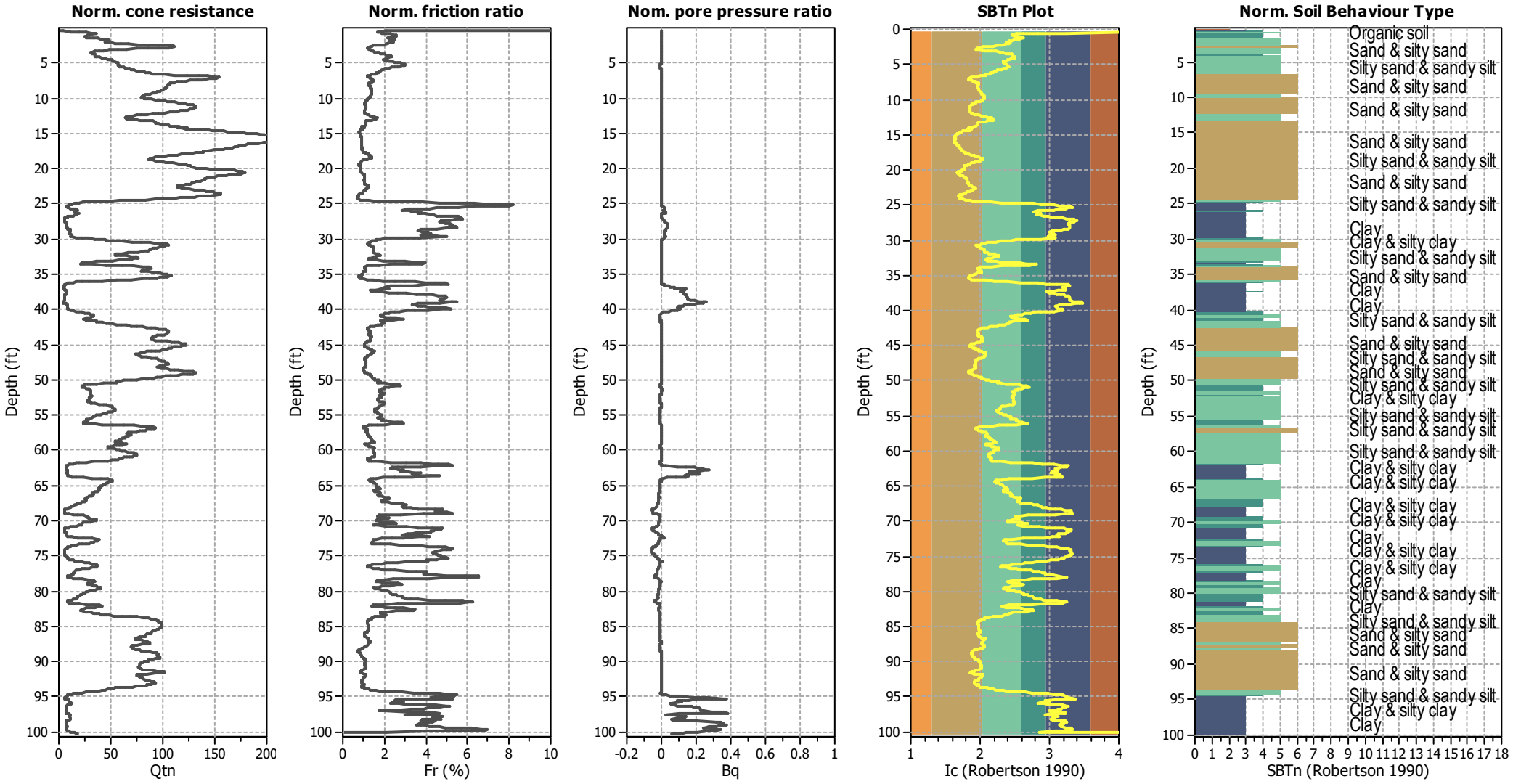
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



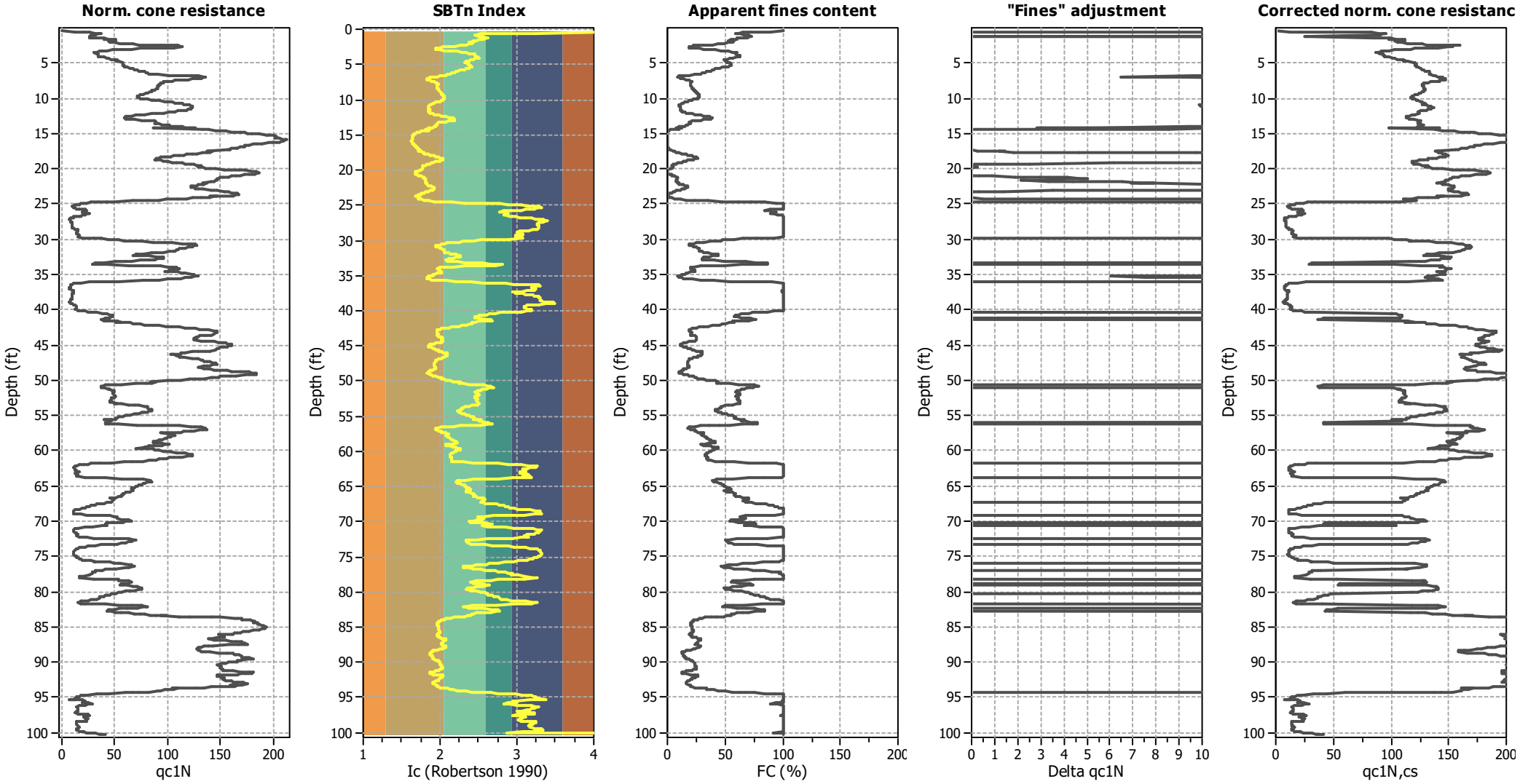
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

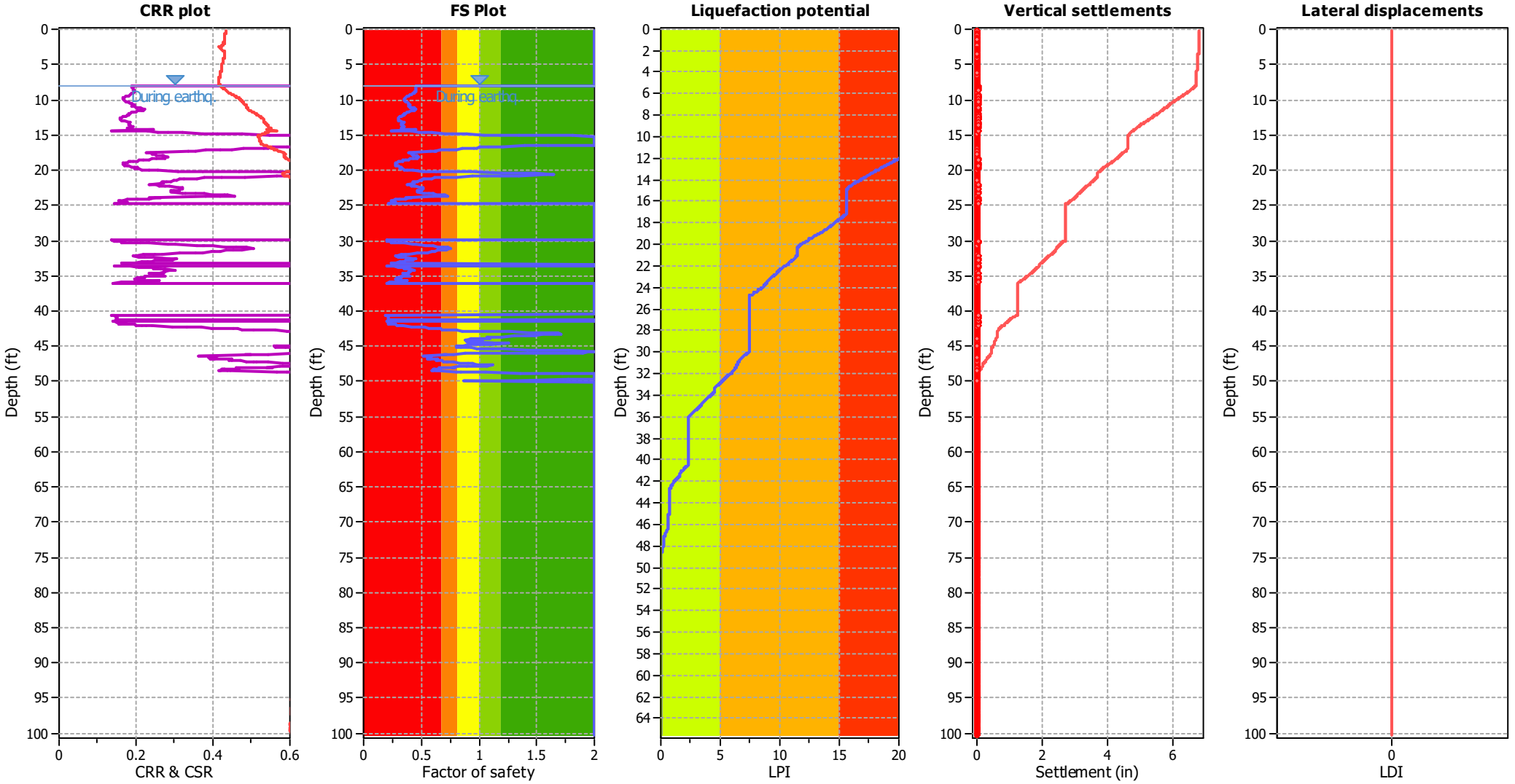
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

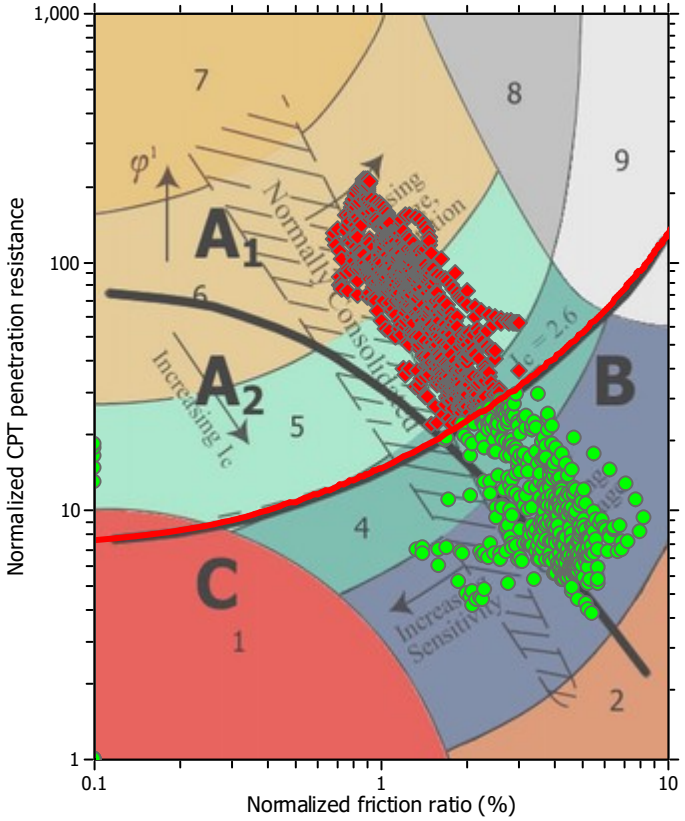
F.S. color scheme

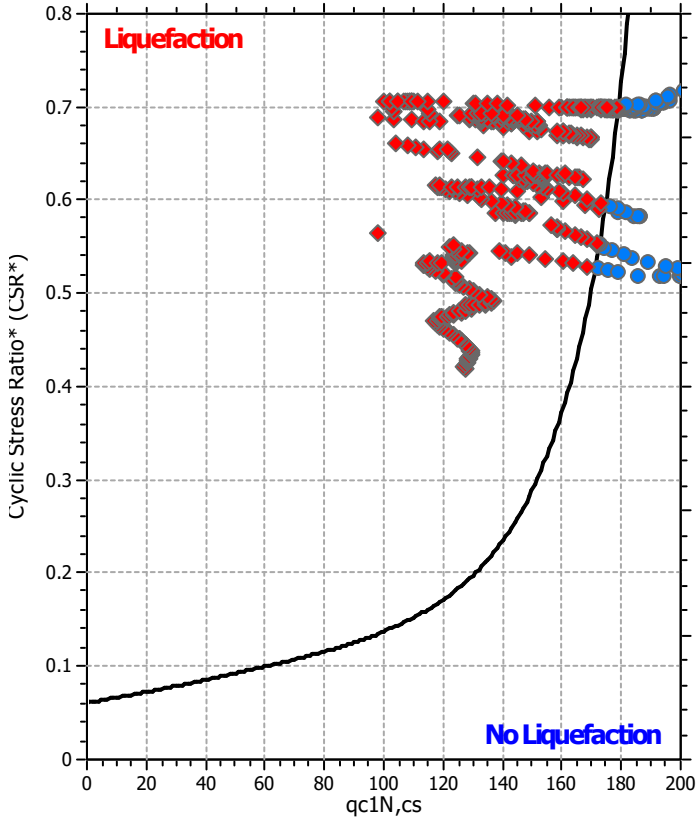
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

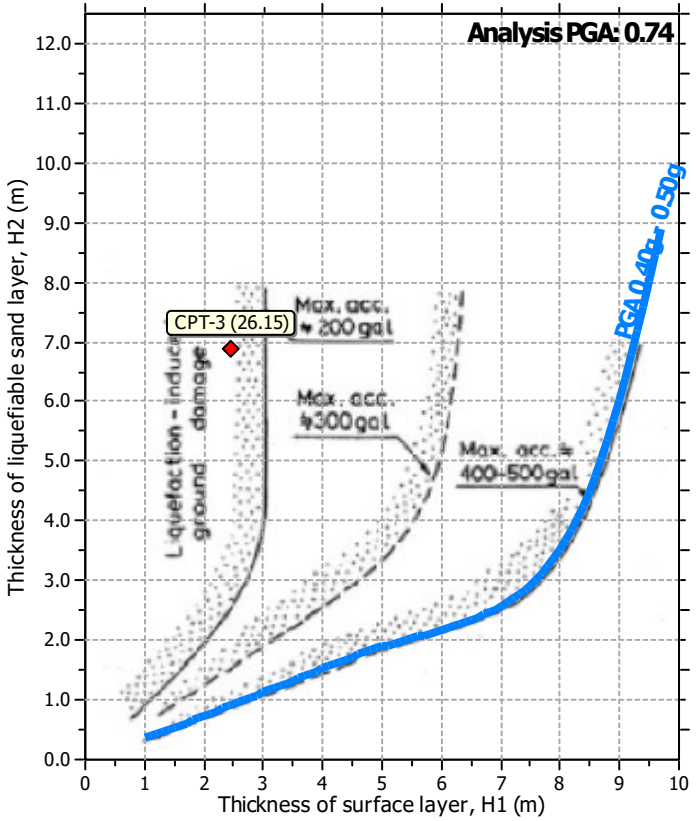
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



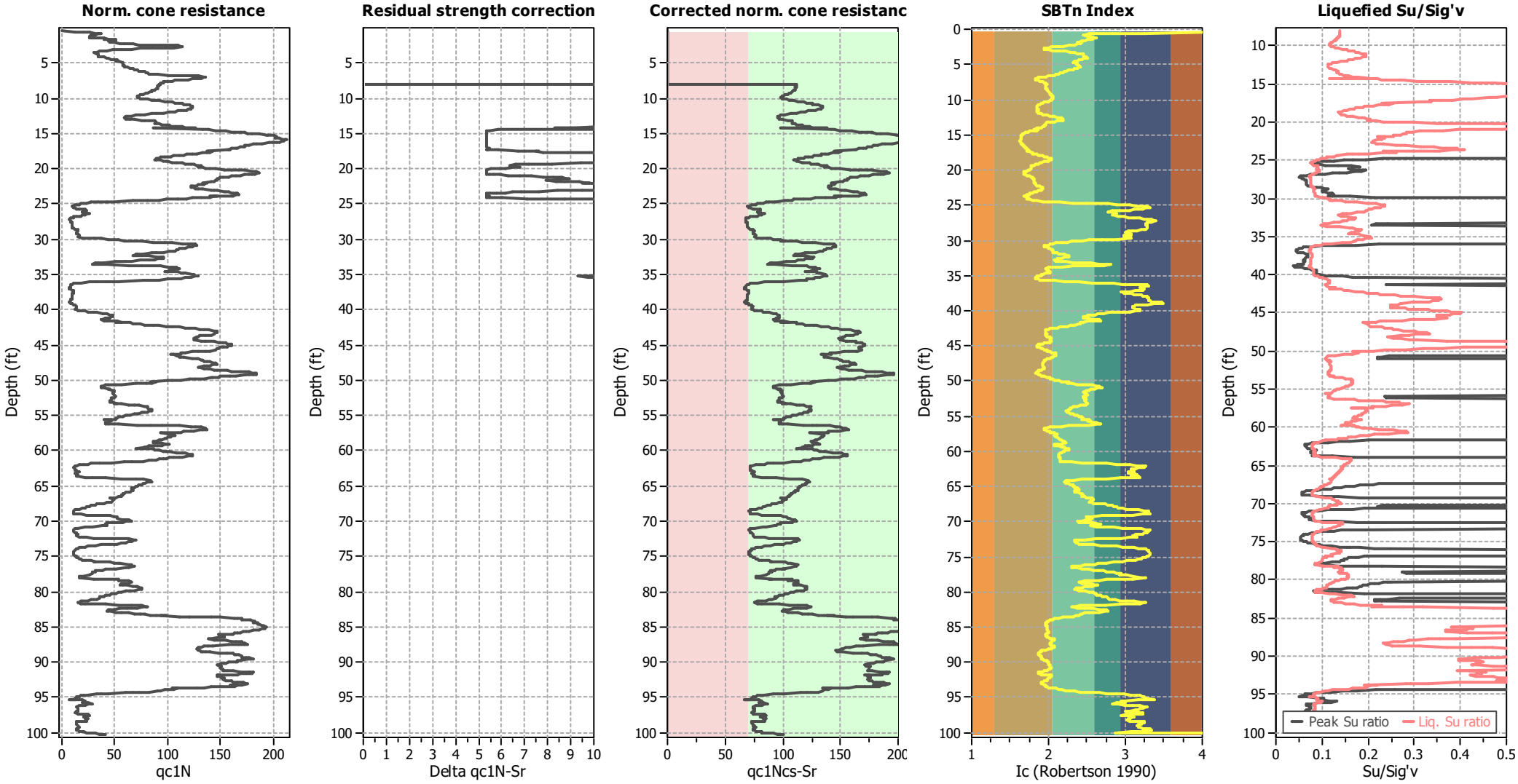




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.16	2.00	0.00	9.98	0.04	0.00	0.20	2.00	0.00	9.97	0.04	0.00
0.26	2.00	0.00	9.96	0.06	0.00	0.35	2.00	0.00	9.95	0.09	0.00
0.42	2.00	0.00	9.94	0.07	0.00	0.47	2.00	0.00	9.93	0.06	0.00
0.56	2.00	0.00	9.91	0.09	0.00	0.60	2.00	0.00	9.91	0.04	0.00
0.66	2.00	0.00	9.90	0.06	0.00	0.73	2.00	0.00	9.89	0.06	0.00
0.82	2.00	0.00	9.87	0.09	0.00	0.87	2.00	0.00	9.87	0.05	0.00
0.93	2.00	0.00	9.86	0.06	0.00	0.99	2.00	0.00	9.85	0.06	0.00
1.09	2.00	0.00	9.83	0.10	0.00	1.14	2.00	0.00	9.83	0.05	0.00
1.20	2.00	0.00	9.82	0.05	0.00	1.29	2.00	0.00	9.80	0.09	0.00
1.34	2.00	0.00	9.80	0.06	0.00	1.39	2.00	0.00	9.79	0.05	0.00
1.45	2.00	0.00	9.78	0.06	0.00	1.53	2.00	0.00	9.77	0.09	0.00
1.60	2.00	0.00	9.76	0.07	0.00	1.66	2.00	0.00	9.75	0.05	0.00
1.74	2.00	0.00	9.74	0.08	0.00	1.79	2.00	0.00	9.73	0.05	0.00
1.85	2.00	0.00	9.72	0.06	0.00	1.91	2.00	0.00	9.71	0.06	0.00
1.99	2.00	0.00	9.70	0.07	0.00	2.06	2.00	0.00	9.69	0.07	0.00
2.12	2.00	0.00	9.68	0.06	0.00	2.20	2.00	0.00	9.67	0.08	0.00
2.25	2.00	0.00	9.66	0.05	0.00	2.31	2.00	0.00	9.65	0.06	0.00
2.38	2.00	0.00	9.64	0.07	0.00	2.47	2.00	0.00	9.62	0.09	0.00
2.53	2.00	0.00	9.61	0.06	0.00	2.57	2.00	0.00	9.61	0.04	0.00
2.66	2.00	0.00	9.59	0.09	0.00	2.70	2.00	0.00	9.59	0.04	0.00
2.79	2.00	0.00	9.58	0.09	0.00	2.84	2.00	0.00	9.57	0.05	0.00
2.89	2.00	0.00	9.56	0.05	0.00	2.98	2.00	0.00	9.55	0.09	0.00
3.02	2.00	0.00	9.54	0.04	0.00	3.09	2.00	0.00	9.53	0.07	0.00
3.15	2.00	0.00	9.52	0.06	0.00	3.25	2.00	0.00	9.51	0.09	0.00
3.31	2.00	0.00	9.50	0.06	0.00	3.36	2.00	0.00	9.49	0.06	0.00
3.41	2.00	0.00	9.48	0.05	0.00	3.52	2.00	0.00	9.46	0.10	0.00
3.56	2.00	0.00	9.46	0.04	0.00	3.63	2.00	0.00	9.45	0.07	0.00
3.70	2.00	0.00	9.44	0.07	0.00	3.76	2.00	0.00	9.43	0.07	0.00
3.83	2.00	0.00	9.42	0.06	0.00	3.88	2.00	0.00	9.41	0.06	0.00
3.94	2.00	0.00	9.40	0.06	0.00	4.03	2.00	0.00	9.39	0.09	0.00
4.08	2.00	0.00	9.38	0.05	0.00	4.14	2.00	0.00	9.37	0.07	0.00
4.23	2.00	0.00	9.36	0.09	0.00	4.29	2.00	0.00	9.35	0.06	0.00
4.34	2.00	0.00	9.34	0.05	0.00	4.41	2.00	0.00	9.33	0.06	0.00
4.46	2.00	0.00	9.32	0.06	0.00	4.54	2.00	0.00	9.31	0.08	0.00
4.60	2.00	0.00	9.30	0.06	0.00	4.66	2.00	0.00	9.29	0.06	0.00
4.72	2.00	0.00	9.28	0.06	0.00	4.80	2.00	0.00	9.27	0.07	0.00
4.87	2.00	0.00	9.26	0.07	0.00	4.97	2.00	0.00	9.24	0.10	0.00
5.02	2.00	0.00	9.24	0.05	0.00	5.07	2.00	0.00	9.23	0.05	0.00
5.13	2.00	0.00	9.22	0.06	0.00	5.22	2.00	0.00	9.20	0.09	0.00
5.28	2.00	0.00	9.19	0.06	0.00	5.33	2.00	0.00	9.19	0.05	0.00
5.39	2.00	0.00	9.18	0.06	0.00	5.46	2.00	0.00	9.17	0.07	0.00
5.54	2.00	0.00	9.16	0.07	0.00	5.59	2.00	0.00	9.15	0.06	0.00
5.65	2.00	0.00	9.14	0.06	0.00	5.72	2.00	0.00	9.13	0.07	0.00
5.78	2.00	0.00	9.12	0.07	0.00	5.85	2.00	0.00	9.11	0.07	0.00
5.95	2.00	0.00	9.09	0.10	0.00	6.00	2.00	0.00	9.09	0.05	0.00
6.06	2.00	0.00	9.08	0.06	0.00	6.11	2.00	0.00	9.07	0.05	0.00
6.22	2.00	0.00	9.05	0.11	0.00	6.26	2.00	0.00	9.05	0.04	0.00
6.30	2.00	0.00	9.04	0.04	0.00	6.37	2.00	0.00	9.03	0.07	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
6.43	2.00	0.00	9.02	0.07	0.00	6.51	2.00	0.00	9.01	0.08	0.00
6.58	2.00	0.00	9.00	0.07	0.00	6.64	2.00	0.00	8.99	0.06	0.00
6.73	2.00	0.00	8.97	0.09	0.00	6.78	2.00	0.00	8.97	0.05	0.00
6.83	2.00	0.00	8.96	0.05	0.00	6.90	2.00	0.00	8.95	0.07	0.00
6.99	2.00	0.00	8.94	0.09	0.00	7.04	2.00	0.00	8.93	0.05	0.00
7.10	2.00	0.00	8.92	0.06	0.00	7.16	2.00	0.00	8.91	0.06	0.00
7.22	2.00	0.00	8.90	0.07	0.00	7.30	2.00	0.00	8.89	0.08	0.00
7.36	2.00	0.00	8.88	0.06	0.00	7.42	2.00	0.00	8.87	0.06	0.00
7.51	2.00	0.00	8.86	0.09	0.00	7.56	2.00	0.00	8.85	0.05	0.00
7.62	2.00	0.00	8.84	0.06	0.00	7.70	2.00	0.00	8.83	0.08	0.00
7.74	2.00	0.00	8.82	0.04	0.00	7.83	2.00	0.00	8.81	0.08	0.00
7.88	2.00	0.00	8.80	0.05	0.00	7.95	2.00	0.00	8.79	0.07	0.00
8.03	0.45	0.55	8.78	0.08	0.11	8.08	0.45	0.55	8.77	0.06	0.08
8.15	0.45	0.55	8.76	0.07	0.10	8.23	0.45	0.55	8.75	0.08	0.12
8.29	0.45	0.55	8.74	0.06	0.09	8.34	0.45	0.55	8.73	0.05	0.07
8.43	0.45	0.55	8.72	0.09	0.12	8.49	0.45	0.55	8.71	0.06	0.09
8.56	0.45	0.55	8.70	0.07	0.10	8.60	0.45	0.55	8.69	0.04	0.06
8.69	0.45	0.55	8.68	0.09	0.13	8.73	0.45	0.55	8.67	0.04	0.06
8.81	0.45	0.55	8.66	0.07	0.11	8.87	0.44	0.56	8.65	0.06	0.09
8.94	0.44	0.56	8.64	0.07	0.10	9.01	0.43	0.57	8.63	0.07	0.11
9.06	0.43	0.57	8.62	0.05	0.08	9.13	0.43	0.57	8.61	0.07	0.10
9.21	0.42	0.58	8.60	0.08	0.12	9.27	0.41	0.59	8.59	0.06	0.10
9.32	0.41	0.59	8.58	0.05	0.07	9.39	0.39	0.61	8.57	0.07	0.12
9.46	0.39	0.61	8.56	0.07	0.11	9.54	0.38	0.62	8.55	0.08	0.13
9.59	0.37	0.63	8.54	0.05	0.08	9.67	0.36	0.64	8.53	0.08	0.13
9.75	0.36	0.64	8.51	0.07	0.12	9.80	0.36	0.64	8.51	0.05	0.08
9.84	0.35	0.65	8.50	0.05	0.08	9.93	0.35	0.65	8.49	0.09	0.15
10.01	0.36	0.64	8.47	0.08	0.13	10.06	0.36	0.64	8.47	0.05	0.08
10.11	0.36	0.64	8.46	0.05	0.08	10.18	0.37	0.63	8.45	0.07	0.11
10.27	0.37	0.63	8.43	0.09	0.15	10.32	0.38	0.62	8.43	0.05	0.09
10.37	0.37	0.63	8.42	0.04	0.07	10.45	0.39	0.61	8.41	0.08	0.13
10.52	0.39	0.61	8.40	0.06	0.10	10.58	0.40	0.60	8.39	0.07	0.10
10.64	0.40	0.60	8.38	0.05	0.08	10.73	0.41	0.59	8.37	0.09	0.14
10.79	0.40	0.60	8.36	0.06	0.09	10.84	0.39	0.61	8.35	0.05	0.08
10.90	0.40	0.60	8.34	0.06	0.09	11.00	0.41	0.59	8.32	0.10	0.15
11.05	0.42	0.58	8.32	0.05	0.07	11.10	0.43	0.57	8.31	0.05	0.07
11.16	0.43	0.57	8.30	0.06	0.09	11.23	0.45	0.55	8.29	0.07	0.09
11.33	0.45	0.55	8.27	0.10	0.14	11.38	0.45	0.55	8.27	0.05	0.07
11.43	0.44	0.56	8.26	0.05	0.07	11.48	0.43	0.57	8.25	0.05	0.08
11.58	0.41	0.59	8.24	0.10	0.14	11.64	0.40	0.60	8.23	0.06	0.09
11.69	0.38	0.62	8.22	0.05	0.08	11.75	0.37	0.63	8.21	0.06	0.09
11.84	0.36	0.64	8.20	0.09	0.14	11.91	0.35	0.65	8.19	0.07	0.11
11.95	0.36	0.64	8.18	0.04	0.06	12.01	0.35	0.65	8.17	0.07	0.11
12.10	0.35	0.65	8.16	0.08	0.13	12.16	0.34	0.66	8.15	0.07	0.11
12.21	0.35	0.65	8.14	0.04	0.07	12.29	0.33	0.67	8.13	0.08	0.13
12.34	0.33	0.67	8.12	0.05	0.09	12.43	0.32	0.68	8.11	0.09	0.15
12.48	0.31	0.69	8.10	0.05	0.09	12.55	0.30	0.70	8.09	0.08	0.13
12.62	0.30	0.70	8.08	0.07	0.11	12.67	0.30	0.70	8.07	0.05	0.09

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
12.74	0.30	0.70	8.06	0.07	0.12	12.83	0.30	0.70	8.04	0.09	0.16
12.89	0.30	0.70	8.04	0.06	0.10	12.95	0.31	0.69	8.03	0.06	0.10
13.00	0.32	0.68	8.02	0.05	0.08	13.10	0.34	0.66	8.00	0.10	0.16
13.15	0.34	0.66	8.00	0.05	0.09	13.21	0.34	0.66	7.99	0.06	0.09
13.26	0.35	0.65	7.98	0.05	0.08	13.34	0.34	0.66	7.97	0.07	0.12
13.41	0.33	0.67	7.96	0.08	0.13	13.46	0.33	0.67	7.95	0.05	0.08
13.57	0.33	0.67	7.93	0.10	0.16	13.60	0.34	0.66	7.93	0.04	0.06
13.67	0.34	0.66	7.92	0.07	0.10	13.72	0.34	0.66	7.91	0.05	0.08
13.83	0.36	0.64	7.89	0.11	0.16	13.87	0.35	0.65	7.89	0.04	0.06
13.93	0.34	0.66	7.88	0.06	0.09	13.99	0.33	0.67	7.87	0.06	0.09
14.07	0.32	0.68	7.86	0.08	0.14	14.13	0.32	0.68	7.85	0.06	0.10
14.19	0.33	0.67	7.84	0.06	0.10	14.25	0.46	0.54	7.83	0.05	0.07
14.31	0.24	0.76	7.82	0.06	0.12	14.37	0.44	0.56	7.81	0.06	0.08
14.48	0.42	0.58	7.79	0.10	0.14	14.53	0.47	0.53	7.79	0.05	0.06
14.57	0.52	0.48	7.78	0.04	0.05	14.64	0.59	0.41	7.77	0.06	0.06
14.73	0.70	0.30	7.75	0.10	0.07	14.78	0.77	0.23	7.75	0.04	0.02
14.84	0.90	0.10	7.74	0.06	0.01	14.92	1.04	0.00	7.73	0.08	0.00
14.99	1.19	0.00	7.72	0.07	0.00	15.04	1.35	0.00	7.71	0.04	0.00
15.10	1.81	0.00	7.70	0.07	0.00	15.17	2.00	0.00	7.69	0.07	0.00
15.25	2.00	0.00	7.68	0.08	0.00	15.30	2.00	0.00	7.67	0.05	0.00
15.36	2.00	0.00	7.66	0.06	0.00	15.46	2.00	0.00	7.64	0.10	0.00
15.49	2.00	0.00	7.64	0.03	0.00	15.56	2.00	0.00	7.63	0.06	0.00
15.63	2.00	0.00	7.62	0.07	0.00	15.69	2.00	0.00	7.61	0.06	0.00
15.76	2.00	0.00	7.60	0.08	0.00	15.82	2.00	0.00	7.59	0.06	0.00
15.89	2.00	0.00	7.58	0.07	0.00	15.95	2.00	0.00	7.57	0.06	0.00
16.01	2.00	0.00	7.56	0.06	0.00	16.09	2.00	0.00	7.55	0.07	0.00
16.19	2.00	0.00	7.53	0.10	0.00	16.23	2.00	0.00	7.53	0.04	0.00
16.27	2.00	0.00	7.52	0.05	0.00	16.35	2.00	0.00	7.51	0.07	0.00
16.41	2.00	0.00	7.50	0.06	0.00	16.49	1.59	0.00	7.49	0.08	0.00
16.54	1.40	0.00	7.48	0.05	0.00	16.61	1.21	0.00	7.47	0.07	0.00
16.67	1.08	0.00	7.46	0.06	0.00	16.77	1.01	0.00	7.45	0.09	0.00
16.82	0.98	0.02	7.44	0.05	0.00	16.87	0.96	0.04	7.43	0.05	0.00
16.97	0.86	0.14	7.41	0.10	0.03	17.01	0.80	0.20	7.41	0.03	0.02
17.07	0.75	0.25	7.40	0.06	0.04	17.13	0.67	0.33	7.39	0.06	0.04
17.22	0.62	0.38	7.38	0.09	0.08	17.28	0.62	0.38	7.37	0.06	0.05
17.33	0.62	0.38	7.36	0.05	0.04	17.39	0.58	0.42	7.35	0.06	0.05
17.46	0.38	0.62	7.34	0.07	0.10	17.53	0.40	0.60	7.33	0.07	0.09
17.59	0.44	0.56	7.32	0.06	0.08	17.67	0.42	0.58	7.31	0.08	0.10
17.73	0.41	0.59	7.30	0.07	0.09	17.79	0.42	0.58	7.29	0.05	0.07
17.86	0.43	0.57	7.28	0.07	0.09	17.91	0.46	0.54	7.27	0.06	0.07
17.99	0.46	0.54	7.26	0.08	0.09	18.05	0.48	0.52	7.25	0.06	0.06
18.12	0.48	0.52	7.24	0.07	0.08	18.20	0.46	0.54	7.23	0.08	0.09
18.25	0.47	0.53	7.22	0.05	0.06	18.32	0.43	0.57	7.21	0.07	0.09
18.41	0.41	0.59	7.19	0.08	0.11	18.45	0.39	0.61	7.19	0.05	0.07
18.52	0.37	0.63	7.18	0.06	0.08	18.61	0.34	0.66	7.16	0.10	0.14
18.65	0.34	0.66	7.16	0.04	0.06	18.70	0.32	0.68	7.15	0.05	0.07
18.77	0.31	0.69	7.14	0.07	0.10	18.84	0.30	0.70	7.13	0.07	0.10
18.91	0.29	0.71	7.12	0.07	0.12	18.98	0.28	0.72	7.11	0.07	0.10

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
19.04	0.27	0.73	7.10	0.06	0.09	19.12	0.27	0.73	7.09	0.08	0.13
19.19	0.27	0.73	7.08	0.07	0.11	19.24	0.28	0.72	7.07	0.05	0.08
19.29	0.28	0.72	7.06	0.05	0.09	19.40	0.29	0.71	7.04	0.11	0.16
19.43	0.30	0.70	7.04	0.04	0.05	19.50	0.31	0.69	7.03	0.07	0.10
19.55	0.32	0.68	7.02	0.05	0.08	19.65	0.33	0.67	7.01	0.10	0.14
19.70	0.32	0.68	7.00	0.05	0.07	19.78	0.32	0.68	6.99	0.09	0.13
19.82	0.34	0.66	6.98	0.04	0.06	19.89	0.35	0.65	6.97	0.06	0.09
19.96	0.38	0.62	6.96	0.08	0.10	20.02	0.42	0.58	6.95	0.05	0.06
20.09	0.51	0.49	6.94	0.08	0.08	20.15	0.62	0.38	6.93	0.06	0.05
20.24	0.79	0.21	6.91	0.09	0.04	20.28	0.93	0.07	6.91	0.04	0.00
20.34	1.19	0.00	6.90	0.07	0.00	20.45	1.49	0.00	6.88	0.10	0.00
20.51	1.64	0.00	6.87	0.06	0.00	20.55	1.65	0.00	6.87	0.05	0.00
20.61	1.58	0.00	6.86	0.05	0.00	20.71	1.35	0.00	6.84	0.10	0.00
20.76	1.18	0.00	6.84	0.05	0.00	20.82	1.07	0.00	6.83	0.06	0.00
20.87	0.95	0.05	6.82	0.05	0.01	20.94	0.81	0.19	6.81	0.07	0.03
21.03	0.70	0.30	6.79	0.09	0.06	21.08	0.62	0.38	6.79	0.05	0.04
21.13	0.59	0.41	6.78	0.05	0.04	21.22	0.53	0.47	6.77	0.09	0.09
21.29	0.51	0.49	6.75	0.07	0.07	21.34	0.50	0.50	6.75	0.05	0.05
21.43	0.49	0.51	6.73	0.09	0.09	21.49	0.49	0.51	6.73	0.06	0.06
21.55	0.47	0.53	6.72	0.06	0.06	21.60	0.45	0.55	6.71	0.05	0.06
21.65	0.44	0.56	6.70	0.05	0.06	21.73	0.43	0.57	6.69	0.07	0.09
21.81	0.42	0.58	6.68	0.08	0.10	21.86	0.44	0.56	6.67	0.05	0.05
21.97	0.38	0.62	6.65	0.11	0.14	21.98	0.41	0.59	6.65	0.02	0.02
22.05	0.40	0.60	6.64	0.07	0.08	22.13	0.40	0.60	6.63	0.07	0.09
22.18	0.41	0.59	6.62	0.06	0.07	22.27	0.44	0.56	6.61	0.09	0.10
22.33	0.46	0.54	6.60	0.06	0.06	22.38	0.49	0.51	6.59	0.05	0.05
22.45	0.49	0.51	6.58	0.07	0.07	22.53	0.52	0.48	6.57	0.08	0.08
22.58	0.52	0.48	6.56	0.05	0.05	22.65	0.50	0.50	6.55	0.07	0.06
22.75	0.50	0.50	6.53	0.11	0.10	22.80	0.50	0.50	6.53	0.04	0.04
22.84	0.47	0.53	6.52	0.04	0.04	22.90	0.46	0.54	6.51	0.07	0.07
23.00	0.48	0.52	6.49	0.10	0.10	23.04	0.47	0.53	6.49	0.04	0.04
23.11	0.46	0.54	6.48	0.06	0.07	23.21	0.51	0.49	6.46	0.10	0.10
23.26	0.52	0.48	6.46	0.05	0.05	23.32	0.56	0.44	6.45	0.06	0.05
23.37	0.60	0.40	6.44	0.05	0.04	23.43	0.63	0.37	6.43	0.05	0.04
23.51	0.69	0.31	6.42	0.09	0.05	23.56	0.70	0.30	6.41	0.04	0.03
23.63	0.73	0.27	6.40	0.07	0.04	23.69	0.67	0.33	6.39	0.06	0.04
23.79	0.61	0.39	6.37	0.10	0.08	23.82	0.36	0.64	6.37	0.03	0.04
23.92	0.41	0.59	6.35	0.10	0.12	23.97	0.39	0.61	6.35	0.05	0.06
24.02	0.37	0.63	6.34	0.05	0.06	24.13	0.31	0.69	6.32	0.11	0.14
24.18	0.27	0.73	6.32	0.05	0.07	24.22	0.26	0.74	6.31	0.04	0.06
24.28	0.24	0.76	6.30	0.07	0.10	24.38	0.23	0.77	6.28	0.09	0.14
24.43	0.26	0.74	6.28	0.06	0.08	24.48	0.27	0.73	6.27	0.05	0.07
24.54	0.27	0.73	6.26	0.06	0.08	24.64	0.23	0.77	6.25	0.10	0.14
24.69	0.22	0.78	6.24	0.05	0.07	24.75	2.00	0.00	6.23	0.06	0.00
24.80	2.00	0.00	6.22	0.05	0.00	24.89	2.00	0.00	6.21	0.08	0.00
24.95	2.00	0.00	6.20	0.06	0.00	25.01	2.00	0.00	6.19	0.06	0.00
25.07	2.00	0.00	6.18	0.06	0.00	25.16	2.00	0.00	6.17	0.09	0.00
25.21	2.00	0.00	6.16	0.05	0.00	25.27	2.00	0.00	6.15	0.06	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
25.36	2.00	0.00	6.14	0.09	0.00	25.41	2.00	0.00	6.13	0.05	0.00
25.48	2.00	0.00	6.12	0.07	0.00	25.53	2.00	0.00	6.11	0.05	0.00
25.59	2.00	0.00	6.10	0.06	0.00	25.66	2.00	0.00	6.09	0.07	0.00
25.73	2.00	0.00	6.08	0.07	0.00	25.79	2.00	0.00	6.07	0.06	0.00
25.88	2.00	0.00	6.06	0.09	0.00	25.94	2.00	0.00	6.05	0.06	0.00
25.99	2.00	0.00	6.04	0.05	0.00	26.09	2.00	0.00	6.02	0.10	0.00
26.13	2.00	0.00	6.02	0.05	0.00	26.20	2.00	0.00	6.01	0.07	0.00
26.27	2.00	0.00	6.00	0.07	0.00	26.35	2.00	0.00	5.98	0.08	0.00
26.38	2.00	0.00	5.98	0.03	0.00	26.46	2.00	0.00	5.97	0.08	0.00
26.51	2.00	0.00	5.96	0.05	0.00	26.60	2.00	0.00	5.95	0.09	0.00
26.67	2.00	0.00	5.94	0.07	0.00	26.72	2.00	0.00	5.93	0.05	0.00
26.78	2.00	0.00	5.92	0.06	0.00	26.85	2.00	0.00	5.91	0.07	0.00
26.92	2.00	0.00	5.90	0.07	0.00	26.97	2.00	0.00	5.89	0.05	0.00
27.06	2.00	0.00	5.88	0.09	0.00	27.14	2.00	0.00	5.86	0.07	0.00
27.18	2.00	0.00	5.86	0.04	0.00	27.24	2.00	0.00	5.85	0.06	0.00
27.33	2.00	0.00	5.83	0.09	0.00	27.38	2.00	0.00	5.83	0.05	0.00
27.45	2.00	0.00	5.82	0.07	0.00	27.50	2.00	0.00	5.81	0.05	0.00
27.59	2.00	0.00	5.80	0.09	0.00	27.65	2.00	0.00	5.79	0.07	0.00
27.70	2.00	0.00	5.78	0.04	0.00	27.76	2.00	0.00	5.77	0.07	0.00
27.84	2.00	0.00	5.76	0.08	0.00	27.91	2.00	0.00	5.75	0.07	0.00
27.97	2.00	0.00	5.74	0.05	0.00	28.02	2.00	0.00	5.73	0.05	0.00
28.09	2.00	0.00	5.72	0.07	0.00	28.18	2.00	0.00	5.71	0.08	0.00
28.23	2.00	0.00	5.70	0.05	0.00	28.28	2.00	0.00	5.69	0.06	0.00
28.38	2.00	0.00	5.67	0.10	0.00	28.43	2.00	0.00	5.67	0.05	0.00
28.49	2.00	0.00	5.66	0.06	0.00	28.55	2.00	0.00	5.65	0.05	0.00
28.63	2.00	0.00	5.64	0.09	0.00	28.70	2.00	0.00	5.63	0.06	0.00
28.75	2.00	0.00	5.62	0.05	0.00	28.85	2.00	0.00	5.60	0.10	0.00
28.89	2.00	0.00	5.60	0.04	0.00	28.96	2.00	0.00	5.59	0.07	0.00
29.01	2.00	0.00	5.58	0.05	0.00	29.07	2.00	0.00	5.57	0.06	0.00
29.17	2.00	0.00	5.55	0.10	0.00	29.22	2.00	0.00	5.55	0.05	0.00
29.28	2.00	0.00	5.54	0.06	0.00	29.36	2.00	0.00	5.53	0.08	0.00
29.42	2.00	0.00	5.52	0.06	0.00	29.48	2.00	0.00	5.51	0.06	0.00
29.54	2.00	0.00	5.50	0.05	0.00	29.60	2.00	0.00	5.49	0.06	0.00
29.68	2.00	0.00	5.48	0.08	0.00	29.74	2.00	0.00	5.47	0.06	0.00
29.79	2.00	0.00	5.46	0.05	0.00	29.90	2.00	0.00	5.44	0.10	0.00
29.93	0.20	0.80	5.44	0.03	0.04	29.99	0.21	0.79	5.43	0.07	0.09
30.06	0.22	0.78	5.42	0.07	0.09	30.14	0.23	0.77	5.41	0.08	0.10
30.19	0.25	0.75	5.40	0.05	0.06	30.26	0.24	0.76	5.39	0.07	0.09
30.33	0.31	0.69	5.38	0.07	0.08	30.39	0.35	0.65	5.37	0.06	0.06
30.46	0.42	0.58	5.36	0.08	0.07	30.52	0.45	0.55	5.35	0.05	0.05
30.61	0.54	0.46	5.33	0.10	0.07	30.67	0.56	0.44	5.33	0.06	0.04
30.72	0.56	0.44	5.32	0.05	0.04	30.78	0.60	0.40	5.31	0.05	0.04
30.86	0.64	0.36	5.30	0.08	0.05	30.93	0.69	0.31	5.29	0.07	0.03
30.99	0.73	0.27	5.28	0.06	0.03	31.05	0.76	0.24	5.27	0.07	0.03
31.13	0.75	0.25	5.26	0.08	0.03	31.18	0.75	0.25	5.25	0.05	0.02
31.25	0.71	0.29	5.24	0.06	0.03	31.32	0.68	0.32	5.23	0.07	0.04
31.38	0.65	0.35	5.22	0.06	0.03	31.44	0.62	0.38	5.21	0.07	0.04
31.51	0.60	0.40	5.20	0.06	0.04	31.56	0.59	0.41	5.19	0.06	0.04

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.66	0.56	0.44	5.17	0.10	0.07	31.71	0.56	0.44	5.17	0.05	0.03
31.77	0.53	0.47	5.16	0.06	0.05	31.84	0.46	0.54	5.15	0.06	0.05
31.92	0.40	0.60	5.14	0.08	0.08	31.96	0.36	0.64	5.13	0.04	0.04
32.03	0.32	0.68	5.12	0.07	0.07	32.11	0.29	0.71	5.11	0.08	0.09
32.18	0.30	0.70	5.10	0.07	0.08	32.26	0.28	0.72	5.08	0.08	0.09
32.30	0.30	0.70	5.08	0.05	0.05	32.37	0.33	0.67	5.07	0.06	0.06
32.42	0.36	0.64	5.06	0.06	0.06	32.52	0.42	0.58	5.04	0.09	0.08
32.58	0.45	0.55	5.03	0.07	0.05	32.63	0.44	0.56	5.03	0.05	0.04
32.68	0.43	0.57	5.02	0.05	0.04	32.75	0.41	0.59	5.01	0.07	0.06
32.84	0.37	0.63	4.99	0.09	0.09	32.89	0.35	0.65	4.99	0.05	0.05
32.95	0.34	0.66	4.98	0.06	0.06	33.01	0.31	0.69	4.97	0.06	0.07
33.09	0.28	0.72	4.96	0.08	0.09	33.14	0.27	0.73	4.95	0.05	0.05
33.20	0.23	0.77	4.94	0.07	0.08	33.30	2.00	0.00	4.93	0.09	0.00
33.36	2.00	0.00	4.92	0.07	0.00	33.41	2.00	0.00	4.91	0.05	0.00
33.47	2.00	0.00	4.90	0.06	0.00	33.54	2.00	0.00	4.89	0.07	0.00
33.61	0.20	0.80	4.88	0.07	0.09	33.68	0.27	0.73	4.87	0.07	0.07
33.73	0.30	0.70	4.86	0.05	0.05	33.83	0.37	0.63	4.84	0.10	0.09
33.88	0.37	0.63	4.84	0.06	0.05	33.94	0.36	0.64	4.83	0.05	0.05
34.02	0.38	0.62	4.82	0.08	0.07	34.09	0.40	0.60	4.80	0.07	0.06
34.13	0.44	0.56	4.80	0.04	0.04	34.20	0.44	0.56	4.79	0.06	0.05
34.26	0.42	0.58	4.78	0.06	0.05	34.34	0.40	0.60	4.77	0.08	0.07
34.40	0.39	0.61	4.76	0.06	0.05	34.46	0.40	0.60	4.75	0.06	0.05
34.55	0.38	0.62	4.74	0.09	0.08	34.59	0.34	0.66	4.73	0.04	0.04
34.69	0.40	0.60	4.71	0.10	0.09	34.74	0.36	0.64	4.71	0.05	0.04
34.80	0.38	0.62	4.70	0.06	0.05	34.85	0.37	0.63	4.69	0.05	0.05
34.95	0.40	0.60	4.67	0.10	0.08	34.99	0.36	0.64	4.67	0.04	0.04
35.06	0.35	0.65	4.66	0.07	0.06	35.11	0.32	0.68	4.65	0.05	0.05
35.20	0.32	0.68	4.64	0.09	0.09	35.25	0.30	0.70	4.63	0.04	0.04
35.31	0.29	0.71	4.62	0.06	0.06	35.38	0.29	0.71	4.61	0.06	0.06
35.45	0.28	0.72	4.60	0.08	0.08	35.51	0.29	0.71	4.59	0.06	0.06
35.58	0.30	0.70	4.58	0.07	0.07	35.63	0.34	0.66	4.57	0.06	0.05
35.70	0.34	0.66	4.56	0.07	0.07	35.76	0.37	0.63	4.55	0.06	0.05
35.83	0.32	0.68	4.54	0.07	0.06	35.94	0.23	0.77	4.52	0.11	0.12
35.99	0.20	0.80	4.51	0.05	0.06	36.04	2.00	0.00	4.51	0.05	0.00
36.09	2.00	0.00	4.50	0.05	0.00	36.18	2.00	0.00	4.49	0.09	0.00
36.22	2.00	0.00	4.48	0.04	0.00	36.30	2.00	0.00	4.47	0.08	0.00
36.36	2.00	0.00	4.46	0.06	0.00	36.46	2.00	0.00	4.44	0.10	0.00
36.51	2.00	0.00	4.44	0.05	0.00	36.56	2.00	0.00	4.43	0.05	0.00
36.62	2.00	0.00	4.42	0.06	0.00	36.69	2.00	0.00	4.41	0.07	0.00
36.77	2.00	0.00	4.40	0.08	0.00	36.82	2.00	0.00	4.39	0.04	0.00
36.92	2.00	0.00	4.37	0.10	0.00	36.98	2.00	0.00	4.36	0.06	0.00
37.01	2.00	0.00	4.36	0.03	0.00	37.08	2.00	0.00	4.35	0.07	0.00
37.16	2.00	0.00	4.34	0.08	0.00	37.21	2.00	0.00	4.33	0.06	0.00
37.30	2.00	0.00	4.32	0.09	0.00	37.37	2.00	0.00	4.31	0.06	0.00
37.41	2.00	0.00	4.30	0.05	0.00	37.47	2.00	0.00	4.29	0.06	0.00
37.55	2.00	0.00	4.28	0.09	0.00	37.61	2.00	0.00	4.27	0.06	0.00
37.68	2.00	0.00	4.26	0.06	0.00	37.73	2.00	0.00	4.25	0.06	0.00
37.81	2.00	0.00	4.24	0.08	0.00	37.87	2.00	0.00	4.23	0.06	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
37.94	2.00	0.00	4.22	0.07	0.00	38.02	2.00	0.00	4.20	0.09	0.00
38.07	2.00	0.00	4.20	0.04	0.00	38.13	2.00	0.00	4.19	0.07	0.00
38.19	2.00	0.00	4.18	0.06	0.00	38.28	2.00	0.00	4.17	0.09	0.00
38.35	2.00	0.00	4.16	0.06	0.00	38.39	2.00	0.00	4.15	0.04	0.00
38.46	2.00	0.00	4.14	0.07	0.00	38.56	2.00	0.00	4.12	0.11	0.00
38.61	2.00	0.00	4.12	0.04	0.00	38.67	2.00	0.00	4.11	0.06	0.00
38.72	2.00	0.00	4.10	0.05	0.00	38.82	2.00	0.00	4.08	0.10	0.00
38.85	2.00	0.00	4.08	0.03	0.00	38.93	2.00	0.00	4.07	0.08	0.00
38.98	2.00	0.00	4.06	0.05	0.00	39.06	2.00	0.00	4.05	0.09	0.00
39.11	2.00	0.00	4.04	0.05	0.00	39.18	2.00	0.00	4.03	0.07	0.00
39.24	2.00	0.00	4.02	0.06	0.00	39.33	2.00	0.00	4.01	0.09	0.00
39.37	2.00	0.00	4.00	0.04	0.00	39.44	2.00	0.00	3.99	0.07	0.00
39.50	2.00	0.00	3.98	0.06	0.00	39.58	2.00	0.00	3.97	0.08	0.00
39.64	2.00	0.00	3.96	0.05	0.00	39.73	2.00	0.00	3.94	0.10	0.00
39.78	2.00	0.00	3.94	0.05	0.00	39.84	2.00	0.00	3.93	0.06	0.00
39.92	2.00	0.00	3.92	0.08	0.00	39.96	2.00	0.00	3.91	0.04	0.00
40.04	2.00	0.00	3.90	0.08	0.00	40.10	2.00	0.00	3.89	0.06	0.00
40.17	2.00	0.00	3.88	0.07	0.00	40.25	2.00	0.00	3.87	0.08	0.00
40.29	2.00	0.00	3.86	0.04	0.00	40.36	2.00	0.00	3.85	0.07	0.00
40.42	2.00	0.00	3.84	0.06	0.00	40.52	0.19	0.81	3.82	0.10	0.09
40.57	0.20	0.80	3.82	0.05	0.04	40.63	0.20	0.80	3.81	0.06	0.06
40.73	0.21	0.79	3.79	0.10	0.09	40.78	0.21	0.79	3.79	0.05	0.05
40.82	0.21	0.79	3.78	0.04	0.04	40.88	0.22	0.78	3.77	0.06	0.05
40.98	0.21	0.79	3.75	0.10	0.09	41.03	0.21	0.79	3.75	0.05	0.04
41.09	0.21	0.79	3.74	0.06	0.05	41.15	0.21	0.79	3.73	0.06	0.05
41.24	2.00	0.00	3.71	0.10	0.00	41.30	2.00	0.00	3.71	0.06	0.00
41.36	2.00	0.00	3.70	0.05	0.00	41.41	2.00	0.00	3.69	0.05	0.00
41.49	0.20	0.80	3.68	0.09	0.08	41.54	0.20	0.80	3.67	0.05	0.04
41.61	0.21	0.79	3.66	0.07	0.06	41.67	0.23	0.77	3.65	0.07	0.06
41.75	0.24	0.76	3.64	0.07	0.06	41.81	0.22	0.78	3.63	0.06	0.05
41.87	0.28	0.72	3.62	0.06	0.05	41.98	0.28	0.72	3.60	0.10	0.08
42.02	0.30	0.70	3.60	0.05	0.04	42.08	0.32	0.68	3.59	0.05	0.04
42.13	0.35	0.65	3.58	0.05	0.03	42.21	0.42	0.58	3.57	0.09	0.05
42.27	0.47	0.53	3.56	0.06	0.03	42.33	0.53	0.47	3.55	0.06	0.03
42.39	0.57	0.43	3.54	0.06	0.03	42.49	0.65	0.35	3.52	0.10	0.04
42.54	0.66	0.34	3.52	0.05	0.02	42.59	0.68	0.32	3.51	0.05	0.02
42.66	0.72	0.28	3.50	0.06	0.02	42.73	0.81	0.19	3.49	0.08	0.02
42.79	0.85	0.15	3.48	0.06	0.01	42.86	1.03	0.00	3.47	0.07	0.00
42.95	1.27	0.00	3.45	0.09	0.00	43.00	1.44	0.00	3.45	0.06	0.00
43.07	1.62	0.00	3.44	0.06	0.00	43.13	1.68	0.00	3.43	0.07	0.00
43.21	1.72	0.00	3.41	0.08	0.00	43.27	1.71	0.00	3.41	0.06	0.00
43.33	1.66	0.00	3.40	0.05	0.00	43.38	1.55	0.00	3.39	0.06	0.00
43.45	1.48	0.00	3.38	0.07	0.00	43.51	1.41	0.00	3.37	0.06	0.00
43.58	1.31	0.00	3.36	0.07	0.00	43.64	1.19	0.00	3.35	0.06	0.00
43.70	1.07	0.00	3.34	0.06	0.00	43.79	1.08	0.00	3.33	0.09	0.00
43.84	1.10	0.00	3.32	0.05	0.00	43.90	1.06	0.00	3.31	0.07	0.00
44.00	0.94	0.06	3.29	0.10	0.01	44.05	0.89	0.11	3.29	0.05	0.01
44.11	0.88	0.12	3.28	0.06	0.01	44.17	0.94	0.06	3.27	0.06	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
44.23	1.03	0.00	3.26	0.06	0.00	44.30	0.97	0.03	3.25	0.07	0.00
44.37	0.90	0.10	3.24	0.07	0.01	44.44	1.12	0.00	3.23	0.07	0.00
44.49	1.04	0.00	3.22	0.05	0.00	44.58	1.25	0.00	3.21	0.09	0.00
44.65	1.10	0.00	3.20	0.07	0.00	44.70	1.10	0.00	3.19	0.05	0.00
44.76	1.01	0.00	3.18	0.06	0.00	44.84	0.91	0.09	3.17	0.08	0.01
44.91	0.87	0.13	3.16	0.07	0.01	44.95	0.81	0.19	3.15	0.05	0.01
45.04	0.80	0.20	3.14	0.09	0.02	45.10	0.81	0.19	3.13	0.06	0.01
45.15	0.84	0.16	3.12	0.05	0.01	45.22	0.93	0.07	3.11	0.06	0.00
45.30	0.98	0.02	3.10	0.08	0.00	45.36	1.11	0.00	3.09	0.07	0.00
45.42	1.22	0.00	3.08	0.06	0.00	45.48	1.42	0.00	3.07	0.05	0.00
45.57	1.51	0.00	3.06	0.09	0.00	45.63	1.77	0.00	3.05	0.06	0.00
45.69	1.98	0.00	3.04	0.06	0.00	45.74	2.00	0.00	3.03	0.05	0.00
45.84	1.95	0.00	3.01	0.10	0.00	45.88	1.90	0.00	3.01	0.04	0.00
45.95	1.47	0.00	3.00	0.06	0.00	46.00	1.24	0.00	2.99	0.05	0.00
46.07	0.88	0.12	2.98	0.07	0.01	46.14	0.78	0.22	2.97	0.07	0.01
46.21	0.69	0.31	2.96	0.07	0.02	46.27	0.71	0.29	2.95	0.06	0.02
46.34	0.52	0.48	2.94	0.07	0.03	46.43	0.56	0.44	2.92	0.08	0.03
46.48	0.59	0.41	2.92	0.05	0.02	46.53	0.56	0.44	2.91	0.05	0.02
46.62	0.56	0.44	2.90	0.09	0.03	46.69	0.56	0.44	2.89	0.07	0.03
46.75	0.58	0.42	2.88	0.06	0.02	46.79	0.56	0.44	2.87	0.05	0.02
46.90	0.64	0.36	2.85	0.10	0.03	46.95	0.63	0.37	2.84	0.05	0.02
46.99	0.64	0.36	2.84	0.04	0.01	47.05	0.67	0.33	2.83	0.06	0.02
47.15	0.69	0.31	2.81	0.09	0.02	47.18	0.72	0.28	2.81	0.04	0.01
47.27	0.73	0.27	2.80	0.09	0.02	47.32	0.78	0.22	2.79	0.05	0.01
47.41	0.83	0.17	2.78	0.09	0.01	47.47	0.90	0.10	2.77	0.06	0.01
47.52	0.95	0.05	2.76	0.05	0.00	47.58	0.98	0.02	2.75	0.05	0.00
47.65	1.10	0.00	2.74	0.08	0.00	47.73	1.12	0.00	2.73	0.08	0.00
47.78	1.07	0.00	2.72	0.05	0.00	47.87	0.89	0.11	2.70	0.09	0.01
47.90	0.82	0.18	2.70	0.03	0.00	47.99	0.77	0.23	2.69	0.09	0.02
48.05	0.79	0.21	2.68	0.06	0.01	48.11	0.66	0.34	2.67	0.06	0.02
48.18	0.67	0.33	2.66	0.07	0.02	48.24	0.60	0.40	2.65	0.06	0.02
48.30	0.61	0.39	2.64	0.06	0.02	48.39	0.60	0.40	2.62	0.09	0.03
48.43	0.59	0.41	2.62	0.04	0.01	48.51	0.62	0.38	2.61	0.07	0.02
48.56	0.64	0.36	2.60	0.05	0.01	48.66	0.81	0.19	2.58	0.10	0.01
48.70	0.84	0.16	2.58	0.05	0.01	48.77	1.06	0.00	2.57	0.06	0.00
48.83	1.36	0.00	2.56	0.06	0.00	48.91	1.72	0.00	2.55	0.09	0.00
48.97	2.00	0.00	2.54	0.06	0.00	49.02	2.00	0.00	2.53	0.05	0.00
49.11	2.00	0.00	2.52	0.09	0.00	49.17	2.00	0.00	2.51	0.06	0.00
49.24	2.00	0.00	2.50	0.06	0.00	49.28	2.00	0.00	2.49	0.05	0.00
49.39	2.00	0.00	2.47	0.10	0.00	49.43	2.00	0.00	2.47	0.04	0.00
49.49	2.00	0.00	2.46	0.06	0.00	49.54	2.00	0.00	2.45	0.05	0.00
49.65	2.00	0.00	2.43	0.10	0.00	49.69	2.00	0.00	2.43	0.04	0.00
49.75	1.77	0.00	2.42	0.06	0.00	49.81	1.32	0.00	2.41	0.06	0.00
49.88	1.10	0.00	2.40	0.07	0.00	49.96	0.87	0.13	2.39	0.08	0.01
50.01	2.00	0.00	2.38	0.05	0.00	50.07	2.00	0.00	2.37	0.05	0.00
50.15	2.00	0.00	2.36	0.08	0.00	50.21	2.00	0.00	2.35	0.06	0.00
50.27	2.00	0.00	2.34	0.06	0.00	50.35	2.00	0.00	2.33	0.08	0.00
50.40	2.00	0.00	2.32	0.05	0.00	50.47	2.00	0.00	2.31	0.07	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
50.55	2.00	0.00	2.30	0.08	0.00	50.62	2.00	0.00	2.29	0.06	0.00
50.68	2.00	0.00	2.28	0.06	0.00	50.72	2.00	0.00	2.27	0.04	0.00
50.84	2.00	0.00	2.25	0.11	0.00	50.86	2.00	0.00	2.25	0.02	0.00
50.94	2.00	0.00	2.24	0.08	0.00	51.02	2.00	0.00	2.22	0.08	0.00
51.07	2.00	0.00	2.22	0.05	0.00	51.12	2.00	0.00	2.21	0.05	0.00
51.20	2.00	0.00	2.20	0.08	0.00	51.25	2.00	0.00	2.19	0.06	0.00
51.32	2.00	0.00	2.18	0.07	0.00	51.38	2.00	0.00	2.17	0.06	0.00
51.46	2.00	0.00	2.16	0.08	0.00	51.51	2.00	0.00	2.15	0.05	0.00
51.58	2.00	0.00	2.14	0.07	0.00	51.65	2.00	0.00	2.13	0.07	0.00
51.71	2.00	0.00	2.12	0.06	0.00	51.81	2.00	0.00	2.10	0.10	0.00
51.85	2.00	0.00	2.10	0.04	0.00	51.91	2.00	0.00	2.09	0.06	0.00
51.98	2.00	0.00	2.08	0.07	0.00	52.07	2.00	0.00	2.06	0.09	0.00
52.11	2.00	0.00	2.06	0.04	0.00	52.18	2.00	0.00	2.05	0.07	0.00
52.24	2.00	0.00	2.04	0.05	0.00	52.33	2.00	0.00	2.03	0.09	0.00
52.37	2.00	0.00	2.02	0.04	0.00	52.44	2.00	0.00	2.01	0.07	0.00
52.50	2.00	0.00	2.00	0.06	0.00	52.58	2.00	0.00	1.99	0.08	0.00
52.65	2.00	0.00	1.98	0.08	0.00	52.69	2.00	0.00	1.97	0.04	0.00
52.76	2.00	0.00	1.96	0.07	0.00	52.86	2.00	0.00	1.94	0.10	0.00
52.91	2.00	0.00	1.94	0.05	0.00	52.95	2.00	0.00	1.93	0.04	0.00
53.04	2.00	0.00	1.92	0.09	0.00	53.11	2.00	0.00	1.91	0.06	0.00
53.17	2.00	0.00	1.90	0.06	0.00	53.22	2.00	0.00	1.89	0.05	0.00
53.31	2.00	0.00	1.88	0.09	0.00	53.35	2.00	0.00	1.87	0.05	0.00
53.43	2.00	0.00	1.86	0.07	0.00	53.50	2.00	0.00	1.85	0.07	0.00
53.56	2.00	0.00	1.84	0.06	0.00	53.61	2.00	0.00	1.83	0.05	0.00
53.71	2.00	0.00	1.81	0.10	0.00	53.77	2.00	0.00	1.81	0.05	0.00
53.82	2.00	0.00	1.80	0.05	0.00	53.92	2.00	0.00	1.78	0.10	0.00
53.96	2.00	0.00	1.78	0.04	0.00	54.00	2.00	0.00	1.77	0.04	0.00
54.08	2.00	0.00	1.76	0.07	0.00	54.17	2.00	0.00	1.75	0.09	0.00
54.23	2.00	0.00	1.74	0.06	0.00	54.28	2.00	0.00	1.73	0.05	0.00
54.33	2.00	0.00	1.72	0.05	0.00	54.40	2.00	0.00	1.71	0.07	0.00
54.49	2.00	0.00	1.70	0.09	0.00	54.55	2.00	0.00	1.69	0.05	0.00
54.60	2.00	0.00	1.68	0.05	0.00	54.66	2.00	0.00	1.67	0.06	0.00
54.74	2.00	0.00	1.66	0.08	0.00	54.81	2.00	0.00	1.65	0.07	0.00
54.86	2.00	0.00	1.64	0.05	0.00	54.94	2.00	0.00	1.63	0.08	0.00
55.01	2.00	0.00	1.62	0.07	0.00	55.06	2.00	0.00	1.61	0.05	0.00
55.12	2.00	0.00	1.60	0.06	0.00	55.22	2.00	0.00	1.58	0.10	0.00
55.27	2.00	0.00	1.58	0.05	0.00	55.32	2.00	0.00	1.57	0.06	0.00
55.41	2.00	0.00	1.56	0.08	0.00	55.48	2.00	0.00	1.54	0.08	0.00
55.53	2.00	0.00	1.54	0.05	0.00	55.58	2.00	0.00	1.53	0.05	0.00
55.65	2.00	0.00	1.52	0.07	0.00	55.72	2.00	0.00	1.51	0.06	0.00
55.78	2.00	0.00	1.50	0.06	0.00	55.85	2.00	0.00	1.49	0.07	0.00
55.92	2.00	0.00	1.48	0.07	0.00	56.00	2.00	0.00	1.47	0.09	0.00
56.04	2.00	0.00	1.46	0.04	0.00	56.12	2.00	0.00	1.45	0.09	0.00
56.18	2.00	0.00	1.44	0.06	0.00	56.24	2.00	0.00	1.43	0.06	0.00
56.33	2.00	0.00	1.42	0.09	0.00	56.37	2.00	0.00	1.41	0.04	0.00
56.44	2.00	0.00	1.40	0.07	0.00	56.51	2.00	0.00	1.39	0.07	0.00
56.57	2.00	0.00	1.38	0.07	0.00	56.63	2.00	0.00	1.37	0.06	0.00
56.70	2.00	0.00	1.36	0.06	0.00	56.80	2.00	0.00	1.34	0.10	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
56.84	2.00	0.00	1.34	0.05	0.00	56.91	2.00	0.00	1.33	0.06	0.00
56.96	2.00	0.00	1.32	0.05	0.00	57.06	2.00	0.00	1.30	0.10	0.00
57.10	2.00	0.00	1.30	0.04	0.00	57.17	2.00	0.00	1.29	0.07	0.00
57.22	2.00	0.00	1.28	0.05	0.00	57.30	2.00	0.00	1.27	0.09	0.00
57.36	2.00	0.00	1.26	0.05	0.00	57.42	2.00	0.00	1.25	0.07	0.00
57.52	2.00	0.00	1.23	0.09	0.00	57.56	2.00	0.00	1.23	0.04	0.00
57.65	2.00	0.00	1.21	0.09	0.00	57.71	2.00	0.00	1.20	0.06	0.00
57.76	2.00	0.00	1.20	0.05	0.00	57.87	2.00	0.00	1.18	0.10	0.00
57.88	2.00	0.00	1.18	0.01	0.00	57.95	2.00	0.00	1.17	0.07	0.00
58.02	2.00	0.00	1.16	0.08	0.00	58.08	2.00	0.00	1.15	0.05	0.00
58.16	2.00	0.00	1.14	0.08	0.00	58.22	2.00	0.00	1.13	0.06	0.00
58.28	2.00	0.00	1.12	0.06	0.00	58.33	2.00	0.00	1.11	0.05	0.00
58.42	2.00	0.00	1.10	0.09	0.00	58.47	2.00	0.00	1.09	0.04	0.00
58.54	2.00	0.00	1.08	0.08	0.00	58.63	2.00	0.00	1.06	0.09	0.00
58.68	2.00	0.00	1.06	0.05	0.00	58.75	2.00	0.00	1.05	0.07	0.00
58.80	2.00	0.00	1.04	0.05	0.00	58.86	2.00	0.00	1.03	0.06	0.00
58.94	2.00	0.00	1.02	0.08	0.00	59.01	2.00	0.00	1.01	0.06	0.00
59.06	2.00	0.00	1.00	0.05	0.00	59.15	2.00	0.00	0.98	0.10	0.00
59.22	2.00	0.00	0.98	0.06	0.00	59.27	2.00	0.00	0.97	0.05	0.00
59.32	2.00	0.00	0.96	0.05	0.00	59.40	2.00	0.00	0.95	0.08	0.00
59.45	2.00	0.00	0.94	0.05	0.00	59.53	2.00	0.00	0.93	0.07	0.00
59.59	2.00	0.00	0.92	0.06	0.00	59.66	2.00	0.00	0.91	0.08	0.00
59.71	2.00	0.00	0.90	0.05	0.00	59.81	2.00	0.00	0.89	0.10	0.00
59.87	2.00	0.00	0.88	0.06	0.00	59.92	2.00	0.00	0.87	0.05	0.00
59.98	2.00	0.00	0.86	0.06	0.00	60.06	2.00	0.00	0.85	0.09	0.00
60.13	2.00	0.00	0.84	0.07	0.00	60.17	2.00	0.00	0.83	0.04	0.00
60.26	2.00	0.00	0.82	0.09	0.00	60.33	2.00	0.00	0.81	0.06	0.00
60.39	2.00	0.00	0.80	0.06	0.00	60.44	2.00	0.00	0.79	0.05	0.00
60.50	2.00	0.00	0.78	0.06	0.00	60.58	2.00	0.00	0.77	0.08	0.00
60.65	2.00	0.00	0.76	0.07	0.00	60.70	2.00	0.00	0.75	0.05	0.00
60.77	2.00	0.00	0.74	0.07	0.00	60.85	2.00	0.00	0.73	0.08	0.00
60.91	2.00	0.00	0.72	0.06	0.00	60.97	2.00	0.00	0.71	0.06	0.00
61.05	2.00	0.00	0.70	0.08	0.00	61.11	2.00	0.00	0.69	0.06	0.00
61.17	2.00	0.00	0.68	0.06	0.00	61.24	2.00	0.00	0.67	0.07	0.00
61.29	2.00	0.00	0.66	0.06	0.00	61.37	2.00	0.00	0.65	0.08	0.00
61.42	2.00	0.00	0.64	0.05	0.00	61.48	2.00	0.00	0.63	0.07	0.00
61.56	2.00	0.00	0.62	0.08	0.00	61.62	2.00	0.00	0.61	0.06	0.00
61.69	2.00	0.00	0.60	0.07	0.00	61.75	2.00	0.00	0.59	0.05	0.00
61.84	2.00	0.00	0.58	0.09	0.00	61.90	2.00	0.00	0.57	0.05	0.00
61.95	2.00	0.00	0.56	0.05	0.00	62.03	2.00	0.00	0.55	0.08	0.00
62.10	2.00	0.00	0.54	0.07	0.00	62.16	2.00	0.00	0.53	0.06	0.00
62.21	2.00	0.00	0.52	0.05	0.00	62.30	2.00	0.00	0.51	0.10	0.00
62.34	2.00	0.00	0.50	0.04	0.00	62.41	2.00	0.00	0.49	0.07	0.00
62.47	2.00	0.00	0.48	0.06	0.00	62.55	2.00	0.00	0.47	0.08	0.00
62.62	2.00	0.00	0.46	0.07	0.00	62.67	2.00	0.00	0.45	0.05	0.00
62.76	2.00	0.00	0.44	0.09	0.00	62.82	2.00	0.00	0.43	0.06	0.00
62.87	2.00	0.00	0.42	0.04	0.00	62.93	2.00	0.00	0.41	0.06	0.00
63.02	2.00	0.00	0.40	0.10	0.00	63.09	2.00	0.00	0.39	0.07	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.13	2.00	0.00	0.38	0.05	0.00	63.23	2.00	0.00	0.36	0.09	0.00
63.28	2.00	0.00	0.36	0.05	0.00	63.35	2.00	0.00	0.35	0.07	0.00
63.41	2.00	0.00	0.34	0.06	0.00	63.45	2.00	0.00	0.33	0.05	0.00
63.52	2.00	0.00	0.32	0.07	0.00	63.60	2.00	0.00	0.31	0.08	0.00
63.66	2.00	0.00	0.30	0.06	0.00	63.72	2.00	0.00	0.29	0.05	0.00
63.80	2.00	0.00	0.28	0.08	0.00	63.86	2.00	0.00	0.27	0.07	0.00
63.92	2.00	0.00	0.26	0.06	0.00	63.98	2.00	0.00	0.25	0.05	0.00
64.06	2.00	0.00	0.24	0.08	0.00	64.11	2.00	0.00	0.23	0.06	0.00
64.18	2.00	0.00	0.22	0.07	0.00	64.26	2.00	0.00	0.21	0.08	0.00
64.32	2.00	0.00	0.20	0.06	0.00	64.39	2.00	0.00	0.19	0.06	0.00
64.46	2.00	0.00	0.18	0.07	0.00	64.53	2.00	0.00	0.17	0.06	0.00
64.61	2.00	0.00	0.15	0.09	0.00	64.67	2.00	0.00	0.15	0.05	0.00
64.71	2.00	0.00	0.14	0.04	0.00	64.77	2.00	0.00	0.13	0.06	0.00
64.87	2.00	0.00	0.11	0.10	0.00	64.93	2.00	0.00	0.11	0.06	0.00
64.97	2.00	0.00	0.10	0.05	0.00	65.03	2.00	0.00	0.09	0.05	0.00
65.13	2.00	0.00	0.07	0.10	0.00	65.19	2.00	0.00	0.07	0.05	0.00
65.23	2.00	0.00	0.06	0.05	0.00	65.33	2.00	0.00	0.04	0.10	0.00
65.39	2.00	0.00	0.03	0.05	0.00	65.44	2.00	0.00	0.03	0.05	0.00
65.49	2.00	0.00	0.02	0.05	0.00	65.55	2.00	0.00	0.01	0.06	0.00
65.65	2.00	0.00	0.00	0.00	0.00	65.70	2.00	0.00	0.00	0.00	0.00
65.76	2.00	0.00	0.00	0.00	0.00	65.86	2.00	0.00	0.00	0.00	0.00
65.90	2.00	0.00	0.00	0.00	0.00	65.97	2.00	0.00	0.00	0.00	0.00
66.01	2.00	0.00	0.00	0.00	0.00	66.11	2.00	0.00	0.00	0.00	0.00
66.16	2.00	0.00	0.00	0.00	0.00	66.22	2.00	0.00	0.00	0.00	0.00
66.28	2.00	0.00	0.00	0.00	0.00	66.37	2.00	0.00	0.00	0.00	0.00
66.42	2.00	0.00	0.00	0.00	0.00	66.48	2.00	0.00	0.00	0.00	0.00
66.54	2.00	0.00	0.00	0.00	0.00	66.64	2.00	0.00	0.00	0.00	0.00
66.68	2.00	0.00	0.00	0.00	0.00	66.74	2.00	0.00	0.00	0.00	0.00
66.83	2.00	0.00	0.00	0.00	0.00	66.88	2.00	0.00	0.00	0.00	0.00
66.95	2.00	0.00	0.00	0.00	0.00	67.04	2.00	0.00	0.00	0.00	0.00
67.10	2.00	0.00	0.00	0.00	0.00	67.15	2.00	0.00	0.00	0.00	0.00
67.20	2.00	0.00	0.00	0.00	0.00	67.30	2.00	0.00	0.00	0.00	0.00
67.36	2.00	0.00	0.00	0.00	0.00	67.40	2.00	0.00	0.00	0.00	0.00
67.46	2.00	0.00	0.00	0.00	0.00	67.55	2.00	0.00	0.00	0.00	0.00
67.61	2.00	0.00	0.00	0.00	0.00	67.66	2.00	0.00	0.00	0.00	0.00
67.72	2.00	0.00	0.00	0.00	0.00	67.82	2.00	0.00	0.00	0.00	0.00
67.88	2.00	0.00	0.00	0.00	0.00	67.93	2.00	0.00	0.00	0.00	0.00
68.02	2.00	0.00	0.00	0.00	0.00	68.08	2.00	0.00	0.00	0.00	0.00
68.14	2.00	0.00	0.00	0.00	0.00	68.19	2.00	0.00	0.00	0.00	0.00
68.28	2.00	0.00	0.00	0.00	0.00	68.32	2.00	0.00	0.00	0.00	0.00
68.39	2.00	0.00	0.00	0.00	0.00	68.45	2.00	0.00	0.00	0.00	0.00
68.53	2.00	0.00	0.00	0.00	0.00	68.60	2.00	0.00	0.00	0.00	0.00
68.66	2.00	0.00	0.00	0.00	0.00	68.70	2.00	0.00	0.00	0.00	0.00
68.78	2.00	0.00	0.00	0.00	0.00	68.83	2.00	0.00	0.00	0.00	0.00
68.91	2.00	0.00	0.00	0.00	0.00	68.97	2.00	0.00	0.00	0.00	0.00
69.05	2.00	0.00	0.00	0.00	0.00	69.09	2.00	0.00	0.00	0.00	0.00
69.17	2.00	0.00	0.00	0.00	0.00	69.27	2.00	0.00	0.00	0.00	0.00
69.29	2.00	0.00	0.00	0.00	0.00	69.38	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
69.43	2.00	0.00	0.00	0.00	0.00	69.52	2.00	0.00	0.00	0.00	0.00
69.58	2.00	0.00	0.00	0.00	0.00	69.62	2.00	0.00	0.00	0.00	0.00
69.73	2.00	0.00	0.00	0.00	0.00	69.79	2.00	0.00	0.00	0.00	0.00
69.86	2.00	0.00	0.00	0.00	0.00	69.89	2.00	0.00	0.00	0.00	0.00
69.99	2.00	0.00	0.00	0.00	0.00	70.05	2.00	0.00	0.00	0.00	0.00
70.10	2.00	0.00	0.00	0.00	0.00	70.15	2.00	0.00	0.00	0.00	0.00
70.21	2.00	0.00	0.00	0.00	0.00	70.29	2.00	0.00	0.00	0.00	0.00
70.34	2.00	0.00	0.00	0.00	0.00	70.41	2.00	0.00	0.00	0.00	0.00
70.51	2.00	0.00	0.00	0.00	0.00	70.56	2.00	0.00	0.00	0.00	0.00
70.63	2.00	0.00	0.00	0.00	0.00	70.67	2.00	0.00	0.00	0.00	0.00
70.76	2.00	0.00	0.00	0.00	0.00	70.82	2.00	0.00	0.00	0.00	0.00
70.87	2.00	0.00	0.00	0.00	0.00	70.98	2.00	0.00	0.00	0.00	0.00
71.03	2.00	0.00	0.00	0.00	0.00	71.10	2.00	0.00	0.00	0.00	0.00
71.14	2.00	0.00	0.00	0.00	0.00	71.22	2.00	0.00	0.00	0.00	0.00
71.28	2.00	0.00	0.00	0.00	0.00	71.34	2.00	0.00	0.00	0.00	0.00
71.39	2.00	0.00	0.00	0.00	0.00	71.49	2.00	0.00	0.00	0.00	0.00
71.56	2.00	0.00	0.00	0.00	0.00	71.60	2.00	0.00	0.00	0.00	0.00
71.70	2.00	0.00	0.00	0.00	0.00	71.75	2.00	0.00	0.00	0.00	0.00
71.80	2.00	0.00	0.00	0.00	0.00	71.87	2.00	0.00	0.00	0.00	0.00
71.95	2.00	0.00	0.00	0.00	0.00	72.01	2.00	0.00	0.00	0.00	0.00
72.07	2.00	0.00	0.00	0.00	0.00	72.12	2.00	0.00	0.00	0.00	0.00
72.22	2.00	0.00	0.00	0.00	0.00	72.28	2.00	0.00	0.00	0.00	0.00
72.31	2.00	0.00	0.00	0.00	0.00	72.42	2.00	0.00	0.00	0.00	0.00
72.47	2.00	0.00	0.00	0.00	0.00	72.53	2.00	0.00	0.00	0.00	0.00
72.58	2.00	0.00	0.00	0.00	0.00	72.68	2.00	0.00	0.00	0.00	0.00
72.73	2.00	0.00	0.00	0.00	0.00	72.79	2.00	0.00	0.00	0.00	0.00
72.84	2.00	0.00	0.00	0.00	0.00	72.94	2.00	0.00	0.00	0.00	0.00
73.00	2.00	0.00	0.00	0.00	0.00	73.05	2.00	0.00	0.00	0.00	0.00
73.15	2.00	0.00	0.00	0.00	0.00	73.21	2.00	0.00	0.00	0.00	0.00
73.25	2.00	0.00	0.00	0.00	0.00	73.30	2.00	0.00	0.00	0.00	0.00
73.36	2.00	0.00	0.00	0.00	0.00	73.45	2.00	0.00	0.00	0.00	0.00
73.52	2.00	0.00	0.00	0.00	0.00	73.57	2.00	0.00	0.00	0.00	0.00
73.63	2.00	0.00	0.00	0.00	0.00	73.72	2.00	0.00	0.00	0.00	0.00
73.77	2.00	0.00	0.00	0.00	0.00	73.83	2.00	0.00	0.00	0.00	0.00
73.93	2.00	0.00	0.00	0.00	0.00	73.98	2.00	0.00	0.00	0.00	0.00
74.04	2.00	0.00	0.00	0.00	0.00	74.09	2.00	0.00	0.00	0.00	0.00
74.16	2.00	0.00	0.00	0.00	0.00	74.24	2.00	0.00	0.00	0.00	0.00
74.28	2.00	0.00	0.00	0.00	0.00	74.40	2.00	0.00	0.00	0.00	0.00
74.44	2.00	0.00	0.00	0.00	0.00	74.50	2.00	0.00	0.00	0.00	0.00
74.55	2.00	0.00	0.00	0.00	0.00	74.66	2.00	0.00	0.00	0.00	0.00
74.68	2.00	0.00	0.00	0.00	0.00	74.75	2.00	0.00	0.00	0.00	0.00
74.83	2.00	0.00	0.00	0.00	0.00	74.91	2.00	0.00	0.00	0.00	0.00
74.96	2.00	0.00	0.00	0.00	0.00	75.02	2.00	0.00	0.00	0.00	0.00
75.08	2.00	0.00	0.00	0.00	0.00	75.17	2.00	0.00	0.00	0.00	0.00
75.23	2.00	0.00	0.00	0.00	0.00	75.28	2.00	0.00	0.00	0.00	0.00
75.35	2.00	0.00	0.00	0.00	0.00	75.43	2.00	0.00	0.00	0.00	0.00
75.48	2.00	0.00	0.00	0.00	0.00	75.54	2.00	0.00	0.00	0.00	0.00
75.64	2.00	0.00	0.00	0.00	0.00	75.69	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
75.74	2.00	0.00	0.00	0.00	0.00	75.79	2.00	0.00	0.00	0.00	0.00
75.86	2.00	0.00	0.00	0.00	0.00	75.94	2.00	0.00	0.00	0.00	0.00
76.03	2.00	0.00	0.00	0.00	0.00	76.06	2.00	0.00	0.00	0.00	0.00
76.19	2.00	0.00	0.00	0.00	0.00	76.23	2.00	0.00	0.00	0.00	0.00
76.28	2.00	0.00	0.00	0.00	0.00	76.32	2.00	0.00	0.00	0.00	0.00
76.42	2.00	0.00	0.00	0.00	0.00	76.47	2.00	0.00	0.00	0.00	0.00
76.57	2.00	0.00	0.00	0.00	0.00	76.58	2.00	0.00	0.00	0.00	0.00
76.73	2.00	0.00	0.00	0.00	0.00	76.78	2.00	0.00	0.00	0.00	0.00
76.87	2.00	0.00	0.00	0.00	0.00	76.91	2.00	0.00	0.00	0.00	0.00
76.95	2.00	0.00	0.00	0.00	0.00	77.00	2.00	0.00	0.00	0.00	0.00
77.10	2.00	0.00	0.00	0.00	0.00	77.14	2.00	0.00	0.00	0.00	0.00
77.25	2.00	0.00	0.00	0.00	0.00	77.29	2.00	0.00	0.00	0.00	0.00
77.35	2.00	0.00	0.00	0.00	0.00	77.44	2.00	0.00	0.00	0.00	0.00
77.47	2.00	0.00	0.00	0.00	0.00	77.51	2.00	0.00	0.00	0.00	0.00
77.61	2.00	0.00	0.00	0.00	0.00	77.65	2.00	0.00	0.00	0.00	0.00
77.77	2.00	0.00	0.00	0.00	0.00	77.88	2.00	0.00	0.00	0.00	0.00
77.93	2.00	0.00	0.00	0.00	0.00	78.03	2.00	0.00	0.00	0.00	0.00
78.08	2.00	0.00	0.00	0.00	0.00	78.19	2.00	0.00	0.00	0.00	0.00
78.19	2.00	0.00	0.00	0.00	0.00	78.30	2.00	0.00	0.00	0.00	0.00
78.34	2.00	0.00	0.00	0.00	0.00	78.44	2.00	0.00	0.00	0.00	0.00
78.49	2.00	0.00	0.00	0.00	0.00	78.59	2.00	0.00	0.00	0.00	0.00
78.63	2.00	0.00	0.00	0.00	0.00	78.74	2.00	0.00	0.00	0.00	0.00
78.79	2.00	0.00	0.00	0.00	0.00	78.85	2.00	0.00	0.00	0.00	0.00
78.93	2.00	0.00	0.00	0.00	0.00	79.00	2.00	0.00	0.00	0.00	0.00
79.07	2.00	0.00	0.00	0.00	0.00	79.13	2.00	0.00	0.00	0.00	0.00
79.20	2.00	0.00	0.00	0.00	0.00	79.28	2.00	0.00	0.00	0.00	0.00
79.36	2.00	0.00	0.00	0.00	0.00	79.41	2.00	0.00	0.00	0.00	0.00
79.47	2.00	0.00	0.00	0.00	0.00	79.57	2.00	0.00	0.00	0.00	0.00
79.62	2.00	0.00	0.00	0.00	0.00	79.72	2.00	0.00	0.00	0.00	0.00
79.78	2.00	0.00	0.00	0.00	0.00	79.83	2.00	0.00	0.00	0.00	0.00
79.92	2.00	0.00	0.00	0.00	0.00	79.98	2.00	0.00	0.00	0.00	0.00
80.04	2.00	0.00	0.00	0.00	0.00	80.14	2.00	0.00	0.00	0.00	0.00
80.21	2.00	0.00	0.00	0.00	0.00	80.30	2.00	0.00	0.00	0.00	0.00
80.36	2.00	0.00	0.00	0.00	0.00	80.44	2.00	0.00	0.00	0.00	0.00
80.50	2.00	0.00	0.00	0.00	0.00	80.58	2.00	0.00	0.00	0.00	0.00
80.66	2.00	0.00	0.00	0.00	0.00	80.72	2.00	0.00	0.00	0.00	0.00
80.80	2.00	0.00	0.00	0.00	0.00	80.87	2.00	0.00	0.00	0.00	0.00
80.91	2.00	0.00	0.00	0.00	0.00	80.93	2.00	0.00	0.00	0.00	0.00
80.98	2.00	0.00	0.00	0.00	0.00	81.08	2.00	0.00	0.00	0.00	0.00
81.13	2.00	0.00	0.00	0.00	0.00	81.18	2.00	0.00	0.00	0.00	0.00
81.24	2.00	0.00	0.00	0.00	0.00	81.34	2.00	0.00	0.00	0.00	0.00
81.39	2.00	0.00	0.00	0.00	0.00	81.45	2.00	0.00	0.00	0.00	0.00
81.51	2.00	0.00	0.00	0.00	0.00	81.58	2.00	0.00	0.00	0.00	0.00
81.64	2.00	0.00	0.00	0.00	0.00	81.70	2.00	0.00	0.00	0.00	0.00
81.82	2.00	0.00	0.00	0.00	0.00	81.90	2.00	0.00	0.00	0.00	0.00
81.95	2.00	0.00	0.00	0.00	0.00	82.02	2.00	0.00	0.00	0.00	0.00
82.08	2.00	0.00	0.00	0.00	0.00	82.17	2.00	0.00	0.00	0.00	0.00
82.22	2.00	0.00	0.00	0.00	0.00	82.28	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
82.38	2.00	0.00	0.00	0.00	0.00	82.43	2.00	0.00	0.00	0.00	0.00
82.49	2.00	0.00	0.00	0.00	0.00	82.58	2.00	0.00	0.00	0.00	0.00
82.63	2.00	0.00	0.00	0.00	0.00	82.69	2.00	0.00	0.00	0.00	0.00
82.77	2.00	0.00	0.00	0.00	0.00	82.83	2.00	0.00	0.00	0.00	0.00
82.89	2.00	0.00	0.00	0.00	0.00	82.95	2.00	0.00	0.00	0.00	0.00
83.00	2.00	0.00	0.00	0.00	0.00	83.10	2.00	0.00	0.00	0.00	0.00
83.16	2.00	0.00	0.00	0.00	0.00	83.20	2.00	0.00	0.00	0.00	0.00
83.31	2.00	0.00	0.00	0.00	0.00	83.35	2.00	0.00	0.00	0.00	0.00
83.41	2.00	0.00	0.00	0.00	0.00	83.44	2.00	0.00	0.00	0.00	0.00
83.51	2.00	0.00	0.00	0.00	0.00	83.56	2.00	0.00	0.00	0.00	0.00
83.63	2.00	0.00	0.00	0.00	0.00	83.67	2.00	0.00	0.00	0.00	0.00
83.77	2.00	0.00	0.00	0.00	0.00	83.82	2.00	0.00	0.00	0.00	0.00
83.86	2.00	0.00	0.00	0.00	0.00	83.93	2.00	0.00	0.00	0.00	0.00
84.03	2.00	0.00	0.00	0.00	0.00	84.08	2.00	0.00	0.00	0.00	0.00
84.14	2.00	0.00	0.00	0.00	0.00	84.24	2.00	0.00	0.00	0.00	0.00
84.27	2.00	0.00	0.00	0.00	0.00	84.32	2.00	0.00	0.00	0.00	0.00
84.42	2.00	0.00	0.00	0.00	0.00	84.49	2.00	0.00	0.00	0.00	0.00
84.52	2.00	0.00	0.00	0.00	0.00	84.62	2.00	0.00	0.00	0.00	0.00
84.67	2.00	0.00	0.00	0.00	0.00	84.76	2.00	0.00	0.00	0.00	0.00
84.82	2.00	0.00	0.00	0.00	0.00	84.86	2.00	0.00	0.00	0.00	0.00
84.92	2.00	0.00	0.00	0.00	0.00	85.02	2.00	0.00	0.00	0.00	0.00
85.07	2.00	0.00	0.00	0.00	0.00	85.15	2.00	0.00	0.00	0.00	0.00
85.19	2.00	0.00	0.00	0.00	0.00	85.27	2.00	0.00	0.00	0.00	0.00
85.32	2.00	0.00	0.00	0.00	0.00	85.38	2.00	0.00	0.00	0.00	0.00
85.50	2.00	0.00	0.00	0.00	0.00	85.58	2.00	0.00	0.00	0.00	0.00
85.65	2.00	0.00	0.00	0.00	0.00	85.73	2.00	0.00	0.00	0.00	0.00
85.79	2.00	0.00	0.00	0.00	0.00	85.86	2.00	0.00	0.00	0.00	0.00
85.94	2.00	0.00	0.00	0.00	0.00	86.00	2.00	0.00	0.00	0.00	0.00
86.08	2.00	0.00	0.00	0.00	0.00	86.14	2.00	0.00	0.00	0.00	0.00
86.20	2.00	0.00	0.00	0.00	0.00	86.23	2.00	0.00	0.00	0.00	0.00
86.29	2.00	0.00	0.00	0.00	0.00	86.39	2.00	0.00	0.00	0.00	0.00
86.45	2.00	0.00	0.00	0.00	0.00	86.49	2.00	0.00	0.00	0.00	0.00
86.56	2.00	0.00	0.00	0.00	0.00	86.66	2.00	0.00	0.00	0.00	0.00
86.71	2.00	0.00	0.00	0.00	0.00	86.75	2.00	0.00	0.00	0.00	0.00
86.87	2.00	0.00	0.00	0.00	0.00	86.91	2.00	0.00	0.00	0.00	0.00
86.95	2.00	0.00	0.00	0.00	0.00	87.01	2.00	0.00	0.00	0.00	0.00
87.08	2.00	0.00	0.00	0.00	0.00	87.17	2.00	0.00	0.00	0.00	0.00
87.23	2.00	0.00	0.00	0.00	0.00	87.29	2.00	0.00	0.00	0.00	0.00
87.35	2.00	0.00	0.00	0.00	0.00	87.45	2.00	0.00	0.00	0.00	0.00
87.50	2.00	0.00	0.00	0.00	0.00	87.56	2.00	0.00	0.00	0.00	0.00
87.60	2.00	0.00	0.00	0.00	0.00	87.70	2.00	0.00	0.00	0.00	0.00
87.76	2.00	0.00	0.00	0.00	0.00	87.80	2.00	0.00	0.00	0.00	0.00
87.91	2.00	0.00	0.00	0.00	0.00	87.96	2.00	0.00	0.00	0.00	0.00
88.01	2.00	0.00	0.00	0.00	0.00	88.07	2.00	0.00	0.00	0.00	0.00
88.17	2.00	0.00	0.00	0.00	0.00	88.26	2.00	0.00	0.00	0.00	0.00
88.32	2.00	0.00	0.00	0.00	0.00	88.38	2.00	0.00	0.00	0.00	0.00
88.46	2.00	0.00	0.00	0.00	0.00	88.52	2.00	0.00	0.00	0.00	0.00
88.58	2.00	0.00	0.00	0.00	0.00	88.64	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
88.69	2.00	0.00	0.00	0.00	0.00	88.77	2.00	0.00	0.00	0.00	0.00
88.84	2.00	0.00	0.00	0.00	0.00	88.88	2.00	0.00	0.00	0.00	0.00
88.94	2.00	0.00	0.00	0.00	0.00	88.98	2.00	0.00	0.00	0.00	0.00
89.05	2.00	0.00	0.00	0.00	0.00	89.15	2.00	0.00	0.00	0.00	0.00
89.19	2.00	0.00	0.00	0.00	0.00	89.24	2.00	0.00	0.00	0.00	0.00
89.34	2.00	0.00	0.00	0.00	0.00	89.40	2.00	0.00	0.00	0.00	0.00
89.45	2.00	0.00	0.00	0.00	0.00	89.50	2.00	0.00	0.00	0.00	0.00
89.59	2.00	0.00	0.00	0.00	0.00	89.65	2.00	0.00	0.00	0.00	0.00
89.71	2.00	0.00	0.00	0.00	0.00	89.76	2.00	0.00	0.00	0.00	0.00
89.87	2.00	0.00	0.00	0.00	0.00	89.92	2.00	0.00	0.00	0.00	0.00
89.96	2.00	0.00	0.00	0.00	0.00	90.04	2.00	0.00	0.00	0.00	0.00
90.10	2.00	0.00	0.00	0.00	0.00	90.17	2.00	0.00	0.00	0.00	0.00
90.23	2.00	0.00	0.00	0.00	0.00	90.33	2.00	0.00	0.00	0.00	0.00
90.36	2.00	0.00	0.00	0.00	0.00	90.48	2.00	0.00	0.00	0.00	0.00
90.53	2.00	0.00	0.00	0.00	0.00	90.59	2.00	0.00	0.00	0.00	0.00
90.64	2.00	0.00	0.00	0.00	0.00	90.69	2.00	0.00	0.00	0.00	0.00
90.80	2.00	0.00	0.00	0.00	0.00	90.86	2.00	0.00	0.00	0.00	0.00
90.91	2.00	0.00	0.00	0.00	0.00	90.98	2.00	0.00	0.00	0.00	0.00
91.04	2.00	0.00	0.00	0.00	0.00	91.11	2.00	0.00	0.00	0.00	0.00
91.17	2.00	0.00	0.00	0.00	0.00	91.23	2.00	0.00	0.00	0.00	0.00
91.30	2.00	0.00	0.00	0.00	0.00	91.36	2.00	0.00	0.00	0.00	0.00
91.43	2.00	0.00	0.00	0.00	0.00	91.49	2.00	0.00	0.00	0.00	0.00
91.58	2.00	0.00	0.00	0.00	0.00	91.64	2.00	0.00	0.00	0.00	0.00
91.72	2.00	0.00	0.00	0.00	0.00	91.79	2.00	0.00	0.00	0.00	0.00
91.82	2.00	0.00	0.00	0.00	0.00	91.88	2.00	0.00	0.00	0.00	0.00
91.95	2.00	0.00	0.00	0.00	0.00	92.00	2.00	0.00	0.00	0.00	0.00
92.08	2.00	0.00	0.00	0.00	0.00	92.14	2.00	0.00	0.00	0.00	0.00
92.22	2.00	0.00	0.00	0.00	0.00	92.27	2.00	0.00	0.00	0.00	0.00
92.34	2.00	0.00	0.00	0.00	0.00	92.39	2.00	0.00	0.00	0.00	0.00
92.49	2.00	0.00	0.00	0.00	0.00	92.55	2.00	0.00	0.00	0.00	0.00
92.60	2.00	0.00	0.00	0.00	0.00	92.69	2.00	0.00	0.00	0.00	0.00
92.76	2.00	0.00	0.00	0.00	0.00	92.82	2.00	0.00	0.00	0.00	0.00
92.91	2.00	0.00	0.00	0.00	0.00	93.00	2.00	0.00	0.00	0.00	0.00
93.07	2.00	0.00	0.00	0.00	0.00	93.17	2.00	0.00	0.00	0.00	0.00
93.19	2.00	0.00	0.00	0.00	0.00	93.23	2.00	0.00	0.00	0.00	0.00
93.25	2.00	0.00	0.00	0.00	0.00	93.33	2.00	0.00	0.00	0.00	0.00
93.38	2.00	0.00	0.00	0.00	0.00	93.48	2.00	0.00	0.00	0.00	0.00
93.53	2.00	0.00	0.00	0.00	0.00	93.58	2.00	0.00	0.00	0.00	0.00
93.64	2.00	0.00	0.00	0.00	0.00	93.73	2.00	0.00	0.00	0.00	0.00
93.77	2.00	0.00	0.00	0.00	0.00	93.84	2.00	0.00	0.00	0.00	0.00
93.94	2.00	0.00	0.00	0.00	0.00	93.99	2.00	0.00	0.00	0.00	0.00
94.05	2.00	0.00	0.00	0.00	0.00	94.10	2.00	0.00	0.00	0.00	0.00
94.20	2.00	0.00	0.00	0.00	0.00	94.25	2.00	0.00	0.00	0.00	0.00
94.30	2.00	0.00	0.00	0.00	0.00	94.36	2.00	0.00	0.00	0.00	0.00
94.46	2.00	0.00	0.00	0.00	0.00	94.51	2.00	0.00	0.00	0.00	0.00
94.56	2.00	0.00	0.00	0.00	0.00	94.67	2.00	0.00	0.00	0.00	0.00
94.72	2.00	0.00	0.00	0.00	0.00	94.77	2.00	0.00	0.00	0.00	0.00
94.86	2.00	0.00	0.00	0.00	0.00	94.91	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.97	2.00	0.00	0.00	0.00	0.00	95.03	2.00	0.00	0.00	0.00	0.00
95.09	2.00	0.00	0.00	0.00	0.00	95.19	2.00	0.00	0.00	0.00	0.00
95.27	2.00	0.00	0.00	0.00	0.00	95.29	2.00	0.00	0.00	0.00	0.00
95.37	2.00	0.00	0.00	0.00	0.00	95.43	2.00	0.00	0.00	0.00	0.00
95.50	2.00	0.00	0.00	0.00	0.00	95.59	2.00	0.00	0.00	0.00	0.00
95.64	2.00	0.00	0.00	0.00	0.00	95.69	2.00	0.00	0.00	0.00	0.00
95.74	2.00	0.00	0.00	0.00	0.00	95.81	2.00	0.00	0.00	0.00	0.00
95.91	2.00	0.00	0.00	0.00	0.00	95.97	2.00	0.00	0.00	0.00	0.00
96.03	2.00	0.00	0.00	0.00	0.00	96.09	2.00	0.00	0.00	0.00	0.00
96.16	2.00	0.00	0.00	0.00	0.00	96.21	2.00	0.00	0.00	0.00	0.00
96.26	2.00	0.00	0.00	0.00	0.00	96.33	2.00	0.00	0.00	0.00	0.00
96.41	2.00	0.00	0.00	0.00	0.00	96.48	2.00	0.00	0.00	0.00	0.00
96.55	2.00	0.00	0.00	0.00	0.00	96.63	2.00	0.00	0.00	0.00	0.00
96.72	2.00	0.00	0.00	0.00	0.00	96.79	2.00	0.00	0.00	0.00	0.00
96.89	2.00	0.00	0.00	0.00	0.00	96.98	2.00	0.00	0.00	0.00	0.00
97.04	2.00	0.00	0.00	0.00	0.00	97.14	2.00	0.00	0.00	0.00	0.00
97.24	2.00	0.00	0.00	0.00	0.00	97.30	2.00	0.00	0.00	0.00	0.00
97.34	2.00	0.00	0.00	0.00	0.00	97.34	2.00	0.00	0.00	0.00	0.00
97.39	2.00	0.00	0.00	0.00	0.00	97.50	2.00	0.00	0.00	0.00	0.00
97.57	2.00	0.00	0.00	0.00	0.00	97.62	2.00	0.00	0.00	0.00	0.00
97.67	2.00	0.00	0.00	0.00	0.00	97.72	2.00	0.00	0.00	0.00	0.00
97.77	2.00	0.00	0.00	0.00	0.00	97.86	2.00	0.00	0.00	0.00	0.00
97.93	2.00	0.00	0.00	0.00	0.00	98.00	2.00	0.00	0.00	0.00	0.00
98.04	2.00	0.00	0.00	0.00	0.00	98.14	2.00	0.00	0.00	0.00	0.00
98.19	2.00	0.00	0.00	0.00	0.00	98.28	2.00	0.00	0.00	0.00	0.00
98.35	2.00	0.00	0.00	0.00	0.00	98.45	2.00	0.00	0.00	0.00	0.00
98.50	2.00	0.00	0.00	0.00	0.00	98.62	2.00	0.00	0.00	0.00	0.00
98.69	2.00	0.00	0.00	0.00	0.00	98.77	2.00	0.00	0.00	0.00	0.00
98.87	2.00	0.00	0.00	0.00	0.00	98.97	2.00	0.00	0.00	0.00	0.00
99.08	2.00	0.00	0.00	0.00	0.00	99.13	2.00	0.00	0.00	0.00	0.00
99.15	2.00	0.00	0.00	0.00	0.00	99.25	2.00	0.00	0.00	0.00	0.00
99.33	2.00	0.00	0.00	0.00	0.00	99.38	2.00	0.00	0.00	0.00	0.00
99.44	2.00	0.00	0.00	0.00	0.00	99.49	2.00	0.00	0.00	0.00	0.00
99.54	2.00	0.00	0.00	0.00	0.00	99.65	2.00	0.00	0.00	0.00	0.00
99.70	2.00	0.00	0.00	0.00	0.00	99.75	2.00	0.00	0.00	0.00	0.00
99.81	2.00	0.00	0.00	0.00	0.00	99.91	2.00	0.00	0.00	0.00	0.00
99.96	2.00	0.00	0.00	0.00	0.00	100.01	2.00	0.00	0.00	0.00	0.00
100.12	2.00	0.00	0.00	0.00	0.00	100.18	2.00	0.00	0.00	0.00	0.00
100.21	2.00	0.00	0.00	0.00	0.00	100.27	2.00	0.00	0.00	0.00	0.00

Overall liquefaction potential: 26.15

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.16	4.06	-1.00	26.61	-26.61	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.20	4.06	-1.00	26.61	-26.61	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.26	4.06	-1.00	26.61	-26.61	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.35	4.06	-1.00	26.61	-26.61	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.42	4.06	0.06	26.61	1.53	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.47	3.24	4.13	9.88	40.81	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.56	2.83	11.00	5.05	55.54	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.60	2.62	19.64	3.42	67.21	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.66	2.53	25.93	2.91	75.42	20	356	0.43	0.010	0.01	13.34	0.01	0.000
0.73	2.48	31.28	2.65	82.98	21	403	0.43	0.009	0.01	13.34	0.01	0.000
0.82	2.45	34.51	2.55	87.92	22	433	0.43	0.009	0.01	13.34	0.01	0.000
0.87	2.46	35.49	2.58	91.61	23	449	0.43	0.009	0.01	13.34	0.01	0.000
0.93	2.50	33.67	2.78	93.55	24	448	0.43	0.010	0.01	13.34	0.01	0.000
0.99	2.55	30.81	3.04	93.58	25	436	0.43	0.012	0.01	13.34	0.01	0.000
1.09	2.59	28.05	3.30	92.46	25	420	0.43	0.015	0.01	13.34	0.01	0.000
1.14	2.62	26.13	3.46	90.38	0	0	0.43	0.000	0.00	0.00	0.00	0.000
1.20	2.62	25.63	3.46	88.72	0	0	0.43	0.000	0.00	0.00	0.00	0.000
1.29	2.61	25.78	3.37	86.81	0	0	0.43	0.000	0.00	0.00	0.00	0.000
1.34	2.57	26.86	3.16	84.97	23	391	0.43	0.026	0.02	13.34	0.02	0.000
1.39	2.55	28.47	3.01	85.68	23	401	0.43	0.026	0.02	13.34	0.02	0.000
1.45	2.50	32.79	2.78	91.17	24	437	0.43	0.022	0.02	13.34	0.02	0.000
1.53	2.47	37.79	2.61	98.56	25	481	0.43	0.019	0.01	13.34	0.01	0.000
1.60	2.46	40.58	2.59	105.23	27	515	0.43	0.017	0.01	13.34	0.01	0.000
1.66	2.43	44.51	2.42	107.69	27	538	0.43	0.016	0.01	13.34	0.01	0.000
1.74	2.40	47.01	2.31	108.44	27	549	0.43	0.017	0.01	13.34	0.01	0.000
1.79	2.38	48.72	2.22	108.00	26	553	0.43	0.017	0.01	13.34	0.01	0.000
1.85	2.41	46.16	2.33	107.74	27	544	0.43	0.019	0.01	13.34	0.01	0.000
1.91	2.43	44.19	2.43	107.53	27	536	0.43	0.021	0.01	13.34	0.01	0.000
1.99	2.42	44.62	2.42	107.78	27	539	0.43	0.022	0.02	13.34	0.01	0.000
2.06	2.40	46.53	2.31	107.58	26	544	0.43	0.023	0.02	13.34	0.02	0.000
2.12	2.37	49.58	2.19	108.60	26	558	0.43	0.022	0.02	13.34	0.02	0.000
2.20	2.33	54.19	2.05	111.12	26	581	0.43	0.022	0.02	13.34	0.01	0.000
2.25	2.29	60.13	1.92	115.41	27	613	0.43	0.020	0.01	13.34	0.01	0.000
2.31	2.26	66.21	1.82	120.66	28	648	0.42	0.018	0.01	13.34	0.01	0.000
2.38	2.19	77.31	1.65	127.43	29	695	0.42	0.016	0.01	13.34	0.01	0.000
2.47	2.11	91.14	1.47	134.42	29	740	0.42	0.015	0.01	13.34	0.01	0.000
2.53	2.04	103.32	1.36	140.33	30	768	0.41	0.015	0.01	13.34	0.01	0.000
2.57	1.99	110.00	1.29	142.26	30	770	0.42	0.015	0.01	13.34	0.01	0.000
2.66	1.97	111.66	1.27	141.51	29	762	0.42	0.016	0.01	13.34	0.01	0.000
2.70	1.95	110.53	1.24	137.32	28	734	0.42	0.018	0.01	13.34	0.01	0.000
2.79	1.95	105.71	1.24	130.77	27	697	0.42	0.021	0.01	13.34	0.01	0.000
2.84	1.97	96.32	1.26	121.29	25	651	0.42	0.025	0.02	13.34	0.02	0.000
2.89	2.01	85.56	1.31	112.08	23	609	0.42	0.030	0.03	13.34	0.02	0.000
2.98	2.06	74.74	1.39	103.58	22	568	0.43	0.039	0.03	13.34	0.03	0.001
3.02	2.11	65.11	1.47	95.97	21	528	0.43	0.049	0.05	13.34	0.04	0.000
3.09	2.17	56.70	1.60	90.75	20	497	0.43	0.063	0.06	13.34	0.06	0.001
3.15	2.24	48.84	1.76	85.84	20	464	0.43	0.084	0.09	13.34	0.08	0.001
3.25	2.29	42.74	1.92	82.14	19	436	0.43	0.114	0.12	13.34	0.11	0.003

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
3.31	2.33	38.36	2.06	78.97	19	412	0.43	0.151	0.16	13.34	0.15	0.002
3.36	2.37	35.02	2.21	77.47	19	397	0.43	0.187	0.20	13.34	0.19	0.003
3.41	2.42	32.41	2.38	77.06	19	387	0.43	0.219	0.23	13.34	0.22	0.003
3.52	2.45	30.78	2.53	77.80	20	384	0.43	0.246	0.25	13.34	0.24	0.006
3.56	2.46	30.92	2.57	79.57	20	390	0.43	0.233	0.23	13.34	0.22	0.002
3.63	2.45	32.39	2.54	82.36	21	405	0.43	0.203	0.19	13.34	0.18	0.003
3.70	2.45	33.81	2.53	85.59	22	422	0.43	0.177	0.16	13.34	0.15	0.003
3.76	2.46	34.44	2.57	88.45	22	434	0.43	0.162	0.14	13.34	0.13	0.002
3.83	2.47	34.49	2.63	90.74	23	442	0.43	0.155	0.13	13.34	0.12	0.002
3.88	2.48	34.50	2.68	92.51	24	448	0.43	0.152	0.12	13.34	0.12	0.002
3.94	2.49	34.52	2.73	94.27	24	454	0.43	0.148	0.12	13.34	0.11	0.002
4.03	2.50	34.46	2.79	96.24	25	460	0.43	0.147	0.11	13.34	0.11	0.002
4.08	2.49	35.86	2.73	97.91	25	472	0.43	0.136	0.10	13.34	0.10	0.001
4.14	2.46	38.39	2.58	98.93	25	485	0.43	0.126	0.10	13.34	0.09	0.001
4.23	2.42	41.08	2.42	99.24	25	496	0.43	0.121	0.09	13.34	0.09	0.002
4.29	2.41	42.50	2.34	99.45	25	502	0.43	0.119	0.09	13.34	0.09	0.001
4.34	2.40	43.18	2.30	99.51	24	504	0.43	0.120	0.09	13.34	0.09	0.001
4.41	2.38	44.50	2.24	99.53	24	508	0.43	0.120	0.09	13.34	0.09	0.001
4.46	2.36	46.65	2.15	100.20	24	517	0.43	0.115	0.09	13.34	0.09	0.001
4.54	2.34	49.10	2.07	101.68	24	530	0.43	0.109	0.09	13.34	0.08	0.001
4.60	2.32	51.20	2.03	103.72	25	544	0.43	0.102	0.08	13.34	0.08	0.001
4.66	2.34	51.49	2.07	106.50	25	555	0.43	0.097	0.07	13.34	0.07	0.001
4.72	2.35	52.02	2.11	110.00	26	570	0.43	0.090	0.06	13.34	0.06	0.001
4.80	2.36	53.34	2.15	114.82	28	593	0.42	0.082	0.06	13.34	0.05	0.001
4.87	2.36	55.74	2.16	120.24	29	620	0.42	0.072	0.05	13.34	0.04	0.001
4.97	2.37	57.24	2.19	125.41	30	644	0.42	0.066	0.04	13.34	0.04	0.001
5.02	2.39	57.48	2.25	129.59	32	660	0.42	0.063	0.04	13.34	0.03	0.000
5.07	2.40	57.42	2.30	132.12	32	670	0.42	0.061	0.03	13.34	0.03	0.000
5.13	2.41	57.36	2.33	133.92	33	676	0.42	0.061	0.03	13.34	0.03	0.000
5.22	2.41	57.24	2.35	134.69	33	678	0.42	0.062	0.03	13.34	0.03	0.001
5.28	2.41	57.27	2.35	134.47	33	678	0.42	0.064	0.03	13.34	0.03	0.000
5.33	2.40	57.40	2.32	133.17	33	673	0.42	0.066	0.04	13.34	0.03	0.000
5.39	2.39	57.88	2.27	131.41	32	668	0.42	0.069	0.04	13.34	0.04	0.001
5.46	2.37	58.50	2.21	129.33	31	663	0.42	0.073	0.04	13.34	0.04	0.001
5.54	2.36	59.27	2.15	127.19	31	657	0.42	0.077	0.05	13.34	0.04	0.001
5.59	2.34	60.30	2.08	125.20	30	652	0.42	0.081	0.05	13.34	0.05	0.001
5.65	2.31	61.88	1.99	123.33	29	649	0.42	0.084	0.05	13.34	0.05	0.001
5.72	2.29	63.96	1.90	121.82	28	648	0.42	0.086	0.06	13.34	0.05	0.001
5.78	2.26	65.95	1.83	120.55	28	647	0.42	0.089	0.06	13.34	0.06	0.001
5.85	2.24	67.98	1.76	119.54	27	646	0.42	0.091	0.06	13.34	0.06	0.001
5.95	2.22	69.46	1.71	119.11	27	646	0.42	0.094	0.07	13.34	0.06	0.001
6.00	2.20	71.22	1.68	119.35	27	650	0.42	0.094	0.07	13.34	0.06	0.001
6.06	2.19	72.74	1.65	120.18	27	656	0.42	0.093	0.06	13.34	0.06	0.001
6.11	2.18	75.43	1.61	121.55	27	665	0.42	0.090	0.06	13.34	0.06	0.001
6.22	2.16	78.52	1.57	122.96	27	675	0.42	0.089	0.06	13.34	0.06	0.002
6.26	2.14	81.66	1.52	124.38	27	684	0.42	0.086	0.06	13.34	0.06	0.001
6.30	2.12	83.86	1.49	125.28	27	689	0.42	0.085	0.06	13.34	0.06	0.001
6.37	2.11	85.62	1.47	125.69	27	691	0.42	0.086	0.06	13.34	0.06	0.001

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
6.43	2.09	87.29	1.44	125.93	27	693	0.42	0.087	0.06	13.34	0.06	0.001
6.51	2.07	89.78	1.41	126.51	27	695	0.42	0.089	0.06	13.34	0.06	0.001
6.58	2.05	93.27	1.37	127.89	27	701	0.42	0.088	0.06	13.34	0.06	0.001
6.64	2.01	100.93	1.31	132.24	28	719	0.42	0.083	0.06	13.34	0.05	0.001
6.73	1.96	111.58	1.25	139.09	28	744	0.42	0.076	0.05	13.34	0.05	0.001
6.78	1.91	123.56	1.20	147.69	30	774	0.42	0.069	0.04	13.34	0.04	0.000
6.83	1.87	134.41	1.16	155.93	31	802	0.42	0.063	0.04	13.34	0.04	0.000
6.90	1.84	143.60	1.14	163.49	32	829	0.42	0.058	0.03	13.34	0.03	0.001
6.99	1.83	150.37	1.13	169.56	33	853	0.42	0.055	0.03	13.34	0.03	0.001
7.04	1.83	153.66	1.13	173.30	34	872	0.42	0.053	0.03	13.34	0.03	0.000
7.10	1.84	153.60	1.14	174.60	34	884	0.41	0.052	0.03	13.34	0.03	0.000
7.16	1.86	151.73	1.15	174.52	34	892	0.41	0.051	0.03	13.34	0.03	0.000
7.22	1.88	148.04	1.17	172.71	34	892	0.41	0.052	0.03	13.34	0.03	0.000
7.30	1.89	143.76	1.18	169.94	34	885	0.41	0.054	0.03	13.34	0.03	0.001
7.36	1.91	138.74	1.20	166.20	33	872	0.41	0.057	0.03	13.34	0.03	0.000
7.42	1.93	132.79	1.22	161.51	33	855	0.41	0.061	0.03	13.34	0.03	0.000
7.51	1.95	127.02	1.23	156.84	32	836	0.41	0.066	0.04	13.34	0.04	0.001
7.56	1.96	121.77	1.25	152.60	31	818	0.41	0.071	0.04	13.34	0.04	0.000
7.62	1.97	117.49	1.26	148.58	31	799	0.42	0.078	0.05	13.34	0.04	0.001
7.70	1.97	113.79	1.27	144.02	30	775	0.42	0.087	0.05	13.34	0.05	0.001
7.74	1.97	110.99	1.26	139.51	29	749	0.42	0.098	0.06	13.34	0.06	0.001
7.83	1.96	108.68	1.25	135.85	28	733	0.42	0.108	0.07	13.34	0.07	0.001
7.88	1.96	107.26	1.25	133.99	27	726	0.42	0.113	0.08	13.34	0.07	0.001
7.95	1.96	106.31	1.25	133.02	27	725	0.42	0.116	0.08	13.34	0.08	0.001

Total estimated settlement: 0.09

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vd(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
8.03	127.50	0.45	2.49	1.00	0.02	8.08	127.65	0.45	2.48	1.00	0.02
8.15	127.12	0.45	2.49	1.00	0.02	8.23	127.71	0.45	2.48	1.00	0.02
8.29	127.91	0.45	2.48	1.00	0.02	8.34	128.19	0.45	2.47	1.00	0.01
8.43	128.36	0.45	2.47	1.00	0.03	8.49	128.70	0.45	2.46	1.00	0.02
8.56	128.84	0.45	2.46	1.00	0.02	8.60	129.12	0.45	2.45	1.00	0.01
8.69	129.32	0.45	2.45	1.00	0.03	8.73	129.37	0.45	2.45	1.00	0.01
8.81	129.42	0.45	2.45	1.00	0.02	8.87	129.19	0.44	2.45	1.00	0.02
8.94	128.74	0.44	2.46	1.00	0.02	9.01	128.10	0.43	2.47	1.00	0.02
9.06	127.73	0.43	2.48	1.00	0.02	9.13	127.48	0.43	2.49	1.00	0.02
9.21	126.07	0.42	2.52	1.00	0.02	9.27	125.53	0.41	2.53	1.00	0.02
9.32	125.01	0.41	2.54	1.00	0.01	9.39	123.48	0.39	2.57	1.00	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
9.46	122.29	0.39	2.60	1.00	0.02	9.54	121.33	0.38	2.62	1.00	0.03
9.59	119.94	0.37	2.66	1.00	0.02	9.67	118.58	0.36	2.69	1.00	0.03
9.75	118.22	0.36	2.70	1.00	0.02	9.80	117.74	0.36	2.71	1.00	0.02
9.84	117.09	0.35	2.73	1.00	0.02	9.93	118.01	0.35	2.70	1.00	0.03
10.01	118.66	0.36	2.69	1.00	0.03	10.06	118.95	0.36	2.68	1.00	0.02
10.11	119.17	0.36	2.67	1.00	0.02	10.18	121.28	0.37	2.62	1.00	0.02
10.27	122.33	0.37	2.60	1.00	0.03	10.32	123.82	0.38	2.57	1.00	0.02
10.37	123.34	0.37	2.58	1.00	0.01	10.45	126.23	0.39	2.51	1.00	0.02
10.52	125.77	0.39	2.52	1.00	0.02	10.58	127.59	0.40	2.48	1.00	0.02
10.64	127.65	0.40	2.48	1.00	0.02	10.73	129.41	0.41	2.45	1.00	0.03
10.79	128.56	0.40	2.46	1.00	0.02	10.84	127.38	0.39	2.49	1.00	0.02
10.90	129.13	0.40	2.45	1.00	0.02	11.00	130.51	0.41	2.42	1.00	0.03
11.05	132.47	0.42	2.38	1.00	0.01	11.10	134.38	0.43	2.35	1.00	0.01
11.16	134.37	0.43	2.35	1.00	0.02	11.23	136.27	0.45	2.31	1.00	0.02
11.33	136.93	0.45	2.30	1.00	0.03	11.38	136.81	0.45	2.30	1.00	0.01
11.43	136.31	0.44	2.31	1.00	0.01	11.48	134.99	0.43	2.34	1.00	0.02
11.58	132.36	0.41	2.39	1.00	0.03	11.64	130.33	0.40	2.43	1.00	0.02
11.69	128.60	0.38	2.46	1.00	0.02	11.75	126.84	0.37	2.50	1.00	0.02
11.84	125.53	0.36	2.53	1.00	0.03	11.91	123.87	0.35	2.57	1.00	0.02
11.95	124.27	0.36	2.56	1.00	0.01	12.01	124.09	0.35	2.56	1.00	0.02
12.10	123.76	0.35	2.57	1.00	0.03	12.16	122.86	0.34	2.59	1.00	0.02
12.21	123.94	0.35	2.56	1.00	0.01	12.29	120.19	0.33	2.65	1.00	0.02
12.34	120.05	0.33	2.65	1.00	0.02	12.43	117.70	0.32	2.71	1.00	0.03
12.48	115.46	0.31	2.77	1.00	0.02	12.55	114.49	0.30	2.79	1.00	0.03
12.62	113.42	0.30	2.82	1.00	0.02	12.67	113.64	0.30	2.81	1.00	0.02
12.74	113.33	0.30	2.82	1.00	0.02	12.83	114.45	0.30	2.79	1.00	0.03
12.89	115.31	0.30	2.77	1.00	0.02	12.95	118.36	0.31	2.69	1.00	0.02
13.00	119.39	0.32	2.67	1.00	0.02	13.10	124.48	0.34	2.55	1.00	0.03
13.15	124.49	0.34	2.55	1.00	0.02	13.21	124.19	0.34	2.56	1.00	0.02
13.26	125.88	0.35	2.52	1.00	0.02	13.34	124.06	0.34	2.56	1.00	0.02
13.41	123.43	0.33	2.58	1.00	0.02	13.46	123.40	0.33	2.58	1.00	0.02
13.57	123.59	0.33	2.57	1.00	0.03	13.60	124.20	0.34	2.56	1.00	0.01
13.67	125.48	0.34	2.53	1.00	0.02	13.72	125.80	0.34	2.52	1.00	0.02
13.83	128.59	0.36	2.46	1.00	0.03	13.87	128.05	0.35	2.48	1.00	0.01
13.93	126.17	0.34	2.52	1.00	0.02	13.99	123.18	0.33	2.58	1.00	0.02
14.07	122.78	0.32	2.59	1.00	0.03	14.13	122.42	0.32	2.60	1.00	0.02
14.19	123.39	0.33	2.58	1.00	0.02	14.25	142.69	0.46	2.20	1.00	0.01
14.31	97.66	0.24	3.29	1.00	0.03	14.37	141.10	0.44	2.22	1.00	0.02
14.48	138.87	0.42	2.26	1.00	0.03	14.53	144.70	0.47	2.16	1.00	0.01
14.57	149.11	0.52	2.09	1.00	0.01	14.64	154.21	0.59	2.01	1.00	0.02
14.73	160.22	0.70	1.65	1.00	0.02	14.78	163.43	0.77	1.34	1.00	0.01
14.84	168.23	0.90	0.97	1.00	0.01	14.92	172.49	1.04	0.71	1.00	0.01
14.99	175.99	1.19	0.52	1.00	0.00	15.04	179.17	1.35	0.37	1.00	0.00
15.10	186.02	1.81	0.08	1.00	0.00	15.17	193.27	2.00	0.00	1.00	0.00
15.25	194.33	2.00	0.00	1.00	0.00	15.30	200.15	2.00	0.00	1.00	0.00
15.36	202.25	2.00	0.00	1.00	0.00	15.46	201.71	2.00	0.00	1.00	0.00
15.49	201.59	2.00	0.00	1.00	0.00	15.56	200.95	2.00	0.00	1.00	0.00
15.63	201.78	2.00	0.00	1.00	0.00	15.69	205.64	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
15.76	208.35	2.00	0.00	1.00	0.00	15.82	211.06	2.00	0.00	1.00	0.00
15.89	212.41	2.00	0.00	1.00	0.00	15.95	211.34	2.00	0.00	1.00	0.00
16.01	210.23	2.00	0.00	1.00	0.00	16.09	208.51	2.00	0.00	1.00	0.00
16.19	204.92	2.00	0.00	1.00	0.00	16.23	202.75	2.00	0.00	1.00	0.00
16.27	199.15	2.00	0.00	1.00	0.00	16.35	195.35	2.00	0.00	1.00	0.00
16.41	189.26	2.00	0.00	1.00	0.00	16.49	183.95	1.59	0.20	1.00	0.00
16.54	181.04	1.40	0.32	1.00	0.00	16.61	177.42	1.21	0.50	1.00	0.00
16.67	174.64	1.08	0.65	1.00	0.00	16.77	172.88	1.01	0.76	1.00	0.01
16.82	172.14	0.98	0.80	1.00	0.01	16.87	171.60	0.96	0.84	1.00	0.00
16.97	168.41	0.86	1.06	1.00	0.01	17.01	166.44	0.80	1.21	1.00	0.00
17.07	164.19	0.75	1.41	1.00	0.01	17.13	160.83	0.67	1.68	1.00	0.01
17.22	158.21	0.62	1.83	1.00	0.02	17.28	158.42	0.62	1.82	1.00	0.01
17.33	158.41	0.62	1.82	1.00	0.01	17.39	156.10	0.58	1.97	1.00	0.01
17.46	137.83	0.38	2.28	1.00	0.02	17.53	140.42	0.40	2.24	1.00	0.02
17.59	144.17	0.44	2.17	1.00	0.02	17.67	141.99	0.42	2.21	1.00	0.02
17.73	141.48	0.41	2.22	1.00	0.02	17.79	142.87	0.42	2.19	1.00	0.01
17.86	144.05	0.43	2.17	1.00	0.02	17.91	146.96	0.46	2.12	1.00	0.01
17.99	146.63	0.46	2.13	1.00	0.02	18.05	149.10	0.48	2.09	1.00	0.01
18.12	148.89	0.48	2.09	1.00	0.02	18.20	147.23	0.46	2.12	1.00	0.02
18.25	147.74	0.47	2.11	1.00	0.01	18.32	144.09	0.43	2.17	1.00	0.02
18.41	141.61	0.41	2.21	1.00	0.02	18.45	139.84	0.39	2.25	1.00	0.01
18.52	136.26	0.37	2.31	1.00	0.02	18.61	132.66	0.34	2.38	1.00	0.03
18.65	131.99	0.34	2.39	1.00	0.01	18.70	128.18	0.32	2.47	1.00	0.01
18.77	125.66	0.31	2.53	1.00	0.02	18.84	124.07	0.30	2.56	1.00	0.02
18.91	121.84	0.29	2.61	1.00	0.02	18.98	120.59	0.28	2.64	1.00	0.02
19.04	118.34	0.27	2.69	1.00	0.02	19.12	118.79	0.27	2.68	1.00	0.03
19.19	117.77	0.27	2.71	1.00	0.02	19.24	119.57	0.28	2.67	1.00	0.02
19.29	119.07	0.28	2.68	1.00	0.02	19.40	122.70	0.29	2.59	1.00	0.03
19.43	124.83	0.30	2.54	1.00	0.01	19.50	127.33	0.31	2.49	1.00	0.02
19.55	129.05	0.32	2.45	1.00	0.02	19.65	131.83	0.33	2.40	1.00	0.03
19.70	129.36	0.32	2.45	1.00	0.01	19.78	129.74	0.32	2.44	1.00	0.03
19.82	133.03	0.34	2.37	1.00	0.01	19.89	135.37	0.35	2.33	1.00	0.02
19.96	139.44	0.38	2.25	1.00	0.02	20.02	144.70	0.42	2.16	1.00	0.01
20.09	152.96	0.51	2.03	1.00	0.02	20.15	160.25	0.62	1.71	1.00	0.01
20.24	167.70	0.79	1.24	1.00	0.01	20.28	172.61	0.93	0.88	1.00	0.00
20.34	179.05	1.19	0.51	1.00	0.00	20.45	184.25	1.49	0.26	1.00	0.00
20.51	186.35	1.64	0.17	1.00	0.00	20.55	186.54	1.65	0.16	1.00	0.00
20.61	185.66	1.58	0.20	1.00	0.00	20.71	182.14	1.35	0.36	1.00	0.00
20.76	178.97	1.18	0.52	1.00	0.00	20.82	176.47	1.07	0.66	1.00	0.00
20.87	173.30	0.95	0.85	1.00	0.01	20.94	168.77	0.81	1.17	1.00	0.01
21.03	164.41	0.70	1.48	1.00	0.02	21.08	160.63	0.62	1.69	1.00	0.01
21.13	158.83	0.59	1.80	1.00	0.01	21.22	155.01	0.53	2.00	1.00	0.02
21.29	153.40	0.51	2.02	1.00	0.02	21.34	152.52	0.50	2.04	1.00	0.01
21.43	152.18	0.49	2.04	1.00	0.02	21.49	151.56	0.49	2.05	1.00	0.01
21.55	150.17	0.47	2.07	1.00	0.01	21.60	148.59	0.45	2.10	1.00	0.01
21.65	147.47	0.44	2.12	1.00	0.01	21.73	146.68	0.43	2.13	1.00	0.02
21.81	145.74	0.42	2.14	1.00	0.02	21.86	147.27	0.44	2.12	1.00	0.01
21.97	140.24	0.38	2.24	1.00	0.03	21.98	143.94	0.41	2.17	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
22.05	143.87	0.40	2.18	1.00	0.02	22.13	143.84	0.40	2.18	1.00	0.02
22.18	144.99	0.41	2.16	1.00	0.02	22.27	147.71	0.44	2.11	1.00	0.02
22.33	149.41	0.46	2.08	1.00	0.01	22.38	152.77	0.49	2.03	1.00	0.01
22.45	152.75	0.49	2.03	1.00	0.02	22.53	154.49	0.52	2.01	1.00	0.02
22.58	154.58	0.52	2.01	1.00	0.01	22.65	153.68	0.50	2.02	1.00	0.02
22.75	153.61	0.50	2.02	1.00	0.03	22.80	153.23	0.50	2.03	1.00	0.01
22.84	151.32	0.47	2.05	1.00	0.01	22.90	150.24	0.46	2.07	1.00	0.02
23.00	152.24	0.48	2.04	1.00	0.02	23.04	150.99	0.47	2.06	1.00	0.01
23.11	150.15	0.46	2.07	1.00	0.02	23.21	154.44	0.51	2.01	1.00	0.02
23.26	155.32	0.52	1.99	1.00	0.01	23.32	158.21	0.56	1.83	1.00	0.01
23.37	160.64	0.60	1.69	1.00	0.01	23.43	162.13	0.63	1.61	1.00	0.01
23.51	165.13	0.69	1.45	1.00	0.02	23.56	165.50	0.70	1.43	1.00	0.01
23.63	166.95	0.73	1.36	1.00	0.01	23.69	164.27	0.67	1.49	1.00	0.01
23.79	161.04	0.61	1.67	1.00	0.02	23.82	139.84	0.36	2.25	1.00	0.01
23.92	146.06	0.41	2.14	1.00	0.03	23.97	143.29	0.39	2.19	1.00	0.01
24.02	140.27	0.37	2.24	1.00	0.01	24.13	131.73	0.31	2.40	1.00	0.03
24.18	122.83	0.27	2.59	1.00	0.01	24.22	117.85	0.26	2.71	1.00	0.01
24.28	113.68	0.24	2.81	1.00	0.02	24.38	110.64	0.23	2.89	1.00	0.03
24.43	118.91	0.26	2.68	1.00	0.02	24.48	122.36	0.27	2.60	1.00	0.02
24.54	121.41	0.27	2.62	1.00	0.02	24.64	108.35	0.23	2.96	1.00	0.03
24.69	103.94	0.22	3.09	1.00	0.02	24.75	33.99	2.00	0.00	1.00	0.00
24.80	28.01	2.00	0.00	1.00	0.00	24.89	23.83	2.00	0.00	1.00	0.00
24.95	20.95	2.00	0.00	1.00	0.00	25.01	18.07	2.00	0.00	1.00	0.00
25.07	16.23	2.00	0.00	1.00	0.00	25.16	13.96	2.00	0.00	1.00	0.00
25.21	12.37	2.00	0.00	1.00	0.00	25.27	9.94	2.00	0.00	1.00	0.00
25.36	9.70	2.00	0.00	1.00	0.00	25.41	10.25	2.00	0.00	1.00	0.00
25.48	10.95	2.00	0.00	1.00	0.00	25.53	11.22	2.00	0.00	1.00	0.00
25.59	11.99	2.00	0.00	1.00	0.00	25.66	13.67	2.00	0.00	1.00	0.00
25.73	15.85	2.00	0.00	1.00	0.00	25.79	22.50	2.00	0.00	1.00	0.00
25.88	23.75	2.00	0.00	1.00	0.00	25.94	23.00	2.00	0.00	1.00	0.00
25.99	21.47	2.00	0.00	1.00	0.00	26.09	19.57	2.00	0.00	1.00	0.00
26.13	21.42	2.00	0.00	1.00	0.00	26.20	19.38	2.00	0.00	1.00	0.00
26.27	21.36	2.00	0.00	1.00	0.00	26.35	24.91	2.00	0.00	1.00	0.00
26.38	25.53	2.00	0.00	1.00	0.00	26.46	23.70	2.00	0.00	1.00	0.00
26.51	22.26	2.00	0.00	1.00	0.00	26.60	19.16	2.00	0.00	1.00	0.00
26.67	18.07	2.00	0.00	1.00	0.00	26.72	16.72	2.00	0.00	1.00	0.00
26.78	13.62	2.00	0.00	1.00	0.00	26.85	11.52	2.00	0.00	1.00	0.00
26.92	10.48	2.00	0.00	1.00	0.00	26.97	9.23	2.00	0.00	1.00	0.00
27.06	8.05	2.00	0.00	1.00	0.00	27.14	7.29	2.00	0.00	1.00	0.00
27.18	7.29	2.00	0.00	1.00	0.00	27.24	7.35	2.00	0.00	1.00	0.00
27.33	7.74	2.00	0.00	1.00	0.00	27.38	7.94	2.00	0.00	1.00	0.00
27.45	8.19	2.00	0.00	1.00	0.00	27.50	8.32	2.00	0.00	1.00	0.00
27.59	8.57	2.00	0.00	1.00	0.00	27.65	8.83	2.00	0.00	1.00	0.00
27.70	9.03	2.00	0.00	1.00	0.00	27.76	9.11	2.00	0.00	1.00	0.00
27.84	9.27	2.00	0.00	1.00	0.00	27.91	9.19	2.00	0.00	1.00	0.00
27.97	9.11	2.00	0.00	1.00	0.00	28.02	9.10	2.00	0.00	1.00	0.00
28.09	9.09	2.00	0.00	1.00	0.00	28.18	9.08	2.00	0.00	1.00	0.00
28.23	9.07	2.00	0.00	1.00	0.00	28.28	9.33	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
28.38	10.04	2.00	0.00	1.00	0.00	28.43	10.36	2.00	0.00	1.00	0.00
28.49	10.95	2.00	0.00	1.00	0.00	28.55	11.75	2.00	0.00	1.00	0.00
28.63	12.87	2.00	0.00	1.00	0.00	28.70	14.40	2.00	0.00	1.00	0.00
28.75	15.40	2.00	0.00	1.00	0.00	28.85	15.17	2.00	0.00	1.00	0.00
28.89	14.62	2.00	0.00	1.00	0.00	28.96	13.79	2.00	0.00	1.00	0.00
29.01	13.78	2.00	0.00	1.00	0.00	29.07	13.76	2.00	0.00	1.00	0.00
29.17	14.00	2.00	0.00	1.00	0.00	29.22	14.32	2.00	0.00	1.00	0.00
29.28	15.44	2.00	0.00	1.00	0.00	29.36	16.43	2.00	0.00	1.00	0.00
29.42	17.01	2.00	0.00	1.00	0.00	29.48	16.93	2.00	0.00	1.00	0.00
29.54	16.51	2.00	0.00	1.00	0.00	29.60	15.88	2.00	0.00	1.00	0.00
29.68	15.19	2.00	0.00	1.00	0.00	29.74	15.51	2.00	0.00	1.00	0.00
29.79	18.96	2.00	0.00	1.00	0.00	29.90	30.39	2.00	0.00	1.00	0.00
29.93	98.13	0.20	3.28	1.00	0.01	29.99	103.26	0.21	3.11	1.00	0.03
30.06	109.27	0.22	2.93	1.00	0.02	30.14	113.47	0.23	2.82	1.00	0.03
30.19	118.76	0.25	2.68	1.00	0.02	30.26	115.60	0.24	2.76	1.00	0.02
30.33	133.81	0.31	2.36	1.00	0.02	30.39	140.15	0.35	2.24	1.00	0.02
30.46	149.30	0.42	2.09	1.00	0.02	30.52	151.73	0.45	2.05	1.00	0.01
30.61	158.68	0.54	1.80	1.00	0.02	30.67	160.30	0.56	1.71	1.00	0.01
30.72	160.42	0.56	1.70	1.00	0.01	30.78	162.56	0.60	1.58	1.00	0.01
30.86	164.96	0.64	1.46	1.00	0.01	30.93	167.27	0.69	1.35	1.00	0.01
30.99	168.85	0.73	1.27	1.00	0.01	31.05	170.04	0.76	1.22	1.00	0.01
31.13	169.64	0.75	1.24	1.00	0.01	31.18	169.62	0.75	1.24	1.00	0.01
31.25	168.18	0.71	1.30	1.00	0.01	31.32	166.64	0.68	1.37	1.00	0.01
31.38	165.18	0.65	1.45	1.00	0.01	31.44	164.03	0.62	1.50	1.00	0.01
31.51	162.92	0.60	1.56	1.00	0.01	31.56	162.31	0.59	1.60	1.00	0.01
31.66	160.23	0.56	1.71	1.00	0.02	31.71	160.30	0.56	1.71	1.00	0.01
31.77	158.32	0.53	1.83	1.00	0.01	31.84	153.33	0.46	2.02	1.00	0.02
31.92	146.71	0.40	2.13	1.00	0.02	31.96	142.70	0.36	2.20	1.00	0.01
32.03	136.55	0.32	2.31	1.00	0.02	32.11	130.75	0.29	2.42	1.00	0.02
32.18	132.65	0.30	2.38	1.00	0.02	32.26	128.81	0.28	2.46	1.00	0.02
32.30	133.05	0.30	2.37	1.00	0.01	32.37	137.21	0.33	2.29	1.00	0.02
32.42	142.68	0.36	2.20	1.00	0.02	32.52	149.75	0.42	2.08	1.00	0.02
32.58	152.33	0.45	2.04	1.00	0.02	32.63	151.90	0.44	2.05	1.00	0.01
32.68	150.87	0.43	2.06	1.00	0.01	32.75	148.25	0.41	2.10	1.00	0.02
32.84	143.44	0.37	2.18	1.00	0.02	32.89	141.66	0.35	2.21	1.00	0.01
32.95	139.00	0.34	2.26	1.00	0.02	33.01	135.22	0.31	2.33	1.00	0.02
33.09	129.01	0.28	2.46	1.00	0.02	33.14	125.01	0.27	2.54	1.00	0.01
33.20	115.47	0.23	2.77	1.00	0.02	33.30	39.91	2.00	0.00	1.00	0.00
33.36	33.94	2.00	0.00	1.00	0.00	33.41	30.94	2.00	0.00	1.00	0.00
33.47	28.73	2.00	0.00	1.00	0.00	33.54	30.10	2.00	0.00	1.00	0.00
33.61	103.39	0.20	3.10	1.00	0.03	33.68	125.60	0.27	2.53	1.00	0.02
33.73	133.17	0.30	2.37	1.00	0.01	33.83	144.42	0.37	2.17	1.00	0.03
33.88	143.92	0.37	2.17	1.00	0.01	33.94	142.32	0.36	2.20	1.00	0.01
34.02	145.86	0.38	2.14	1.00	0.02	34.09	148.01	0.40	2.11	1.00	0.02
34.13	151.91	0.44	2.05	1.00	0.01	34.20	151.34	0.44	2.05	1.00	0.02
34.26	149.75	0.42	2.08	1.00	0.01	34.34	147.36	0.40	2.12	1.00	0.02
34.40	147.15	0.39	2.12	1.00	0.02	34.46	147.73	0.40	2.11	1.00	0.02
34.55	145.59	0.38	2.15	1.00	0.02	34.59	139.54	0.34	2.25	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
34.69	147.26	0.40	2.12	1.00	0.03	34.74	143.47	0.36	2.18	1.00	0.01
34.80	145.78	0.38	2.14	1.00	0.02	34.85	143.75	0.37	2.18	1.00	0.01
34.95	147.75	0.40	2.11	1.00	0.02	34.99	143.43	0.36	2.18	1.00	0.01
35.06	142.07	0.35	2.21	1.00	0.02	35.11	137.57	0.32	2.29	1.00	0.01
35.20	137.23	0.32	2.29	1.00	0.03	35.25	133.93	0.30	2.36	1.00	0.01
35.31	131.96	0.29	2.39	1.00	0.02	35.38	130.08	0.29	2.43	1.00	0.02
35.45	129.29	0.28	2.45	1.00	0.02	35.51	131.54	0.29	2.40	1.00	0.02
35.58	132.63	0.30	2.38	1.00	0.02	35.63	140.61	0.34	2.23	1.00	0.02
35.70	140.59	0.34	2.23	1.00	0.02	35.76	144.90	0.37	2.16	1.00	0.02
35.83	136.49	0.32	2.31	1.00	0.02	35.94	114.95	0.23	2.78	1.00	0.04
35.99	102.81	0.20	3.12	1.00	0.02	36.04	32.93	2.00	0.00	1.00	0.00
36.09	26.33	2.00	0.00	1.00	0.00	36.18	18.35	2.00	0.00	1.00	0.00
36.22	15.37	2.00	0.00	1.00	0.00	36.30	11.55	2.00	0.00	1.00	0.00
36.36	9.96	2.00	0.00	1.00	0.00	36.46	9.19	2.00	0.00	1.00	0.00
36.51	8.84	2.00	0.00	1.00	0.00	36.56	8.48	2.00	0.00	1.00	0.00
36.62	8.13	2.00	0.00	1.00	0.00	36.69	7.89	2.00	0.00	1.00	0.00
36.77	7.54	2.00	0.00	1.00	0.00	36.82	7.37	2.00	0.00	1.00	0.00
36.92	7.13	2.00	0.00	1.00	0.00	36.98	7.07	2.00	0.00	1.00	0.00
37.01	7.26	2.00	0.00	1.00	0.00	37.08	7.40	2.00	0.00	1.00	0.00
37.16	8.01	2.00	0.00	1.00	0.00	37.21	9.38	2.00	0.00	1.00	0.00
37.30	10.52	2.00	0.00	1.00	0.00	37.37	10.91	2.00	0.00	1.00	0.00
37.41	10.91	2.00	0.00	1.00	0.00	37.47	10.61	2.00	0.00	1.00	0.00
37.55	10.49	2.00	0.00	1.00	0.00	37.61	10.48	2.00	0.00	1.00	0.00
37.68	10.47	2.00	0.00	1.00	0.00	37.73	10.00	2.00	0.00	1.00	0.00
37.81	9.75	2.00	0.00	1.00	0.00	37.87	9.75	2.00	0.00	1.00	0.00
37.94	9.73	2.00	0.00	1.00	0.00	38.02	9.56	2.00	0.00	1.00	0.00
38.07	9.55	2.00	0.00	1.00	0.00	38.13	9.55	2.00	0.00	1.00	0.00
38.19	9.55	2.00	0.00	1.00	0.00	38.28	9.65	2.00	0.00	1.00	0.00
38.35	9.65	2.00	0.00	1.00	0.00	38.39	9.64	2.00	0.00	1.00	0.00
38.46	9.53	2.00	0.00	1.00	0.00	38.56	9.24	2.00	0.00	1.00	0.00
38.61	8.90	2.00	0.00	1.00	0.00	38.67	8.55	2.00	0.00	1.00	0.00
38.72	7.99	2.00	0.00	1.00	0.00	38.82	6.92	2.00	0.00	1.00	0.00
38.85	6.59	2.00	0.00	1.00	0.00	38.93	6.31	2.00	0.00	1.00	0.00
38.98	6.41	2.00	0.00	1.00	0.00	39.06	7.86	2.00	0.00	1.00	0.00
39.11	8.64	2.00	0.00	1.00	0.00	39.18	9.93	2.00	0.00	1.00	0.00
39.24	11.01	2.00	0.00	1.00	0.00	39.33	12.67	2.00	0.00	1.00	0.00
39.37	12.95	2.00	0.00	1.00	0.00	39.44	13.17	2.00	0.00	1.00	0.00
39.50	13.22	2.00	0.00	1.00	0.00	39.58	13.73	2.00	0.00	1.00	0.00
39.64	13.90	2.00	0.00	1.00	0.00	39.73	13.26	2.00	0.00	1.00	0.00
39.78	13.08	2.00	0.00	1.00	0.00	39.84	13.05	2.00	0.00	1.00	0.00
39.92	12.96	2.00	0.00	1.00	0.00	39.96	13.01	2.00	0.00	1.00	0.00
40.04	14.15	2.00	0.00	1.00	0.00	40.10	15.65	2.00	0.00	1.00	0.00
40.17	18.63	2.00	0.00	1.00	0.00	40.25	22.27	2.00	0.00	1.00	0.00
40.29	25.13	2.00	0.00	1.00	0.00	40.36	29.47	2.00	0.00	1.00	0.00
40.42	33.47	2.00	0.00	1.00	0.00	40.52	99.71	0.19	3.22	1.00	0.04
40.57	101.85	0.20	3.15	1.00	0.02	40.63	104.80	0.20	3.06	1.00	0.02
40.73	107.30	0.21	2.99	1.00	0.03	40.78	108.99	0.21	2.94	1.00	0.02
40.82	109.70	0.21	2.92	1.00	0.02	40.88	109.96	0.22	2.91	1.00	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
40.98	109.69	0.21	2.92	1.00	0.04	41.03	108.87	0.21	2.94	1.00	0.02
41.09	108.28	0.21	2.96	1.00	0.02	41.15	106.57	0.21	3.01	1.00	0.02
41.24	40.90	2.00	0.00	1.00	0.00	41.30	38.40	2.00	0.00	1.00	0.00
41.36	37.02	2.00	0.00	1.00	0.00	41.41	37.05	2.00	0.00	1.00	0.00
41.49	102.25	0.20	3.14	1.00	0.03	41.54	104.36	0.20	3.08	1.00	0.02
41.61	109.60	0.21	2.92	1.00	0.02	41.67	115.05	0.23	2.78	1.00	0.02
41.75	120.23	0.24	2.65	1.00	0.02	41.81	111.67	0.22	2.87	1.00	0.02
41.87	129.94	0.28	2.44	1.00	0.02	41.98	130.75	0.28	2.42	1.00	0.03
42.02	134.90	0.30	2.34	1.00	0.01	42.08	138.15	0.32	2.28	1.00	0.01
42.13	141.81	0.35	2.21	1.00	0.01	42.21	150.79	0.42	2.06	1.00	0.02
42.27	155.64	0.47	1.99	1.00	0.01	42.33	159.67	0.53	1.75	1.00	0.01
42.39	162.35	0.57	1.59	1.00	0.01	42.49	166.63	0.65	1.38	1.00	0.02
42.54	167.40	0.66	1.34	1.00	0.01	42.59	168.29	0.68	1.30	1.00	0.01
42.66	170.01	0.72	1.22	1.00	0.01	42.73	173.15	0.81	1.10	1.00	0.01
42.79	174.64	0.85	1.01	1.00	0.01	42.86	179.53	1.03	0.70	1.00	0.01
42.95	184.64	1.27	0.43	1.00	0.00	43.00	187.42	1.44	0.29	1.00	0.00
43.07	190.02	1.62	0.18	1.00	0.00	43.13	190.89	1.68	0.14	1.00	0.00
43.21	191.30	1.72	0.13	1.00	0.00	43.27	191.17	1.71	0.13	1.00	0.00
43.33	190.54	1.66	0.16	1.00	0.00	43.38	189.18	1.55	0.22	1.00	0.00
43.45	188.19	1.48	0.26	1.00	0.00	43.51	186.99	1.41	0.31	1.00	0.00
43.58	185.32	1.31	0.39	1.00	0.00	43.64	183.23	1.19	0.50	1.00	0.00
43.70	180.60	1.07	0.64	1.00	0.00	43.79	180.92	1.08	0.63	1.00	0.01
43.84	181.25	1.10	0.61	1.00	0.00	43.90	180.33	1.06	0.66	1.00	0.01
44.00	177.23	0.94	0.84	1.00	0.01	44.05	175.83	0.89	0.94	1.00	0.01
44.11	175.48	0.88	0.96	1.00	0.01	44.17	177.28	0.94	0.84	1.00	0.01
44.23	179.66	1.03	0.70	1.00	0.01	44.30	178.10	0.97	0.79	1.00	0.01
44.37	176.18	0.90	0.91	1.00	0.01	44.44	181.77	1.12	0.58	1.00	0.00
44.49	179.97	1.04	0.68	1.00	0.00	44.58	184.44	1.25	0.44	1.00	0.00
44.65	181.44	1.10	0.60	1.00	0.00	44.70	181.23	1.10	0.61	1.00	0.00
44.76	179.11	1.01	0.73	1.00	0.01	44.84	176.50	0.91	0.89	1.00	0.01
44.91	175.36	0.87	0.97	1.00	0.01	44.95	173.29	0.81	1.09	1.00	0.01
45.04	173.03	0.80	1.10	1.00	0.01	45.10	173.26	0.81	1.09	1.00	0.01
45.15	174.38	0.84	1.04	1.00	0.01	45.22	177.02	0.93	0.86	1.00	0.01
45.30	178.56	0.98	0.77	1.00	0.01	45.36	181.66	1.11	0.59	1.00	0.00
45.42	183.84	1.22	0.47	1.00	0.00	45.48	187.24	1.42	0.31	1.00	0.00
45.57	188.66	1.51	0.24	1.00	0.00	45.63	192.06	1.77	0.10	1.00	0.00
45.69	194.30	1.98	0.01	1.00	0.00	45.74	196.43	2.00	0.00	1.00	0.00
45.84	194.06	1.95	0.02	1.00	0.00	45.88	193.50	1.90	0.04	1.00	0.00
45.95	188.13	1.47	0.27	1.00	0.00	46.00	184.25	1.24	0.45	1.00	0.00
46.07	175.53	0.88	0.96	1.00	0.01	46.14	172.16	0.78	1.13	1.00	0.01
46.21	168.65	0.69	1.28	1.00	0.01	46.27	169.61	0.71	1.24	1.00	0.01
46.34	159.13	0.52	1.78	1.00	0.02	46.43	162.05	0.56	1.61	1.00	0.02
46.48	163.47	0.59	1.53	1.00	0.01	46.53	162.12	0.56	1.61	1.00	0.01
46.62	162.04	0.56	1.61	1.00	0.02	46.69	161.61	0.56	1.63	1.00	0.01
46.75	162.92	0.58	1.56	1.00	0.01	46.79	161.81	0.56	1.62	1.00	0.01
46.90	166.54	0.64	1.38	1.00	0.02	46.95	165.76	0.63	1.42	1.00	0.01
46.99	166.43	0.64	1.38	1.00	0.01	47.05	168.00	0.67	1.31	1.00	0.01
47.15	168.90	0.69	1.27	1.00	0.01	47.18	170.08	0.72	1.22	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
47.27	170.51	0.73	1.20	1.00	0.01	47.32	172.26	0.78	1.13	1.00	0.01
47.41	174.11	0.83	1.06	1.00	0.01	47.47	176.37	0.90	0.90	1.00	0.01
47.52	177.67	0.95	0.82	1.00	0.01	47.58	178.63	0.98	0.76	1.00	0.00
47.65	181.32	1.10	0.61	1.00	0.01	47.73	181.90	1.12	0.58	1.00	0.01
47.78	180.79	1.07	0.64	1.00	0.00	47.87	176.03	0.89	0.93	1.00	0.01
47.90	173.74	0.82	1.07	1.00	0.00	47.99	172.06	0.77	1.14	1.00	0.01
48.05	172.71	0.79	1.11	1.00	0.01	48.11	167.15	0.66	1.35	1.00	0.01
48.18	167.72	0.67	1.32	1.00	0.01	48.24	164.39	0.60	1.49	1.00	0.01
48.30	164.99	0.61	1.46	1.00	0.01	48.39	164.22	0.60	1.49	1.00	0.02
48.43	163.73	0.59	1.52	1.00	0.01	48.51	165.58	0.62	1.43	1.00	0.01
48.56	166.28	0.64	1.39	1.00	0.01	48.66	173.40	0.81	1.09	1.00	0.01
48.70	174.56	0.84	1.03	1.00	0.01	48.77	180.44	1.06	0.66	1.00	0.01
48.83	186.42	1.36	0.35	1.00	0.00	48.91	191.62	1.72	0.12	1.00	0.00
48.97	196.58	2.00	0.00	1.00	0.00	49.02	202.84	2.00	0.00	1.00	0.00
49.11	206.83	2.00	0.00	1.00	0.00	49.17	210.06	2.00	0.00	1.00	0.00
49.24	209.43	2.00	0.00	1.00	0.00	49.28	211.63	2.00	0.00	1.00	0.00
49.39	206.96	2.00	0.00	1.00	0.00	49.43	207.56	2.00	0.00	1.00	0.00
49.49	201.47	2.00	0.00	1.00	0.00	49.54	201.60	2.00	0.00	1.00	0.00
49.65	196.60	2.00	0.00	1.00	0.00	49.69	195.86	2.00	0.00	1.00	0.00
49.75	192.16	1.77	0.10	1.00	0.00	49.81	185.80	1.32	0.38	1.00	0.00
49.88	181.55	1.10	0.60	1.00	0.00	49.96	175.39	0.87	0.97	1.00	0.01
50.01	167.47	2.00	0.00	1.00	0.00	50.07	167.04	2.00	0.00	1.00	0.00
50.15	148.11	2.00	0.00	1.00	0.00	50.21	149.27	2.00	0.00	1.00	0.00
50.27	153.55	2.00	0.00	1.00	0.00	50.35	148.59	2.00	0.00	1.00	0.00
50.40	145.18	2.00	0.00	1.00	0.00	50.47	135.55	2.00	0.00	1.00	0.00
50.55	120.88	2.00	0.00	1.00	0.00	50.62	115.53	2.00	0.00	1.00	0.00
50.68	44.53	2.00	0.00	1.00	0.00	50.72	41.36	2.00	0.00	1.00	0.00
50.84	37.87	2.00	0.00	1.00	0.00	50.86	37.04	2.00	0.00	1.00	0.00
50.94	36.40	2.00	0.00	1.00	0.00	51.02	37.18	2.00	0.00	1.00	0.00
51.07	100.38	2.00	0.00	1.00	0.00	51.12	102.25	2.00	0.00	1.00	0.00
51.20	105.70	2.00	0.00	1.00	0.00	51.25	108.48	2.00	0.00	1.00	0.00
51.32	106.16	2.00	0.00	1.00	0.00	51.38	110.22	2.00	0.00	1.00	0.00
51.46	111.68	2.00	0.00	1.00	0.00	51.51	111.73	2.00	0.00	1.00	0.00
51.58	111.44	2.00	0.00	1.00	0.00	51.65	110.45	2.00	0.00	1.00	0.00
51.71	110.28	2.00	0.00	1.00	0.00	51.81	111.04	2.00	0.00	1.00	0.00
51.85	110.75	2.00	0.00	1.00	0.00	51.91	111.55	2.00	0.00	1.00	0.00
51.98	111.76	2.00	0.00	1.00	0.00	52.07	111.88	2.00	0.00	1.00	0.00
52.11	111.90	2.00	0.00	1.00	0.00	52.18	112.47	2.00	0.00	1.00	0.00
52.24	113.04	2.00	0.00	1.00	0.00	52.33	113.46	2.00	0.00	1.00	0.00
52.37	113.15	2.00	0.00	1.00	0.00	52.44	111.93	2.00	0.00	1.00	0.00
52.50	109.99	2.00	0.00	1.00	0.00	52.58	108.92	2.00	0.00	1.00	0.00
52.65	108.85	2.00	0.00	1.00	0.00	52.69	108.39	2.00	0.00	1.00	0.00
52.76	107.89	2.00	0.00	1.00	0.00	52.86	108.03	2.00	0.00	1.00	0.00
52.91	107.05	2.00	0.00	1.00	0.00	52.95	106.64	2.00	0.00	1.00	0.00
53.04	106.82	2.00	0.00	1.00	0.00	53.11	107.80	2.00	0.00	1.00	0.00
53.17	109.43	2.00	0.00	1.00	0.00	53.22	110.80	2.00	0.00	1.00	0.00
53.31	116.38	2.00	0.00	1.00	0.00	53.35	111.61	2.00	0.00	1.00	0.00
53.43	121.23	2.00	0.00	1.00	0.00	53.50	128.94	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
53.56	133.64	2.00	0.00	1.00	0.00	53.61	138.33	2.00	0.00	1.00	0.00
53.71	143.03	2.00	0.00	1.00	0.00	53.77	146.16	2.00	0.00	1.00	0.00
53.82	146.89	2.00	0.00	1.00	0.00	53.92	146.02	2.00	0.00	1.00	0.00
53.96	146.63	2.00	0.00	1.00	0.00	54.00	145.98	2.00	0.00	1.00	0.00
54.08	146.73	2.00	0.00	1.00	0.00	54.17	147.99	2.00	0.00	1.00	0.00
54.23	148.44	2.00	0.00	1.00	0.00	54.28	148.22	2.00	0.00	1.00	0.00
54.33	147.74	2.00	0.00	1.00	0.00	54.40	145.82	2.00	0.00	1.00	0.00
54.49	144.39	2.00	0.00	1.00	0.00	54.55	142.44	2.00	0.00	1.00	0.00
54.60	140.69	2.00	0.00	1.00	0.00	54.66	139.10	2.00	0.00	1.00	0.00
54.74	136.99	2.00	0.00	1.00	0.00	54.81	135.15	2.00	0.00	1.00	0.00
54.86	133.60	2.00	0.00	1.00	0.00	54.94	129.35	2.00	0.00	1.00	0.00
55.01	125.77	2.00	0.00	1.00	0.00	55.06	124.16	2.00	0.00	1.00	0.00
55.12	121.62	2.00	0.00	1.00	0.00	55.22	118.41	2.00	0.00	1.00	0.00
55.27	117.21	2.00	0.00	1.00	0.00	55.32	115.64	2.00	0.00	1.00	0.00
55.41	114.93	2.00	0.00	1.00	0.00	55.48	113.54	2.00	0.00	1.00	0.00
55.53	113.51	2.00	0.00	1.00	0.00	55.58	100.77	2.00	0.00	1.00	0.00
55.65	109.33	2.00	0.00	1.00	0.00	55.72	110.04	2.00	0.00	1.00	0.00
55.78	108.31	2.00	0.00	1.00	0.00	55.85	107.87	2.00	0.00	1.00	0.00
55.92	43.37	2.00	0.00	1.00	0.00	56.00	41.30	2.00	0.00	1.00	0.00
56.04	40.91	2.00	0.00	1.00	0.00	56.12	41.12	2.00	0.00	1.00	0.00
56.18	44.13	2.00	0.00	1.00	0.00	56.24	117.83	2.00	0.00	1.00	0.00
56.33	137.27	2.00	0.00	1.00	0.00	56.37	148.89	2.00	0.00	1.00	0.00
56.44	155.58	2.00	0.00	1.00	0.00	56.51	168.49	2.00	0.00	1.00	0.00
56.57	170.76	2.00	0.00	1.00	0.00	56.63	168.21	2.00	0.00	1.00	0.00
56.70	169.10	2.00	0.00	1.00	0.00	56.80	170.85	2.00	0.00	1.00	0.00
56.84	172.34	2.00	0.00	1.00	0.00	56.91	174.76	2.00	0.00	1.00	0.00
56.96	179.76	2.00	0.00	1.00	0.00	57.06	179.04	2.00	0.00	1.00	0.00
57.10	181.27	2.00	0.00	1.00	0.00	57.17	176.37	2.00	0.00	1.00	0.00
57.22	173.30	2.00	0.00	1.00	0.00	57.30	164.74	2.00	0.00	1.00	0.00
57.36	164.13	2.00	0.00	1.00	0.00	57.42	166.48	2.00	0.00	1.00	0.00
57.52	147.96	2.00	0.00	1.00	0.00	57.56	159.84	2.00	0.00	1.00	0.00
57.65	162.01	2.00	0.00	1.00	0.00	57.71	161.40	2.00	0.00	1.00	0.00
57.76	162.58	2.00	0.00	1.00	0.00	57.87	162.05	2.00	0.00	1.00	0.00
57.88	162.62	2.00	0.00	1.00	0.00	57.95	162.03	2.00	0.00	1.00	0.00
58.02	161.41	2.00	0.00	1.00	0.00	58.08	160.43	2.00	0.00	1.00	0.00
58.16	159.87	2.00	0.00	1.00	0.00	58.22	159.12	2.00	0.00	1.00	0.00
58.28	158.60	2.00	0.00	1.00	0.00	58.33	157.86	2.00	0.00	1.00	0.00
58.42	155.64	2.00	0.00	1.00	0.00	58.47	155.04	2.00	0.00	1.00	0.00
58.54	153.98	2.00	0.00	1.00	0.00	58.63	150.69	2.00	0.00	1.00	0.00
58.68	150.54	2.00	0.00	1.00	0.00	58.75	149.05	2.00	0.00	1.00	0.00
58.80	149.58	2.00	0.00	1.00	0.00	58.86	151.34	2.00	0.00	1.00	0.00
58.94	155.11	2.00	0.00	1.00	0.00	59.01	157.84	2.00	0.00	1.00	0.00
59.06	156.42	2.00	0.00	1.00	0.00	59.15	151.74	2.00	0.00	1.00	0.00
59.22	150.58	2.00	0.00	1.00	0.00	59.27	147.63	2.00	0.00	1.00	0.00
59.32	146.77	2.00	0.00	1.00	0.00	59.40	142.17	2.00	0.00	1.00	0.00
59.45	140.32	2.00	0.00	1.00	0.00	59.53	139.54	2.00	0.00	1.00	0.00
59.59	142.62	2.00	0.00	1.00	0.00	59.66	132.40	2.00	0.00	1.00	0.00
59.71	147.54	2.00	0.00	1.00	0.00	59.81	149.38	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
59.87	151.47	2.00	0.00	1.00	0.00	59.92	153.59	2.00	0.00	1.00	0.00
59.98	154.80	2.00	0.00	1.00	0.00	60.06	158.97	2.00	0.00	1.00	0.00
60.13	162.80	2.00	0.00	1.00	0.00	60.17	164.88	2.00	0.00	1.00	0.00
60.26	172.32	2.00	0.00	1.00	0.00	60.33	178.09	2.00	0.00	1.00	0.00
60.39	180.97	2.00	0.00	1.00	0.00	60.44	184.63	2.00	0.00	1.00	0.00
60.50	186.44	2.00	0.00	1.00	0.00	60.58	187.53	2.00	0.00	1.00	0.00
60.65	188.00	2.00	0.00	1.00	0.00	60.70	186.89	2.00	0.00	1.00	0.00
60.77	183.61	2.00	0.00	1.00	0.00	60.85	178.41	2.00	0.00	1.00	0.00
60.91	174.45	2.00	0.00	1.00	0.00	60.97	168.65	2.00	0.00	1.00	0.00
61.05	163.74	2.00	0.00	1.00	0.00	61.11	159.23	2.00	0.00	1.00	0.00
61.17	156.32	2.00	0.00	1.00	0.00	61.24	151.54	2.00	0.00	1.00	0.00
61.29	147.91	2.00	0.00	1.00	0.00	61.37	143.80	2.00	0.00	1.00	0.00
61.42	141.68	2.00	0.00	1.00	0.00	61.48	138.14	2.00	0.00	1.00	0.00
61.56	128.50	2.00	0.00	1.00	0.00	61.62	123.59	2.00	0.00	1.00	0.00
61.69	111.20	2.00	0.00	1.00	0.00	61.75	34.98	2.00	0.00	1.00	0.00
61.84	27.29	2.00	0.00	1.00	0.00	61.90	24.82	2.00	0.00	1.00	0.00
61.95	20.13	2.00	0.00	1.00	0.00	62.03	16.60	2.00	0.00	1.00	0.00
62.10	13.50	2.00	0.00	1.00	0.00	62.16	12.45	2.00	0.00	1.00	0.00
62.21	12.05	2.00	0.00	1.00	0.00	62.30	11.50	2.00	0.00	1.00	0.00
62.34	11.50	2.00	0.00	1.00	0.00	62.41	11.50	2.00	0.00	1.00	0.00
62.47	11.59	2.00	0.00	1.00	0.00	62.55	11.83	2.00	0.00	1.00	0.00
62.62	12.08	2.00	0.00	1.00	0.00	62.67	12.08	2.00	0.00	1.00	0.00
62.76	11.82	2.00	0.00	1.00	0.00	62.82	12.11	2.00	0.00	1.00	0.00
62.87	13.40	2.00	0.00	1.00	0.00	62.93	15.35	2.00	0.00	1.00	0.00
63.02	15.95	2.00	0.00	1.00	0.00	63.09	14.94	2.00	0.00	1.00	0.00
63.13	13.78	2.00	0.00	1.00	0.00	63.23	13.90	2.00	0.00	1.00	0.00
63.28	12.82	2.00	0.00	1.00	0.00	63.35	14.01	2.00	0.00	1.00	0.00
63.41	15.21	2.00	0.00	1.00	0.00	63.45	15.51	2.00	0.00	1.00	0.00
63.52	15.20	2.00	0.00	1.00	0.00	63.60	14.20	2.00	0.00	1.00	0.00
63.66	13.79	2.00	0.00	1.00	0.00	63.72	14.79	2.00	0.00	1.00	0.00
63.80	22.02	2.00	0.00	1.00	0.00	63.86	28.76	2.00	0.00	1.00	0.00
63.92	103.29	2.00	0.00	1.00	0.00	63.98	120.23	2.00	0.00	1.00	0.00
64.06	133.57	2.00	0.00	1.00	0.00	64.11	138.88	2.00	0.00	1.00	0.00
64.18	146.29	2.00	0.00	1.00	0.00	64.26	145.64	2.00	0.00	1.00	0.00
64.32	145.56	2.00	0.00	1.00	0.00	64.39	146.86	2.00	0.00	1.00	0.00
64.46	144.98	2.00	0.00	1.00	0.00	64.53	143.80	2.00	0.00	1.00	0.00
64.61	142.62	2.00	0.00	1.00	0.00	64.67	141.98	2.00	0.00	1.00	0.00
64.71	141.85	2.00	0.00	1.00	0.00	64.77	140.60	2.00	0.00	1.00	0.00
64.87	137.93	2.00	0.00	1.00	0.00	64.93	137.44	2.00	0.00	1.00	0.00
64.97	136.13	2.00	0.00	1.00	0.00	65.03	134.98	2.00	0.00	1.00	0.00
65.13	134.06	2.00	0.00	1.00	0.00	65.19	132.94	2.00	0.00	1.00	0.00
65.23	132.15	2.00	0.00	1.00	0.00	65.33	131.32	2.00	0.00	1.00	0.00
65.39	131.56	2.00	0.00	1.00	0.00	65.44	131.67	2.00	0.00	1.00	0.00
65.49	131.27	2.00	0.00	1.00	0.00	65.55	131.93	2.00	0.00	1.00	0.00
65.65	131.73	2.00	0.00	1.00	0.00	65.70	130.57	2.00	0.00	1.00	0.00
65.76	129.53	2.00	0.00	1.00	0.00	65.86	127.81	2.00	0.00	1.00	0.00
65.90	127.44	2.00	0.00	1.00	0.00	65.97	125.16	2.00	0.00	1.00	0.00
66.01	123.99	2.00	0.00	1.00	0.00	66.11	122.28	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
66.16	122.05	2.00	0.00	1.00	0.00	66.22	122.16	2.00	0.00	1.00	0.00
66.28	121.55	2.00	0.00	1.00	0.00	66.37	120.50	2.00	0.00	1.00	0.00
66.42	120.02	2.00	0.00	1.00	0.00	66.48	118.56	2.00	0.00	1.00	0.00
66.54	117.51	2.00	0.00	1.00	0.00	66.64	115.07	2.00	0.00	1.00	0.00
66.68	114.72	2.00	0.00	1.00	0.00	66.74	108.58	2.00	0.00	1.00	0.00
66.83	113.89	2.00	0.00	1.00	0.00	66.88	113.09	2.00	0.00	1.00	0.00
66.95	112.03	2.00	0.00	1.00	0.00	67.04	112.11	2.00	0.00	1.00	0.00
67.10	111.90	2.00	0.00	1.00	0.00	67.15	111.64	2.00	0.00	1.00	0.00
67.20	110.97	2.00	0.00	1.00	0.00	67.30	109.80	2.00	0.00	1.00	0.00
67.36	107.28	2.00	0.00	1.00	0.00	67.40	42.54	2.00	0.00	1.00	0.00
67.46	39.45	2.00	0.00	1.00	0.00	67.55	36.15	2.00	0.00	1.00	0.00
67.61	33.15	2.00	0.00	1.00	0.00	67.66	31.91	2.00	0.00	1.00	0.00
67.72	29.87	2.00	0.00	1.00	0.00	67.82	27.71	2.00	0.00	1.00	0.00
67.88	25.80	2.00	0.00	1.00	0.00	67.93	24.90	2.00	0.00	1.00	0.00
68.02	23.33	2.00	0.00	1.00	0.00	68.08	21.78	2.00	0.00	1.00	0.00
68.14	20.66	2.00	0.00	1.00	0.00	68.19	19.33	2.00	0.00	1.00	0.00
68.28	16.31	2.00	0.00	1.00	0.00	68.32	14.78	2.00	0.00	1.00	0.00
68.39	12.54	2.00	0.00	1.00	0.00	68.45	11.76	2.00	0.00	1.00	0.00
68.53	11.14	2.00	0.00	1.00	0.00	68.60	11.04	2.00	0.00	1.00	0.00
68.66	11.09	2.00	0.00	1.00	0.00	68.70	11.18	2.00	0.00	1.00	0.00
68.78	11.22	2.00	0.00	1.00	0.00	68.83	11.08	2.00	0.00	1.00	0.00
68.91	11.31	2.00	0.00	1.00	0.00	68.97	12.17	2.00	0.00	1.00	0.00
69.05	17.74	2.00	0.00	1.00	0.00	69.09	22.72	2.00	0.00	1.00	0.00
69.17	35.32	2.00	0.00	1.00	0.00	69.27	108.92	2.00	0.00	1.00	0.00
69.29	112.43	2.00	0.00	1.00	0.00	69.38	115.75	2.00	0.00	1.00	0.00
69.43	116.33	2.00	0.00	1.00	0.00	69.52	116.90	2.00	0.00	1.00	0.00
69.58	117.27	2.00	0.00	1.00	0.00	69.62	118.17	2.00	0.00	1.00	0.00
69.73	122.63	2.00	0.00	1.00	0.00	69.79	122.44	2.00	0.00	1.00	0.00
69.86	127.22	2.00	0.00	1.00	0.00	69.89	127.75	2.00	0.00	1.00	0.00
69.99	130.47	2.00	0.00	1.00	0.00	70.05	128.90	2.00	0.00	1.00	0.00
70.10	125.47	2.00	0.00	1.00	0.00	70.15	123.08	2.00	0.00	1.00	0.00
70.21	113.65	2.00	0.00	1.00	0.00	70.29	42.64	2.00	0.00	1.00	0.00
70.34	40.90	2.00	0.00	1.00	0.00	70.41	42.74	2.00	0.00	1.00	0.00
70.51	41.20	2.00	0.00	1.00	0.00	70.56	104.88	2.00	0.00	1.00	0.00
70.63	103.68	2.00	0.00	1.00	0.00	70.67	38.24	2.00	0.00	1.00	0.00
70.76	29.46	2.00	0.00	1.00	0.00	70.82	25.75	2.00	0.00	1.00	0.00
70.87	22.54	2.00	0.00	1.00	0.00	70.98	15.73	2.00	0.00	1.00	0.00
71.03	14.08	2.00	0.00	1.00	0.00	71.10	12.59	2.00	0.00	1.00	0.00
71.14	11.83	2.00	0.00	1.00	0.00	71.22	11.02	2.00	0.00	1.00	0.00
71.28	11.02	2.00	0.00	1.00	0.00	71.34	11.16	2.00	0.00	1.00	0.00
71.39	11.25	2.00	0.00	1.00	0.00	71.49	11.57	2.00	0.00	1.00	0.00
71.56	11.95	2.00	0.00	1.00	0.00	71.60	11.95	2.00	0.00	1.00	0.00
71.70	12.51	2.00	0.00	1.00	0.00	71.75	13.22	2.00	0.00	1.00	0.00
71.80	13.83	2.00	0.00	1.00	0.00	71.87	14.55	2.00	0.00	1.00	0.00
71.95	14.40	2.00	0.00	1.00	0.00	72.01	14.01	2.00	0.00	1.00	0.00
72.07	14.01	2.00	0.00	1.00	0.00	72.12	14.00	2.00	0.00	1.00	0.00
72.22	15.83	2.00	0.00	1.00	0.00	72.28	19.97	2.00	0.00	1.00	0.00
72.31	23.81	2.00	0.00	1.00	0.00	72.42	30.30	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
72.47	47.23	2.00	0.00	1.00	0.00	72.53	129.06	2.00	0.00	1.00	0.00
72.58	133.45	2.00	0.00	1.00	0.00	72.68	133.86	2.00	0.00	1.00	0.00
72.73	132.28	2.00	0.00	1.00	0.00	72.79	129.80	2.00	0.00	1.00	0.00
72.84	128.63	2.00	0.00	1.00	0.00	72.94	126.19	2.00	0.00	1.00	0.00
73.00	123.05	2.00	0.00	1.00	0.00	73.05	121.45	2.00	0.00	1.00	0.00
73.15	118.17	2.00	0.00	1.00	0.00	73.21	114.53	2.00	0.00	1.00	0.00
73.25	112.20	2.00	0.00	1.00	0.00	73.30	108.88	2.00	0.00	1.00	0.00
73.36	37.18	2.00	0.00	1.00	0.00	73.45	30.84	2.00	0.00	1.00	0.00
73.52	26.21	2.00	0.00	1.00	0.00	73.57	24.49	2.00	0.00	1.00	0.00
73.63	21.48	2.00	0.00	1.00	0.00	73.72	18.38	2.00	0.00	1.00	0.00
73.77	16.86	2.00	0.00	1.00	0.00	73.83	14.87	2.00	0.00	1.00	0.00
73.93	13.87	2.00	0.00	1.00	0.00	73.98	13.06	2.00	0.00	1.00	0.00
74.04	12.35	2.00	0.00	1.00	0.00	74.09	12.07	2.00	0.00	1.00	0.00
74.16	11.83	2.00	0.00	1.00	0.00	74.24	11.64	2.00	0.00	1.00	0.00
74.28	11.50	2.00	0.00	1.00	0.00	74.40	10.94	2.00	0.00	1.00	0.00
74.44	10.84	2.00	0.00	1.00	0.00	74.50	10.79	2.00	0.00	1.00	0.00
74.55	10.79	2.00	0.00	1.00	0.00	74.66	10.74	2.00	0.00	1.00	0.00
74.68	10.69	2.00	0.00	1.00	0.00	74.75	10.96	2.00	0.00	1.00	0.00
74.83	11.24	2.00	0.00	1.00	0.00	74.91	11.92	2.00	0.00	1.00	0.00
74.96	12.25	2.00	0.00	1.00	0.00	75.02	13.14	2.00	0.00	1.00	0.00
75.08	13.88	2.00	0.00	1.00	0.00	75.17	14.87	2.00	0.00	1.00	0.00
75.23	15.34	2.00	0.00	1.00	0.00	75.28	16.20	2.00	0.00	1.00	0.00
75.35	17.26	2.00	0.00	1.00	0.00	75.43	18.42	2.00	0.00	1.00	0.00
75.48	19.15	2.00	0.00	1.00	0.00	75.54	21.33	2.00	0.00	1.00	0.00
75.64	27.79	2.00	0.00	1.00	0.00	75.69	30.87	2.00	0.00	1.00	0.00
75.74	29.95	2.00	0.00	1.00	0.00	75.79	31.00	2.00	0.00	1.00	0.00
75.86	44.72	2.00	0.00	1.00	0.00	75.94	49.98	2.00	0.00	1.00	0.00
76.03	119.30	2.00	0.00	1.00	0.00	76.06	120.52	2.00	0.00	1.00	0.00
76.19	128.87	2.00	0.00	1.00	0.00	76.23	129.32	2.00	0.00	1.00	0.00
76.28	130.25	2.00	0.00	1.00	0.00	76.32	128.67	2.00	0.00	1.00	0.00
76.42	131.08	2.00	0.00	1.00	0.00	76.47	130.67	2.00	0.00	1.00	0.00
76.57	124.58	2.00	0.00	1.00	0.00	76.58	123.67	2.00	0.00	1.00	0.00
76.73	112.40	2.00	0.00	1.00	0.00	76.78	114.63	2.00	0.00	1.00	0.00
76.87	103.49	2.00	0.00	1.00	0.00	76.91	38.81	2.00	0.00	1.00	0.00
76.95	36.73	2.00	0.00	1.00	0.00	77.00	36.78	2.00	0.00	1.00	0.00
77.10	31.66	2.00	0.00	1.00	0.00	77.14	31.77	2.00	0.00	1.00	0.00
77.25	29.02	2.00	0.00	1.00	0.00	77.29	28.73	2.00	0.00	1.00	0.00
77.35	28.72	2.00	0.00	1.00	0.00	77.44	28.45	2.00	0.00	1.00	0.00
77.47	28.44	2.00	0.00	1.00	0.00	77.51	28.44	2.00	0.00	1.00	0.00
77.61	25.86	2.00	0.00	1.00	0.00	77.65	25.86	2.00	0.00	1.00	0.00
77.77	20.53	2.00	0.00	1.00	0.00	77.88	16.60	2.00	0.00	1.00	0.00
77.93	16.60	2.00	0.00	1.00	0.00	78.03	16.82	2.00	0.00	1.00	0.00
78.08	16.82	2.00	0.00	1.00	0.00	78.19	30.81	2.00	0.00	1.00	0.00
78.19	30.59	2.00	0.00	1.00	0.00	78.30	53.40	2.00	0.00	1.00	0.00
78.34	117.86	2.00	0.00	1.00	0.00	78.44	129.20	2.00	0.00	1.00	0.00
78.49	127.59	2.00	0.00	1.00	0.00	78.59	131.16	2.00	0.00	1.00	0.00
78.63	131.34	2.00	0.00	1.00	0.00	78.74	130.82	2.00	0.00	1.00	0.00
78.79	129.97	2.00	0.00	1.00	0.00	78.85	126.55	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
78.93	55.73	2.00	0.00	1.00	0.00	79.00	54.52	2.00	0.00	1.00	0.00
79.07	57.09	2.00	0.00	1.00	0.00	79.13	130.61	2.00	0.00	1.00	0.00
79.20	136.55	2.00	0.00	1.00	0.00	79.28	138.53	2.00	0.00	1.00	0.00
79.36	139.60	2.00	0.00	1.00	0.00	79.41	140.60	2.00	0.00	1.00	0.00
79.47	140.35	2.00	0.00	1.00	0.00	79.57	140.25	2.00	0.00	1.00	0.00
79.62	141.27	2.00	0.00	1.00	0.00	79.72	141.45	2.00	0.00	1.00	0.00
79.78	139.79	2.00	0.00	1.00	0.00	79.83	136.43	2.00	0.00	1.00	0.00
79.92	132.09	2.00	0.00	1.00	0.00	79.98	127.17	2.00	0.00	1.00	0.00
80.04	122.90	2.00	0.00	1.00	0.00	80.14	118.77	2.00	0.00	1.00	0.00
80.21	50.49	2.00	0.00	1.00	0.00	80.30	48.83	2.00	0.00	1.00	0.00
80.36	47.24	2.00	0.00	1.00	0.00	80.44	45.17	2.00	0.00	1.00	0.00
80.50	43.01	2.00	0.00	1.00	0.00	80.58	41.09	2.00	0.00	1.00	0.00
80.66	39.40	2.00	0.00	1.00	0.00	80.72	37.76	2.00	0.00	1.00	0.00
80.80	36.27	2.00	0.00	1.00	0.00	80.87	36.19	2.00	0.00	1.00	0.00
80.91	36.18	2.00	0.00	1.00	0.00	80.93	36.11	2.00	0.00	1.00	0.00
80.98	36.06	2.00	0.00	1.00	0.00	81.08	32.71	2.00	0.00	1.00	0.00
81.13	30.41	2.00	0.00	1.00	0.00	81.18	28.02	2.00	0.00	1.00	0.00
81.24	25.21	2.00	0.00	1.00	0.00	81.34	19.26	2.00	0.00	1.00	0.00
81.39	17.39	2.00	0.00	1.00	0.00	81.45	16.07	2.00	0.00	1.00	0.00
81.51	17.50	2.00	0.00	1.00	0.00	81.58	15.50	2.00	0.00	1.00	0.00
81.64	17.61	2.00	0.00	1.00	0.00	81.70	22.03	2.00	0.00	1.00	0.00
81.82	40.51	2.00	0.00	1.00	0.00	81.90	118.50	2.00	0.00	1.00	0.00
81.95	131.37	2.00	0.00	1.00	0.00	82.02	141.15	2.00	0.00	1.00	0.00
82.08	145.93	2.00	0.00	1.00	0.00	82.17	147.68	2.00	0.00	1.00	0.00
82.22	145.21	2.00	0.00	1.00	0.00	82.28	139.36	2.00	0.00	1.00	0.00
82.38	130.75	2.00	0.00	1.00	0.00	82.43	54.54	2.00	0.00	1.00	0.00
82.49	49.19	2.00	0.00	1.00	0.00	82.58	45.25	2.00	0.00	1.00	0.00
82.63	43.59	2.00	0.00	1.00	0.00	82.69	42.85	2.00	0.00	1.00	0.00
82.77	43.33	2.00	0.00	1.00	0.00	82.83	46.29	2.00	0.00	1.00	0.00
82.89	116.48	2.00	0.00	1.00	0.00	82.95	122.68	2.00	0.00	1.00	0.00
83.00	129.22	2.00	0.00	1.00	0.00	83.10	135.66	2.00	0.00	1.00	0.00
83.16	141.43	2.00	0.00	1.00	0.00	83.20	146.98	2.00	0.00	1.00	0.00
83.31	153.55	2.00	0.00	1.00	0.00	83.35	160.53	2.00	0.00	1.00	0.00
83.41	171.68	2.00	0.00	1.00	0.00	83.44	163.79	2.00	0.00	1.00	0.00
83.51	184.88	2.00	0.00	1.00	0.00	83.56	194.35	2.00	0.00	1.00	0.00
83.63	214.71	2.00	0.00	1.00	0.00	83.67	220.44	2.00	0.00	1.00	0.00
83.77	232.66	2.00	0.00	1.00	0.00	83.82	232.53	2.00	0.00	1.00	0.00
83.86	234.63	2.00	0.00	1.00	0.00	83.93	233.05	2.00	0.00	1.00	0.00
84.03	237.92	2.00	0.00	1.00	0.00	84.08	234.52	2.00	0.00	1.00	0.00
84.14	235.50	2.00	0.00	1.00	0.00	84.24	234.29	2.00	0.00	1.00	0.00
84.27	232.44	2.00	0.00	1.00	0.00	84.32	232.27	2.00	0.00	1.00	0.00
84.42	234.09	2.00	0.00	1.00	0.00	84.49	234.24	2.00	0.00	1.00	0.00
84.52	234.31	2.00	0.00	1.00	0.00	84.62	235.49	2.00	0.00	1.00	0.00
84.67	236.95	2.00	0.00	1.00	0.00	84.76	239.86	2.00	0.00	1.00	0.00
84.82	241.38	2.00	0.00	1.00	0.00	84.86	242.76	2.00	0.00	1.00	0.00
84.92	243.68	2.00	0.00	1.00	0.00	85.02	245.66	2.00	0.00	1.00	0.00
85.07	245.02	2.00	0.00	1.00	0.00	85.15	244.97	2.00	0.00	1.00	0.00
85.19	243.62	2.00	0.00	1.00	0.00	85.27	243.40	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
85.32	241.83	2.00	0.00	1.00	0.00	85.38	239.62	2.00	0.00	1.00	0.00
85.50	234.72	2.00	0.00	1.00	0.00	85.58	231.78	2.00	0.00	1.00	0.00
85.65	228.21	2.00	0.00	1.00	0.00	85.73	225.28	2.00	0.00	1.00	0.00
85.79	220.62	2.00	0.00	1.00	0.00	85.86	214.29	2.00	0.00	1.00	0.00
85.94	208.58	2.00	0.00	1.00	0.00	86.00	204.75	2.00	0.00	1.00	0.00
86.08	206.78	2.00	0.00	1.00	0.00	86.14	194.52	2.00	0.00	1.00	0.00
86.20	197.92	2.00	0.00	1.00	0.00	86.23	197.03	2.00	0.00	1.00	0.00
86.29	199.63	2.00	0.00	1.00	0.00	86.39	199.77	2.00	0.00	1.00	0.00
86.45	200.24	2.00	0.00	1.00	0.00	86.49	200.82	2.00	0.00	1.00	0.00
86.56	203.20	2.00	0.00	1.00	0.00	86.66	199.32	2.00	0.00	1.00	0.00
86.71	200.69	2.00	0.00	1.00	0.00	86.75	200.62	2.00	0.00	1.00	0.00
86.87	206.40	2.00	0.00	1.00	0.00	86.91	211.50	2.00	0.00	1.00	0.00
86.95	217.02	2.00	0.00	1.00	0.00	87.01	221.80	2.00	0.00	1.00	0.00
87.08	226.47	2.00	0.00	1.00	0.00	87.17	232.05	2.00	0.00	1.00	0.00
87.23	231.47	2.00	0.00	1.00	0.00	87.29	232.93	2.00	0.00	1.00	0.00
87.35	232.54	2.00	0.00	1.00	0.00	87.45	234.68	2.00	0.00	1.00	0.00
87.50	230.68	2.00	0.00	1.00	0.00	87.56	226.21	2.00	0.00	1.00	0.00
87.60	218.19	2.00	0.00	1.00	0.00	87.70	202.65	2.00	0.00	1.00	0.00
87.76	198.61	2.00	0.00	1.00	0.00	87.80	194.85	2.00	0.00	1.00	0.00
87.91	189.75	2.00	0.00	1.00	0.00	87.96	186.84	2.00	0.00	1.00	0.00
88.01	183.71	2.00	0.00	1.00	0.00	88.07	179.21	2.00	0.00	1.00	0.00
88.17	174.99	2.00	0.00	1.00	0.00	88.26	168.66	2.00	0.00	1.00	0.00
88.32	163.79	2.00	0.00	1.00	0.00	88.38	158.95	2.00	0.00	1.00	0.00
88.46	159.02	2.00	0.00	1.00	0.00	88.52	157.89	2.00	0.00	1.00	0.00
88.58	158.50	2.00	0.00	1.00	0.00	88.64	158.88	2.00	0.00	1.00	0.00
88.69	166.04	2.00	0.00	1.00	0.00	88.77	174.33	2.00	0.00	1.00	0.00
88.84	180.83	2.00	0.00	1.00	0.00	88.88	185.33	2.00	0.00	1.00	0.00
88.94	187.44	2.00	0.00	1.00	0.00	88.98	191.80	2.00	0.00	1.00	0.00
89.05	195.55	2.00	0.00	1.00	0.00	89.15	196.99	2.00	0.00	1.00	0.00
89.19	198.60	2.00	0.00	1.00	0.00	89.24	200.91	2.00	0.00	1.00	0.00
89.34	202.07	2.00	0.00	1.00	0.00	89.40	207.14	2.00	0.00	1.00	0.00
89.45	209.16	2.00	0.00	1.00	0.00	89.50	213.64	2.00	0.00	1.00	0.00
89.59	214.67	2.00	0.00	1.00	0.00	89.65	219.19	2.00	0.00	1.00	0.00
89.71	216.50	2.00	0.00	1.00	0.00	89.76	218.70	2.00	0.00	1.00	0.00
89.87	217.70	2.00	0.00	1.00	0.00	89.92	217.44	2.00	0.00	1.00	0.00
89.96	216.61	2.00	0.00	1.00	0.00	90.04	211.67	2.00	0.00	1.00	0.00
90.10	209.09	2.00	0.00	1.00	0.00	90.17	206.15	2.00	0.00	1.00	0.00
90.23	203.79	2.00	0.00	1.00	0.00	90.33	200.58	2.00	0.00	1.00	0.00
90.36	200.24	2.00	0.00	1.00	0.00	90.48	200.57	2.00	0.00	1.00	0.00
90.53	202.51	2.00	0.00	1.00	0.00	90.59	204.20	2.00	0.00	1.00	0.00
90.64	205.26	2.00	0.00	1.00	0.00	90.69	207.13	2.00	0.00	1.00	0.00
90.80	205.87	2.00	0.00	1.00	0.00	90.86	206.85	2.00	0.00	1.00	0.00
90.91	206.65	2.00	0.00	1.00	0.00	90.98	205.61	2.00	0.00	1.00	0.00
91.04	203.99	2.00	0.00	1.00	0.00	91.11	200.98	2.00	0.00	1.00	0.00
91.17	198.17	2.00	0.00	1.00	0.00	91.23	196.79	2.00	0.00	1.00	0.00
91.30	195.84	2.00	0.00	1.00	0.00	91.36	196.76	2.00	0.00	1.00	0.00
91.43	199.48	2.00	0.00	1.00	0.00	91.49	199.01	2.00	0.00	1.00	0.00
91.58	197.29	2.00	0.00	1.00	0.00	91.64	196.56	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
91.72	202.29	2.00	0.00	1.00	0.00	91.79	213.73	2.00	0.00	1.00	0.00
91.82	200.39	2.00	0.00	1.00	0.00	91.88	206.80	2.00	0.00	1.00	0.00
91.95	205.11	2.00	0.00	1.00	0.00	92.00	208.35	2.00	0.00	1.00	0.00
92.08	207.12	2.00	0.00	1.00	0.00	92.14	205.10	2.00	0.00	1.00	0.00
92.22	204.96	2.00	0.00	1.00	0.00	92.27	204.08	2.00	0.00	1.00	0.00
92.34	202.52	2.00	0.00	1.00	0.00	92.39	201.51	2.00	0.00	1.00	0.00
92.49	200.50	2.00	0.00	1.00	0.00	92.55	199.00	2.00	0.00	1.00	0.00
92.60	198.10	2.00	0.00	1.00	0.00	92.69	198.69	2.00	0.00	1.00	0.00
92.76	196.32	2.00	0.00	1.00	0.00	92.82	198.78	2.00	0.00	1.00	0.00
92.91	204.07	2.00	0.00	1.00	0.00	93.00	208.07	2.00	0.00	1.00	0.00
93.07	212.06	2.00	0.00	1.00	0.00	93.17	212.02	2.00	0.00	1.00	0.00
93.19	203.57	2.00	0.00	1.00	0.00	93.23	212.44	2.00	0.00	1.00	0.00
93.25	210.51	2.00	0.00	1.00	0.00	93.33	212.46	2.00	0.00	1.00	0.00
93.38	209.10	2.00	0.00	1.00	0.00	93.48	195.49	2.00	0.00	1.00	0.00
93.53	188.38	2.00	0.00	1.00	0.00	93.58	184.65	2.00	0.00	1.00	0.00
93.64	185.45	2.00	0.00	1.00	0.00	93.73	160.82	2.00	0.00	1.00	0.00
93.77	171.08	2.00	0.00	1.00	0.00	93.84	167.03	2.00	0.00	1.00	0.00
93.94	163.23	2.00	0.00	1.00	0.00	93.99	162.52	2.00	0.00	1.00	0.00
94.05	160.85	2.00	0.00	1.00	0.00	94.10	159.50	2.00	0.00	1.00	0.00
94.20	153.12	2.00	0.00	1.00	0.00	94.25	142.90	2.00	0.00	1.00	0.00
94.30	137.28	2.00	0.00	1.00	0.00	94.36	60.84	2.00	0.00	1.00	0.00
94.46	44.40	2.00	0.00	1.00	0.00	94.51	37.15	2.00	0.00	1.00	0.00
94.56	32.40	2.00	0.00	1.00	0.00	94.67	23.18	2.00	0.00	1.00	0.00
94.72	20.76	2.00	0.00	1.00	0.00	94.77	18.43	2.00	0.00	1.00	0.00
94.86	16.29	2.00	0.00	1.00	0.00	94.91	14.70	2.00	0.00	1.00	0.00
94.97	13.79	2.00	0.00	1.00	0.00	95.03	13.18	2.00	0.00	1.00	0.00
95.09	13.10	2.00	0.00	1.00	0.00	95.19	13.01	2.00	0.00	1.00	0.00
95.27	12.10	2.00	0.00	1.00	0.00	95.29	6.97	2.00	0.00	1.00	0.00
95.37	15.90	2.00	0.00	1.00	0.00	95.43	19.33	2.00	0.00	1.00	0.00
95.50	21.74	2.00	0.00	1.00	0.00	95.59	21.97	2.00	0.00	1.00	0.00
95.64	20.73	2.00	0.00	1.00	0.00	95.69	19.36	2.00	0.00	1.00	0.00
95.74	19.40	2.00	0.00	1.00	0.00	95.81	24.33	2.00	0.00	1.00	0.00
95.91	28.97	2.00	0.00	1.00	0.00	95.97	28.15	2.00	0.00	1.00	0.00
96.03	25.22	2.00	0.00	1.00	0.00	96.09	22.06	2.00	0.00	1.00	0.00
96.16	18.78	2.00	0.00	1.00	0.00	96.21	16.11	2.00	0.00	1.00	0.00
96.26	14.36	2.00	0.00	1.00	0.00	96.33	13.80	2.00	0.00	1.00	0.00
96.41	14.18	2.00	0.00	1.00	0.00	96.48	14.65	2.00	0.00	1.00	0.00
96.55	14.95	2.00	0.00	1.00	0.00	96.63	15.16	2.00	0.00	1.00	0.00
96.72	15.55	2.00	0.00	1.00	0.00	96.79	15.46	2.00	0.00	1.00	0.00
96.89	15.06	2.00	0.00	1.00	0.00	96.98	15.01	2.00	0.00	1.00	0.00
97.04	14.10	2.00	0.00	1.00	0.00	97.14	12.56	2.00	0.00	1.00	0.00
97.24	12.47	2.00	0.00	1.00	0.00	97.30	15.95	2.00	0.00	1.00	0.00
97.34	15.29	2.00	0.00	1.00	0.00	97.34	14.60	2.00	0.00	1.00	0.00
97.39	24.08	2.00	0.00	1.00	0.00	97.50	25.94	2.00	0.00	1.00	0.00
97.57	24.11	2.00	0.00	1.00	0.00	97.62	22.25	2.00	0.00	1.00	0.00
97.67	20.96	2.00	0.00	1.00	0.00	97.72	20.18	2.00	0.00	1.00	0.00
97.77	20.14	2.00	0.00	1.00	0.00	97.86	21.31	2.00	0.00	1.00	0.00
97.93	22.54	2.00	0.00	1.00	0.00	98.00	24.72	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
98.04	25.05	2.00	0.00	1.00	0.00	98.14	23.68	2.00	0.00	1.00	0.00
98.19	23.67	2.00	0.00	1.00	0.00	98.28	23.66	2.00	0.00	1.00	0.00
98.35	23.66	2.00	0.00	1.00	0.00	98.45	15.52	2.00	0.00	1.00	0.00
98.50	13.54	2.00	0.00	1.00	0.00	98.62	13.36	2.00	0.00	1.00	0.00
98.69	13.36	2.00	0.00	1.00	0.00	98.77	13.69	2.00	0.00	1.00	0.00
98.87	14.33	2.00	0.00	1.00	0.00	98.97	14.80	2.00	0.00	1.00	0.00
99.08	15.39	2.00	0.00	1.00	0.00	99.13	14.44	2.00	0.00	1.00	0.00
99.15	15.77	2.00	0.00	1.00	0.00	99.25	16.16	2.00	0.00	1.00	0.00
99.33	15.98	2.00	0.00	1.00	0.00	99.38	15.63	2.00	0.00	1.00	0.00
99.44	15.07	2.00	0.00	1.00	0.00	99.49	14.55	2.00	0.00	1.00	0.00
99.54	14.20	2.00	0.00	1.00	0.00	99.65	13.85	2.00	0.00	1.00	0.00
99.70	14.15	2.00	0.00	1.00	0.00	99.75	15.05	2.00	0.00	1.00	0.00
99.81	16.68	2.00	0.00	1.00	0.00	99.91	21.17	2.00	0.00	1.00	0.00
99.96	23.43	2.00	0.00	1.00	0.00	100.01	25.87	2.00	0.00	1.00	0.00
100.12	31.98	2.00	0.00	1.00	0.00	100.18	35.11	2.00	0.00	1.00	0.00
100.21	38.30	2.00	0.00	1.00	0.00	100.27	41.23	2.00	0.00	1.00	0.00

Total estimated settlement: 6.72

Abbreviations

$Q_{tn,cs}$:	Equivalent clean sand normalized cone resistance
FS:	Factor of safety against liquefaction
e_v (%):	Post-liquefaction volumentric strain
DF:	e_v depth weighting factor
Settlement:	Calculated settlement

Converse Consultants
717 South Myrtle Avenue
Monrovia, CA 91016
http://www.converseconsultants.com

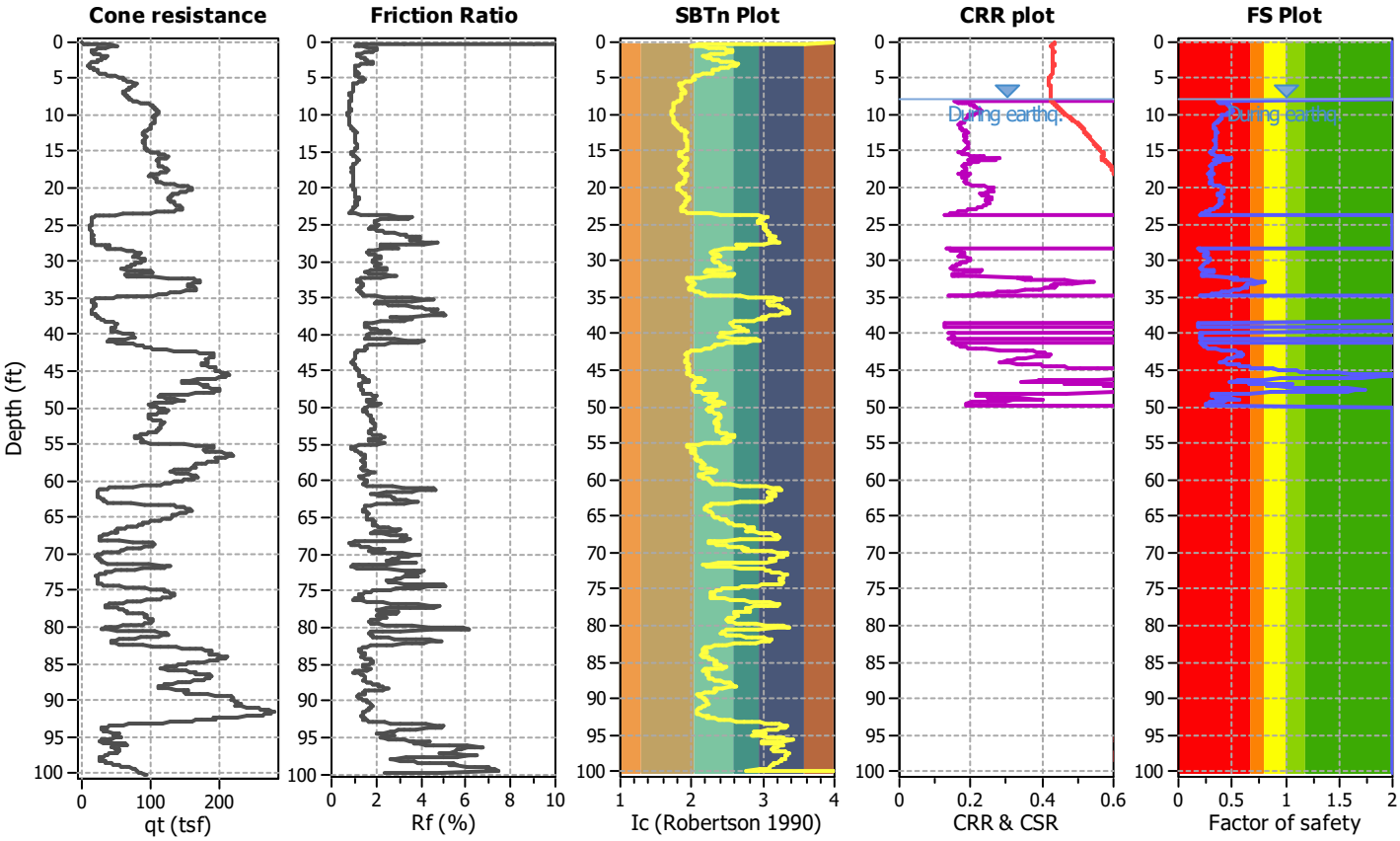
LIQUEFACTION ANALYSIS REPORT

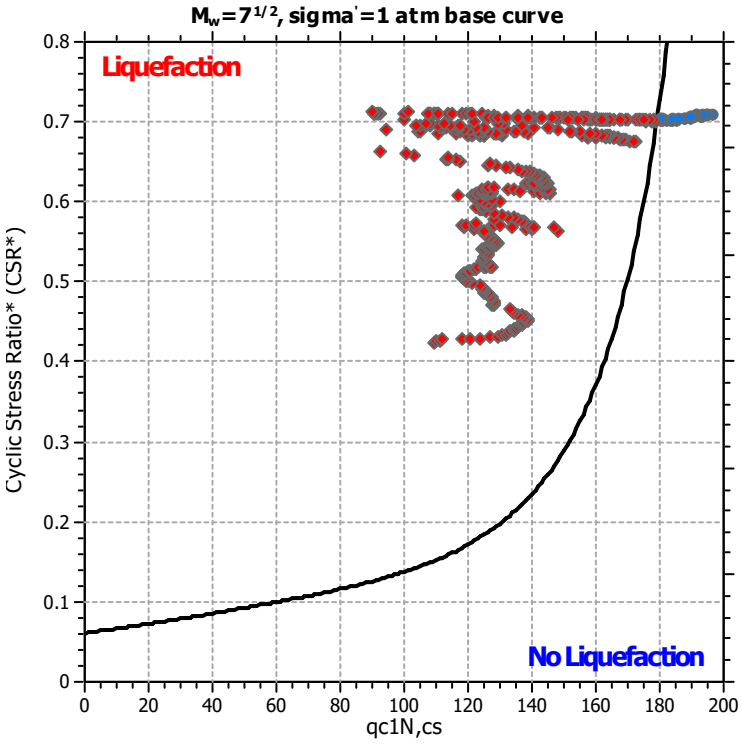
Project title : New Student Housing Project **Location : Cerritos Community College**

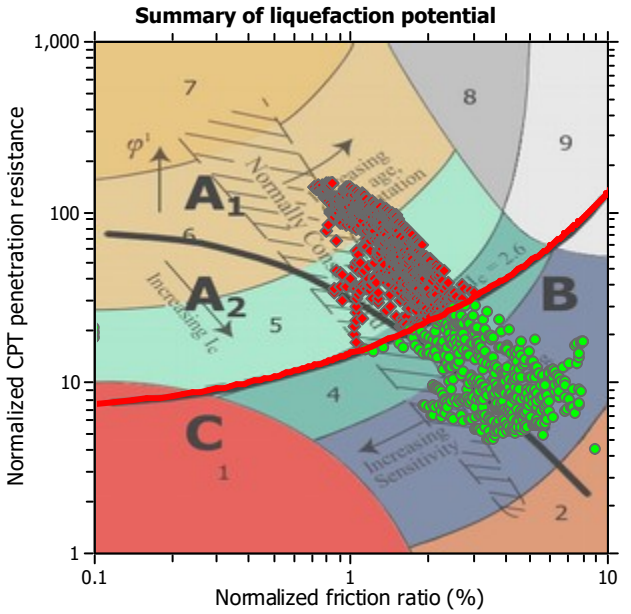
CPT file : CPT-4

Input parameters and analysis data

Analysis method:	B&I (2014)	G.W.T. (in-situ):	38.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	B&I (2014)	G.W.T. (earthq.):	8.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.30	Ic cut-off value:	2.60	Trans. detect. applied:	No	MSF method:	Method based
Peak ground acceleration:	0.74	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		

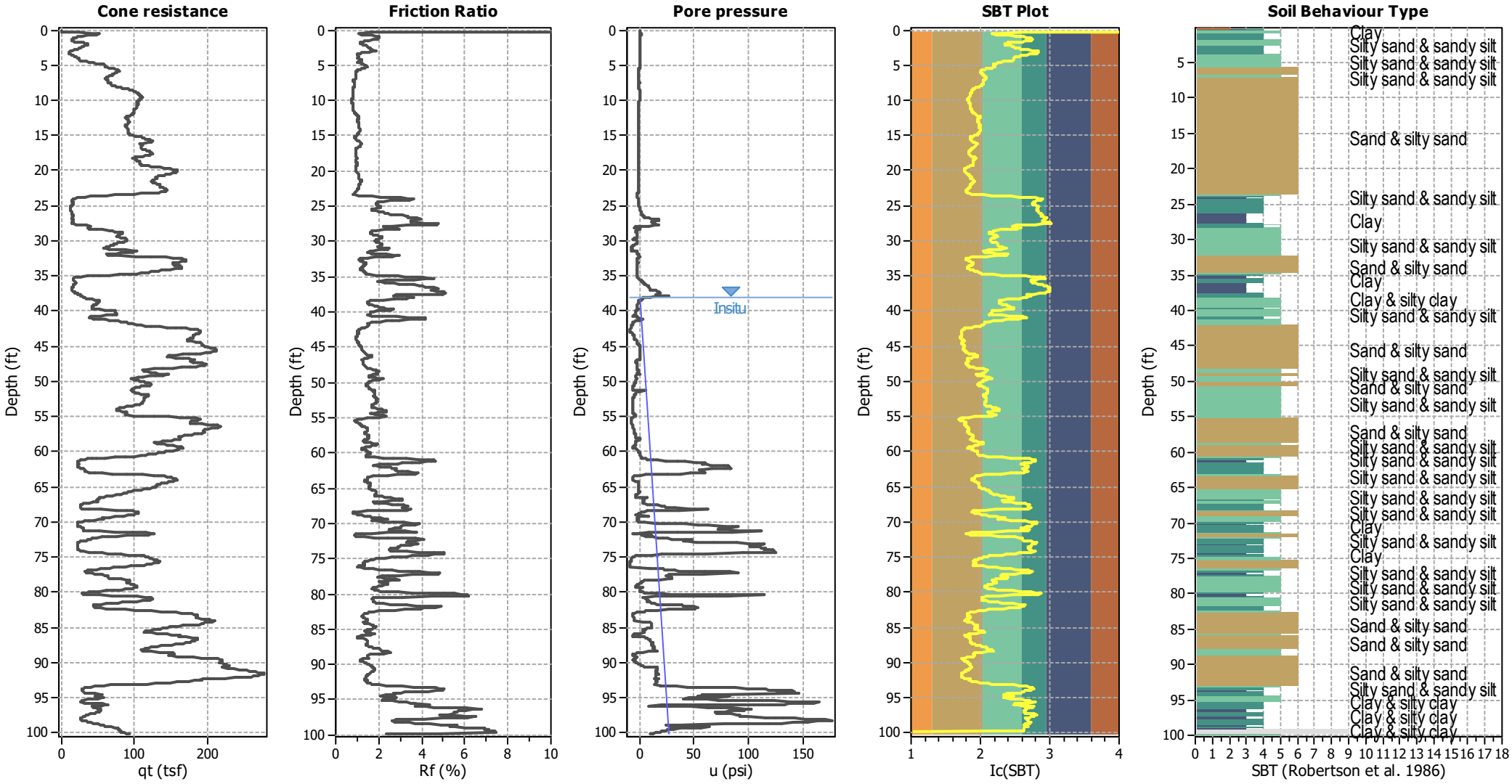






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



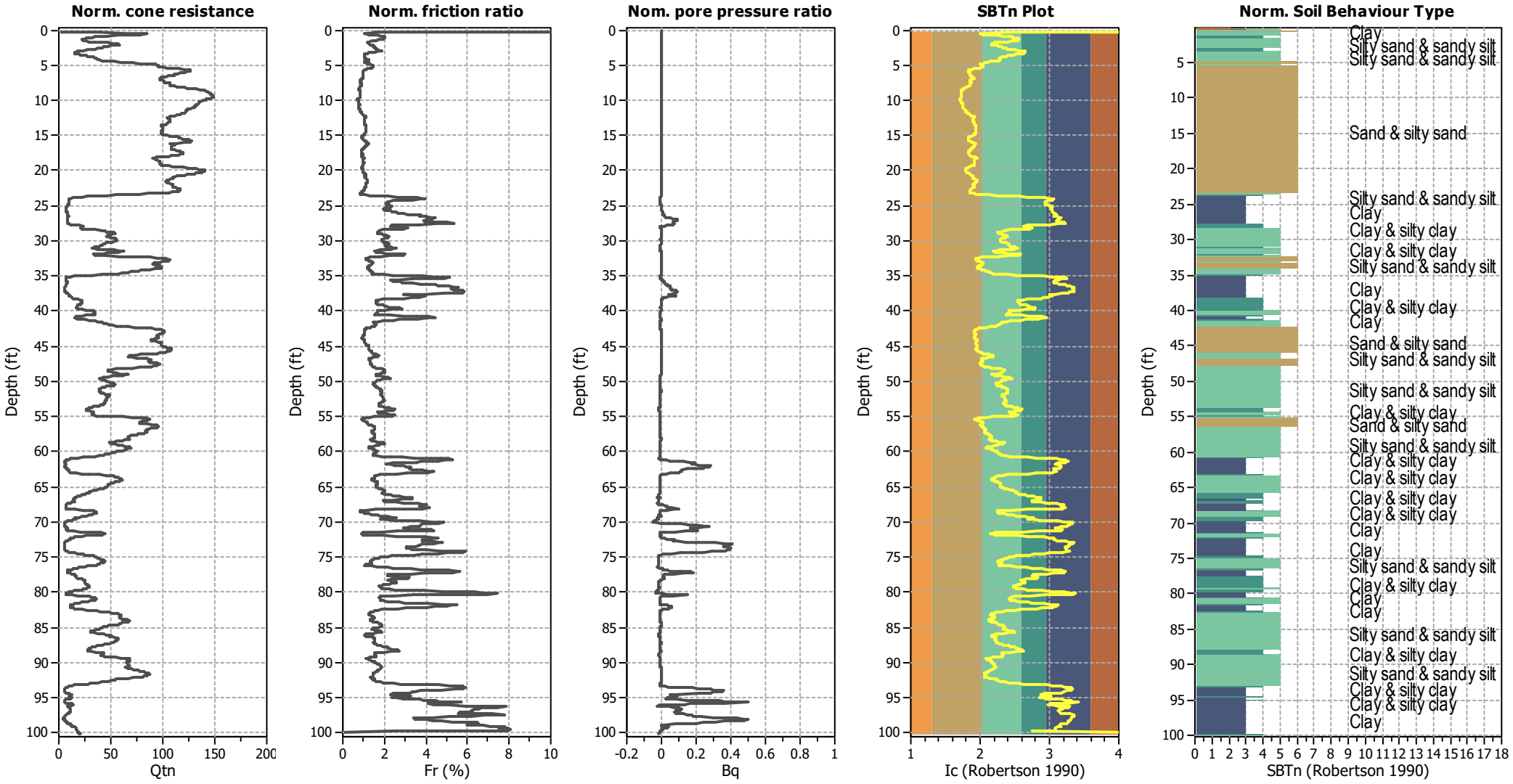
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

CPT basic interpretation plots (normalized)



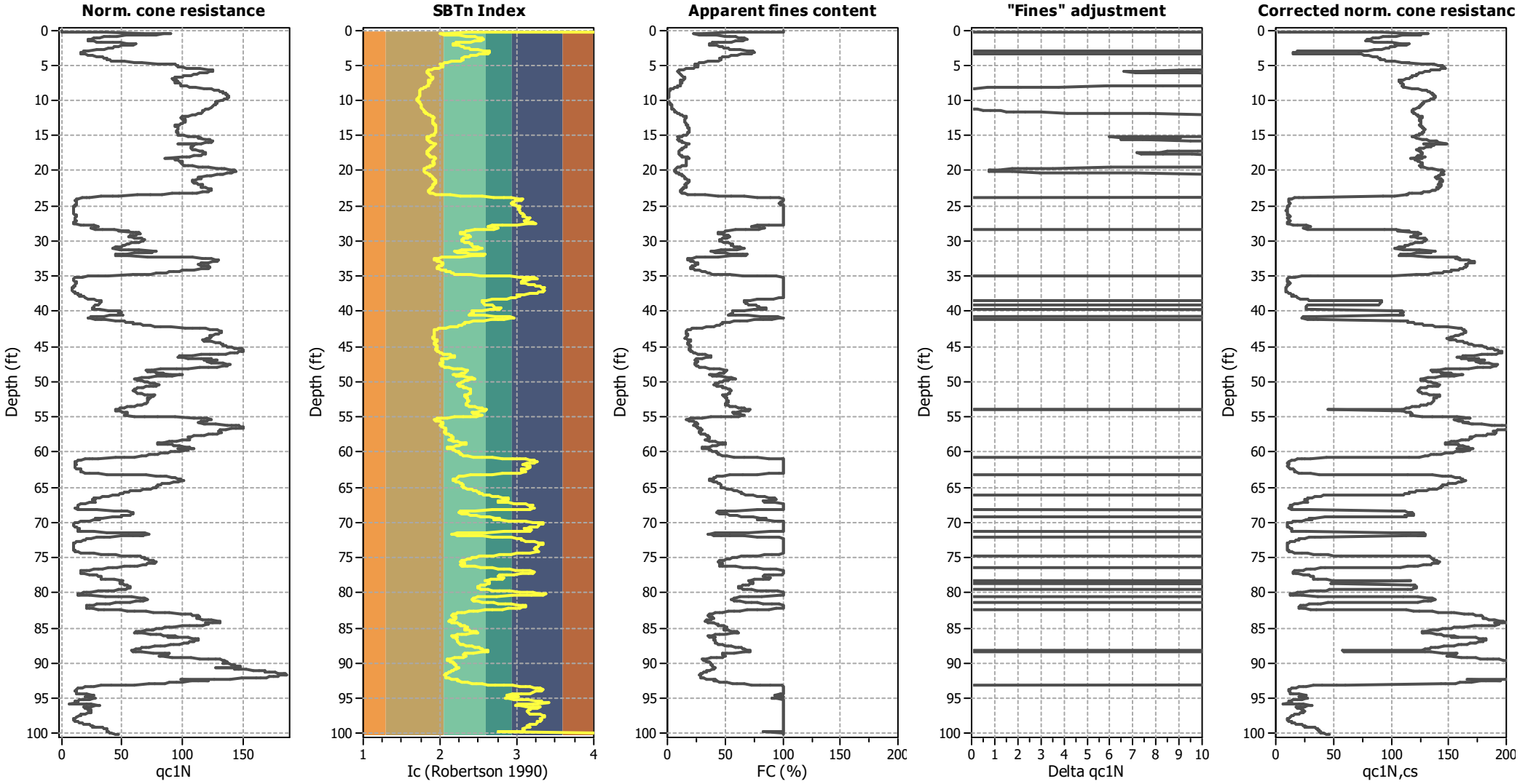
Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

SBTn legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

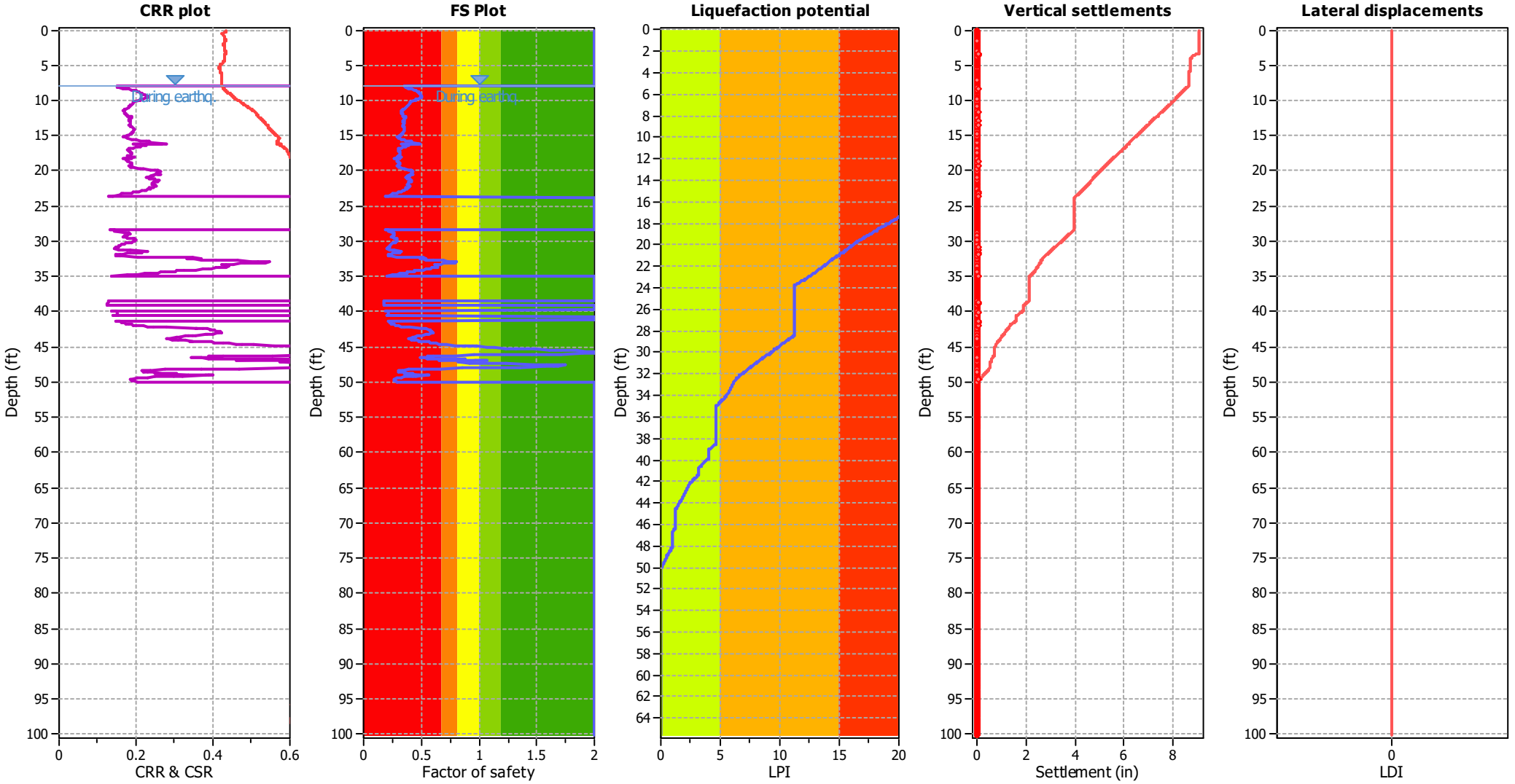
Liquefaction analysis overall plots (intermediate results)



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

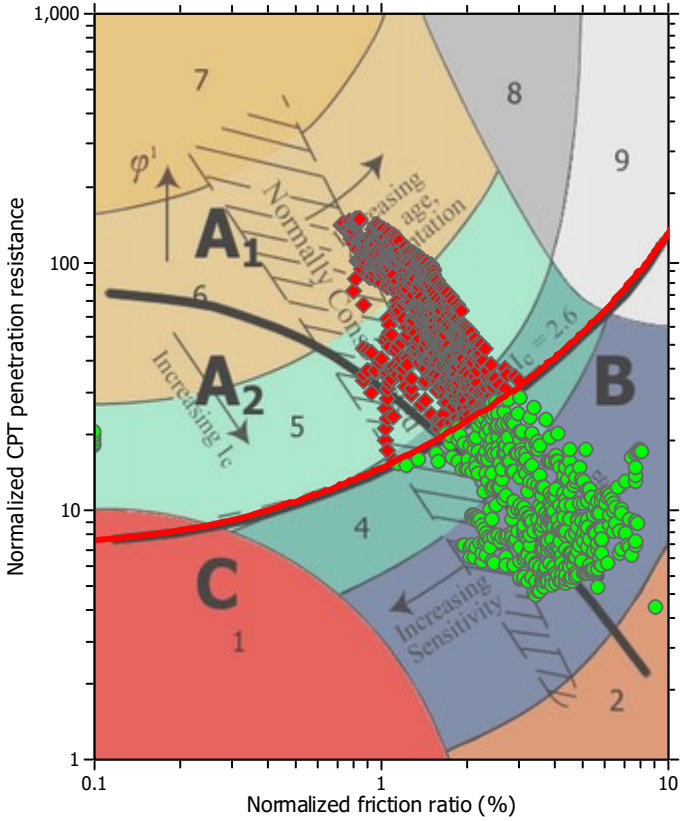
F.S. color scheme

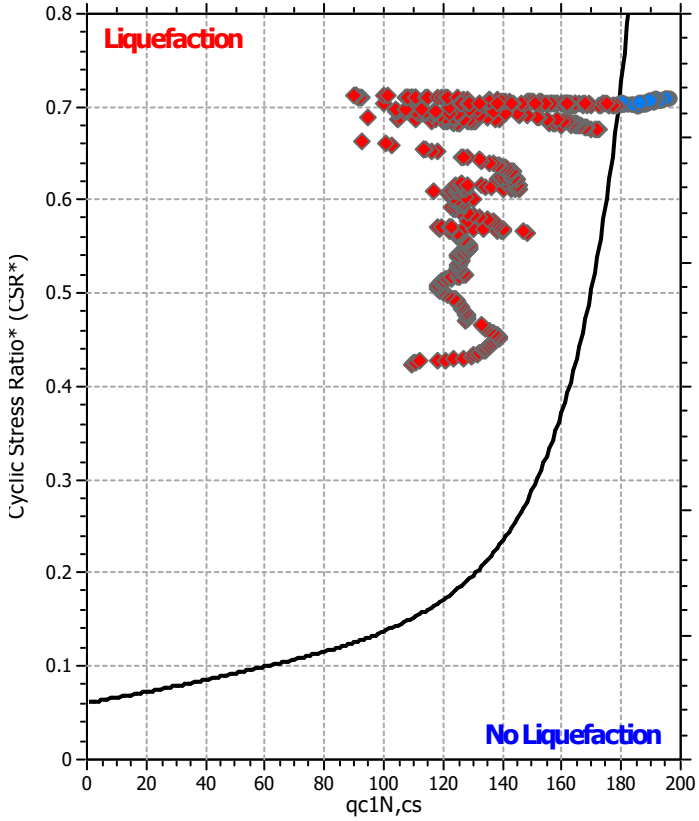
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

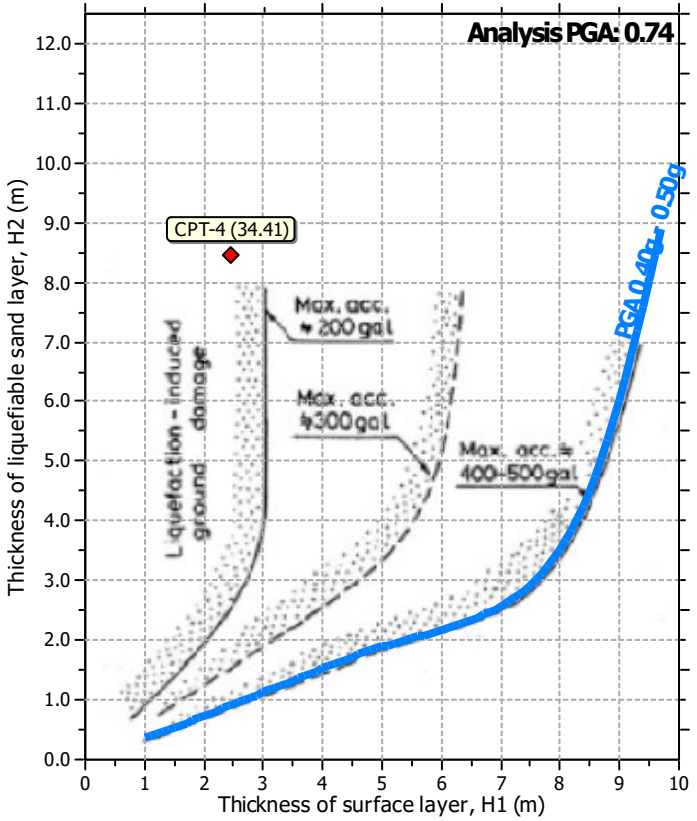
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots



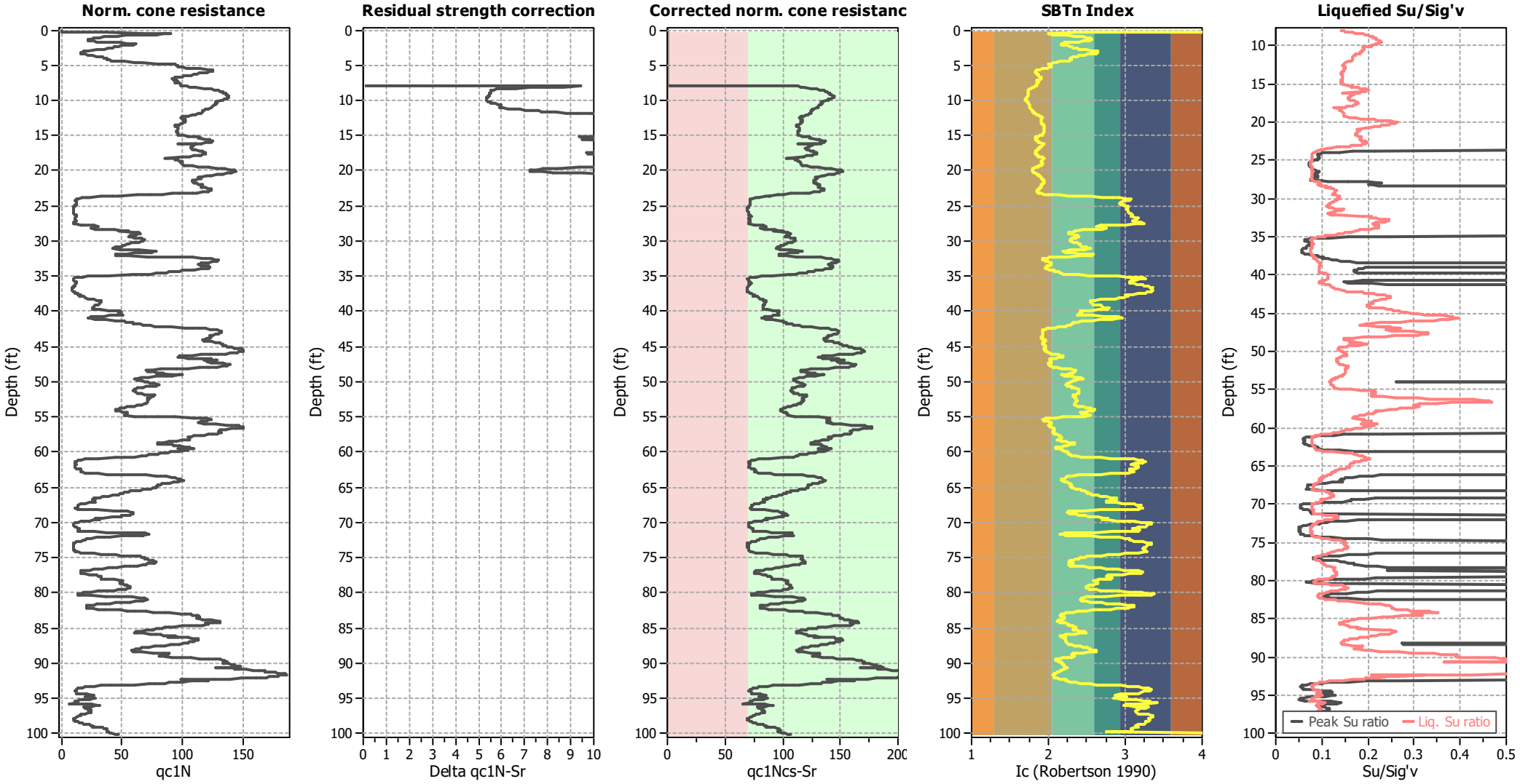




Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

Check for strength loss plots (Idriss & Boulanger (2008))



Input parameters and analysis data

Analysis method:	B&I (2014)	Depth to GWT (erthq.):	8.00 ft	Fill weight:	N/A
Fines correction method:	B&I (2014)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.30	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.74	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	38.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

:: Liquefaction Potential Index calculation data ::

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
0.09	2.00	0.00	9.99	0.05	0.00	0.14	2.00	0.00	9.98	0.05	0.00
0.20	2.00	0.00	9.97	0.06	0.00	0.29	2.00	0.00	9.96	0.09	0.00
0.34	2.00	0.00	9.95	0.04	0.00	0.40	2.00	0.00	9.94	0.06	0.00
0.47	2.00	0.00	9.93	0.07	0.00	0.57	2.00	0.00	9.91	0.10	0.00
0.60	2.00	0.00	9.91	0.03	0.00	0.67	2.00	0.00	9.90	0.07	0.00
0.73	2.00	0.00	9.89	0.05	0.00	0.80	2.00	0.00	9.88	0.08	0.00
0.88	2.00	0.00	9.87	0.07	0.00	0.93	2.00	0.00	9.86	0.05	0.00
1.00	2.00	0.00	9.85	0.07	0.00	1.05	2.00	0.00	9.84	0.05	0.00
1.14	2.00	0.00	9.83	0.09	0.00	1.18	2.00	0.00	9.82	0.04	0.00
1.25	2.00	0.00	9.81	0.07	0.00	1.34	2.00	0.00	9.80	0.08	0.00
1.40	2.00	0.00	9.79	0.07	0.00	1.45	2.00	0.00	9.78	0.04	0.00
1.55	2.00	0.00	9.76	0.10	0.00	1.59	2.00	0.00	9.76	0.04	0.00
1.66	2.00	0.00	9.75	0.07	0.00	1.71	2.00	0.00	9.74	0.05	0.00
1.79	2.00	0.00	9.73	0.08	0.00	1.84	2.00	0.00	9.72	0.06	0.00
1.91	2.00	0.00	9.71	0.07	0.00	1.98	2.00	0.00	9.70	0.07	0.00
2.05	2.00	0.00	9.69	0.07	0.00	2.11	2.00	0.00	9.68	0.06	0.00
2.17	2.00	0.00	9.67	0.06	0.00	2.26	2.00	0.00	9.66	0.09	0.00
2.30	2.00	0.00	9.65	0.04	0.00	2.38	2.00	0.00	9.64	0.08	0.00
2.44	2.00	0.00	9.63	0.06	0.00	2.52	2.00	0.00	9.62	0.08	0.00
2.59	2.00	0.00	9.61	0.06	0.00	2.64	2.00	0.00	9.60	0.05	0.00
2.69	2.00	0.00	9.59	0.05	0.00	2.76	2.00	0.00	9.58	0.07	0.00
2.83	2.00	0.00	9.57	0.07	0.00	2.91	2.00	0.00	9.56	0.07	0.00
2.96	2.00	0.00	9.55	0.05	0.00	3.02	2.00	0.00	9.54	0.07	0.00
3.08	2.00	0.00	9.53	0.06	0.00	3.16	2.00	0.00	9.52	0.07	0.00
3.25	2.00	0.00	9.51	0.09	0.00	3.31	2.00	0.00	9.50	0.07	0.00
3.35	2.00	0.00	9.49	0.04	0.00	3.42	2.00	0.00	9.48	0.07	0.00
3.48	2.00	0.00	9.47	0.06	0.00	3.58	2.00	0.00	9.45	0.10	0.00
3.62	2.00	0.00	9.45	0.04	0.00	3.68	2.00	0.00	9.44	0.06	0.00
3.77	2.00	0.00	9.43	0.09	0.00	3.83	2.00	0.00	9.42	0.06	0.00
3.89	2.00	0.00	9.41	0.06	0.00	3.94	2.00	0.00	9.40	0.05	0.00
4.01	2.00	0.00	9.39	0.07	0.00	4.08	2.00	0.00	9.38	0.07	0.00
4.15	2.00	0.00	9.37	0.07	0.00	4.21	2.00	0.00	9.36	0.05	0.00
4.29	2.00	0.00	9.35	0.08	0.00	4.35	2.00	0.00	9.34	0.07	0.00
4.41	2.00	0.00	9.33	0.05	0.00	4.47	2.00	0.00	9.32	0.06	0.00
4.54	2.00	0.00	9.31	0.07	0.00	4.60	2.00	0.00	9.30	0.06	0.00
4.67	2.00	0.00	9.29	0.07	0.00	4.74	2.00	0.00	9.28	0.07	0.00
4.82	2.00	0.00	9.27	0.08	0.00	4.87	2.00	0.00	9.26	0.05	0.00
4.92	2.00	0.00	9.25	0.05	0.00	4.99	2.00	0.00	9.24	0.07	0.00
5.10	2.00	0.00	9.22	0.11	0.00	5.14	2.00	0.00	9.22	0.04	0.00
5.19	2.00	0.00	9.21	0.05	0.00	5.26	2.00	0.00	9.20	0.07	0.00
5.32	2.00	0.00	9.19	0.06	0.00	5.41	2.00	0.00	9.18	0.09	0.00
5.45	2.00	0.00	9.17	0.04	0.00	5.51	2.00	0.00	9.16	0.06	0.00
5.61	2.00	0.00	9.15	0.09	0.00	5.66	2.00	0.00	9.14	0.05	0.00
5.72	2.00	0.00	9.13	0.07	0.00	5.78	2.00	0.00	9.12	0.06	0.00
5.85	2.00	0.00	9.11	0.07	0.00	5.92	2.00	0.00	9.10	0.07	0.00
5.98	2.00	0.00	9.09	0.06	0.00	6.04	2.00	0.00	9.08	0.07	0.00
6.13	2.00	0.00	9.07	0.09	0.00	6.19	2.00	0.00	9.06	0.06	0.00
6.24	2.00	0.00	9.05	0.05	0.00	6.32	2.00	0.00	9.04	0.08	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
6.40	2.00	0.00	9.03	0.07	0.00	6.44	2.00	0.00	9.02	0.05	0.00
6.51	2.00	0.00	9.01	0.07	0.00	6.59	2.00	0.00	9.00	0.08	0.00
6.63	2.00	0.00	8.99	0.04	0.00	6.70	2.00	0.00	8.98	0.07	0.00
6.77	2.00	0.00	8.97	0.07	0.00	6.86	2.00	0.00	8.96	0.08	0.00
6.89	2.00	0.00	8.95	0.04	0.00	6.97	2.00	0.00	8.94	0.08	0.00
7.03	2.00	0.00	8.93	0.06	0.00	7.09	2.00	0.00	8.92	0.06	0.00
7.18	2.00	0.00	8.91	0.09	0.00	7.22	2.00	0.00	8.90	0.04	0.00
7.29	2.00	0.00	8.89	0.07	0.00	7.36	2.00	0.00	8.88	0.07	0.00
7.42	2.00	0.00	8.87	0.06	0.00	7.48	2.00	0.00	8.86	0.06	0.00
7.55	2.00	0.00	8.85	0.07	0.00	7.62	2.00	0.00	8.84	0.07	0.00
7.70	2.00	0.00	8.83	0.07	0.00	7.74	2.00	0.00	8.82	0.05	0.00
7.84	2.00	0.00	8.80	0.10	0.00	7.90	2.00	0.00	8.80	0.05	0.00
7.95	2.00	0.00	8.79	0.06	0.00	8.03	0.36	0.64	8.78	0.08	0.14
8.11	0.36	0.64	8.76	0.08	0.14	8.14	0.36	0.64	8.76	0.03	0.05
8.21	0.36	0.64	8.75	0.07	0.12	8.30	0.39	0.61	8.73	0.09	0.15
8.34	0.40	0.60	8.73	0.04	0.06	8.40	0.42	0.58	8.72	0.06	0.09
8.47	0.44	0.56	8.71	0.07	0.10	8.55	0.45	0.55	8.70	0.09	0.12
8.62	0.46	0.54	8.69	0.07	0.09	8.67	0.47	0.53	8.68	0.06	0.08
8.74	0.47	0.53	8.67	0.06	0.09	8.82	0.48	0.52	8.66	0.09	0.12
8.88	0.48	0.52	8.65	0.06	0.08	8.94	0.48	0.52	8.64	0.05	0.07
9.00	0.48	0.52	8.63	0.06	0.08	9.06	0.49	0.51	8.62	0.07	0.09
9.15	0.49	0.51	8.61	0.08	0.11	9.21	0.49	0.51	8.60	0.06	0.08
9.26	0.50	0.50	8.59	0.05	0.06	9.33	0.50	0.50	8.58	0.07	0.09
9.39	0.51	0.49	8.57	0.07	0.09	9.46	0.51	0.49	8.56	0.07	0.09
9.55	0.51	0.49	8.54	0.09	0.11	9.62	0.50	0.50	8.53	0.07	0.09
9.66	0.49	0.51	8.53	0.04	0.05	9.72	0.48	0.52	8.52	0.06	0.09
9.78	0.47	0.53	8.51	0.05	0.08	9.87	0.46	0.54	8.50	0.09	0.13
9.93	0.45	0.55	8.49	0.06	0.08	9.99	0.45	0.55	8.48	0.06	0.08
10.05	0.44	0.56	8.47	0.07	0.10	10.13	0.41	0.59	8.46	0.07	0.11
10.21	0.41	0.59	8.44	0.09	0.13	10.26	0.40	0.60	8.44	0.04	0.06
10.31	0.41	0.59	8.43	0.05	0.08	10.38	0.40	0.60	8.42	0.08	0.12
10.44	0.40	0.60	8.41	0.06	0.09	10.52	0.39	0.61	8.40	0.08	0.12
10.57	0.39	0.61	8.39	0.05	0.08	10.63	0.39	0.61	8.38	0.06	0.10
10.70	0.38	0.62	8.37	0.06	0.10	10.79	0.38	0.62	8.36	0.09	0.14
10.83	0.38	0.62	8.35	0.05	0.08	10.90	0.37	0.63	8.34	0.06	0.10
10.98	0.37	0.63	8.33	0.09	0.14	11.03	0.37	0.63	8.32	0.04	0.07
11.09	0.36	0.64	8.31	0.06	0.10	11.16	0.35	0.65	8.30	0.06	0.11
11.23	0.34	0.66	8.29	0.07	0.12	11.30	0.34	0.66	8.28	0.08	0.13
11.36	0.33	0.67	8.27	0.05	0.09	11.43	0.33	0.67	8.26	0.07	0.12
11.51	0.33	0.67	8.25	0.08	0.14	11.55	0.33	0.67	8.24	0.05	0.08
11.62	0.33	0.67	8.23	0.07	0.11	11.71	0.33	0.67	8.21	0.10	0.16
11.74	0.33	0.67	8.21	0.03	0.05	11.82	0.33	0.67	8.20	0.08	0.13
11.88	0.34	0.66	8.19	0.06	0.09	11.95	0.34	0.66	8.18	0.07	0.12
12.01	0.34	0.66	8.17	0.06	0.10	12.08	0.34	0.66	8.16	0.07	0.11
12.17	0.34	0.66	8.15	0.09	0.14	12.24	0.35	0.65	8.13	0.07	0.11
12.28	0.36	0.64	8.13	0.04	0.07	12.35	0.36	0.64	8.12	0.07	0.11
12.41	0.37	0.63	8.11	0.06	0.09	12.50	0.36	0.64	8.10	0.09	0.15
12.54	0.35	0.65	8.09	0.04	0.07	12.61	0.35	0.65	8.08	0.07	0.11

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
12.69	0.35	0.65	8.07	0.08	0.13	12.74	0.35	0.65	8.06	0.05	0.08
12.80	0.35	0.65	8.05	0.06	0.09	12.90	0.34	0.66	8.03	0.10	0.16
12.94	0.35	0.65	8.03	0.04	0.07	13.01	0.35	0.65	8.02	0.07	0.11
13.06	0.35	0.65	8.01	0.05	0.08	13.14	0.35	0.65	8.00	0.08	0.13
13.19	0.35	0.65	7.99	0.05	0.08	13.26	0.35	0.65	7.98	0.07	0.11
13.32	0.35	0.65	7.97	0.06	0.09	13.42	0.34	0.66	7.95	0.10	0.17
13.47	0.34	0.66	7.95	0.05	0.08	13.53	0.34	0.66	7.94	0.05	0.08
13.58	0.34	0.66	7.93	0.06	0.09	13.68	0.34	0.66	7.92	0.10	0.15
13.73	0.34	0.66	7.91	0.05	0.08	13.79	0.35	0.65	7.90	0.07	0.11
13.87	0.35	0.65	7.89	0.07	0.11	13.93	0.35	0.65	7.88	0.07	0.10
14.00	0.35	0.65	7.87	0.07	0.10	14.05	0.36	0.64	7.86	0.05	0.07
14.12	0.36	0.64	7.85	0.07	0.12	14.20	0.35	0.65	7.84	0.07	0.11
14.25	0.35	0.65	7.83	0.05	0.08	14.31	0.35	0.65	7.82	0.06	0.09
14.40	0.35	0.65	7.81	0.09	0.14	14.46	0.34	0.66	7.80	0.06	0.09
14.52	0.34	0.66	7.79	0.06	0.09	14.57	0.34	0.66	7.78	0.05	0.08
14.67	0.34	0.66	7.76	0.10	0.15	14.71	0.33	0.67	7.76	0.04	0.07
14.78	0.33	0.67	7.75	0.07	0.12	14.85	0.32	0.68	7.74	0.07	0.11
14.93	0.32	0.68	7.73	0.07	0.12	14.97	0.32	0.68	7.72	0.05	0.08
15.03	0.31	0.69	7.71	0.06	0.10	15.09	0.30	0.70	7.70	0.06	0.10
15.18	0.29	0.71	7.69	0.09	0.15	15.25	0.30	0.70	7.68	0.07	0.11
15.30	0.31	0.69	7.67	0.06	0.09	15.38	0.31	0.69	7.66	0.08	0.13
15.45	0.31	0.69	7.65	0.07	0.11	15.50	0.33	0.67	7.64	0.05	0.08
15.56	0.34	0.66	7.63	0.06	0.09	15.62	0.35	0.65	7.62	0.06	0.10
15.70	0.37	0.63	7.61	0.08	0.11	15.76	0.40	0.60	7.60	0.05	0.08
15.82	0.41	0.59	7.59	0.06	0.09	15.91	0.42	0.58	7.58	0.09	0.12
15.96	0.41	0.59	7.57	0.04	0.06	16.02	0.41	0.59	7.56	0.06	0.09
16.10	0.49	0.51	7.55	0.08	0.09	16.15	0.33	0.67	7.54	0.05	0.08
16.23	0.47	0.53	7.53	0.08	0.10	16.29	0.40	0.60	7.52	0.05	0.07
16.35	0.39	0.61	7.51	0.06	0.09	16.42	0.38	0.62	7.50	0.07	0.10
16.47	0.37	0.63	7.49	0.05	0.07	16.55	0.37	0.63	7.48	0.08	0.11
16.61	0.35	0.65	7.47	0.06	0.08	16.67	0.34	0.66	7.46	0.06	0.10
16.75	0.33	0.67	7.45	0.08	0.12	16.81	0.32	0.68	7.44	0.06	0.09
16.89	0.31	0.69	7.43	0.08	0.13	16.95	0.30	0.70	7.42	0.06	0.10
17.01	0.30	0.70	7.41	0.05	0.09	17.07	0.30	0.70	7.40	0.06	0.09
17.14	0.31	0.69	7.39	0.07	0.10	17.21	0.31	0.69	7.38	0.08	0.12
17.28	0.31	0.69	7.37	0.07	0.10	17.33	0.31	0.69	7.36	0.05	0.08
17.42	0.31	0.69	7.34	0.09	0.14	17.47	0.32	0.68	7.34	0.05	0.07
17.54	0.32	0.68	7.33	0.07	0.10	17.60	0.32	0.68	7.32	0.06	0.09
17.67	0.31	0.69	7.31	0.07	0.11	17.75	0.31	0.69	7.30	0.08	0.12
17.80	0.31	0.69	7.29	0.05	0.08	17.85	0.30	0.70	7.28	0.05	0.08
17.91	0.30	0.70	7.27	0.06	0.10	17.99	0.29	0.71	7.26	0.08	0.12
18.05	0.30	0.70	7.25	0.06	0.10	18.11	0.33	0.67	7.24	0.06	0.09
18.19	0.27	0.73	7.23	0.08	0.13	18.25	0.32	0.68	7.22	0.06	0.10
18.34	0.29	0.71	7.21	0.08	0.13	18.38	0.29	0.71	7.20	0.04	0.07
18.46	0.29	0.71	7.19	0.08	0.13	18.50	0.29	0.71	7.18	0.04	0.07
18.57	0.29	0.71	7.17	0.07	0.11	18.67	0.30	0.70	7.15	0.10	0.15
18.72	0.30	0.70	7.15	0.05	0.08	18.77	0.30	0.70	7.14	0.05	0.07
18.85	0.31	0.69	7.13	0.08	0.12	18.94	0.31	0.69	7.11	0.09	0.14

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
18.97	0.31	0.69	7.11	0.03	0.04	19.04	0.31	0.69	7.10	0.07	0.11
19.09	0.31	0.69	7.09	0.06	0.08	19.20	0.31	0.69	7.07	0.10	0.15
19.25	0.30	0.70	7.07	0.05	0.08	19.29	0.30	0.70	7.06	0.05	0.07
19.37	0.30	0.70	7.05	0.08	0.12	19.45	0.30	0.70	7.04	0.08	0.12
19.50	0.30	0.70	7.03	0.05	0.07	19.56	0.31	0.69	7.02	0.06	0.09
19.66	0.34	0.66	7.00	0.10	0.14	19.71	0.35	0.65	7.00	0.05	0.07
19.77	0.36	0.64	6.99	0.05	0.07	19.83	0.39	0.61	6.98	0.07	0.09
19.90	0.40	0.60	6.97	0.07	0.09	19.98	0.42	0.58	6.96	0.07	0.09
20.04	0.43	0.57	6.95	0.06	0.07	20.08	0.43	0.57	6.94	0.04	0.05
20.17	0.42	0.58	6.93	0.09	0.11	20.24	0.41	0.59	6.92	0.07	0.08
20.29	0.41	0.59	6.91	0.05	0.06	20.35	0.42	0.58	6.90	0.06	0.07
20.43	0.42	0.58	6.89	0.08	0.10	20.48	0.43	0.57	6.88	0.05	0.06
20.55	0.42	0.58	6.87	0.07	0.09	20.61	0.41	0.59	6.86	0.06	0.07
20.69	0.38	0.62	6.85	0.08	0.11	20.74	0.39	0.61	6.84	0.05	0.06
20.81	0.40	0.60	6.83	0.07	0.09	20.88	0.37	0.63	6.82	0.07	0.09
20.98	0.37	0.63	6.80	0.10	0.13	21.02	0.37	0.63	6.80	0.04	0.06
21.08	0.37	0.63	6.79	0.06	0.08	21.14	0.38	0.62	6.78	0.06	0.08
21.20	0.40	0.60	6.77	0.05	0.06	21.29	0.40	0.60	6.76	0.09	0.11
21.33	0.42	0.58	6.75	0.04	0.04	21.41	0.41	0.59	6.74	0.08	0.10
21.50	0.41	0.59	6.72	0.09	0.11	21.55	0.40	0.60	6.72	0.05	0.06
21.60	0.39	0.61	6.71	0.05	0.06	21.66	0.39	0.61	6.70	0.06	0.08
21.73	0.39	0.61	6.69	0.07	0.08	21.81	0.39	0.61	6.68	0.08	0.09
21.86	0.38	0.62	6.67	0.05	0.07	21.93	0.39	0.61	6.66	0.06	0.08
21.99	0.39	0.61	6.65	0.06	0.08	22.05	0.39	0.61	6.64	0.06	0.08
22.13	0.40	0.60	6.63	0.08	0.09	22.18	0.40	0.60	6.62	0.05	0.07
22.28	0.39	0.61	6.60	0.10	0.12	22.33	0.38	0.62	6.60	0.05	0.06
22.40	0.38	0.62	6.59	0.07	0.08	22.45	0.37	0.63	6.58	0.05	0.06
22.55	0.37	0.63	6.56	0.10	0.13	22.60	0.36	0.64	6.56	0.05	0.07
22.65	0.36	0.64	6.55	0.05	0.06	22.70	0.36	0.64	6.54	0.06	0.07
22.78	0.35	0.65	6.53	0.08	0.10	22.86	0.34	0.66	6.52	0.08	0.11
22.92	0.32	0.68	6.51	0.05	0.07	22.97	0.32	0.68	6.50	0.05	0.07
23.07	0.30	0.70	6.48	0.10	0.14	23.12	0.29	0.71	6.48	0.05	0.08
23.17	0.29	0.71	6.47	0.04	0.06	23.27	0.26	0.74	6.45	0.10	0.15
23.30	0.25	0.75	6.45	0.04	0.05	23.37	0.24	0.76	6.44	0.07	0.10
23.44	0.24	0.76	6.43	0.06	0.09	23.49	0.24	0.76	6.42	0.06	0.08
23.59	0.21	0.79	6.41	0.09	0.14	23.63	0.21	0.79	6.40	0.05	0.08
23.69	0.19	0.81	6.39	0.06	0.09	23.79	2.00	0.00	6.37	0.10	0.00
23.83	2.00	0.00	6.37	0.04	0.00	23.89	2.00	0.00	6.36	0.06	0.00
23.99	2.00	0.00	6.34	0.09	0.00	24.03	2.00	0.00	6.34	0.04	0.00
24.10	2.00	0.00	6.33	0.08	0.00	24.16	2.00	0.00	6.32	0.05	0.00
24.23	2.00	0.00	6.31	0.07	0.00	24.32	2.00	0.00	6.29	0.09	0.00
24.36	2.00	0.00	6.29	0.05	0.00	24.41	2.00	0.00	6.28	0.05	0.00
24.50	2.00	0.00	6.27	0.09	0.00	24.58	2.00	0.00	6.25	0.07	0.00
24.61	2.00	0.00	6.25	0.04	0.00	24.67	2.00	0.00	6.24	0.06	0.00
24.78	2.00	0.00	6.22	0.10	0.00	24.83	2.00	0.00	6.22	0.05	0.00
24.89	2.00	0.00	6.21	0.06	0.00	24.95	2.00	0.00	6.20	0.06	0.00
25.01	2.00	0.00	6.19	0.06	0.00	25.07	2.00	0.00	6.18	0.06	0.00
25.15	2.00	0.00	6.17	0.07	0.00	25.21	2.00	0.00	6.16	0.06	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
25.29	2.00	0.00	6.15	0.08	0.00	25.33	2.00	0.00	6.14	0.05	0.00
25.41	2.00	0.00	6.13	0.08	0.00	25.46	2.00	0.00	6.12	0.06	0.00
25.54	2.00	0.00	6.11	0.08	0.00	25.62	2.00	0.00	6.10	0.08	0.00
25.66	2.00	0.00	6.09	0.04	0.00	25.72	2.00	0.00	6.08	0.06	0.00
25.80	2.00	0.00	6.07	0.08	0.00	25.85	2.00	0.00	6.06	0.05	0.00
25.95	2.00	0.00	6.05	0.10	0.00	26.00	2.00	0.00	6.04	0.05	0.00
26.07	2.00	0.00	6.03	0.06	0.00	26.12	2.00	0.00	6.02	0.05	0.00
26.20	2.00	0.00	6.01	0.09	0.00	26.27	2.00	0.00	6.00	0.06	0.00
26.32	2.00	0.00	5.99	0.05	0.00	26.38	2.00	0.00	5.98	0.06	0.00
26.48	2.00	0.00	5.96	0.09	0.00	26.52	2.00	0.00	5.96	0.04	0.00
26.59	2.00	0.00	5.95	0.07	0.00	26.65	2.00	0.00	5.94	0.06	0.00
26.73	2.00	0.00	5.93	0.09	0.00	26.79	2.00	0.00	5.92	0.06	0.00
26.84	2.00	0.00	5.91	0.05	0.00	26.91	2.00	0.00	5.90	0.07	0.00
27.00	2.00	0.00	5.89	0.09	0.00	27.04	2.00	0.00	5.88	0.04	0.00
27.11	2.00	0.00	5.87	0.07	0.00	27.17	2.00	0.00	5.86	0.06	0.00
27.23	2.00	0.00	5.85	0.06	0.00	27.30	2.00	0.00	5.84	0.07	0.00
27.36	2.00	0.00	5.83	0.06	0.00	27.43	2.00	0.00	5.82	0.07	0.00
27.52	2.00	0.00	5.81	0.09	0.00	27.57	2.00	0.00	5.80	0.05	0.00
27.63	2.00	0.00	5.79	0.06	0.00	27.72	2.00	0.00	5.78	0.09	0.00
27.76	2.00	0.00	5.77	0.04	0.00	27.84	2.00	0.00	5.76	0.08	0.00
27.89	2.00	0.00	5.75	0.05	0.00	27.99	2.00	0.00	5.73	0.10	0.00
28.03	2.00	0.00	5.73	0.04	0.00	28.09	2.00	0.00	5.72	0.06	0.00
28.19	2.00	0.00	5.70	0.10	0.00	28.25	2.00	0.00	5.69	0.06	0.00
28.31	2.00	0.00	5.69	0.06	0.00	28.36	0.19	0.81	5.68	0.05	0.07
28.42	0.21	0.79	5.67	0.06	0.08	28.48	0.22	0.78	5.66	0.06	0.08
28.55	0.24	0.76	5.65	0.08	0.10	28.61	0.21	0.79	5.64	0.06	0.08
28.70	0.25	0.75	5.63	0.08	0.10	28.75	0.26	0.74	5.62	0.05	0.07
28.83	0.26	0.74	5.61	0.08	0.11	28.89	0.27	0.73	5.60	0.05	0.06
28.96	0.27	0.73	5.59	0.07	0.09	29.02	0.27	0.73	5.58	0.06	0.08
29.08	0.26	0.74	5.57	0.06	0.08	29.17	0.26	0.74	5.55	0.09	0.11
29.22	0.25	0.75	5.55	0.05	0.07	29.28	0.25	0.75	5.54	0.06	0.07
29.35	0.26	0.74	5.53	0.07	0.08	29.41	0.24	0.76	5.52	0.07	0.09
29.48	0.25	0.75	5.51	0.07	0.08	29.54	0.26	0.74	5.50	0.06	0.07
29.63	0.28	0.72	5.48	0.09	0.11	29.68	0.28	0.72	5.48	0.05	0.06
29.73	0.29	0.71	5.47	0.06	0.07	29.79	0.29	0.71	5.46	0.06	0.07
29.89	0.29	0.71	5.44	0.10	0.11	29.93	0.29	0.71	5.44	0.04	0.04
30.00	0.29	0.71	5.43	0.08	0.09	30.05	0.28	0.72	5.42	0.05	0.06
30.14	0.27	0.73	5.41	0.09	0.10	30.21	0.26	0.74	5.40	0.07	0.09
30.26	0.26	0.74	5.39	0.05	0.06	30.32	0.25	0.75	5.38	0.06	0.07
30.41	0.24	0.76	5.37	0.09	0.11	30.46	0.24	0.76	5.36	0.06	0.07
30.52	0.24	0.76	5.35	0.06	0.07	30.59	0.23	0.77	5.34	0.07	0.09
30.67	0.23	0.77	5.33	0.08	0.10	30.71	0.22	0.78	5.32	0.04	0.05
30.78	0.22	0.78	5.31	0.07	0.08	30.89	0.21	0.79	5.29	0.11	0.13
30.92	0.21	0.79	5.29	0.04	0.04	30.99	0.21	0.79	5.28	0.07	0.09
31.04	0.21	0.79	5.27	0.05	0.06	31.10	0.20	0.80	5.26	0.06	0.08
31.20	0.22	0.78	5.25	0.10	0.12	31.24	0.24	0.76	5.24	0.04	0.05
31.30	0.27	0.73	5.23	0.06	0.07	31.37	0.33	0.67	5.22	0.07	0.07
31.46	0.33	0.67	5.20	0.09	0.10	31.52	0.31	0.69	5.20	0.05	0.06

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
31.56	0.31	0.69	5.19	0.04	0.05	31.66	0.26	0.74	5.17	0.10	0.12
31.73	0.25	0.75	5.16	0.06	0.07	31.77	0.24	0.76	5.16	0.05	0.06
31.82	0.23	0.77	5.15	0.05	0.06	31.93	0.21	0.79	5.13	0.11	0.13
31.96	0.21	0.79	5.13	0.03	0.04	32.02	0.21	0.79	5.12	0.06	0.08
32.11	0.22	0.78	5.11	0.08	0.10	32.15	0.24	0.76	5.10	0.05	0.06
32.22	0.30	0.70	5.09	0.07	0.08	32.31	0.51	0.49	5.08	0.09	0.07
32.35	0.51	0.49	5.07	0.04	0.03	32.44	0.55	0.45	5.06	0.09	0.06
32.48	0.49	0.51	5.05	0.04	0.03	32.58	0.51	0.49	5.03	0.10	0.08
32.65	0.54	0.46	5.02	0.06	0.04	32.70	0.60	0.40	5.02	0.05	0.03
32.75	0.69	0.31	5.01	0.05	0.02	32.82	0.73	0.27	5.00	0.07	0.03
32.91	0.77	0.23	4.98	0.09	0.03	32.94	0.81	0.19	4.98	0.03	0.01
33.01	0.79	0.21	4.97	0.07	0.02	33.10	0.71	0.29	4.95	0.09	0.04
33.15	0.69	0.31	4.95	0.05	0.02	33.22	0.66	0.34	4.94	0.06	0.03
33.28	0.64	0.36	4.93	0.06	0.03	33.34	0.62	0.38	4.92	0.06	0.03
33.43	0.64	0.36	4.90	0.10	0.05	33.48	0.64	0.36	4.90	0.05	0.02
33.53	0.65	0.35	4.89	0.05	0.03	33.62	0.64	0.36	4.88	0.09	0.05
33.67	0.61	0.39	4.87	0.04	0.02	33.75	0.61	0.39	4.86	0.08	0.05
33.80	0.60	0.40	4.85	0.05	0.03	33.88	0.58	0.42	4.84	0.08	0.05
33.94	0.57	0.43	4.83	0.06	0.04	34.00	0.54	0.46	4.82	0.07	0.05
34.06	0.52	0.48	4.81	0.06	0.04	34.14	0.47	0.53	4.80	0.07	0.06
34.21	0.45	0.55	4.79	0.07	0.06	34.26	0.44	0.56	4.78	0.05	0.04
34.35	0.40	0.60	4.76	0.10	0.08	34.42	0.38	0.62	4.75	0.07	0.06
34.46	0.37	0.63	4.75	0.03	0.03	34.53	0.34	0.66	4.74	0.07	0.07
34.59	0.32	0.68	4.73	0.06	0.06	34.66	0.29	0.71	4.72	0.07	0.07
34.72	0.28	0.72	4.71	0.05	0.05	34.79	0.25	0.75	4.70	0.07	0.08
34.88	0.20	0.80	4.68	0.09	0.11	34.92	2.00	0.00	4.68	0.04	0.00
34.98	2.00	0.00	4.67	0.05	0.00	35.04	2.00	0.00	4.66	0.07	0.00
35.13	2.00	0.00	4.65	0.08	0.00	35.19	2.00	0.00	4.64	0.06	0.00
35.24	2.00	0.00	4.63	0.05	0.00	35.33	2.00	0.00	4.62	0.10	0.00
35.39	2.00	0.00	4.61	0.06	0.00	35.44	2.00	0.00	4.60	0.05	0.00
35.51	2.00	0.00	4.59	0.07	0.00	35.57	2.00	0.00	4.58	0.06	0.00
35.65	2.00	0.00	4.57	0.08	0.00	35.71	2.00	0.00	4.56	0.05	0.00
35.79	2.00	0.00	4.55	0.09	0.00	35.84	2.00	0.00	4.54	0.05	0.00
35.91	2.00	0.00	4.53	0.07	0.00	35.97	2.00	0.00	4.52	0.05	0.00
36.02	2.00	0.00	4.51	0.06	0.00	36.11	2.00	0.00	4.50	0.09	0.00
36.17	2.00	0.00	4.49	0.06	0.00	36.24	2.00	0.00	4.48	0.07	0.00
36.32	2.00	0.00	4.46	0.08	0.00	36.38	2.00	0.00	4.46	0.06	0.00
36.43	2.00	0.00	4.45	0.05	0.00	36.49	2.00	0.00	4.44	0.06	0.00
36.56	2.00	0.00	4.43	0.07	0.00	36.65	2.00	0.00	4.41	0.09	0.00
36.69	2.00	0.00	4.41	0.04	0.00	36.78	2.00	0.00	4.39	0.09	0.00
36.85	2.00	0.00	4.38	0.07	0.00	36.88	2.00	0.00	4.38	0.03	0.00
36.95	2.00	0.00	4.37	0.07	0.00	37.01	2.00	0.00	4.36	0.06	0.00
37.11	2.00	0.00	4.34	0.10	0.00	37.17	2.00	0.00	4.34	0.06	0.00
37.22	2.00	0.00	4.33	0.05	0.00	37.28	2.00	0.00	4.32	0.06	0.00
37.34	2.00	0.00	4.31	0.06	0.00	37.42	2.00	0.00	4.30	0.09	0.00
37.48	2.00	0.00	4.29	0.06	0.00	37.55	2.00	0.00	4.28	0.07	0.00
37.62	2.00	0.00	4.27	0.07	0.00	37.68	2.00	0.00	4.26	0.05	0.00
37.74	2.00	0.00	4.25	0.06	0.00	37.81	2.00	0.00	4.24	0.07	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
37.87	2.00	0.00	4.23	0.07	0.00	37.94	2.00	0.00	4.22	0.07	0.00
38.01	2.00	0.00	4.21	0.06	0.00	38.08	2.00	0.00	4.20	0.07	0.00
38.13	2.00	0.00	4.19	0.06	0.00	38.20	2.00	0.00	4.18	0.06	0.00
38.26	2.00	0.00	4.17	0.06	0.00	38.36	2.00	0.00	4.15	0.11	0.00
38.39	2.00	0.00	4.15	0.03	0.00	38.46	0.18	0.82	4.14	0.07	0.07
38.52	0.18	0.82	4.13	0.07	0.07	38.60	0.18	0.82	4.12	0.08	0.08
38.67	0.18	0.82	4.11	0.06	0.07	38.73	0.18	0.82	4.10	0.06	0.06
38.80	0.18	0.82	4.09	0.08	0.08	38.86	0.18	0.82	4.08	0.05	0.06
38.92	0.18	0.82	4.07	0.07	0.07	38.99	0.18	0.82	4.06	0.07	0.07
39.04	2.00	0.00	4.05	0.05	0.00	39.11	2.00	0.00	4.04	0.07	0.00
39.18	2.00	0.00	4.03	0.07	0.00	39.25	2.00	0.00	4.02	0.07	0.00
39.33	2.00	0.00	4.01	0.08	0.00	39.40	2.00	0.00	4.00	0.07	0.00
39.44	2.00	0.00	3.99	0.04	0.00	39.51	2.00	0.00	3.98	0.07	0.00
39.60	2.00	0.00	3.96	0.10	0.00	39.66	2.00	0.00	3.96	0.05	0.00
39.72	2.00	0.00	3.95	0.06	0.00	39.77	2.00	0.00	3.94	0.05	0.00
39.84	0.19	0.81	3.93	0.07	0.06	39.91	0.21	0.79	3.92	0.08	0.07
39.97	0.21	0.79	3.91	0.06	0.05	40.03	0.21	0.79	3.90	0.06	0.06
40.12	0.21	0.79	3.89	0.09	0.08	40.19	0.21	0.79	3.88	0.07	0.06
40.24	0.21	0.79	3.87	0.05	0.05	40.31	0.21	0.79	3.86	0.07	0.06
40.38	0.21	0.79	3.85	0.07	0.07	40.45	0.22	0.78	3.84	0.07	0.07
40.49	0.22	0.78	3.83	0.04	0.03	40.56	0.21	0.79	3.82	0.07	0.07
40.63	0.20	0.80	3.81	0.08	0.07	40.70	2.00	0.00	3.80	0.07	0.00
40.76	2.00	0.00	3.79	0.05	0.00	40.82	2.00	0.00	3.78	0.06	0.00
40.90	2.00	0.00	3.77	0.08	0.00	40.96	2.00	0.00	3.76	0.06	0.00
41.02	2.00	0.00	3.75	0.07	0.00	41.09	2.00	0.00	3.74	0.07	0.00
41.16	2.00	0.00	3.73	0.07	0.00	41.21	2.00	0.00	3.72	0.05	0.00
41.31	0.21	0.79	3.70	0.10	0.09	41.36	0.22	0.78	3.70	0.05	0.05
41.42	0.22	0.78	3.69	0.06	0.05	41.47	0.23	0.77	3.68	0.05	0.05
41.56	0.24	0.76	3.67	0.09	0.08	41.63	0.24	0.76	3.66	0.07	0.06
41.68	0.24	0.76	3.65	0.05	0.04	41.73	0.25	0.75	3.64	0.05	0.04
41.82	0.26	0.74	3.63	0.09	0.07	41.87	0.26	0.74	3.62	0.05	0.04
41.94	0.27	0.73	3.61	0.07	0.06	42.04	0.31	0.69	3.59	0.11	0.08
42.09	0.32	0.68	3.59	0.04	0.03	42.15	0.35	0.65	3.58	0.06	0.04
42.20	0.40	0.60	3.57	0.05	0.04	42.29	0.51	0.49	3.56	0.09	0.05
42.33	0.50	0.50	3.55	0.04	0.02	42.41	0.53	0.47	3.54	0.08	0.04
42.47	0.55	0.45	3.53	0.06	0.03	42.55	0.57	0.43	3.51	0.09	0.04
42.60	0.56	0.44	3.51	0.05	0.02	42.67	0.58	0.42	3.50	0.07	0.03
42.73	0.58	0.42	3.49	0.06	0.03	42.81	0.59	0.41	3.47	0.09	0.04
42.88	0.60	0.40	3.47	0.06	0.03	42.93	0.60	0.40	3.46	0.05	0.02
43.03	0.59	0.41	3.44	0.10	0.04	43.08	0.59	0.41	3.43	0.05	0.02
43.12	0.57	0.43	3.43	0.04	0.02	43.19	0.55	0.45	3.42	0.07	0.03
43.25	0.54	0.46	3.41	0.06	0.03	43.34	0.50	0.50	3.39	0.10	0.05
43.40	0.50	0.50	3.39	0.05	0.03	43.44	0.48	0.52	3.38	0.04	0.02
43.50	0.47	0.53	3.37	0.06	0.03	43.57	0.44	0.56	3.36	0.07	0.04
43.65	0.45	0.55	3.35	0.08	0.04	43.71	0.43	0.57	3.34	0.06	0.03
43.82	0.41	0.59	3.32	0.11	0.07	43.87	0.39	0.61	3.31	0.05	0.03
43.91	0.40	0.60	3.31	0.04	0.03	43.97	0.42	0.58	3.30	0.05	0.03
44.06	0.44	0.56	3.29	0.09	0.05	44.11	0.47	0.53	3.28	0.05	0.03

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
44.17	0.49	0.51	3.27	0.06	0.03	44.23	0.48	0.52	3.26	0.06	0.03
44.32	0.56	0.44	3.25	0.09	0.04	44.38	0.58	0.42	3.24	0.06	0.02
44.43	0.61	0.39	3.23	0.06	0.02	44.53	0.63	0.37	3.21	0.09	0.03
44.58	0.66	0.34	3.21	0.06	0.02	44.64	0.68	0.32	3.20	0.05	0.02
44.70	0.72	0.28	3.19	0.06	0.02	44.77	0.79	0.21	3.18	0.07	0.01
44.85	0.88	0.12	3.17	0.08	0.01	44.89	0.94	0.06	3.16	0.04	0.00
44.95	0.98	0.02	3.15	0.06	0.00	45.04	1.07	0.00	3.14	0.09	0.00
45.09	1.09	0.00	3.13	0.05	0.00	45.16	1.14	0.00	3.12	0.07	0.00
45.22	1.23	0.00	3.11	0.05	0.00	45.28	1.31	0.00	3.10	0.06	0.00
45.35	1.49	0.00	3.09	0.08	0.00	45.43	1.61	0.00	3.08	0.07	0.00
45.48	1.71	0.00	3.07	0.05	0.00	45.55	1.85	0.00	3.06	0.07	0.00
45.63	1.93	0.00	3.05	0.07	0.00	45.67	2.00	0.00	3.04	0.04	0.00
45.75	2.00	0.00	3.03	0.08	0.00	45.81	2.00	0.00	3.02	0.05	0.00
45.88	2.00	0.00	3.01	0.07	0.00	45.95	1.90	0.00	3.00	0.07	0.00
46.00	1.70	0.00	2.99	0.05	0.00	46.07	1.45	0.00	2.98	0.07	0.00
46.13	1.22	0.00	2.97	0.06	0.00	46.20	0.96	0.04	2.96	0.07	0.00
46.27	0.79	0.21	2.95	0.06	0.01	46.36	0.60	0.40	2.93	0.10	0.03
46.39	0.55	0.45	2.93	0.03	0.01	46.47	0.60	0.40	2.92	0.07	0.03
46.57	0.49	0.51	2.90	0.10	0.05	46.61	0.53	0.47	2.90	0.04	0.02
46.67	0.55	0.45	2.89	0.06	0.02	46.72	0.70	0.30	2.88	0.05	0.01
46.81	0.88	0.12	2.87	0.09	0.01	46.87	0.65	0.35	2.86	0.06	0.02
46.93	1.07	0.00	2.85	0.06	0.00	46.99	0.97	0.03	2.84	0.07	0.00
47.07	0.84	0.16	2.83	0.08	0.01	47.12	0.82	0.18	2.82	0.05	0.01
47.19	0.82	0.18	2.81	0.08	0.01	47.28	0.92	0.08	2.79	0.08	0.01
47.33	1.08	0.00	2.79	0.05	0.00	47.39	1.24	0.00	2.78	0.06	0.00
47.47	1.47	0.00	2.77	0.08	0.00	47.51	1.58	0.00	2.76	0.05	0.00
47.59	1.72	0.00	2.75	0.08	0.00	47.64	1.75	0.00	2.74	0.05	0.00
47.74	1.68	0.00	2.72	0.10	0.00	47.77	1.65	0.00	2.72	0.03	0.00
47.84	1.57	0.00	2.71	0.08	0.00	47.90	1.36	0.00	2.70	0.06	0.00
47.97	1.05	0.00	2.69	0.07	0.00	48.04	0.86	0.14	2.68	0.07	0.01
48.11	0.66	0.34	2.67	0.07	0.02	48.16	0.53	0.47	2.66	0.05	0.02
48.27	0.39	0.61	2.64	0.10	0.05	48.32	0.33	0.67	2.64	0.06	0.03
48.38	0.30	0.70	2.63	0.05	0.03	48.43	0.34	0.66	2.62	0.05	0.03
48.52	0.31	0.69	2.61	0.09	0.05	48.56	0.33	0.67	2.60	0.04	0.02
48.62	0.35	0.65	2.59	0.06	0.03	48.69	0.38	0.62	2.58	0.07	0.03
48.79	0.43	0.57	2.56	0.10	0.04	48.84	0.36	0.64	2.56	0.05	0.03
48.89	0.48	0.52	2.55	0.05	0.02	48.98	0.54	0.46	2.54	0.09	0.03
49.03	0.57	0.43	2.53	0.05	0.02	49.10	0.55	0.45	2.52	0.07	0.02
49.17	0.45	0.55	2.51	0.07	0.03	49.23	0.42	0.58	2.50	0.07	0.03
49.30	0.35	0.65	2.49	0.07	0.03	49.35	0.32	0.68	2.48	0.05	0.03
49.41	0.29	0.71	2.47	0.06	0.03	49.51	0.27	0.73	2.45	0.10	0.06
49.54	0.26	0.74	2.45	0.03	0.02	49.61	0.26	0.74	2.44	0.07	0.04
49.67	0.26	0.74	2.43	0.06	0.03	49.75	0.27	0.73	2.42	0.07	0.04
49.82	0.27	0.73	2.41	0.08	0.04	49.87	0.28	0.72	2.40	0.05	0.03
49.97	0.29	0.71	2.38	0.10	0.05	50.02	2.00	0.00	2.38	0.05	0.00
50.08	2.00	0.00	2.37	0.07	0.00	50.14	2.00	0.00	2.36	0.06	0.00
50.22	2.00	0.00	2.35	0.08	0.00	50.29	2.00	0.00	2.34	0.06	0.00
50.34	2.00	0.00	2.33	0.06	0.00	50.40	2.00	0.00	2.32	0.05	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
50.47	2.00	0.00	2.31	0.07	0.00	50.56	2.00	0.00	2.30	0.09	0.00
50.60	2.00	0.00	2.29	0.04	0.00	50.66	2.00	0.00	2.28	0.06	0.00
50.73	2.00	0.00	2.27	0.08	0.00	50.81	2.00	0.00	2.26	0.08	0.00
50.86	2.00	0.00	2.25	0.04	0.00	50.93	2.00	0.00	2.24	0.07	0.00
51.02	2.00	0.00	2.22	0.09	0.00	51.06	2.00	0.00	2.22	0.04	0.00
51.12	2.00	0.00	2.21	0.06	0.00	51.19	2.00	0.00	2.20	0.07	0.00
51.27	2.00	0.00	2.19	0.08	0.00	51.32	2.00	0.00	2.18	0.05	0.00
51.39	2.00	0.00	2.17	0.07	0.00	51.46	2.00	0.00	2.16	0.07	0.00
51.53	2.00	0.00	2.15	0.07	0.00	51.58	2.00	0.00	2.14	0.05	0.00
51.68	2.00	0.00	2.12	0.10	0.00	51.71	2.00	0.00	2.12	0.04	0.00
51.78	2.00	0.00	2.11	0.07	0.00	51.84	2.00	0.00	2.10	0.06	0.00
51.93	2.00	0.00	2.09	0.09	0.00	51.98	2.00	0.00	2.08	0.05	0.00
52.05	2.00	0.00	2.07	0.07	0.00	52.15	2.00	0.00	2.05	0.10	0.00
52.19	2.00	0.00	2.05	0.04	0.00	52.26	2.00	0.00	2.04	0.07	0.00
52.31	2.00	0.00	2.03	0.05	0.00	52.37	2.00	0.00	2.02	0.06	0.00
52.43	2.00	0.00	2.01	0.06	0.00	52.51	2.00	0.00	2.00	0.08	0.00
52.56	2.00	0.00	1.99	0.05	0.00	52.65	2.00	0.00	1.98	0.08	0.00
52.69	2.00	0.00	1.97	0.05	0.00	52.76	2.00	0.00	1.96	0.07	0.00
52.83	2.00	0.00	1.95	0.07	0.00	52.92	2.00	0.00	1.93	0.09	0.00
52.98	2.00	0.00	1.93	0.05	0.00	53.02	2.00	0.00	1.92	0.04	0.00
53.09	2.00	0.00	1.91	0.07	0.00	53.16	2.00	0.00	1.90	0.06	0.00
53.23	2.00	0.00	1.89	0.07	0.00	53.30	2.00	0.00	1.88	0.07	0.00
53.35	2.00	0.00	1.87	0.06	0.00	53.43	2.00	0.00	1.86	0.08	0.00
53.50	2.00	0.00	1.85	0.07	0.00	53.55	2.00	0.00	1.84	0.04	0.00
53.62	2.00	0.00	1.83	0.07	0.00	53.70	2.00	0.00	1.82	0.09	0.00
53.78	2.00	0.00	1.80	0.07	0.00	53.82	2.00	0.00	1.80	0.04	0.00
53.88	2.00	0.00	1.79	0.06	0.00	53.97	2.00	0.00	1.77	0.10	0.00
54.02	2.00	0.00	1.77	0.05	0.00	54.08	2.00	0.00	1.76	0.06	0.00
54.13	2.00	0.00	1.75	0.05	0.00	54.24	2.00	0.00	1.73	0.10	0.00
54.29	2.00	0.00	1.73	0.05	0.00	54.35	2.00	0.00	1.72	0.06	0.00
54.45	2.00	0.00	1.70	0.10	0.00	54.49	2.00	0.00	1.70	0.05	0.00
54.54	2.00	0.00	1.69	0.04	0.00	54.60	2.00	0.00	1.68	0.06	0.00
54.68	2.00	0.00	1.67	0.08	0.00	54.75	2.00	0.00	1.66	0.07	0.00
54.80	2.00	0.00	1.65	0.05	0.00	54.89	2.00	0.00	1.63	0.09	0.00
54.94	2.00	0.00	1.63	0.05	0.00	55.00	2.00	0.00	1.62	0.07	0.00
55.06	2.00	0.00	1.61	0.06	0.00	55.15	2.00	0.00	1.60	0.09	0.00
55.20	2.00	0.00	1.59	0.05	0.00	55.27	2.00	0.00	1.58	0.07	0.00
55.33	2.00	0.00	1.57	0.06	0.00	55.40	2.00	0.00	1.56	0.07	0.00
55.48	2.00	0.00	1.54	0.08	0.00	55.53	2.00	0.00	1.54	0.05	0.00
55.59	2.00	0.00	1.53	0.06	0.00	55.68	2.00	0.00	1.51	0.09	0.00
55.73	2.00	0.00	1.51	0.06	0.00	55.79	2.00	0.00	1.50	0.06	0.00
55.85	2.00	0.00	1.49	0.06	0.00	55.95	2.00	0.00	1.47	0.10	0.00
55.97	2.00	0.00	1.47	0.02	0.00	56.05	2.00	0.00	1.46	0.08	0.00
56.14	2.00	0.00	1.44	0.09	0.00	56.20	2.00	0.00	1.44	0.06	0.00
56.26	2.00	0.00	1.43	0.06	0.00	56.32	2.00	0.00	1.42	0.06	0.00
56.37	2.00	0.00	1.41	0.05	0.00	56.43	2.00	0.00	1.40	0.06	0.00
56.52	2.00	0.00	1.39	0.08	0.00	56.57	2.00	0.00	1.38	0.06	0.00
56.68	2.00	0.00	1.36	0.11	0.00	56.72	2.00	0.00	1.36	0.05	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
56.77	2.00	0.00	1.35	0.04	0.00	56.83	2.00	0.00	1.34	0.07	0.00
56.94	2.00	0.00	1.32	0.11	0.00	56.97	2.00	0.00	1.32	0.03	0.00
57.04	2.00	0.00	1.31	0.07	0.00	57.09	2.00	0.00	1.30	0.05	0.00
57.17	2.00	0.00	1.29	0.08	0.00	57.22	2.00	0.00	1.28	0.05	0.00
57.30	2.00	0.00	1.27	0.08	0.00	57.36	2.00	0.00	1.26	0.05	0.00
57.43	2.00	0.00	1.25	0.07	0.00	57.51	2.00	0.00	1.24	0.08	0.00
57.56	2.00	0.00	1.23	0.05	0.00	57.61	2.00	0.00	1.22	0.05	0.00
57.72	2.00	0.00	1.20	0.11	0.00	57.77	2.00	0.00	1.20	0.05	0.00
57.81	2.00	0.00	1.19	0.04	0.00	57.90	2.00	0.00	1.18	0.09	0.00
57.98	2.00	0.00	1.16	0.08	0.00	58.03	2.00	0.00	1.16	0.05	0.00
58.08	2.00	0.00	1.15	0.05	0.00	58.18	2.00	0.00	1.13	0.10	0.00
58.23	2.00	0.00	1.13	0.05	0.00	58.27	2.00	0.00	1.12	0.05	0.00
58.33	2.00	0.00	1.11	0.06	0.00	58.40	2.00	0.00	1.10	0.07	0.00
58.50	2.00	0.00	1.08	0.10	0.00	58.53	2.00	0.00	1.08	0.03	0.00
58.60	2.00	0.00	1.07	0.07	0.00	58.69	2.00	0.00	1.06	0.09	0.00
58.73	2.00	0.00	1.05	0.04	0.00	58.80	2.00	0.00	1.04	0.07	0.00
58.90	2.00	0.00	1.02	0.10	0.00	58.95	2.00	0.00	1.02	0.05	0.00
59.01	2.00	0.00	1.01	0.06	0.00	59.06	2.00	0.00	1.00	0.05	0.00
59.12	2.00	0.00	0.99	0.06	0.00	59.22	2.00	0.00	0.97	0.10	0.00
59.28	2.00	0.00	0.97	0.06	0.00	59.33	2.00	0.00	0.96	0.05	0.00
59.42	2.00	0.00	0.94	0.09	0.00	59.45	2.00	0.00	0.94	0.03	0.00
59.52	2.00	0.00	0.93	0.07	0.00	59.59	2.00	0.00	0.92	0.07	0.00
59.66	2.00	0.00	0.91	0.08	0.00	59.72	2.00	0.00	0.90	0.06	0.00
59.78	2.00	0.00	0.89	0.06	0.00	59.85	2.00	0.00	0.88	0.07	0.00
59.92	2.00	0.00	0.87	0.08	0.00	59.99	2.00	0.00	0.86	0.06	0.00
60.05	2.00	0.00	0.85	0.06	0.00	60.11	2.00	0.00	0.84	0.06	0.00
60.18	2.00	0.00	0.83	0.07	0.00	60.25	2.00	0.00	0.82	0.06	0.00
60.31	2.00	0.00	0.81	0.06	0.00	60.39	2.00	0.00	0.80	0.08	0.00
60.44	2.00	0.00	0.79	0.04	0.00	60.51	2.00	0.00	0.78	0.07	0.00
60.57	2.00	0.00	0.77	0.06	0.00	60.65	2.00	0.00	0.76	0.09	0.00
60.72	2.00	0.00	0.75	0.07	0.00	60.76	2.00	0.00	0.74	0.04	0.00
60.87	2.00	0.00	0.72	0.10	0.00	60.91	2.00	0.00	0.72	0.04	0.00
60.97	2.00	0.00	0.71	0.06	0.00	61.03	2.00	0.00	0.70	0.06	0.00
61.10	2.00	0.00	0.69	0.08	0.00	61.19	2.00	0.00	0.68	0.08	0.00
61.24	2.00	0.00	0.67	0.05	0.00	61.29	2.00	0.00	0.66	0.05	0.00
61.39	2.00	0.00	0.64	0.10	0.00	61.43	2.00	0.00	0.64	0.03	0.00
61.50	2.00	0.00	0.63	0.07	0.00	61.56	2.00	0.00	0.62	0.06	0.00
61.66	2.00	0.00	0.60	0.10	0.00	61.71	2.00	0.00	0.60	0.05	0.00
61.77	2.00	0.00	0.59	0.06	0.00	61.84	2.00	0.00	0.57	0.08	0.00
61.91	2.00	0.00	0.57	0.06	0.00	61.96	2.00	0.00	0.56	0.06	0.00
62.01	2.00	0.00	0.55	0.05	0.00	62.10	2.00	0.00	0.54	0.09	0.00
62.16	2.00	0.00	0.53	0.06	0.00	62.21	2.00	0.00	0.52	0.05	0.00
62.30	2.00	0.00	0.51	0.09	0.00	62.37	2.00	0.00	0.50	0.07	0.00
62.41	2.00	0.00	0.49	0.04	0.00	62.47	2.00	0.00	0.48	0.06	0.00
62.54	2.00	0.00	0.47	0.07	0.00	62.62	2.00	0.00	0.46	0.08	0.00
62.68	2.00	0.00	0.45	0.06	0.00	62.73	2.00	0.00	0.44	0.05	0.00
62.82	2.00	0.00	0.43	0.09	0.00	62.87	2.00	0.00	0.42	0.05	0.00
62.94	2.00	0.00	0.41	0.07	0.00	62.99	2.00	0.00	0.40	0.05	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
63.06	2.00	0.00	0.39	0.07	0.00	63.15	2.00	0.00	0.38	0.09	0.00
63.20	2.00	0.00	0.37	0.05	0.00	63.29	2.00	0.00	0.35	0.10	0.00
63.35	2.00	0.00	0.35	0.06	0.00	63.40	2.00	0.00	0.34	0.05	0.00
63.46	2.00	0.00	0.33	0.06	0.00	63.52	2.00	0.00	0.32	0.06	0.00
63.62	2.00	0.00	0.30	0.10	0.00	63.67	2.00	0.00	0.30	0.05	0.00
63.73	2.00	0.00	0.29	0.05	0.00	63.80	2.00	0.00	0.28	0.08	0.00
63.88	2.00	0.00	0.26	0.08	0.00	63.93	2.00	0.00	0.26	0.05	0.00
63.98	2.00	0.00	0.25	0.06	0.00	64.06	2.00	0.00	0.24	0.08	0.00
64.13	2.00	0.00	0.23	0.06	0.00	64.18	2.00	0.00	0.22	0.06	0.00
64.27	2.00	0.00	0.21	0.09	0.00	64.33	2.00	0.00	0.20	0.07	0.00
64.39	2.00	0.00	0.19	0.05	0.00	64.44	2.00	0.00	0.18	0.05	0.00
64.53	2.00	0.00	0.17	0.09	0.00	64.60	2.00	0.00	0.15	0.07	0.00
64.65	2.00	0.00	0.15	0.05	0.00	64.71	2.00	0.00	0.14	0.06	0.00
64.78	2.00	0.00	0.13	0.06	0.00	64.83	2.00	0.00	0.12	0.06	0.00
64.90	2.00	0.00	0.11	0.07	0.00	64.97	2.00	0.00	0.10	0.07	0.00
65.05	2.00	0.00	0.09	0.08	0.00	65.12	2.00	0.00	0.08	0.07	0.00
65.18	2.00	0.00	0.07	0.06	0.00	65.25	2.00	0.00	0.06	0.07	0.00
65.32	2.00	0.00	0.05	0.07	0.00	65.37	2.00	0.00	0.04	0.05	0.00
65.42	2.00	0.00	0.03	0.06	0.00	65.49	2.00	0.00	0.02	0.06	0.00
65.58	2.00	0.00	0.00	0.09	0.00	65.64	2.00	0.00	0.00	0.00	0.00
65.69	2.00	0.00	0.00	0.00	0.00	65.79	2.00	0.00	0.00	0.00	0.00
65.84	2.00	0.00	0.00	0.00	0.00	65.91	2.00	0.00	0.00	0.00	0.00
65.95	2.00	0.00	0.00	0.00	0.00	66.01	2.00	0.00	0.00	0.00	0.00
66.09	2.00	0.00	0.00	0.00	0.00	66.15	2.00	0.00	0.00	0.00	0.00
66.21	2.00	0.00	0.00	0.00	0.00	66.28	2.00	0.00	0.00	0.00	0.00
66.36	2.00	0.00	0.00	0.00	0.00	66.42	2.00	0.00	0.00	0.00	0.00
66.47	2.00	0.00	0.00	0.00	0.00	66.57	2.00	0.00	0.00	0.00	0.00
66.61	2.00	0.00	0.00	0.00	0.00	66.67	2.00	0.00	0.00	0.00	0.00
66.74	2.00	0.00	0.00	0.00	0.00	66.82	2.00	0.00	0.00	0.00	0.00
66.88	2.00	0.00	0.00	0.00	0.00	66.97	2.00	0.00	0.00	0.00	0.00
67.01	2.00	0.00	0.00	0.00	0.00	67.08	2.00	0.00	0.00	0.00	0.00
67.14	2.00	0.00	0.00	0.00	0.00	67.19	2.00	0.00	0.00	0.00	0.00
67.29	2.00	0.00	0.00	0.00	0.00	67.34	2.00	0.00	0.00	0.00	0.00
67.40	2.00	0.00	0.00	0.00	0.00	67.48	2.00	0.00	0.00	0.00	0.00
67.54	2.00	0.00	0.00	0.00	0.00	67.60	2.00	0.00	0.00	0.00	0.00
67.66	2.00	0.00	0.00	0.00	0.00	67.73	2.00	0.00	0.00	0.00	0.00
67.81	2.00	0.00	0.00	0.00	0.00	67.86	2.00	0.00	0.00	0.00	0.00
67.92	2.00	0.00	0.00	0.00	0.00	67.99	2.00	0.00	0.00	0.00	0.00
68.05	2.00	0.00	0.00	0.00	0.00	68.13	2.00	0.00	0.00	0.00	0.00
68.18	2.00	0.00	0.00	0.00	0.00	68.25	2.00	0.00	0.00	0.00	0.00
68.33	2.00	0.00	0.00	0.00	0.00	68.39	2.00	0.00	0.00	0.00	0.00
68.44	2.00	0.00	0.00	0.00	0.00	68.51	2.00	0.00	0.00	0.00	0.00
68.59	2.00	0.00	0.00	0.00	0.00	68.65	2.00	0.00	0.00	0.00	0.00
68.70	2.00	0.00	0.00	0.00	0.00	68.78	2.00	0.00	0.00	0.00	0.00
68.84	2.00	0.00	0.00	0.00	0.00	68.91	2.00	0.00	0.00	0.00	0.00
68.97	2.00	0.00	0.00	0.00	0.00	69.04	2.00	0.00	0.00	0.00	0.00
69.12	2.00	0.00	0.00	0.00	0.00	69.17	2.00	0.00	0.00	0.00	0.00
69.23	2.00	0.00	0.00	0.00	0.00	69.33	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
69.37	2.00	0.00	0.00	0.00	0.00	69.44	2.00	0.00	0.00	0.00	0.00
69.50	2.00	0.00	0.00	0.00	0.00	69.56	2.00	0.00	0.00	0.00	0.00
69.64	2.00	0.00	0.00	0.00	0.00	69.70	2.00	0.00	0.00	0.00	0.00
69.75	2.00	0.00	0.00	0.00	0.00	69.84	2.00	0.00	0.00	0.00	0.00
69.89	2.00	0.00	0.00	0.00	0.00	69.96	2.00	0.00	0.00	0.00	0.00
70.02	2.00	0.00	0.00	0.00	0.00	70.12	2.00	0.00	0.00	0.00	0.00
70.17	2.00	0.00	0.00	0.00	0.00	70.23	2.00	0.00	0.00	0.00	0.00
70.30	2.00	0.00	0.00	0.00	0.00	70.34	2.00	0.00	0.00	0.00	0.00
70.41	2.00	0.00	0.00	0.00	0.00	70.48	2.00	0.00	0.00	0.00	0.00
70.58	2.00	0.00	0.00	0.00	0.00	70.63	2.00	0.00	0.00	0.00	0.00
70.69	2.00	0.00	0.00	0.00	0.00	70.74	2.00	0.00	0.00	0.00	0.00
70.80	2.00	0.00	0.00	0.00	0.00	70.88	2.00	0.00	0.00	0.00	0.00
70.95	2.00	0.00	0.00	0.00	0.00	71.01	2.00	0.00	0.00	0.00	0.00
71.10	2.00	0.00	0.00	0.00	0.00	71.16	2.00	0.00	0.00	0.00	0.00
71.21	2.00	0.00	0.00	0.00	0.00	71.26	2.00	0.00	0.00	0.00	0.00
71.33	2.00	0.00	0.00	0.00	0.00	71.39	2.00	0.00	0.00	0.00	0.00
71.47	2.00	0.00	0.00	0.00	0.00	71.53	2.00	0.00	0.00	0.00	0.00
71.60	2.00	0.00	0.00	0.00	0.00	71.68	2.00	0.00	0.00	0.00	0.00
71.74	2.00	0.00	0.00	0.00	0.00	71.81	2.00	0.00	0.00	0.00	0.00
71.87	2.00	0.00	0.00	0.00	0.00	71.93	2.00	0.00	0.00	0.00	0.00
71.99	2.00	0.00	0.00	0.00	0.00	72.07	2.00	0.00	0.00	0.00	0.00
72.12	2.00	0.00	0.00	0.00	0.00	72.18	2.00	0.00	0.00	0.00	0.00
72.25	2.00	0.00	0.00	0.00	0.00	72.32	2.00	0.00	0.00	0.00	0.00
72.38	2.00	0.00	0.00	0.00	0.00	72.45	2.00	0.00	0.00	0.00	0.00
72.52	2.00	0.00	0.00	0.00	0.00	72.58	2.00	0.00	0.00	0.00	0.00
72.65	2.00	0.00	0.00	0.00	0.00	72.71	2.00	0.00	0.00	0.00	0.00
72.81	2.00	0.00	0.00	0.00	0.00	72.86	2.00	0.00	0.00	0.00	0.00
72.92	2.00	0.00	0.00	0.00	0.00	72.97	2.00	0.00	0.00	0.00	0.00
73.06	2.00	0.00	0.00	0.00	0.00	73.10	2.00	0.00	0.00	0.00	0.00
73.16	2.00	0.00	0.00	0.00	0.00	73.28	2.00	0.00	0.00	0.00	0.00
73.32	2.00	0.00	0.00	0.00	0.00	73.39	2.00	0.00	0.00	0.00	0.00
73.43	2.00	0.00	0.00	0.00	0.00	73.50	2.00	0.00	0.00	0.00	0.00
73.56	2.00	0.00	0.00	0.00	0.00	73.63	2.00	0.00	0.00	0.00	0.00
73.69	2.00	0.00	0.00	0.00	0.00	73.80	2.00	0.00	0.00	0.00	0.00
73.84	2.00	0.00	0.00	0.00	0.00	73.89	2.00	0.00	0.00	0.00	0.00
73.96	2.00	0.00	0.00	0.00	0.00	74.03	2.00	0.00	0.00	0.00	0.00
74.09	2.00	0.00	0.00	0.00	0.00	74.16	2.00	0.00	0.00	0.00	0.00
74.23	2.00	0.00	0.00	0.00	0.00	74.28	2.00	0.00	0.00	0.00	0.00
74.38	2.00	0.00	0.00	0.00	0.00	74.43	2.00	0.00	0.00	0.00	0.00
74.49	2.00	0.00	0.00	0.00	0.00	74.55	2.00	0.00	0.00	0.00	0.00
74.64	2.00	0.00	0.00	0.00	0.00	74.70	2.00	0.00	0.00	0.00	0.00
74.74	2.00	0.00	0.00	0.00	0.00	74.83	2.00	0.00	0.00	0.00	0.00
74.88	2.00	0.00	0.00	0.00	0.00	74.94	2.00	0.00	0.00	0.00	0.00
75.00	2.00	0.00	0.00	0.00	0.00	75.07	2.00	0.00	0.00	0.00	0.00
75.17	2.00	0.00	0.00	0.00	0.00	75.21	2.00	0.00	0.00	0.00	0.00
75.28	2.00	0.00	0.00	0.00	0.00	75.34	2.00	0.00	0.00	0.00	0.00
75.42	2.00	0.00	0.00	0.00	0.00	75.48	2.00	0.00	0.00	0.00	0.00
75.53	2.00	0.00	0.00	0.00	0.00	75.63	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
75.68	2.00	0.00	0.00	0.00	0.00	75.73	2.00	0.00	0.00	0.00	0.00
75.80	2.00	0.00	0.00	0.00	0.00	75.89	2.00	0.00	0.00	0.00	0.00
75.95	2.00	0.00	0.00	0.00	0.00	76.01	2.00	0.00	0.00	0.00	0.00
76.05	2.00	0.00	0.00	0.00	0.00	76.14	2.00	0.00	0.00	0.00	0.00
76.19	2.00	0.00	0.00	0.00	0.00	76.26	2.00	0.00	0.00	0.00	0.00
76.31	2.00	0.00	0.00	0.00	0.00	76.41	2.00	0.00	0.00	0.00	0.00
76.46	2.00	0.00	0.00	0.00	0.00	76.52	2.00	0.00	0.00	0.00	0.00
76.58	2.00	0.00	0.00	0.00	0.00	76.67	2.00	0.00	0.00	0.00	0.00
76.72	2.00	0.00	0.00	0.00	0.00	76.78	2.00	0.00	0.00	0.00	0.00
76.84	2.00	0.00	0.00	0.00	0.00	76.94	2.00	0.00	0.00	0.00	0.00
76.98	2.00	0.00	0.00	0.00	0.00	77.05	2.00	0.00	0.00	0.00	0.00
77.15	2.00	0.00	0.00	0.00	0.00	77.19	2.00	0.00	0.00	0.00	0.00
77.25	2.00	0.00	0.00	0.00	0.00	77.30	2.00	0.00	0.00	0.00	0.00
77.37	2.00	0.00	0.00	0.00	0.00	77.43	2.00	0.00	0.00	0.00	0.00
77.51	2.00	0.00	0.00	0.00	0.00	77.56	2.00	0.00	0.00	0.00	0.00
77.66	2.00	0.00	0.00	0.00	0.00	77.72	2.00	0.00	0.00	0.00	0.00
77.76	2.00	0.00	0.00	0.00	0.00	77.83	2.00	0.00	0.00	0.00	0.00
77.89	2.00	0.00	0.00	0.00	0.00	77.97	2.00	0.00	0.00	0.00	0.00
78.02	2.00	0.00	0.00	0.00	0.00	78.09	2.00	0.00	0.00	0.00	0.00
78.16	2.00	0.00	0.00	0.00	0.00	78.23	2.00	0.00	0.00	0.00	0.00
78.29	2.00	0.00	0.00	0.00	0.00	78.37	2.00	0.00	0.00	0.00	0.00
78.44	2.00	0.00	0.00	0.00	0.00	78.49	2.00	0.00	0.00	0.00	0.00
78.55	2.00	0.00	0.00	0.00	0.00	78.61	2.00	0.00	0.00	0.00	0.00
78.69	2.00	0.00	0.00	0.00	0.00	78.76	2.00	0.00	0.00	0.00	0.00
78.81	2.00	0.00	0.00	0.00	0.00	78.87	2.00	0.00	0.00	0.00	0.00
78.97	2.00	0.00	0.00	0.00	0.00	79.03	2.00	0.00	0.00	0.00	0.00
79.07	2.00	0.00	0.00	0.00	0.00	79.18	2.00	0.00	0.00	0.00	0.00
79.23	2.00	0.00	0.00	0.00	0.00	79.27	2.00	0.00	0.00	0.00	0.00
79.34	2.00	0.00	0.00	0.00	0.00	79.43	2.00	0.00	0.00	0.00	0.00
79.47	2.00	0.00	0.00	0.00	0.00	79.54	2.00	0.00	0.00	0.00	0.00
79.60	2.00	0.00	0.00	0.00	0.00	79.67	2.00	0.00	0.00	0.00	0.00
79.75	2.00	0.00	0.00	0.00	0.00	79.80	2.00	0.00	0.00	0.00	0.00
79.88	2.00	0.00	0.00	0.00	0.00	79.92	2.00	0.00	0.00	0.00	0.00
79.99	2.00	0.00	0.00	0.00	0.00	80.06	2.00	0.00	0.00	0.00	0.00
80.15	2.00	0.00	0.00	0.00	0.00	80.22	2.00	0.00	0.00	0.00	0.00
80.26	2.00	0.00	0.00	0.00	0.00	80.32	2.00	0.00	0.00	0.00	0.00
80.41	2.00	0.00	0.00	0.00	0.00	80.47	2.00	0.00	0.00	0.00	0.00
80.52	2.00	0.00	0.00	0.00	0.00	80.58	2.00	0.00	0.00	0.00	0.00
80.68	2.00	0.00	0.00	0.00	0.00	80.72	2.00	0.00	0.00	0.00	0.00
80.79	2.00	0.00	0.00	0.00	0.00	80.84	2.00	0.00	0.00	0.00	0.00
80.93	2.00	0.00	0.00	0.00	0.00	80.99	2.00	0.00	0.00	0.00	0.00
81.05	2.00	0.00	0.00	0.00	0.00	81.13	2.00	0.00	0.00	0.00	0.00
81.18	2.00	0.00	0.00	0.00	0.00	81.25	2.00	0.00	0.00	0.00	0.00
81.31	2.00	0.00	0.00	0.00	0.00	81.39	2.00	0.00	0.00	0.00	0.00
81.44	2.00	0.00	0.00	0.00	0.00	81.52	2.00	0.00	0.00	0.00	0.00
81.56	2.00	0.00	0.00	0.00	0.00	81.66	2.00	0.00	0.00	0.00	0.00
81.70	2.00	0.00	0.00	0.00	0.00	81.77	2.00	0.00	0.00	0.00	0.00
81.84	2.00	0.00	0.00	0.00	0.00	81.90	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
82.00	2.00	0.00	0.00	0.00	0.00	82.05	2.00	0.00	0.00	0.00	0.00
82.11	2.00	0.00	0.00	0.00	0.00	82.16	2.00	0.00	0.00	0.00	0.00
82.25	2.00	0.00	0.00	0.00	0.00	82.30	2.00	0.00	0.00	0.00	0.00
82.36	2.00	0.00	0.00	0.00	0.00	82.42	2.00	0.00	0.00	0.00	0.00
82.50	2.00	0.00	0.00	0.00	0.00	82.58	2.00	0.00	0.00	0.00	0.00
82.61	2.00	0.00	0.00	0.00	0.00	82.69	2.00	0.00	0.00	0.00	0.00
82.75	2.00	0.00	0.00	0.00	0.00	82.84	2.00	0.00	0.00	0.00	0.00
82.88	2.00	0.00	0.00	0.00	0.00	82.99	2.00	0.00	0.00	0.00	0.00
83.02	2.00	0.00	0.00	0.00	0.00	83.09	2.00	0.00	0.00	0.00	0.00
83.14	2.00	0.00	0.00	0.00	0.00	83.25	2.00	0.00	0.00	0.00	0.00
83.29	2.00	0.00	0.00	0.00	0.00	83.35	2.00	0.00	0.00	0.00	0.00
83.41	2.00	0.00	0.00	0.00	0.00	83.49	2.00	0.00	0.00	0.00	0.00
83.55	2.00	0.00	0.00	0.00	0.00	83.62	2.00	0.00	0.00	0.00	0.00
83.68	2.00	0.00	0.00	0.00	0.00	83.73	2.00	0.00	0.00	0.00	0.00
83.82	2.00	0.00	0.00	0.00	0.00	83.88	2.00	0.00	0.00	0.00	0.00
83.93	2.00	0.00	0.00	0.00	0.00	84.03	2.00	0.00	0.00	0.00	0.00
84.08	2.00	0.00	0.00	0.00	0.00	84.13	2.00	0.00	0.00	0.00	0.00
84.19	2.00	0.00	0.00	0.00	0.00	84.27	2.00	0.00	0.00	0.00	0.00
84.32	2.00	0.00	0.00	0.00	0.00	84.41	2.00	0.00	0.00	0.00	0.00
84.46	2.00	0.00	0.00	0.00	0.00	84.53	2.00	0.00	0.00	0.00	0.00
84.59	2.00	0.00	0.00	0.00	0.00	84.65	2.00	0.00	0.00	0.00	0.00
84.71	2.00	0.00	0.00	0.00	0.00	84.78	2.00	0.00	0.00	0.00	0.00
84.88	2.00	0.00	0.00	0.00	0.00	84.91	2.00	0.00	0.00	0.00	0.00
84.99	2.00	0.00	0.00	0.00	0.00	85.05	2.00	0.00	0.00	0.00	0.00
85.11	2.00	0.00	0.00	0.00	0.00	85.20	2.00	0.00	0.00	0.00	0.00
85.25	2.00	0.00	0.00	0.00	0.00	85.30	2.00	0.00	0.00	0.00	0.00
85.40	2.00	0.00	0.00	0.00	0.00	85.47	2.00	0.00	0.00	0.00	0.00
85.51	2.00	0.00	0.00	0.00	0.00	85.57	2.00	0.00	0.00	0.00	0.00
85.67	2.00	0.00	0.00	0.00	0.00	85.71	2.00	0.00	0.00	0.00	0.00
85.78	2.00	0.00	0.00	0.00	0.00	85.83	2.00	0.00	0.00	0.00	0.00
85.91	2.00	0.00	0.00	0.00	0.00	85.97	2.00	0.00	0.00	0.00	0.00
86.04	2.00	0.00	0.00	0.00	0.00	86.09	2.00	0.00	0.00	0.00	0.00
86.17	2.00	0.00	0.00	0.00	0.00	86.24	2.00	0.00	0.00	0.00	0.00
86.30	2.00	0.00	0.00	0.00	0.00	86.37	2.00	0.00	0.00	0.00	0.00
86.44	2.00	0.00	0.00	0.00	0.00	86.50	2.00	0.00	0.00	0.00	0.00
86.55	2.00	0.00	0.00	0.00	0.00	86.64	2.00	0.00	0.00	0.00	0.00
86.68	2.00	0.00	0.00	0.00	0.00	86.75	2.00	0.00	0.00	0.00	0.00
86.81	2.00	0.00	0.00	0.00	0.00	86.89	2.00	0.00	0.00	0.00	0.00
86.96	2.00	0.00	0.00	0.00	0.00	87.02	2.00	0.00	0.00	0.00	0.00
87.09	2.00	0.00	0.00	0.00	0.00	87.14	2.00	0.00	0.00	0.00	0.00
87.22	2.00	0.00	0.00	0.00	0.00	87.27	2.00	0.00	0.00	0.00	0.00
87.36	2.00	0.00	0.00	0.00	0.00	87.40	2.00	0.00	0.00	0.00	0.00
87.48	2.00	0.00	0.00	0.00	0.00	87.54	2.00	0.00	0.00	0.00	0.00
87.61	2.00	0.00	0.00	0.00	0.00	87.70	2.00	0.00	0.00	0.00	0.00
87.74	2.00	0.00	0.00	0.00	0.00	87.80	2.00	0.00	0.00	0.00	0.00
87.90	2.00	0.00	0.00	0.00	0.00	87.95	2.00	0.00	0.00	0.00	0.00
88.00	2.00	0.00	0.00	0.00	0.00	88.06	2.00	0.00	0.00	0.00	0.00
88.14	2.00	0.00	0.00	0.00	0.00	88.20	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
88.27	2.00	0.00	0.00	0.00	0.00	88.34	2.00	0.00	0.00	0.00	0.00
88.40	2.00	0.00	0.00	0.00	0.00	88.46	2.00	0.00	0.00	0.00	0.00
88.52	2.00	0.00	0.00	0.00	0.00	88.60	2.00	0.00	0.00	0.00	0.00
88.66	2.00	0.00	0.00	0.00	0.00	88.72	2.00	0.00	0.00	0.00	0.00
88.78	2.00	0.00	0.00	0.00	0.00	88.86	2.00	0.00	0.00	0.00	0.00
88.92	2.00	0.00	0.00	0.00	0.00	88.98	2.00	0.00	0.00	0.00	0.00
89.05	2.00	0.00	0.00	0.00	0.00	89.14	2.00	0.00	0.00	0.00	0.00
89.19	2.00	0.00	0.00	0.00	0.00	89.25	2.00	0.00	0.00	0.00	0.00
89.33	2.00	0.00	0.00	0.00	0.00	89.40	2.00	0.00	0.00	0.00	0.00
89.45	2.00	0.00	0.00	0.00	0.00	89.50	2.00	0.00	0.00	0.00	0.00
89.61	2.00	0.00	0.00	0.00	0.00	89.65	2.00	0.00	0.00	0.00	0.00
89.71	2.00	0.00	0.00	0.00	0.00	89.80	2.00	0.00	0.00	0.00	0.00
89.86	2.00	0.00	0.00	0.00	0.00	89.90	2.00	0.00	0.00	0.00	0.00
89.97	2.00	0.00	0.00	0.00	0.00	90.03	2.00	0.00	0.00	0.00	0.00
90.11	2.00	0.00	0.00	0.00	0.00	90.17	2.00	0.00	0.00	0.00	0.00
90.23	2.00	0.00	0.00	0.00	0.00	90.30	2.00	0.00	0.00	0.00	0.00
90.38	2.00	0.00	0.00	0.00	0.00	90.44	2.00	0.00	0.00	0.00	0.00
90.50	2.00	0.00	0.00	0.00	0.00	90.56	2.00	0.00	0.00	0.00	0.00
90.62	2.00	0.00	0.00	0.00	0.00	90.69	2.00	0.00	0.00	0.00	0.00
90.76	2.00	0.00	0.00	0.00	0.00	90.83	2.00	0.00	0.00	0.00	0.00
90.88	2.00	0.00	0.00	0.00	0.00	90.96	2.00	0.00	0.00	0.00	0.00
91.03	2.00	0.00	0.00	0.00	0.00	91.10	2.00	0.00	0.00	0.00	0.00
91.14	2.00	0.00	0.00	0.00	0.00	91.24	2.00	0.00	0.00	0.00	0.00
91.28	2.00	0.00	0.00	0.00	0.00	91.35	2.00	0.00	0.00	0.00	0.00
91.41	2.00	0.00	0.00	0.00	0.00	91.49	2.00	0.00	0.00	0.00	0.00
91.56	2.00	0.00	0.00	0.00	0.00	91.60	2.00	0.00	0.00	0.00	0.00
91.67	2.00	0.00	0.00	0.00	0.00	91.76	2.00	0.00	0.00	0.00	0.00
91.82	2.00	0.00	0.00	0.00	0.00	91.88	2.00	0.00	0.00	0.00	0.00
91.93	2.00	0.00	0.00	0.00	0.00	92.01	2.00	0.00	0.00	0.00	0.00
92.06	2.00	0.00	0.00	0.00	0.00	92.13	2.00	0.00	0.00	0.00	0.00
92.20	2.00	0.00	0.00	0.00	0.00	92.28	2.00	0.00	0.00	0.00	0.00
92.33	2.00	0.00	0.00	0.00	0.00	92.40	2.00	0.00	0.00	0.00	0.00
92.46	2.00	0.00	0.00	0.00	0.00	92.53	2.00	0.00	0.00	0.00	0.00
92.61	2.00	0.00	0.00	0.00	0.00	92.67	2.00	0.00	0.00	0.00	0.00
92.73	2.00	0.00	0.00	0.00	0.00	92.82	2.00	0.00	0.00	0.00	0.00
92.85	2.00	0.00	0.00	0.00	0.00	92.93	2.00	0.00	0.00	0.00	0.00
92.98	2.00	0.00	0.00	0.00	0.00	93.07	2.00	0.00	0.00	0.00	0.00
93.13	2.00	0.00	0.00	0.00	0.00	93.18	2.00	0.00	0.00	0.00	0.00
93.24	2.00	0.00	0.00	0.00	0.00	93.33	2.00	0.00	0.00	0.00	0.00
93.37	2.00	0.00	0.00	0.00	0.00	93.45	2.00	0.00	0.00	0.00	0.00
93.52	2.00	0.00	0.00	0.00	0.00	93.60	2.00	0.00	0.00	0.00	0.00
93.66	2.00	0.00	0.00	0.00	0.00	93.70	2.00	0.00	0.00	0.00	0.00
93.80	2.00	0.00	0.00	0.00	0.00	93.87	2.00	0.00	0.00	0.00	0.00
93.90	2.00	0.00	0.00	0.00	0.00	93.96	2.00	0.00	0.00	0.00	0.00
94.03	2.00	0.00	0.00	0.00	0.00	94.11	2.00	0.00	0.00	0.00	0.00
94.17	2.00	0.00	0.00	0.00	0.00	94.27	2.00	0.00	0.00	0.00	0.00
94.31	2.00	0.00	0.00	0.00	0.00	94.37	2.00	0.00	0.00	0.00	0.00
94.42	2.00	0.00	0.00	0.00	0.00	94.49	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI
94.56	2.00	0.00	0.00	0.00	0.00	94.63	2.00	0.00	0.00	0.00	0.00
94.70	2.00	0.00	0.00	0.00	0.00	94.78	2.00	0.00	0.00	0.00	0.00
94.84	2.00	0.00	0.00	0.00	0.00	94.90	2.00	0.00	0.00	0.00	0.00
94.99	2.00	0.00	0.00	0.00	0.00	95.05	2.00	0.00	0.00	0.00	0.00
95.09	2.00	0.00	0.00	0.00	0.00	95.16	2.00	0.00	0.00	0.00	0.00
95.22	2.00	0.00	0.00	0.00	0.00	95.30	2.00	0.00	0.00	0.00	0.00
95.35	2.00	0.00	0.00	0.00	0.00	95.41	2.00	0.00	0.00	0.00	0.00
95.50	2.00	0.00	0.00	0.00	0.00	95.55	2.00	0.00	0.00	0.00	0.00
95.62	2.00	0.00	0.00	0.00	0.00	95.67	2.00	0.00	0.00	0.00	0.00
95.74	2.00	0.00	0.00	0.00	0.00	95.81	2.00	0.00	0.00	0.00	0.00
95.87	2.00	0.00	0.00	0.00	0.00	95.94	2.00	0.00	0.00	0.00	0.00
96.00	2.00	0.00	0.00	0.00	0.00	96.10	2.00	0.00	0.00	0.00	0.00
96.14	2.00	0.00	0.00	0.00	0.00	96.21	2.00	0.00	0.00	0.00	0.00
96.27	2.00	0.00	0.00	0.00	0.00	96.34	2.00	0.00	0.00	0.00	0.00
96.42	2.00	0.00	0.00	0.00	0.00	96.47	2.00	0.00	0.00	0.00	0.00
96.54	2.00	0.00	0.00	0.00	0.00	96.61	2.00	0.00	0.00	0.00	0.00
96.66	2.00	0.00	0.00	0.00	0.00	96.72	2.00	0.00	0.00	0.00	0.00
96.79	2.00	0.00	0.00	0.00	0.00	96.88	2.00	0.00	0.00	0.00	0.00
96.92	2.00	0.00	0.00	0.00	0.00	96.99	2.00	0.00	0.00	0.00	0.00
97.09	2.00	0.00	0.00	0.00	0.00	97.14	2.00	0.00	0.00	0.00	0.00
97.20	2.00	0.00	0.00	0.00	0.00	97.25	2.00	0.00	0.00	0.00	0.00
97.32	2.00	0.00	0.00	0.00	0.00	97.39	2.00	0.00	0.00	0.00	0.00
97.46	2.00	0.00	0.00	0.00	0.00	97.52	2.00	0.00	0.00	0.00	0.00
97.58	2.00	0.00	0.00	0.00	0.00	97.64	2.00	0.00	0.00	0.00	0.00
97.71	2.00	0.00	0.00	0.00	0.00	97.80	2.00	0.00	0.00	0.00	0.00
97.85	2.00	0.00	0.00	0.00	0.00	97.91	2.00	0.00	0.00	0.00	0.00
97.97	2.00	0.00	0.00	0.00	0.00	98.07	2.00	0.00	0.00	0.00	0.00
98.10	2.00	0.00	0.00	0.00	0.00	98.17	2.00	0.00	0.00	0.00	0.00
98.28	2.00	0.00	0.00	0.00	0.00	98.33	2.00	0.00	0.00	0.00	0.00
98.38	2.00	0.00	0.00	0.00	0.00	98.43	2.00	0.00	0.00	0.00	0.00
98.52	2.00	0.00	0.00	0.00	0.00	98.56	2.00	0.00	0.00	0.00	0.00
98.64	2.00	0.00	0.00	0.00	0.00	98.69	2.00	0.00	0.00	0.00	0.00
98.79	2.00	0.00	0.00	0.00	0.00	98.84	2.00	0.00	0.00	0.00	0.00
98.90	2.00	0.00	0.00	0.00	0.00	98.95	2.00	0.00	0.00	0.00	0.00
99.06	2.00	0.00	0.00	0.00	0.00	99.10	2.00	0.00	0.00	0.00	0.00
99.15	2.00	0.00	0.00	0.00	0.00	99.22	2.00	0.00	0.00	0.00	0.00
99.28	2.00	0.00	0.00	0.00	0.00	99.36	2.00	0.00	0.00	0.00	0.00
99.41	2.00	0.00	0.00	0.00	0.00	99.48	2.00	0.00	0.00	0.00	0.00
99.55	2.00	0.00	0.00	0.00	0.00	99.64	2.00	0.00	0.00	0.00	0.00
99.69	2.00	0.00	0.00	0.00	0.00	99.75	2.00	0.00	0.00	0.00	0.00
99.84	2.00	0.00	0.00	0.00	0.00	99.89	2.00	0.00	0.00	0.00	0.00
99.95	2.00	0.00	0.00	0.00	0.00	100.01	2.00	0.00	0.00	0.00	0.00
100.07	2.00	0.00	0.00	0.00	0.00	100.16	2.00	0.00	0.00	0.00	0.00

:: Liquefaction Potential Index calculation data :: (continued)

Depth (ft)	FS	F_L	w_z	d_z	LPI	Depth (ft)	FS	F_L	w_z	d_z	LPI

Overall liquefaction potential: 34.41

LPI = 0.00 - Liquefaction risk very low
LPI between 0.00 and 5.00 - Liquefaction risk low
LPI between 5.00 and 15.00 - Liquefaction risk high
LPI > 15.00 - Liquefaction risk very high

Abbreviations

FS: Calculated factor of safety for test point
F_L: 1 - FS
w_z: Function value of the extend of soil liquefaction according to depth
d_z: Layer thickness (ft)
LPI: Liquefaction potential index value for test point

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.09	4.06	0.14	26.61	3.67	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.14	4.06	0.13	26.61	3.58	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.20	4.06	0.13	26.61	3.47	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.29	3.59	4.10	15.84	64.94	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.34	2.85	15.92	5.24	83.40	0	0	0.43	0.000	0.00	0.00	0.00	0.000
0.40	2.37	38.20	2.18	83.32	20	428	0.43	0.003	0.00	13.34	0.00	0.000
0.47	2.10	64.26	1.45	93.23	20	513	0.43	0.003	0.00	13.34	0.00	0.000
0.57	2.00	80.45	1.30	104.34	22	566	0.42	0.003	0.00	13.34	0.00	0.000
0.60	1.99	84.23	1.29	108.66	23	588	0.43	0.003	0.00	13.34	0.00	0.000
0.67	2.05	77.50	1.37	106.38	23	583	0.42	0.004	0.00	13.34	0.00	0.000
0.73	2.14	67.18	1.54	103.58	23	569	0.43	0.005	0.00	13.34	0.00	0.000
0.80	2.24	56.48	1.77	99.97	23	540	0.43	0.006	0.00	13.34	0.00	0.000
0.88	2.34	46.26	2.09	96.65	23	503	0.43	0.007	0.01	13.34	0.01	0.000
0.93	2.40	40.26	2.30	92.49	23	469	0.43	0.009	0.01	13.34	0.01	0.000
1.00	2.45	35.40	2.53	89.67	23	442	0.43	0.011	0.01	13.34	0.01	0.000
1.05	2.49	31.91	2.69	85.96	22	416	0.43	0.014	0.01	13.34	0.01	0.000
1.14	2.51	29.15	2.83	82.45	21	393	0.43	0.019	0.02	13.34	0.02	0.000
1.18	2.54	26.69	2.97	79.23	21	372	0.43	0.023	0.02	13.34	0.02	0.000
1.25	2.57	24.48	3.15	77.16	21	356	0.43	0.030	0.03	13.34	0.03	0.000
1.34	2.57	23.61	3.15	74.37	20	343	0.43	0.038	0.04	13.34	0.04	0.001
1.40	2.57	22.82	3.14	71.71	19	331	0.43	0.048	0.05	13.34	0.05	0.001
1.45	2.53	23.60	2.93	69.22	18	326	0.43	0.054	0.06	13.34	0.06	0.001
1.55	2.51	24.20	2.82	68.26	18	326	0.43	0.062	0.07	13.34	0.07	0.002
1.59	2.45	26.70	2.54	67.77	17	334	0.43	0.060	0.07	13.34	0.07	0.001
1.66	2.40	29.20	2.33	67.92	17	343	0.43	0.059	0.07	13.34	0.07	0.001
1.71	2.33	34.54	2.04	70.39	17	368	0.43	0.048	0.06	13.34	0.06	0.001
1.79	2.26	40.62	1.84	74.71	17	400	0.43	0.040	0.05	13.34	0.04	0.001
1.84	2.21	47.83	1.68	80.46	18	438	0.43	0.032	0.04	13.34	0.03	0.000
1.91	2.20	50.81	1.66	84.54	19	461	0.43	0.029	0.03	13.34	0.03	0.000
1.98	2.17	55.32	1.60	88.30	20	484	0.43	0.027	0.03	13.34	0.03	0.000
2.05	2.17	57.18	1.59	90.74	20	497	0.43	0.027	0.03	13.34	0.03	0.000
2.11	2.17	58.06	1.59	92.10	20	505	0.43	0.027	0.03	13.34	0.03	0.000
2.17	2.21	54.23	1.69	91.58	21	498	0.43	0.030	0.03	13.34	0.03	0.000
2.26	2.25	50.19	1.80	90.57	21	487	0.43	0.034	0.03	13.34	0.03	0.001
2.30	2.28	47.10	1.88	88.41	21	472	0.43	0.039	0.04	13.34	0.04	0.000
2.38	2.29	44.88	1.92	86.07	20	457	0.43	0.046	0.05	13.34	0.04	0.001
2.44	2.31	43.06	1.97	84.62	20	447	0.43	0.052	0.05	13.34	0.05	0.001
2.52	2.32	41.87	2.03	84.83	20	445	0.43	0.057	0.06	13.34	0.05	0.001
2.59	2.35	40.30	2.10	84.72	20	440	0.43	0.062	0.06	13.34	0.06	0.001
2.64	2.37	37.89	2.19	83.06	20	427	0.43	0.072	0.07	13.34	0.07	0.001
2.69	2.40	34.94	2.30	80.21	20	407	0.43	0.091	0.09	13.34	0.09	0.001
2.76	2.43	31.65	2.45	77.52	19	386	0.43	0.120	0.12	13.34	0.12	0.002
2.83	2.50	27.42	2.75	75.45	19	363	0.43	0.169	0.17	13.34	0.17	0.003
2.91	2.57	23.25	3.16	73.51	20	338	0.43	0.253	0.26	13.34	0.25	0.004
2.96	2.64	19.96	3.55	70.93	0	0	0.43	0.000	0.00	0.00	0.00	0.000
3.02	2.65	18.43	3.62	66.75	0	0	0.43	0.000	0.00	0.00	0.00	0.000
3.08	2.65	17.00	3.64	61.81	0	0	0.43	0.000	0.00	0.00	0.00	0.000
3.16	2.64	15.87	3.59	57.01	0	0	0.43	0.000	0.00	0.00	0.00	0.000

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
3.25	2.64	15.18	3.56	53.98	0	0	0.43	0.000	0.00	0.00	0.00	0.000
3.31	2.62	15.32	3.45	52.79	0	0	0.43	0.000	0.00	0.00	0.00	0.000
3.35	2.59	16.05	3.28	52.61	14	239	0.43	3.438	5.19	13.34	4.93	0.043
3.42	2.55	17.42	3.04	52.89	14	247	0.43	2.946	4.53	13.34	4.30	0.070
3.48	2.51	19.23	2.82	54.27	14	259	0.43	2.192	3.35	13.34	3.17	0.047
3.58	2.47	21.38	2.62	56.11	14	274	0.43	1.628	2.44	13.34	2.32	0.057
3.62	2.44	23.39	2.49	58.13	15	288	0.43	1.189	1.74	13.34	1.65	0.015
3.68	2.40	25.98	2.31	59.97	15	304	0.43	0.889	1.28	13.34	1.22	0.017
3.77	2.37	28.38	2.19	62.17	15	319	0.43	0.699	0.98	13.34	0.93	0.020
3.83	2.34	31.07	2.07	64.29	15	335	0.43	0.549	0.75	13.34	0.72	0.010
3.89	2.32	32.98	2.00	65.90	16	347	0.43	0.476	0.64	13.34	0.61	0.009
3.94	2.29	34.84	1.92	67.02	16	356	0.43	0.427	0.57	13.34	0.54	0.006
4.01	2.28	35.97	1.89	67.97	16	362	0.43	0.407	0.54	13.34	0.51	0.009
4.08	2.28	36.60	1.89	69.15	16	368	0.43	0.389	0.50	13.34	0.48	0.008
4.15	2.29	36.89	1.91	70.58	17	375	0.43	0.371	0.47	13.34	0.44	0.008
4.21	2.30	37.61	1.94	72.86	17	386	0.43	0.329	0.40	13.34	0.38	0.005
4.29	2.29	38.98	1.93	75.07	18	398	0.43	0.296	0.34	13.34	0.33	0.007
4.35	2.27	41.67	1.84	76.81	18	411	0.43	0.262	0.30	13.34	0.29	0.005
4.41	2.21	46.04	1.69	77.93	18	424	0.43	0.234	0.27	13.34	0.26	0.003
4.47	2.15	52.46	1.55	81.26	18	446	0.43	0.191	0.22	13.34	0.21	0.003
4.54	2.10	59.23	1.46	86.27	19	475	0.43	0.151	0.16	13.34	0.16	0.003
4.60	2.09	63.68	1.44	91.87	20	505	0.42	0.120	0.12	13.34	0.12	0.002
4.67	2.07	70.20	1.40	98.03	21	538	0.43	0.098	0.09	13.34	0.09	0.002
4.74	2.05	77.21	1.36	105.29	22	576	0.42	0.079	0.07	13.34	0.07	0.001
4.82	2.01	85.85	1.31	112.84	24	614	0.42	0.067	0.05	13.34	0.05	0.001
4.87	2.00	90.50	1.31	118.22	25	642	0.42	0.059	0.05	13.34	0.04	0.001
4.92	2.01	93.34	1.31	122.02	25	663	0.42	0.055	0.04	13.34	0.04	0.000
4.99	2.02	94.75	1.32	125.33	26	683	0.42	0.052	0.04	13.34	0.04	0.001
5.10	2.03	95.43	1.34	127.74	27	697	0.42	0.051	0.04	13.34	0.03	0.001
5.14	2.04	95.58	1.35	129.14	27	706	0.42	0.050	0.03	13.34	0.03	0.000
5.19	2.04	96.01	1.35	129.85	27	710	0.42	0.050	0.03	13.34	0.03	0.000
5.26	2.03	97.18	1.34	130.68	28	714	0.42	0.050	0.03	13.34	0.03	0.001
5.32	2.01	100.11	1.32	132.08	28	719	0.42	0.050	0.03	13.34	0.03	0.000
5.41	1.99	103.93	1.29	133.76	28	723	0.42	0.051	0.03	13.34	0.03	0.001
5.45	1.96	109.28	1.25	136.21	28	729	0.42	0.051	0.03	13.34	0.03	0.000
5.51	1.92	115.41	1.21	139.10	28	733	0.42	0.051	0.03	13.34	0.03	0.001
5.61	1.88	120.89	1.17	141.69	28	734	0.42	0.053	0.03	13.34	0.03	0.001
5.66	1.85	124.61	1.15	143.19	28	731	0.42	0.054	0.04	13.34	0.03	0.000
5.72	1.84	125.79	1.14	143.16	28	725	0.42	0.056	0.04	13.34	0.04	0.001
5.78	1.83	125.88	1.13	142.43	28	718	0.42	0.059	0.04	13.34	0.04	0.001
5.85	1.83	124.99	1.13	141.11	28	710	0.42	0.063	0.04	13.34	0.04	0.001
5.92	1.83	123.32	1.13	139.23	27	701	0.42	0.067	0.05	13.34	0.04	0.001
5.98	1.83	121.25	1.13	137.13	27	691	0.42	0.071	0.05	13.34	0.05	0.001
6.04	1.84	118.59	1.14	134.67	26	681	0.42	0.076	0.05	13.34	0.05	0.001
6.13	1.84	116.23	1.14	132.60	26	673	0.42	0.081	0.06	13.34	0.06	0.001
6.19	1.85	114.40	1.15	131.05	26	668	0.42	0.085	0.06	13.34	0.06	0.001
6.24	1.85	113.07	1.15	129.93	26	663	0.42	0.088	0.07	13.34	0.06	0.001
6.32	1.86	111.79	1.15	128.82	25	659	0.42	0.093	0.07	13.34	0.07	0.001

:: Post-earthquake settlement of dry sands :: (continued)

Depth (ft)	Ic	Q_{tn}	K_c	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vd(15)}$ (%)	N_c	e_v (%)	Settle. (in)
6.40	1.86	110.51	1.16	127.65	25	654	0.42	0.097	0.07	13.34	0.07	0.001
6.44	1.86	109.33	1.16	126.50	25	649	0.42	0.102	0.08	13.34	0.07	0.001
6.51	1.87	107.56	1.16	124.89	25	643	0.42	0.108	0.08	13.34	0.08	0.001
6.59	1.88	105.54	1.17	123.15	24	636	0.42	0.115	0.09	13.34	0.09	0.002
6.63	1.89	103.07	1.18	121.14	24	629	0.42	0.121	0.10	13.34	0.09	0.001
6.70	1.89	100.77	1.18	119.30	24	622	0.42	0.129	0.10	13.34	0.10	0.002
6.77	1.90	98.55	1.19	117.43	24	614	0.42	0.138	0.11	13.34	0.11	0.002
6.86	1.91	97.12	1.20	116.13	23	609	0.42	0.147	0.12	13.34	0.12	0.002
6.89	1.91	96.58	1.19	115.39	23	605	0.42	0.153	0.13	13.34	0.12	0.001
6.97	1.90	96.87	1.19	114.98	23	600	0.42	0.162	0.14	13.34	0.13	0.003
7.03	1.88	97.79	1.17	114.58	23	593	0.42	0.173	0.15	13.34	0.14	0.002
7.09	1.87	99.21	1.16	114.90	23	590	0.42	0.180	0.15	13.34	0.15	0.002
7.18	1.86	100.43	1.15	115.54	23	590	0.42	0.185	0.16	13.34	0.15	0.003
7.22	1.85	101.61	1.15	116.70	23	596	0.42	0.181	0.15	13.34	0.15	0.001
7.29	1.86	101.60	1.15	117.00	23	598	0.42	0.182	0.15	13.34	0.15	0.002
7.36	1.86	101.40	1.16	117.25	23	601	0.42	0.182	0.15	13.34	0.14	0.002
7.42	1.87	101.83	1.16	117.92	23	606	0.42	0.180	0.15	13.34	0.14	0.002
7.48	1.86	103.45	1.15	119.33	24	611	0.42	0.177	0.15	13.34	0.14	0.002
7.55	1.85	105.55	1.15	121.22	24	619	0.42	0.172	0.14	13.34	0.13	0.002
7.62	1.85	106.43	1.15	122.25	24	627	0.42	0.166	0.13	13.34	0.13	0.002
7.70	1.86	106.95	1.15	122.98	24	635	0.42	0.162	0.13	13.34	0.12	0.002
7.74	1.86	107.50	1.15	123.55	24	640	0.42	0.159	0.13	13.34	0.12	0.001
7.84	1.85	107.61	1.15	123.59	24	645	0.42	0.159	0.13	13.34	0.12	0.003
7.90	1.85	108.54	1.14	124.17	24	649	0.42	0.157	0.12	13.34	0.12	0.001
7.95	1.84	109.83	1.14	124.87	24	654	0.42	0.155	0.12	13.34	0.12	0.002

Total estimated settlement: 0.44

Abbreviations

Q_{tn}: Normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vd(15)}$: Volumetric strain after 15 cycles
N_c: Equivalent number of cycles
e_v: Volumetric strain
Settle.: Calculated settlement

:: Post-earthquake settlement due to soil liquefaction ::

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
8.03	109.58	0.36	2.92	1.00	0.03	8.11	110.23	0.36	2.91	1.00	0.03
8.14	110.99	0.36	2.88	1.00	0.01	8.21	111.86	0.36	2.86	1.00	0.02
8.30	118.31	0.39	2.70	1.00	0.03	8.34	120.89	0.40	2.63	1.00	0.01
8.40	123.47	0.42	2.57	1.00	0.02	8.47	126.62	0.44	2.51	1.00	0.02
8.55	129.42	0.45	2.45	1.00	0.03	8.62	130.36	0.46	2.43	1.00	0.02
8.67	131.58	0.47	2.40	1.00	0.02	8.74	132.52	0.47	2.38	1.00	0.02
8.82	133.34	0.48	2.37	1.00	0.02	8.88	134.10	0.48	2.35	1.00	0.02
8.94	134.39	0.48	2.35	1.00	0.01	9.00	134.76	0.48	2.34	1.00	0.02
9.06	135.57	0.49	2.32	1.00	0.02	9.15	135.98	0.49	2.32	1.00	0.02
9.21	136.65	0.49	2.30	1.00	0.02	9.26	136.97	0.50	2.30	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
9.33	137.65	0.50	2.29	1.00	0.02	9.39	138.36	0.51	2.27	1.00	0.02
9.46	138.86	0.51	2.26	1.00	0.02	9.55	138.87	0.51	2.26	1.00	0.02
9.62	138.19	0.50	2.28	1.00	0.02	9.66	137.68	0.49	2.29	1.00	0.01
9.72	136.62	0.48	2.30	1.00	0.02	9.78	135.74	0.47	2.32	1.00	0.02
9.87	134.34	0.46	2.35	1.00	0.03	9.93	133.83	0.45	2.36	1.00	0.02
9.99	133.45	0.45	2.37	1.00	0.02	10.05	132.99	0.44	2.37	1.00	0.02
10.13	127.67	0.41	2.48	1.00	0.02	10.21	128.32	0.41	2.47	1.00	0.03
10.26	127.91	0.40	2.48	1.00	0.01	10.31	128.43	0.41	2.47	1.00	0.02
10.38	127.94	0.40	2.48	1.00	0.02	10.44	127.64	0.40	2.48	1.00	0.02
10.52	127.24	0.39	2.49	1.00	0.02	10.57	126.90	0.39	2.50	1.00	0.01
10.63	126.28	0.39	2.51	1.00	0.02	10.70	125.97	0.38	2.52	1.00	0.02
10.79	125.25	0.38	2.54	1.00	0.03	10.83	125.30	0.38	2.53	1.00	0.01
10.90	124.70	0.37	2.55	1.00	0.02	10.98	124.58	0.37	2.55	1.00	0.03
11.03	124.36	0.37	2.55	1.00	0.01	11.09	123.57	0.36	2.57	1.00	0.02
11.16	121.24	0.35	2.63	1.00	0.02	11.23	120.21	0.34	2.65	1.00	0.02
11.30	119.28	0.34	2.67	1.00	0.02	11.36	118.69	0.33	2.69	1.00	0.02
11.43	118.00	0.33	2.70	1.00	0.02	11.51	118.39	0.33	2.69	1.00	0.03
11.55	118.41	0.33	2.69	1.00	0.02	11.62	118.44	0.33	2.69	1.00	0.02
11.71	118.95	0.33	2.68	1.00	0.03	11.74	119.43	0.33	2.67	1.00	0.01
11.82	119.71	0.33	2.66	1.00	0.03	11.88	120.33	0.34	2.65	1.00	0.02
11.95	120.50	0.34	2.64	1.00	0.02	12.01	121.71	0.34	2.61	1.00	0.02
12.08	122.71	0.34	2.59	1.00	0.02	12.17	123.00	0.34	2.59	1.00	0.03
12.24	124.70	0.35	2.55	1.00	0.02	12.28	125.63	0.36	2.53	1.00	0.01
12.35	126.58	0.36	2.51	1.00	0.02	12.41	127.42	0.37	2.49	1.00	0.02
12.50	126.69	0.36	2.50	1.00	0.03	12.54	125.49	0.35	2.53	1.00	0.01
12.61	124.48	0.35	2.55	1.00	0.02	12.69	125.06	0.35	2.54	1.00	0.02
12.74	125.39	0.35	2.53	1.00	0.02	12.80	125.08	0.35	2.54	1.00	0.02
12.90	124.70	0.34	2.55	1.00	0.03	12.94	125.51	0.35	2.53	1.00	0.01
13.01	125.17	0.35	2.54	1.00	0.02	13.06	125.55	0.35	2.53	1.00	0.02
13.14	125.85	0.35	2.52	1.00	0.02	13.19	126.14	0.35	2.52	1.00	0.02
13.26	126.06	0.35	2.52	1.00	0.02	13.32	126.12	0.35	2.52	1.00	0.02
13.42	125.33	0.34	2.53	1.00	0.03	13.47	125.14	0.34	2.54	1.00	0.02
13.53	124.63	0.34	2.55	1.00	0.02	13.58	124.98	0.34	2.54	1.00	0.02
13.68	125.47	0.34	2.53	1.00	0.03	13.73	126.03	0.34	2.52	1.00	0.01
13.79	126.92	0.35	2.50	1.00	0.02	13.87	127.64	0.35	2.48	1.00	0.02
13.93	128.10	0.35	2.47	1.00	0.02	14.00	128.62	0.35	2.46	1.00	0.02
14.05	128.92	0.36	2.46	1.00	0.01	14.12	129.13	0.36	2.45	1.00	0.02
14.20	129.05	0.35	2.45	1.00	0.02	14.25	128.80	0.35	2.46	1.00	0.02
14.31	128.54	0.35	2.46	1.00	0.02	14.40	128.08	0.35	2.47	1.00	0.03
14.46	127.83	0.34	2.48	1.00	0.02	14.52	127.59	0.34	2.48	1.00	0.02
14.57	126.62	0.34	2.51	1.00	0.02	14.67	126.53	0.34	2.51	1.00	0.03
14.71	125.56	0.33	2.53	1.00	0.01	14.78	125.00	0.33	2.54	1.00	0.02
14.85	124.52	0.32	2.55	1.00	0.02	14.93	124.79	0.32	2.55	1.00	0.02
14.97	124.71	0.32	2.55	1.00	0.01	15.03	121.91	0.31	2.61	1.00	0.02
15.09	119.02	0.30	2.68	1.00	0.02	15.18	118.24	0.29	2.70	1.00	0.03
15.25	119.63	0.30	2.66	1.00	0.02	15.30	121.84	0.31	2.61	1.00	0.02
15.38	122.13	0.31	2.61	1.00	0.02	15.45	122.57	0.31	2.60	1.00	0.02
15.50	127.27	0.33	2.49	1.00	0.01	15.56	127.85	0.34	2.48	1.00	0.02

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
15.62	130.22	0.35	2.43	1.00	0.02	15.70	133.76	0.37	2.36	1.00	0.02
15.76	138.20	0.40	2.28	1.00	0.01	15.82	139.86	0.41	2.25	1.00	0.02
15.91	140.35	0.42	2.24	1.00	0.02	15.96	139.83	0.41	2.25	1.00	0.01
16.02	140.32	0.41	2.24	1.00	0.02	16.10	148.34	0.49	2.10	1.00	0.02
16.15	128.05	0.33	2.48	1.00	0.02	16.23	146.86	0.47	2.13	1.00	0.02
16.29	138.44	0.40	2.27	1.00	0.01	16.35	137.65	0.39	2.29	1.00	0.02
16.42	136.80	0.38	2.30	1.00	0.02	16.47	135.50	0.37	2.33	1.00	0.01
16.55	134.65	0.37	2.34	1.00	0.02	16.61	132.28	0.35	2.39	1.00	0.02
16.67	130.39	0.34	2.43	1.00	0.02	16.75	127.90	0.33	2.48	1.00	0.02
16.81	125.69	0.32	2.53	1.00	0.02	16.89	124.07	0.31	2.56	1.00	0.03
16.95	123.70	0.30	2.57	1.00	0.02	17.01	123.58	0.30	2.57	1.00	0.02
17.07	122.63	0.30	2.59	1.00	0.02	17.14	124.40	0.31	2.55	1.00	0.02
17.21	124.57	0.31	2.55	1.00	0.02	17.28	125.23	0.31	2.54	1.00	0.02
17.33	125.65	0.31	2.53	1.00	0.02	17.42	126.47	0.31	2.51	1.00	0.03
17.47	126.67	0.32	2.50	1.00	0.01	17.54	126.97	0.32	2.50	1.00	0.02
17.60	127.21	0.32	2.49	1.00	0.02	17.67	126.58	0.31	2.51	1.00	0.02
17.75	126.03	0.31	2.52	1.00	0.02	17.80	125.24	0.31	2.54	1.00	0.02
17.85	124.90	0.30	2.54	1.00	0.02	17.91	122.95	0.30	2.59	1.00	0.02
17.99	122.50	0.29	2.60	1.00	0.02	18.05	123.55	0.30	2.57	1.00	0.02
18.11	129.88	0.33	2.44	1.00	0.02	18.19	116.68	0.27	2.74	1.00	0.03
18.25	127.54	0.32	2.49	1.00	0.02	18.34	122.14	0.29	2.61	1.00	0.03
18.38	121.32	0.29	2.62	1.00	0.01	18.46	121.96	0.29	2.61	1.00	0.03
18.50	122.19	0.29	2.60	1.00	0.01	18.57	123.08	0.29	2.58	1.00	0.02
18.67	124.40	0.30	2.55	1.00	0.03	18.72	124.74	0.30	2.55	1.00	0.02
18.77	125.44	0.30	2.53	1.00	0.01	18.85	126.33	0.31	2.51	1.00	0.02
18.94	127.02	0.31	2.50	1.00	0.03	18.97	127.36	0.31	2.49	1.00	0.01
19.04	127.30	0.31	2.49	1.00	0.02	19.09	126.63	0.31	2.51	1.00	0.02
19.20	126.75	0.31	2.50	1.00	0.03	19.25	125.53	0.30	2.53	1.00	0.02
19.29	124.48	0.30	2.55	1.00	0.01	19.37	125.37	0.30	2.53	1.00	0.02
19.45	126.39	0.30	2.51	1.00	0.03	19.50	126.22	0.30	2.51	1.00	0.01
19.56	128.05	0.31	2.48	1.00	0.02	19.66	132.70	0.34	2.38	1.00	0.03
19.71	134.41	0.35	2.35	1.00	0.01	19.77	136.40	0.36	2.31	1.00	0.01
19.83	140.49	0.39	2.23	1.00	0.02	19.90	142.78	0.40	2.19	1.00	0.02
19.98	144.40	0.42	2.17	1.00	0.02	20.04	145.75	0.43	2.14	1.00	0.02
20.08	145.83	0.43	2.14	1.00	0.01	20.17	144.77	0.42	2.16	1.00	0.02
20.24	143.50	0.41	2.18	1.00	0.02	20.29	143.95	0.41	2.17	1.00	0.01
20.35	144.34	0.42	2.17	1.00	0.01	20.43	144.33	0.42	2.17	1.00	0.02
20.48	145.87	0.43	2.14	1.00	0.01	20.55	145.00	0.42	2.16	1.00	0.02
20.61	143.36	0.41	2.18	1.00	0.01	20.69	140.53	0.38	2.23	1.00	0.02
20.74	140.95	0.39	2.23	1.00	0.01	20.81	142.62	0.40	2.20	1.00	0.02
20.88	138.37	0.37	2.27	1.00	0.02	20.98	138.64	0.37	2.27	1.00	0.03
21.02	139.82	0.37	2.25	1.00	0.01	21.08	139.70	0.37	2.25	1.00	0.02
21.14	140.85	0.38	2.23	1.00	0.02	21.20	142.99	0.40	2.19	1.00	0.01
21.29	143.38	0.40	2.18	1.00	0.02	21.33	144.92	0.42	2.16	1.00	0.01
21.41	144.42	0.41	2.17	1.00	0.02	21.50	144.62	0.41	2.16	1.00	0.02
21.55	143.78	0.40	2.18	1.00	0.01	21.60	142.44	0.39	2.20	1.00	0.01
21.66	142.29	0.39	2.20	1.00	0.02	21.73	141.87	0.39	2.21	1.00	0.02
21.81	142.41	0.39	2.20	1.00	0.02	21.86	141.41	0.38	2.22	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
21.93	142.80	0.39	2.19	1.00	0.02	21.99	142.60	0.39	2.20	1.00	0.02
22.05	143.01	0.39	2.19	1.00	0.02	22.13	143.66	0.40	2.18	1.00	0.02
22.18	143.31	0.40	2.19	1.00	0.01	22.28	142.65	0.39	2.20	1.00	0.03
22.33	141.65	0.38	2.21	1.00	0.01	22.40	141.49	0.38	2.22	1.00	0.02
22.45	140.00	0.37	2.24	1.00	0.01	22.55	140.67	0.37	2.23	1.00	0.03
22.60	139.34	0.36	2.25	1.00	0.01	22.65	139.14	0.36	2.26	1.00	0.01
22.70	138.38	0.36	2.27	1.00	0.02	22.78	136.97	0.35	2.30	1.00	0.02
22.86	135.43	0.34	2.33	1.00	0.02	22.92	133.04	0.32	2.37	1.00	0.01
22.97	132.07	0.32	2.39	1.00	0.01	23.07	128.51	0.30	2.47	1.00	0.03
23.12	126.33	0.29	2.51	1.00	0.02	23.17	126.69	0.29	2.50	1.00	0.01
23.27	117.80	0.26	2.71	1.00	0.03	23.30	116.18	0.25	2.75	1.00	0.01
23.37	113.19	0.24	2.83	1.00	0.02	23.44	113.85	0.24	2.81	1.00	0.02
23.49	113.53	0.24	2.82	1.00	0.02	23.59	102.97	0.21	3.12	1.00	0.03
23.63	100.60	0.21	3.19	1.00	0.02	23.69	92.47	0.19	3.48	1.00	0.02
23.79	23.57	2.00	0.00	1.00	0.00	23.83	20.40	2.00	0.00	1.00	0.00
23.89	16.85	2.00	0.00	1.00	0.00	23.99	13.54	2.00	0.00	1.00	0.00
24.03	12.64	2.00	0.00	1.00	0.00	24.10	11.87	2.00	0.00	1.00	0.00
24.16	11.71	2.00	0.00	1.00	0.00	24.23	11.55	2.00	0.00	1.00	0.00
24.32	11.46	2.00	0.00	1.00	0.00	24.36	11.59	2.00	0.00	1.00	0.00
24.41	11.72	2.00	0.00	1.00	0.00	24.50	11.92	2.00	0.00	1.00	0.00
24.58	11.97	2.00	0.00	1.00	0.00	24.61	12.03	2.00	0.00	1.00	0.00
24.67	12.09	2.00	0.00	1.00	0.00	24.78	11.85	2.00	0.00	1.00	0.00
24.83	11.76	2.00	0.00	1.00	0.00	24.89	11.60	2.00	0.00	1.00	0.00
24.95	11.22	2.00	0.00	1.00	0.00	25.01	10.70	2.00	0.00	1.00	0.00
25.07	10.40	2.00	0.00	1.00	0.00	25.15	10.02	2.00	0.00	1.00	0.00
25.21	9.79	2.00	0.00	1.00	0.00	25.29	9.56	2.00	0.00	1.00	0.00
25.33	9.48	2.00	0.00	1.00	0.00	25.41	9.54	2.00	0.00	1.00	0.00
25.46	9.46	2.00	0.00	1.00	0.00	25.54	9.51	2.00	0.00	1.00	0.00
25.62	9.36	2.00	0.00	1.00	0.00	25.66	9.35	2.00	0.00	1.00	0.00
25.72	9.62	2.00	0.00	1.00	0.00	25.80	10.10	2.00	0.00	1.00	0.00
25.85	10.23	2.00	0.00	1.00	0.00	25.95	10.35	2.00	0.00	1.00	0.00
26.00	10.34	2.00	0.00	1.00	0.00	26.07	10.19	2.00	0.00	1.00	0.00
26.12	10.18	2.00	0.00	1.00	0.00	26.20	10.51	2.00	0.00	1.00	0.00
26.27	10.78	2.00	0.00	1.00	0.00	26.32	11.26	2.00	0.00	1.00	0.00
26.38	11.74	2.00	0.00	1.00	0.00	26.48	12.21	2.00	0.00	1.00	0.00
26.52	12.48	2.00	0.00	1.00	0.00	26.59	12.04	2.00	0.00	1.00	0.00
26.65	10.83	2.00	0.00	1.00	0.00	26.73	10.85	2.00	0.00	1.00	0.00
26.79	10.52	2.00	0.00	1.00	0.00	26.84	10.86	2.00	0.00	1.00	0.00
26.91	11.05	2.00	0.00	1.00	0.00	27.00	11.10	2.00	0.00	1.00	0.00
27.04	11.37	2.00	0.00	1.00	0.00	27.11	11.77	2.00	0.00	1.00	0.00
27.17	11.96	2.00	0.00	1.00	0.00	27.23	11.53	2.00	0.00	1.00	0.00
27.30	11.10	2.00	0.00	1.00	0.00	27.36	10.67	2.00	0.00	1.00	0.00
27.43	9.82	2.00	0.00	1.00	0.00	27.52	10.71	2.00	0.00	1.00	0.00
27.57	10.14	2.00	0.00	1.00	0.00	27.63	10.75	2.00	0.00	1.00	0.00
27.72	15.22	2.00	0.00	1.00	0.00	27.76	18.34	2.00	0.00	1.00	0.00
27.84	26.83	2.00	0.00	1.00	0.00	27.89	30.58	2.00	0.00	1.00	0.00
27.99	30.02	2.00	0.00	1.00	0.00	28.03	27.94	2.00	0.00	1.00	0.00
28.09	26.21	2.00	0.00	1.00	0.00	28.19	28.06	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
28.25	23.94	2.00	0.00	1.00	0.00	28.31	28.15	2.00	0.00	1.00	0.00
28.36	94.40	0.19	3.41	1.00	0.02	28.42	104.40	0.21	3.07	1.00	0.02
28.48	110.89	0.22	2.89	1.00	0.02	28.55	115.98	0.24	2.75	1.00	0.03
28.61	105.13	0.21	3.05	1.00	0.02	28.70	120.00	0.25	2.66	1.00	0.03
28.75	121.33	0.26	2.62	1.00	0.02	28.83	123.59	0.26	2.57	1.00	0.03
28.89	125.24	0.27	2.54	1.00	0.02	28.96	125.24	0.27	2.54	1.00	0.02
29.02	125.17	0.27	2.54	1.00	0.02	29.08	123.61	0.26	2.57	1.00	0.02
29.17	122.84	0.26	2.59	1.00	0.03	29.22	121.00	0.25	2.63	1.00	0.02
29.28	119.15	0.25	2.68	1.00	0.02	29.35	121.64	0.26	2.62	1.00	0.02
29.41	117.50	0.24	2.72	1.00	0.02	29.48	121.05	0.25	2.63	1.00	0.02
29.54	123.29	0.26	2.58	1.00	0.02	29.63	128.06	0.28	2.47	1.00	0.03
29.68	128.94	0.28	2.46	1.00	0.01	29.73	129.75	0.29	2.44	1.00	0.02
29.79	130.63	0.29	2.42	1.00	0.02	29.89	130.18	0.29	2.43	1.00	0.03
29.93	129.87	0.29	2.44	1.00	0.01	30.00	129.60	0.29	2.44	1.00	0.02
30.05	128.74	0.28	2.46	1.00	0.02	30.14	126.53	0.27	2.51	1.00	0.03
30.21	124.43	0.26	2.55	1.00	0.02	30.26	123.16	0.26	2.58	1.00	0.02
30.32	120.84	0.25	2.64	1.00	0.02	30.41	118.78	0.24	2.68	1.00	0.03
30.46	117.06	0.24	2.73	1.00	0.02	30.52	116.37	0.24	2.74	1.00	0.02
30.59	114.36	0.23	2.79	1.00	0.02	30.67	112.88	0.23	2.83	1.00	0.03
30.71	112.09	0.22	2.85	1.00	0.01	30.78	111.35	0.22	2.87	1.00	0.02
30.89	107.92	0.21	2.97	1.00	0.04	30.92	106.74	0.21	3.00	1.00	0.01
30.99	104.72	0.21	3.06	1.00	0.03	31.04	103.96	0.21	3.09	1.00	0.02
31.10	103.76	0.20	3.09	1.00	0.02	31.20	110.53	0.22	2.90	1.00	0.03
31.24	116.97	0.24	2.73	1.00	0.01	31.30	124.95	0.27	2.54	1.00	0.02
31.37	138.61	0.33	2.27	1.00	0.02	31.46	137.69	0.33	2.29	1.00	0.03
31.52	134.60	0.31	2.34	1.00	0.02	31.56	134.76	0.31	2.34	1.00	0.01
31.66	124.89	0.26	2.54	1.00	0.03	31.73	122.24	0.25	2.60	1.00	0.02
31.77	116.69	0.24	2.74	1.00	0.02	31.82	114.25	0.23	2.80	1.00	0.02
31.93	107.71	0.21	2.98	1.00	0.04	31.96	108.07	0.21	2.97	1.00	0.01
32.02	107.16	0.21	2.99	1.00	0.02	32.11	112.64	0.22	2.84	1.00	0.03
32.15	117.64	0.24	2.71	1.00	0.02	32.22	132.00	0.30	2.39	1.00	0.02
32.31	157.28	0.51	1.89	1.00	0.02	32.35	157.61	0.51	1.87	1.00	0.01
32.44	159.95	0.55	1.73	1.00	0.02	32.48	155.72	0.49	1.99	1.00	0.01
32.58	157.84	0.51	1.86	1.00	0.02	32.65	159.92	0.54	1.73	1.00	0.01
32.70	163.16	0.60	1.55	1.00	0.01	32.75	167.50	0.69	1.33	1.00	0.01
32.82	169.55	0.73	1.24	1.00	0.01	32.91	170.83	0.77	1.19	1.00	0.01
32.94	172.39	0.81	1.12	1.00	0.00	33.01	171.85	0.79	1.15	1.00	0.01
33.10	168.65	0.71	1.28	1.00	0.01	33.15	167.88	0.69	1.32	1.00	0.01
33.22	166.59	0.66	1.38	1.00	0.01	33.28	165.42	0.64	1.43	1.00	0.01
33.34	164.55	0.62	1.48	1.00	0.01	33.43	165.56	0.64	1.43	1.00	0.02
33.48	165.42	0.64	1.43	1.00	0.01	33.53	165.80	0.65	1.42	1.00	0.01
33.62	165.40	0.64	1.43	1.00	0.02	33.67	164.16	0.61	1.50	1.00	0.01
33.75	163.81	0.61	1.52	1.00	0.01	33.80	163.25	0.60	1.54	1.00	0.01
33.88	162.11	0.58	1.61	1.00	0.02	33.94	161.66	0.57	1.63	1.00	0.01
34.00	160.10	0.54	1.72	1.00	0.01	34.06	158.26	0.52	1.83	1.00	0.01
34.14	155.07	0.47	2.00	1.00	0.02	34.21	152.62	0.45	2.03	1.00	0.02
34.26	151.99	0.44	2.04	1.00	0.01	34.35	147.99	0.40	2.11	1.00	0.02
34.42	145.72	0.38	2.14	1.00	0.02	34.46	144.75	0.37	2.16	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
34.53	140.72	0.34	2.23	1.00	0.02	34.59	137.10	0.32	2.30	1.00	0.02
34.66	131.53	0.29	2.40	1.00	0.02	34.72	129.08	0.28	2.45	1.00	0.01
34.79	122.17	0.25	2.60	1.00	0.02	34.88	100.10	0.20	3.21	1.00	0.04
34.92	36.14	2.00	0.00	1.00	0.00	34.98	30.05	2.00	0.00	1.00	0.00
35.04	22.17	2.00	0.00	1.00	0.00	35.13	16.90	2.00	0.00	1.00	0.00
35.19	12.84	2.00	0.00	1.00	0.00	35.24	11.21	2.00	0.00	1.00	0.00
35.33	10.23	2.00	0.00	1.00	0.00	35.39	9.80	2.00	0.00	1.00	0.00
35.44	9.68	2.00	0.00	1.00	0.00	35.51	9.91	2.00	0.00	1.00	0.00
35.57	10.07	2.00	0.00	1.00	0.00	35.65	10.30	2.00	0.00	1.00	0.00
35.71	10.65	2.00	0.00	1.00	0.00	35.79	11.53	2.00	0.00	1.00	0.00
35.84	11.88	2.00	0.00	1.00	0.00	35.91	12.28	2.00	0.00	1.00	0.00
35.97	12.51	2.00	0.00	1.00	0.00	36.02	12.08	2.00	0.00	1.00	0.00
36.11	11.47	2.00	0.00	1.00	0.00	36.17	10.75	2.00	0.00	1.00	0.00
36.24	10.38	2.00	0.00	1.00	0.00	36.32	10.60	2.00	0.00	1.00	0.00
36.38	10.18	2.00	0.00	1.00	0.00	36.43	10.05	2.00	0.00	1.00	0.00
36.49	9.87	2.00	0.00	1.00	0.00	36.56	9.21	2.00	0.00	1.00	0.00
36.65	8.91	2.00	0.00	1.00	0.00	36.69	8.90	2.00	0.00	1.00	0.00
36.78	8.89	2.00	0.00	1.00	0.00	36.85	8.88	2.00	0.00	1.00	0.00
36.88	8.82	2.00	0.00	1.00	0.00	36.95	8.84	2.00	0.00	1.00	0.00
37.01	8.83	2.00	0.00	1.00	0.00	37.11	8.84	2.00	0.00	1.00	0.00
37.17	9.36	2.00	0.00	1.00	0.00	37.22	9.93	2.00	0.00	1.00	0.00
37.28	10.62	2.00	0.00	1.00	0.00	37.34	11.31	2.00	0.00	1.00	0.00
37.42	11.94	2.00	0.00	1.00	0.00	37.48	13.10	2.00	0.00	1.00	0.00
37.55	13.79	2.00	0.00	1.00	0.00	37.62	14.54	2.00	0.00	1.00	0.00
37.68	14.89	2.00	0.00	1.00	0.00	37.74	15.58	2.00	0.00	1.00	0.00
37.81	16.28	2.00	0.00	1.00	0.00	37.87	14.02	2.00	0.00	1.00	0.00
37.94	17.68	2.00	0.00	1.00	0.00	38.01	19.16	2.00	0.00	1.00	0.00
38.08	19.15	2.00	0.00	1.00	0.00	38.13	19.14	2.00	0.00	1.00	0.00
38.20	21.22	2.00	0.00	1.00	0.00	38.26	23.98	2.00	0.00	1.00	0.00
38.36	27.06	2.00	0.00	1.00	0.00	38.39	29.30	2.00	0.00	1.00	0.00
38.46	91.16	0.18	3.53	1.00	0.03	38.52	92.37	0.18	3.48	1.00	0.03
38.60	92.05	0.18	3.49	1.00	0.03	38.67	91.81	0.18	3.50	1.00	0.03
38.73	90.91	0.18	3.54	1.00	0.02	38.80	90.55	0.18	3.55	1.00	0.03
38.86	90.38	0.18	3.56	1.00	0.02	38.92	90.40	0.18	3.56	1.00	0.03
38.99	89.74	0.18	3.58	1.00	0.03	39.04	29.55	2.00	0.00	1.00	0.00
39.11	28.38	2.00	0.00	1.00	0.00	39.18	27.45	2.00	0.00	1.00	0.00
39.25	27.02	2.00	0.00	1.00	0.00	39.33	26.71	2.00	0.00	1.00	0.00
39.40	26.27	2.00	0.00	1.00	0.00	39.44	25.97	2.00	0.00	1.00	0.00
39.51	25.97	2.00	0.00	1.00	0.00	39.60	25.96	2.00	0.00	1.00	0.00
39.66	25.95	2.00	0.00	1.00	0.00	39.72	28.45	2.00	0.00	1.00	0.00
39.77	31.68	2.00	0.00	1.00	0.00	39.84	100.13	0.19	3.21	1.00	0.03
39.91	107.48	0.21	2.98	1.00	0.03	39.97	109.25	0.21	2.93	1.00	0.02
40.03	110.12	0.21	2.91	1.00	0.02	40.12	109.18	0.21	2.93	1.00	0.03
40.19	108.33	0.21	2.96	1.00	0.02	40.24	108.21	0.21	2.96	1.00	0.02
40.31	108.39	0.21	2.96	1.00	0.02	40.38	109.28	0.21	2.93	1.00	0.02
40.45	110.75	0.22	2.89	1.00	0.03	40.49	110.85	0.22	2.89	1.00	0.01
40.56	107.53	0.21	2.98	1.00	0.03	40.63	101.05	0.20	3.18	1.00	0.03
40.70	34.66	2.00	0.00	1.00	0.00	40.76	28.83	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
40.82	24.51	2.00	0.00	1.00	0.00	40.90	22.88	2.00	0.00	1.00	0.00
40.96	22.27	2.00	0.00	1.00	0.00	41.02	23.21	2.00	0.00	1.00	0.00
41.09	27.66	2.00	0.00	1.00	0.00	41.16	32.70	2.00	0.00	1.00	0.00
41.21	36.12	2.00	0.00	1.00	0.00	41.31	107.75	0.21	2.97	1.00	0.03
41.36	110.51	0.22	2.90	1.00	0.02	41.42	113.85	0.22	2.81	1.00	0.02
41.47	115.06	0.23	2.78	1.00	0.02	41.56	118.05	0.24	2.70	1.00	0.03
41.63	119.36	0.24	2.67	1.00	0.02	41.68	120.58	0.24	2.64	1.00	0.02
41.73	121.52	0.25	2.62	1.00	0.02	41.82	124.56	0.26	2.55	1.00	0.03
41.87	126.55	0.26	2.51	1.00	0.01	41.94	128.35	0.27	2.47	1.00	0.02
42.04	135.74	0.31	2.32	1.00	0.03	42.09	138.57	0.32	2.27	1.00	0.01
42.15	142.19	0.35	2.20	1.00	0.02	42.20	148.74	0.40	2.10	1.00	0.01
42.29	158.53	0.51	1.81	1.00	0.02	42.33	158.18	0.50	1.84	1.00	0.01
42.41	160.08	0.53	1.72	1.00	0.02	42.47	161.13	0.55	1.66	1.00	0.01
42.55	162.36	0.57	1.59	1.00	0.02	42.60	161.99	0.56	1.61	1.00	0.01
42.67	162.93	0.58	1.56	1.00	0.01	42.73	163.28	0.58	1.54	1.00	0.01
42.81	163.65	0.59	1.52	1.00	0.02	42.88	164.17	0.60	1.50	1.00	0.01
42.93	164.56	0.60	1.48	1.00	0.01	43.03	163.90	0.59	1.51	1.00	0.02
43.08	163.51	0.59	1.53	1.00	0.01	43.12	162.71	0.57	1.57	1.00	0.01
43.19	161.27	0.55	1.65	1.00	0.01	43.25	160.78	0.54	1.68	1.00	0.01
43.34	158.29	0.50	1.83	1.00	0.02	43.40	157.63	0.50	1.87	1.00	0.01
43.44	156.09	0.48	1.97	1.00	0.01	43.50	155.39	0.47	1.99	1.00	0.02
43.57	153.40	0.44	2.02	1.00	0.02	43.65	153.85	0.45	2.02	1.00	0.02
43.71	152.28	0.43	2.04	1.00	0.01	43.82	149.88	0.41	2.08	1.00	0.03
43.87	148.30	0.39	2.10	1.00	0.01	43.91	149.05	0.40	2.09	1.00	0.01
43.97	150.61	0.42	2.07	1.00	0.01	44.06	152.72	0.44	2.03	1.00	0.02
44.11	155.37	0.47	1.99	1.00	0.01	44.17	157.34	0.49	1.89	1.00	0.01
44.23	156.66	0.48	1.93	1.00	0.01	44.32	162.13	0.56	1.61	1.00	0.02
44.38	162.97	0.58	1.56	1.00	0.01	44.43	164.67	0.61	1.47	1.00	0.01
44.53	165.78	0.63	1.42	1.00	0.02	44.58	167.33	0.66	1.34	1.00	0.01
44.64	168.24	0.68	1.30	1.00	0.01	44.70	170.08	0.72	1.22	1.00	0.01
44.77	172.91	0.79	1.10	1.00	0.01	44.85	175.68	0.88	0.95	1.00	0.01
44.89	177.50	0.94	0.84	1.00	0.00	44.95	178.53	0.98	0.77	1.00	0.01
45.04	180.68	1.07	0.65	1.00	0.01	45.09	181.31	1.09	0.61	1.00	0.00
45.16	182.25	1.14	0.56	1.00	0.00	45.22	184.18	1.23	0.46	1.00	0.00
45.28	185.63	1.31	0.39	1.00	0.00	45.35	188.37	1.49	0.26	1.00	0.00
45.43	190.08	1.61	0.18	1.00	0.00	45.48	191.45	1.71	0.13	1.00	0.00
45.55	193.02	1.85	0.06	1.00	0.00	45.63	193.84	1.93	0.03	1.00	0.00
45.67	196.58	2.00	0.00	1.00	0.00	45.75	195.10	2.00	0.00	1.00	0.00
45.81	195.67	2.00	0.00	1.00	0.00	45.88	195.15	2.00	0.00	1.00	0.00
45.95	193.60	1.90	0.04	1.00	0.00	46.00	191.35	1.70	0.13	1.00	0.00
46.07	187.93	1.45	0.28	1.00	0.00	46.13	183.93	1.22	0.47	1.00	0.00
46.20	178.03	0.96	0.80	1.00	0.01	46.27	172.76	0.79	1.11	1.00	0.01
46.36	164.67	0.60	1.47	1.00	0.02	46.39	161.67	0.55	1.63	1.00	0.01
46.47	164.56	0.60	1.48	1.00	0.01	46.57	156.91	0.49	1.92	1.00	0.02
46.61	159.97	0.53	1.73	1.00	0.01	46.67	161.55	0.55	1.64	1.00	0.01
46.72	169.35	0.70	1.25	1.00	0.01	46.81	175.78	0.88	0.95	1.00	0.01
46.87	167.23	0.65	1.35	1.00	0.01	46.93	180.75	1.07	0.65	1.00	0.00
46.99	178.23	0.97	0.79	1.00	0.01	47.07	174.52	0.84	1.04	1.00	0.01

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
47.12	173.93	0.82	1.07	1.00	0.01	47.19	173.81	0.82	1.07	1.00	0.01
47.28	176.97	0.92	0.87	1.00	0.01	47.33	181.00	1.08	0.63	1.00	0.00
47.39	184.31	1.24	0.46	1.00	0.00	47.47	188.17	1.47	0.27	1.00	0.00
47.51	189.84	1.58	0.20	1.00	0.00	47.59	191.57	1.72	0.12	1.00	0.00
47.64	191.92	1.75	0.11	1.00	0.00	47.74	191.10	1.68	0.14	1.00	0.00
47.77	190.73	1.65	0.16	1.00	0.00	47.84	189.70	1.57	0.20	1.00	0.00
47.90	186.44	1.36	0.35	1.00	0.00	47.97	180.47	1.05	0.66	1.00	0.01
48.04	175.13	0.86	1.00	1.00	0.01	48.11	167.71	0.66	1.32	1.00	0.01
48.16	159.92	0.53	1.73	1.00	0.01	48.27	147.57	0.39	2.11	1.00	0.03
48.32	140.35	0.33	2.24	1.00	0.02	48.38	135.08	0.30	2.33	1.00	0.01
48.43	140.67	0.34	2.23	1.00	0.01	48.52	135.70	0.31	2.32	1.00	0.03
48.56	139.36	0.33	2.25	1.00	0.01	48.62	142.62	0.35	2.20	1.00	0.02
48.69	146.01	0.38	2.14	1.00	0.02	48.79	152.17	0.43	2.04	1.00	0.02
48.84	143.30	0.36	2.19	1.00	0.01	48.89	156.11	0.48	1.97	1.00	0.01
48.98	161.05	0.54	1.67	1.00	0.02	49.03	162.60	0.57	1.58	1.00	0.01
49.10	161.59	0.55	1.64	1.00	0.01	49.17	154.29	0.45	2.01	1.00	0.02
49.23	151.30	0.42	2.06	1.00	0.02	49.30	142.89	0.35	2.19	1.00	0.02
49.35	138.54	0.32	2.27	1.00	0.01	49.41	132.16	0.29	2.39	1.00	0.02
49.51	126.50	0.27	2.51	1.00	0.03	49.54	125.93	0.26	2.52	1.00	0.01
49.61	125.80	0.26	2.52	1.00	0.02	49.67	126.20	0.26	2.51	1.00	0.02
49.75	126.30	0.27	2.51	1.00	0.02	49.82	127.90	0.27	2.48	1.00	0.02
49.87	129.09	0.28	2.45	1.00	0.01	49.97	132.04	0.29	2.39	1.00	0.03
50.02	132.67	2.00	0.00	1.00	0.00	50.08	134.07	2.00	0.00	1.00	0.00
50.14	136.53	2.00	0.00	1.00	0.00	50.22	138.65	2.00	0.00	1.00	0.00
50.29	139.37	2.00	0.00	1.00	0.00	50.34	141.11	2.00	0.00	1.00	0.00
50.40	142.33	2.00	0.00	1.00	0.00	50.47	142.16	2.00	0.00	1.00	0.00
50.56	140.60	2.00	0.00	1.00	0.00	50.60	139.08	2.00	0.00	1.00	0.00
50.66	135.37	2.00	0.00	1.00	0.00	50.73	132.27	2.00	0.00	1.00	0.00
50.81	130.21	2.00	0.00	1.00	0.00	50.86	129.42	2.00	0.00	1.00	0.00
50.93	126.09	2.00	0.00	1.00	0.00	51.02	124.99	2.00	0.00	1.00	0.00
51.06	124.47	2.00	0.00	1.00	0.00	51.12	124.33	2.00	0.00	1.00	0.00
51.19	123.65	2.00	0.00	1.00	0.00	51.27	123.50	2.00	0.00	1.00	0.00
51.32	123.12	2.00	0.00	1.00	0.00	51.39	125.10	2.00	0.00	1.00	0.00
51.46	125.91	2.00	0.00	1.00	0.00	51.53	126.12	2.00	0.00	1.00	0.00
51.58	126.75	2.00	0.00	1.00	0.00	51.68	129.16	2.00	0.00	1.00	0.00
51.71	131.05	2.00	0.00	1.00	0.00	51.78	133.01	2.00	0.00	1.00	0.00
51.84	136.61	2.00	0.00	1.00	0.00	51.93	141.68	2.00	0.00	1.00	0.00
51.98	142.39	2.00	0.00	1.00	0.00	52.05	142.07	2.00	0.00	1.00	0.00
52.15	139.83	2.00	0.00	1.00	0.00	52.19	139.13	2.00	0.00	1.00	0.00
52.26	138.12	2.00	0.00	1.00	0.00	52.31	137.56	2.00	0.00	1.00	0.00
52.37	136.91	2.00	0.00	1.00	0.00	52.43	137.01	2.00	0.00	1.00	0.00
52.51	137.14	2.00	0.00	1.00	0.00	52.56	137.55	2.00	0.00	1.00	0.00
52.65	137.42	2.00	0.00	1.00	0.00	52.69	137.36	2.00	0.00	1.00	0.00
52.76	137.13	2.00	0.00	1.00	0.00	52.83	136.40	2.00	0.00	1.00	0.00
52.92	136.13	2.00	0.00	1.00	0.00	52.98	135.74	2.00	0.00	1.00	0.00
53.02	135.06	2.00	0.00	1.00	0.00	53.09	134.30	2.00	0.00	1.00	0.00
53.16	132.58	2.00	0.00	1.00	0.00	53.23	130.65	2.00	0.00	1.00	0.00
53.30	128.33	2.00	0.00	1.00	0.00	53.35	126.09	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
53.43	124.10	2.00	0.00	1.00	0.00	53.50	121.54	2.00	0.00	1.00	0.00
53.55	120.41	2.00	0.00	1.00	0.00	53.62	118.16	2.00	0.00	1.00	0.00
53.70	115.23	2.00	0.00	1.00	0.00	53.78	113.02	2.00	0.00	1.00	0.00
53.82	112.71	2.00	0.00	1.00	0.00	53.88	110.49	2.00	0.00	1.00	0.00
53.97	109.11	2.00	0.00	1.00	0.00	54.02	44.82	2.00	0.00	1.00	0.00
54.08	108.86	2.00	0.00	1.00	0.00	54.13	109.87	2.00	0.00	1.00	0.00
54.24	111.30	2.00	0.00	1.00	0.00	54.29	113.76	2.00	0.00	1.00	0.00
54.35	116.03	2.00	0.00	1.00	0.00	54.45	117.47	2.00	0.00	1.00	0.00
54.49	117.65	2.00	0.00	1.00	0.00	54.54	117.27	2.00	0.00	1.00	0.00
54.60	117.51	2.00	0.00	1.00	0.00	54.68	117.67	2.00	0.00	1.00	0.00
54.75	117.15	2.00	0.00	1.00	0.00	54.80	117.21	2.00	0.00	1.00	0.00
54.89	126.80	2.00	0.00	1.00	0.00	54.94	135.44	2.00	0.00	1.00	0.00
55.00	145.06	2.00	0.00	1.00	0.00	55.06	157.40	2.00	0.00	1.00	0.00
55.15	168.05	2.00	0.00	1.00	0.00	55.20	164.54	2.00	0.00	1.00	0.00
55.27	160.78	2.00	0.00	1.00	0.00	55.33	158.06	2.00	0.00	1.00	0.00
55.40	154.45	2.00	0.00	1.00	0.00	55.48	154.71	2.00	0.00	1.00	0.00
55.53	158.03	2.00	0.00	1.00	0.00	55.59	160.27	2.00	0.00	1.00	0.00
55.68	161.89	2.00	0.00	1.00	0.00	55.73	162.75	2.00	0.00	1.00	0.00
55.79	167.08	2.00	0.00	1.00	0.00	55.85	163.91	2.00	0.00	1.00	0.00
55.95	170.39	2.00	0.00	1.00	0.00	55.97	171.56	2.00	0.00	1.00	0.00
56.05	178.02	2.00	0.00	1.00	0.00	56.14	186.83	2.00	0.00	1.00	0.00
56.20	190.50	2.00	0.00	1.00	0.00	56.26	195.87	2.00	0.00	1.00	0.00
56.32	201.11	2.00	0.00	1.00	0.00	56.37	205.16	2.00	0.00	1.00	0.00
56.43	208.28	2.00	0.00	1.00	0.00	56.52	209.81	2.00	0.00	1.00	0.00
56.57	210.79	2.00	0.00	1.00	0.00	56.68	205.27	2.00	0.00	1.00	0.00
56.72	202.38	2.00	0.00	1.00	0.00	56.77	198.37	2.00	0.00	1.00	0.00
56.83	192.62	2.00	0.00	1.00	0.00	56.94	191.71	2.00	0.00	1.00	0.00
56.97	190.14	2.00	0.00	1.00	0.00	57.04	188.97	2.00	0.00	1.00	0.00
57.09	189.21	2.00	0.00	1.00	0.00	57.17	190.58	2.00	0.00	1.00	0.00
57.22	190.88	2.00	0.00	1.00	0.00	57.30	190.80	2.00	0.00	1.00	0.00
57.36	189.77	2.00	0.00	1.00	0.00	57.43	187.55	2.00	0.00	1.00	0.00
57.51	184.21	2.00	0.00	1.00	0.00	57.56	182.08	2.00	0.00	1.00	0.00
57.61	179.47	2.00	0.00	1.00	0.00	57.72	173.64	2.00	0.00	1.00	0.00
57.77	170.70	2.00	0.00	1.00	0.00	57.81	169.49	2.00	0.00	1.00	0.00
57.90	168.53	2.00	0.00	1.00	0.00	57.98	170.01	2.00	0.00	1.00	0.00
58.03	170.18	2.00	0.00	1.00	0.00	58.08	168.41	2.00	0.00	1.00	0.00
58.18	167.17	2.00	0.00	1.00	0.00	58.23	164.48	2.00	0.00	1.00	0.00
58.27	162.88	2.00	0.00	1.00	0.00	58.33	161.21	2.00	0.00	1.00	0.00
58.40	156.80	2.00	0.00	1.00	0.00	58.50	154.14	2.00	0.00	1.00	0.00
58.53	152.79	2.00	0.00	1.00	0.00	58.60	149.97	2.00	0.00	1.00	0.00
58.69	146.60	2.00	0.00	1.00	0.00	58.73	146.59	2.00	0.00	1.00	0.00
58.80	146.99	2.00	0.00	1.00	0.00	58.90	156.02	2.00	0.00	1.00	0.00
58.95	158.69	2.00	0.00	1.00	0.00	59.01	158.95	2.00	0.00	1.00	0.00
59.06	159.16	2.00	0.00	1.00	0.00	59.12	161.73	2.00	0.00	1.00	0.00
59.22	166.31	2.00	0.00	1.00	0.00	59.28	166.69	2.00	0.00	1.00	0.00
59.33	164.27	2.00	0.00	1.00	0.00	59.42	163.91	2.00	0.00	1.00	0.00
59.45	166.31	2.00	0.00	1.00	0.00	59.52	170.90	2.00	0.00	1.00	0.00
59.59	157.54	2.00	0.00	1.00	0.00	59.66	167.47	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
59.72	168.37	2.00	0.00	1.00	0.00	59.78	168.13	2.00	0.00	1.00	0.00
59.85	162.70	2.00	0.00	1.00	0.00	59.92	159.53	2.00	0.00	1.00	0.00
59.99	156.45	2.00	0.00	1.00	0.00	60.05	153.48	2.00	0.00	1.00	0.00
60.11	150.71	2.00	0.00	1.00	0.00	60.18	146.68	2.00	0.00	1.00	0.00
60.25	143.04	2.00	0.00	1.00	0.00	60.31	139.81	2.00	0.00	1.00	0.00
60.39	136.57	2.00	0.00	1.00	0.00	60.44	134.92	2.00	0.00	1.00	0.00
60.51	132.69	2.00	0.00	1.00	0.00	60.57	129.96	2.00	0.00	1.00	0.00
60.65	124.78	2.00	0.00	1.00	0.00	60.72	116.23	2.00	0.00	1.00	0.00
60.76	44.23	2.00	0.00	1.00	0.00	60.87	30.24	2.00	0.00	1.00	0.00
60.91	25.48	2.00	0.00	1.00	0.00	60.97	22.45	2.00	0.00	1.00	0.00
61.03	18.83	2.00	0.00	1.00	0.00	61.10	15.81	2.00	0.00	1.00	0.00
61.19	14.32	2.00	0.00	1.00	0.00	61.24	13.45	2.00	0.00	1.00	0.00
61.29	11.84	2.00	0.00	1.00	0.00	61.39	10.94	2.00	0.00	1.00	0.00
61.43	10.74	2.00	0.00	1.00	0.00	61.50	10.69	2.00	0.00	1.00	0.00
61.56	10.88	2.00	0.00	1.00	0.00	61.66	11.13	2.00	0.00	1.00	0.00
61.71	11.57	2.00	0.00	1.00	0.00	61.77	11.76	2.00	0.00	1.00	0.00
61.84	11.27	2.00	0.00	1.00	0.00	61.91	10.67	2.00	0.00	1.00	0.00
61.96	10.64	2.00	0.00	1.00	0.00	62.01	10.61	2.00	0.00	1.00	0.00
62.10	10.85	2.00	0.00	1.00	0.00	62.16	11.39	2.00	0.00	1.00	0.00
62.21	11.39	2.00	0.00	1.00	0.00	62.30	12.48	2.00	0.00	1.00	0.00
62.37	13.78	2.00	0.00	1.00	0.00	62.41	14.58	2.00	0.00	1.00	0.00
62.47	15.44	2.00	0.00	1.00	0.00	62.54	16.00	2.00	0.00	1.00	0.00
62.62	15.99	2.00	0.00	1.00	0.00	62.68	16.19	2.00	0.00	1.00	0.00
62.73	16.03	2.00	0.00	1.00	0.00	62.82	16.38	2.00	0.00	1.00	0.00
62.87	17.20	2.00	0.00	1.00	0.00	62.94	19.69	2.00	0.00	1.00	0.00
62.99	22.46	2.00	0.00	1.00	0.00	63.06	30.62	2.00	0.00	1.00	0.00
63.15	37.26	2.00	0.00	1.00	0.00	63.20	114.28	2.00	0.00	1.00	0.00
63.29	136.06	2.00	0.00	1.00	0.00	63.35	144.22	2.00	0.00	1.00	0.00
63.40	146.81	2.00	0.00	1.00	0.00	63.46	149.99	2.00	0.00	1.00	0.00
63.52	151.79	2.00	0.00	1.00	0.00	63.62	155.92	2.00	0.00	1.00	0.00
63.67	157.24	2.00	0.00	1.00	0.00	63.73	159.31	2.00	0.00	1.00	0.00
63.80	160.73	2.00	0.00	1.00	0.00	63.88	161.56	2.00	0.00	1.00	0.00
63.93	161.89	2.00	0.00	1.00	0.00	63.98	162.70	2.00	0.00	1.00	0.00
64.06	164.30	2.00	0.00	1.00	0.00	64.13	165.05	2.00	0.00	1.00	0.00
64.18	161.19	2.00	0.00	1.00	0.00	64.27	157.89	2.00	0.00	1.00	0.00
64.33	159.02	2.00	0.00	1.00	0.00	64.39	155.86	2.00	0.00	1.00	0.00
64.44	154.00	2.00	0.00	1.00	0.00	64.53	149.55	2.00	0.00	1.00	0.00
64.60	148.12	2.00	0.00	1.00	0.00	64.65	146.14	2.00	0.00	1.00	0.00
64.71	145.01	2.00	0.00	1.00	0.00	64.78	144.20	2.00	0.00	1.00	0.00
64.83	144.29	2.00	0.00	1.00	0.00	64.90	144.35	2.00	0.00	1.00	0.00
64.97	143.96	2.00	0.00	1.00	0.00	65.05	143.77	2.00	0.00	1.00	0.00
65.12	143.03	2.00	0.00	1.00	0.00	65.18	141.88	2.00	0.00	1.00	0.00
65.25	139.42	2.00	0.00	1.00	0.00	65.32	136.21	2.00	0.00	1.00	0.00
65.37	133.11	2.00	0.00	1.00	0.00	65.42	130.52	2.00	0.00	1.00	0.00
65.49	127.93	2.00	0.00	1.00	0.00	65.58	121.76	2.00	0.00	1.00	0.00
65.64	120.68	2.00	0.00	1.00	0.00	65.69	118.62	2.00	0.00	1.00	0.00
65.79	116.15	2.00	0.00	1.00	0.00	65.84	115.17	2.00	0.00	1.00	0.00
65.91	113.41	2.00	0.00	1.00	0.00	65.95	112.85	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
66.01	111.87	2.00	0.00	1.00	0.00	66.09	110.57	2.00	0.00	1.00	0.00
66.15	108.28	2.00	0.00	1.00	0.00	66.21	41.82	2.00	0.00	1.00	0.00
66.28	38.55	2.00	0.00	1.00	0.00	66.36	35.32	2.00	0.00	1.00	0.00
66.42	33.35	2.00	0.00	1.00	0.00	66.47	31.53	2.00	0.00	1.00	0.00
66.57	27.40	2.00	0.00	1.00	0.00	66.61	27.14	2.00	0.00	1.00	0.00
66.67	28.00	2.00	0.00	1.00	0.00	66.74	26.48	2.00	0.00	1.00	0.00
66.82	24.86	2.00	0.00	1.00	0.00	66.88	26.51	2.00	0.00	1.00	0.00
66.97	25.21	2.00	0.00	1.00	0.00	67.01	26.52	2.00	0.00	1.00	0.00
67.08	27.69	2.00	0.00	1.00	0.00	67.14	25.78	2.00	0.00	1.00	0.00
67.19	23.35	2.00	0.00	1.00	0.00	67.29	19.13	2.00	0.00	1.00	0.00
67.34	17.05	2.00	0.00	1.00	0.00	67.40	15.94	2.00	0.00	1.00	0.00
67.48	13.66	2.00	0.00	1.00	0.00	67.54	12.97	2.00	0.00	1.00	0.00
67.60	12.94	2.00	0.00	1.00	0.00	67.66	12.94	2.00	0.00	1.00	0.00
67.73	12.90	2.00	0.00	1.00	0.00	67.81	13.44	2.00	0.00	1.00	0.00
67.86	13.48	2.00	0.00	1.00	0.00	67.92	12.55	2.00	0.00	1.00	0.00
67.99	13.45	2.00	0.00	1.00	0.00	68.05	11.48	2.00	0.00	1.00	0.00
68.13	13.41	2.00	0.00	1.00	0.00	68.18	15.08	2.00	0.00	1.00	0.00
68.25	28.42	2.00	0.00	1.00	0.00	68.33	103.25	2.00	0.00	1.00	0.00
68.39	109.77	2.00	0.00	1.00	0.00	68.44	111.33	2.00	0.00	1.00	0.00
68.51	114.74	2.00	0.00	1.00	0.00	68.59	116.55	2.00	0.00	1.00	0.00
68.65	117.86	2.00	0.00	1.00	0.00	68.70	118.92	2.00	0.00	1.00	0.00
68.78	119.34	2.00	0.00	1.00	0.00	68.84	119.80	2.00	0.00	1.00	0.00
68.91	119.06	2.00	0.00	1.00	0.00	68.97	118.62	2.00	0.00	1.00	0.00
69.04	112.47	2.00	0.00	1.00	0.00	69.12	112.72	2.00	0.00	1.00	0.00
69.17	109.45	2.00	0.00	1.00	0.00	69.23	42.40	2.00	0.00	1.00	0.00
69.33	34.19	2.00	0.00	1.00	0.00	69.37	31.14	2.00	0.00	1.00	0.00
69.44	28.36	2.00	0.00	1.00	0.00	69.50	30.97	2.00	0.00	1.00	0.00
69.56	29.20	2.00	0.00	1.00	0.00	69.64	30.83	2.00	0.00	1.00	0.00
69.70	26.79	2.00	0.00	1.00	0.00	69.75	23.19	2.00	0.00	1.00	0.00
69.84	17.87	2.00	0.00	1.00	0.00	69.89	15.58	2.00	0.00	1.00	0.00
69.96	13.43	2.00	0.00	1.00	0.00	70.02	11.55	2.00	0.00	1.00	0.00
70.12	10.59	2.00	0.00	1.00	0.00	70.17	10.35	2.00	0.00	1.00	0.00
70.23	10.26	2.00	0.00	1.00	0.00	70.30	10.26	2.00	0.00	1.00	0.00
70.34	10.25	2.00	0.00	1.00	0.00	70.41	10.16	2.00	0.00	1.00	0.00
70.48	10.06	2.00	0.00	1.00	0.00	70.58	10.48	2.00	0.00	1.00	0.00
70.63	10.90	2.00	0.00	1.00	0.00	70.69	11.37	2.00	0.00	1.00	0.00
70.74	11.94	2.00	0.00	1.00	0.00	70.80	13.18	2.00	0.00	1.00	0.00
70.88	13.85	2.00	0.00	1.00	0.00	70.95	14.33	2.00	0.00	1.00	0.00
71.01	14.22	2.00	0.00	1.00	0.00	71.10	13.83	2.00	0.00	1.00	0.00
71.16	13.69	2.00	0.00	1.00	0.00	71.21	13.92	2.00	0.00	1.00	0.00
71.26	15.67	2.00	0.00	1.00	0.00	71.33	26.79	2.00	0.00	1.00	0.00
71.39	98.79	2.00	0.00	1.00	0.00	71.47	117.14	2.00	0.00	1.00	0.00
71.53	128.02	2.00	0.00	1.00	0.00	71.60	129.64	2.00	0.00	1.00	0.00
71.68	128.57	2.00	0.00	1.00	0.00	71.74	129.56	2.00	0.00	1.00	0.00
71.81	123.35	2.00	0.00	1.00	0.00	71.87	129.05	2.00	0.00	1.00	0.00
71.93	122.87	2.00	0.00	1.00	0.00	71.99	113.66	2.00	0.00	1.00	0.00
72.07	39.24	2.00	0.00	1.00	0.00	72.12	34.53	2.00	0.00	1.00	0.00
72.18	28.68	2.00	0.00	1.00	0.00	72.25	24.54	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
72.32	21.70	2.00	0.00	1.00	0.00	72.38	20.58	2.00	0.00	1.00	0.00
72.45	19.77	2.00	0.00	1.00	0.00	72.52	18.37	2.00	0.00	1.00	0.00
72.58	17.71	2.00	0.00	1.00	0.00	72.65	16.33	2.00	0.00	1.00	0.00
72.71	14.43	2.00	0.00	1.00	0.00	72.81	12.56	2.00	0.00	1.00	0.00
72.86	11.05	2.00	0.00	1.00	0.00	72.92	10.30	2.00	0.00	1.00	0.00
72.97	9.69	2.00	0.00	1.00	0.00	73.06	9.51	2.00	0.00	1.00	0.00
73.10	9.59	2.00	0.00	1.00	0.00	73.16	9.82	2.00	0.00	1.00	0.00
73.28	9.86	2.00	0.00	1.00	0.00	73.32	9.77	2.00	0.00	1.00	0.00
73.39	9.72	2.00	0.00	1.00	0.00	73.43	9.77	2.00	0.00	1.00	0.00
73.50	9.67	2.00	0.00	1.00	0.00	73.56	9.76	2.00	0.00	1.00	0.00
73.63	9.89	2.00	0.00	1.00	0.00	73.69	10.08	2.00	0.00	1.00	0.00
73.80	10.21	2.00	0.00	1.00	0.00	73.84	9.79	2.00	0.00	1.00	0.00
73.89	10.16	2.00	0.00	1.00	0.00	73.96	10.48	2.00	0.00	1.00	0.00
74.03	11.03	2.00	0.00	1.00	0.00	74.09	11.50	2.00	0.00	1.00	0.00
74.16	12.43	2.00	0.00	1.00	0.00	74.23	13.47	2.00	0.00	1.00	0.00
74.28	16.20	2.00	0.00	1.00	0.00	74.38	23.27	2.00	0.00	1.00	0.00
74.43	27.14	2.00	0.00	1.00	0.00	74.49	32.88	2.00	0.00	1.00	0.00
74.55	38.45	2.00	0.00	1.00	0.00	74.64	45.22	2.00	0.00	1.00	0.00
74.70	49.90	2.00	0.00	1.00	0.00	74.74	56.35	2.00	0.00	1.00	0.00
74.83	132.14	2.00	0.00	1.00	0.00	74.88	133.43	2.00	0.00	1.00	0.00
74.94	134.33	2.00	0.00	1.00	0.00	75.00	134.80	2.00	0.00	1.00	0.00
75.07	134.83	2.00	0.00	1.00	0.00	75.17	135.35	2.00	0.00	1.00	0.00
75.21	135.49	2.00	0.00	1.00	0.00	75.28	136.49	2.00	0.00	1.00	0.00
75.34	137.53	2.00	0.00	1.00	0.00	75.42	139.05	2.00	0.00	1.00	0.00
75.48	140.04	2.00	0.00	1.00	0.00	75.53	140.45	2.00	0.00	1.00	0.00
75.63	141.84	2.00	0.00	1.00	0.00	75.68	141.47	2.00	0.00	1.00	0.00
75.73	140.97	2.00	0.00	1.00	0.00	75.80	140.38	2.00	0.00	1.00	0.00
75.89	135.64	2.00	0.00	1.00	0.00	75.95	134.18	2.00	0.00	1.00	0.00
76.01	130.80	2.00	0.00	1.00	0.00	76.05	128.15	2.00	0.00	1.00	0.00
76.14	123.00	2.00	0.00	1.00	0.00	76.19	120.63	2.00	0.00	1.00	0.00
76.26	118.88	2.00	0.00	1.00	0.00	76.31	114.95	2.00	0.00	1.00	0.00
76.41	108.26	2.00	0.00	1.00	0.00	76.46	42.60	2.00	0.00	1.00	0.00
76.52	38.53	2.00	0.00	1.00	0.00	76.58	33.55	2.00	0.00	1.00	0.00
76.67	30.17	2.00	0.00	1.00	0.00	76.72	26.76	2.00	0.00	1.00	0.00
76.78	23.37	2.00	0.00	1.00	0.00	76.84	20.21	2.00	0.00	1.00	0.00
76.94	16.30	2.00	0.00	1.00	0.00	76.98	15.58	2.00	0.00	1.00	0.00
77.05	15.48	2.00	0.00	1.00	0.00	77.15	15.47	2.00	0.00	1.00	0.00
77.19	15.37	2.00	0.00	1.00	0.00	77.25	17.14	2.00	0.00	1.00	0.00
77.30	18.69	2.00	0.00	1.00	0.00	77.37	23.34	2.00	0.00	1.00	0.00
77.43	25.22	2.00	0.00	1.00	0.00	77.51	27.11	2.00	0.00	1.00	0.00
77.56	28.57	2.00	0.00	1.00	0.00	77.66	29.96	2.00	0.00	1.00	0.00
77.72	31.42	2.00	0.00	1.00	0.00	77.76	32.32	2.00	0.00	1.00	0.00
77.83	32.69	2.00	0.00	1.00	0.00	77.89	32.71	2.00	0.00	1.00	0.00
77.97	32.55	2.00	0.00	1.00	0.00	78.02	33.16	2.00	0.00	1.00	0.00
78.09	36.55	2.00	0.00	1.00	0.00	78.16	43.59	2.00	0.00	1.00	0.00
78.23	49.31	2.00	0.00	1.00	0.00	78.29	116.36	2.00	0.00	1.00	0.00
78.37	116.92	2.00	0.00	1.00	0.00	78.44	50.04	2.00	0.00	1.00	0.00
78.49	49.02	2.00	0.00	1.00	0.00	78.55	48.50	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
78.61	48.19	2.00	0.00	1.00	0.00	78.69	49.20	2.00	0.00	1.00	0.00
78.76	50.18	2.00	0.00	1.00	0.00	78.81	117.41	2.00	0.00	1.00	0.00
78.87	118.91	2.00	0.00	1.00	0.00	78.97	120.17	2.00	0.00	1.00	0.00
79.03	120.56	2.00	0.00	1.00	0.00	79.07	121.13	2.00	0.00	1.00	0.00
79.18	122.05	2.00	0.00	1.00	0.00	79.23	122.28	2.00	0.00	1.00	0.00
79.27	119.47	2.00	0.00	1.00	0.00	79.34	120.22	2.00	0.00	1.00	0.00
79.43	118.06	2.00	0.00	1.00	0.00	79.47	116.60	2.00	0.00	1.00	0.00
79.54	114.47	2.00	0.00	1.00	0.00	79.60	46.99	2.00	0.00	1.00	0.00
79.67	43.91	2.00	0.00	1.00	0.00	79.75	38.37	2.00	0.00	1.00	0.00
79.80	30.79	2.00	0.00	1.00	0.00	79.88	24.19	2.00	0.00	1.00	0.00
79.92	21.16	2.00	0.00	1.00	0.00	79.99	18.52	2.00	0.00	1.00	0.00
80.06	16.32	2.00	0.00	1.00	0.00	80.15	13.92	2.00	0.00	1.00	0.00
80.22	13.04	2.00	0.00	1.00	0.00	80.26	12.99	2.00	0.00	1.00	0.00
80.32	15.07	2.00	0.00	1.00	0.00	80.41	22.57	2.00	0.00	1.00	0.00
80.47	36.63	2.00	0.00	1.00	0.00	80.52	110.99	2.00	0.00	1.00	0.00
80.58	123.35	2.00	0.00	1.00	0.00	80.68	131.64	2.00	0.00	1.00	0.00
80.72	133.93	2.00	0.00	1.00	0.00	80.79	134.87	2.00	0.00	1.00	0.00
80.84	136.11	2.00	0.00	1.00	0.00	80.93	138.01	2.00	0.00	1.00	0.00
80.99	138.45	2.00	0.00	1.00	0.00	81.05	138.85	2.00	0.00	1.00	0.00
81.13	134.78	2.00	0.00	1.00	0.00	81.18	131.72	2.00	0.00	1.00	0.00
81.25	128.46	2.00	0.00	1.00	0.00	81.31	123.15	2.00	0.00	1.00	0.00
81.39	48.63	2.00	0.00	1.00	0.00	81.44	45.05	2.00	0.00	1.00	0.00
81.52	39.46	2.00	0.00	1.00	0.00	81.56	36.17	2.00	0.00	1.00	0.00
81.66	29.27	2.00	0.00	1.00	0.00	81.70	26.68	2.00	0.00	1.00	0.00
81.77	23.41	2.00	0.00	1.00	0.00	81.84	21.14	2.00	0.00	1.00	0.00
81.90	21.04	2.00	0.00	1.00	0.00	82.00	20.93	2.00	0.00	1.00	0.00
82.05	20.00	2.00	0.00	1.00	0.00	82.11	20.82	2.00	0.00	1.00	0.00
82.16	20.72	2.00	0.00	1.00	0.00	82.25	23.35	2.00	0.00	1.00	0.00
82.30	25.25	2.00	0.00	1.00	0.00	82.36	30.32	2.00	0.00	1.00	0.00
82.42	35.17	2.00	0.00	1.00	0.00	82.50	112.62	2.00	0.00	1.00	0.00
82.58	119.34	2.00	0.00	1.00	0.00	82.61	124.73	2.00	0.00	1.00	0.00
82.69	136.07	2.00	0.00	1.00	0.00	82.75	140.94	2.00	0.00	1.00	0.00
82.84	151.78	2.00	0.00	1.00	0.00	82.88	154.54	2.00	0.00	1.00	0.00
82.99	163.81	2.00	0.00	1.00	0.00	83.02	167.18	2.00	0.00	1.00	0.00
83.09	171.27	2.00	0.00	1.00	0.00	83.14	172.96	2.00	0.00	1.00	0.00
83.25	177.07	2.00	0.00	1.00	0.00	83.29	178.40	2.00	0.00	1.00	0.00
83.35	179.93	2.00	0.00	1.00	0.00	83.41	180.23	2.00	0.00	1.00	0.00
83.49	180.33	2.00	0.00	1.00	0.00	83.55	180.11	2.00	0.00	1.00	0.00
83.62	180.30	2.00	0.00	1.00	0.00	83.68	181.01	2.00	0.00	1.00	0.00
83.73	182.48	2.00	0.00	1.00	0.00	83.82	185.21	2.00	0.00	1.00	0.00
83.88	188.36	2.00	0.00	1.00	0.00	83.93	189.37	2.00	0.00	1.00	0.00
84.03	195.47	2.00	0.00	1.00	0.00	84.08	196.72	2.00	0.00	1.00	0.00
84.13	198.04	2.00	0.00	1.00	0.00	84.19	200.18	2.00	0.00	1.00	0.00
84.27	196.27	2.00	0.00	1.00	0.00	84.32	190.40	2.00	0.00	1.00	0.00
84.41	194.33	2.00	0.00	1.00	0.00	84.46	193.63	2.00	0.00	1.00	0.00
84.53	194.31	2.00	0.00	1.00	0.00	84.59	189.97	2.00	0.00	1.00	0.00
84.65	185.29	2.00	0.00	1.00	0.00	84.71	178.25	2.00	0.00	1.00	0.00
84.78	172.71	2.00	0.00	1.00	0.00	84.88	163.53	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
84.91	159.54	2.00	0.00	1.00	0.00	84.99	154.59	2.00	0.00	1.00	0.00
85.05	152.16	2.00	0.00	1.00	0.00	85.11	147.56	2.00	0.00	1.00	0.00
85.20	144.25	2.00	0.00	1.00	0.00	85.25	141.44	2.00	0.00	1.00	0.00
85.30	140.14	2.00	0.00	1.00	0.00	85.40	134.76	2.00	0.00	1.00	0.00
85.47	131.44	2.00	0.00	1.00	0.00	85.51	129.79	2.00	0.00	1.00	0.00
85.57	127.47	2.00	0.00	1.00	0.00	85.67	127.20	2.00	0.00	1.00	0.00
85.71	128.57	2.00	0.00	1.00	0.00	85.78	134.09	2.00	0.00	1.00	0.00
85.83	139.58	2.00	0.00	1.00	0.00	85.91	142.17	2.00	0.00	1.00	0.00
85.97	143.63	2.00	0.00	1.00	0.00	86.04	145.89	2.00	0.00	1.00	0.00
86.09	148.03	2.00	0.00	1.00	0.00	86.17	154.29	2.00	0.00	1.00	0.00
86.24	158.11	2.00	0.00	1.00	0.00	86.30	156.97	2.00	0.00	1.00	0.00
86.37	152.30	2.00	0.00	1.00	0.00	86.44	173.24	2.00	0.00	1.00	0.00
86.50	176.02	2.00	0.00	1.00	0.00	86.55	179.54	2.00	0.00	1.00	0.00
86.64	182.15	2.00	0.00	1.00	0.00	86.68	182.71	2.00	0.00	1.00	0.00
86.75	182.06	2.00	0.00	1.00	0.00	86.81	180.13	2.00	0.00	1.00	0.00
86.89	179.52	2.00	0.00	1.00	0.00	86.96	177.83	2.00	0.00	1.00	0.00
87.02	175.50	2.00	0.00	1.00	0.00	87.09	173.35	2.00	0.00	1.00	0.00
87.14	172.21	2.00	0.00	1.00	0.00	87.22	169.14	2.00	0.00	1.00	0.00
87.27	165.94	2.00	0.00	1.00	0.00	87.36	161.31	2.00	0.00	1.00	0.00
87.40	158.80	2.00	0.00	1.00	0.00	87.48	154.26	2.00	0.00	1.00	0.00
87.54	150.30	2.00	0.00	1.00	0.00	87.61	145.87	2.00	0.00	1.00	0.00
87.70	140.67	2.00	0.00	1.00	0.00	87.74	138.18	2.00	0.00	1.00	0.00
87.80	134.43	2.00	0.00	1.00	0.00	87.90	132.91	2.00	0.00	1.00	0.00
87.95	131.88	2.00	0.00	1.00	0.00	88.00	131.63	2.00	0.00	1.00	0.00
88.06	129.94	2.00	0.00	1.00	0.00	88.14	127.27	2.00	0.00	1.00	0.00
88.20	58.17	2.00	0.00	1.00	0.00	88.27	58.13	2.00	0.00	1.00	0.00
88.34	59.62	2.00	0.00	1.00	0.00	88.40	129.58	2.00	0.00	1.00	0.00
88.46	134.52	2.00	0.00	1.00	0.00	88.52	145.24	2.00	0.00	1.00	0.00
88.60	155.37	2.00	0.00	1.00	0.00	88.66	157.20	2.00	0.00	1.00	0.00
88.72	156.42	2.00	0.00	1.00	0.00	88.78	153.69	2.00	0.00	1.00	0.00
88.86	151.94	2.00	0.00	1.00	0.00	88.92	149.76	2.00	0.00	1.00	0.00
88.98	148.04	2.00	0.00	1.00	0.00	89.05	151.42	2.00	0.00	1.00	0.00
89.14	160.67	2.00	0.00	1.00	0.00	89.19	165.97	2.00	0.00	1.00	0.00
89.25	173.02	2.00	0.00	1.00	0.00	89.33	177.23	2.00	0.00	1.00	0.00
89.40	183.77	2.00	0.00	1.00	0.00	89.45	189.04	2.00	0.00	1.00	0.00
89.50	193.15	2.00	0.00	1.00	0.00	89.61	197.82	2.00	0.00	1.00	0.00
89.65	200.32	2.00	0.00	1.00	0.00	89.71	202.17	2.00	0.00	1.00	0.00
89.80	205.35	2.00	0.00	1.00	0.00	89.86	205.69	2.00	0.00	1.00	0.00
89.90	205.72	2.00	0.00	1.00	0.00	89.97	205.46	2.00	0.00	1.00	0.00
90.03	206.73	2.00	0.00	1.00	0.00	90.11	211.43	2.00	0.00	1.00	0.00
90.17	215.14	2.00	0.00	1.00	0.00	90.23	216.64	2.00	0.00	1.00	0.00
90.30	219.19	2.00	0.00	1.00	0.00	90.38	220.69	2.00	0.00	1.00	0.00
90.44	221.85	2.00	0.00	1.00	0.00	90.50	223.45	2.00	0.00	1.00	0.00
90.56	224.20	2.00	0.00	1.00	0.00	90.62	226.85	2.00	0.00	1.00	0.00
90.69	201.90	2.00	0.00	1.00	0.00	90.76	227.44	2.00	0.00	1.00	0.00
90.83	220.18	2.00	0.00	1.00	0.00	90.88	224.15	2.00	0.00	1.00	0.00
90.96	230.59	2.00	0.00	1.00	0.00	91.03	235.30	2.00	0.00	1.00	0.00
91.10	240.16	2.00	0.00	1.00	0.00	91.14	244.34	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
91.24	243.50	2.00	0.00	1.00	0.00	91.28	246.61	2.00	0.00	1.00	0.00
91.35	250.47	2.00	0.00	1.00	0.00	91.41	251.96	2.00	0.00	1.00	0.00
91.49	254.00	2.00	0.00	1.00	0.00	91.56	254.00	2.00	0.00	1.00	0.00
91.60	254.00	2.00	0.00	1.00	0.00	91.67	254.00	2.00	0.00	1.00	0.00
91.76	250.08	2.00	0.00	1.00	0.00	91.82	248.31	2.00	0.00	1.00	0.00
91.88	244.29	2.00	0.00	1.00	0.00	91.93	241.08	2.00	0.00	1.00	0.00
92.01	237.42	2.00	0.00	1.00	0.00	92.06	231.28	2.00	0.00	1.00	0.00
92.13	228.10	2.00	0.00	1.00	0.00	92.20	217.44	2.00	0.00	1.00	0.00
92.28	209.96	2.00	0.00	1.00	0.00	92.33	199.02	2.00	0.00	1.00	0.00
92.40	165.54	2.00	0.00	1.00	0.00	92.46	195.52	2.00	0.00	1.00	0.00
92.53	182.79	2.00	0.00	1.00	0.00	92.61	177.20	2.00	0.00	1.00	0.00
92.67	170.43	2.00	0.00	1.00	0.00	92.73	165.28	2.00	0.00	1.00	0.00
92.82	159.63	2.00	0.00	1.00	0.00	92.85	156.41	2.00	0.00	1.00	0.00
92.93	147.11	2.00	0.00	1.00	0.00	92.98	143.05	2.00	0.00	1.00	0.00
93.07	59.85	2.00	0.00	1.00	0.00	93.13	52.62	2.00	0.00	1.00	0.00
93.18	40.67	2.00	0.00	1.00	0.00	93.24	32.30	2.00	0.00	1.00	0.00
93.33	26.37	2.00	0.00	1.00	0.00	93.37	23.82	2.00	0.00	1.00	0.00
93.45	19.84	2.00	0.00	1.00	0.00	93.52	17.51	2.00	0.00	1.00	0.00
93.60	15.45	2.00	0.00	1.00	0.00	93.66	13.69	2.00	0.00	1.00	0.00
93.70	12.73	2.00	0.00	1.00	0.00	93.80	11.78	2.00	0.00	1.00	0.00
93.87	11.26	2.00	0.00	1.00	0.00	93.90	11.84	2.00	0.00	1.00	0.00
93.96	10.92	2.00	0.00	1.00	0.00	94.03	11.90	2.00	0.00	1.00	0.00
94.11	12.41	2.00	0.00	1.00	0.00	94.17	12.57	2.00	0.00	1.00	0.00
94.27	12.53	2.00	0.00	1.00	0.00	94.31	12.48	2.00	0.00	1.00	0.00
94.37	14.65	2.00	0.00	1.00	0.00	94.42	20.39	2.00	0.00	1.00	0.00
94.49	25.79	2.00	0.00	1.00	0.00	94.56	26.27	2.00	0.00	1.00	0.00
94.63	23.91	2.00	0.00	1.00	0.00	94.70	21.21	2.00	0.00	1.00	0.00
94.78	19.50	2.00	0.00	1.00	0.00	94.84	19.77	2.00	0.00	1.00	0.00
94.90	22.10	2.00	0.00	1.00	0.00	94.99	25.98	2.00	0.00	1.00	0.00
95.05	28.08	2.00	0.00	1.00	0.00	95.09	26.41	2.00	0.00	1.00	0.00
95.16	22.61	2.00	0.00	1.00	0.00	95.22	18.55	2.00	0.00	1.00	0.00
95.30	14.98	2.00	0.00	1.00	0.00	95.35	12.85	2.00	0.00	1.00	0.00
95.41	11.14	2.00	0.00	1.00	0.00	95.50	11.18	2.00	0.00	1.00	0.00
95.55	11.18	2.00	0.00	1.00	0.00	95.62	11.22	2.00	0.00	1.00	0.00
95.67	13.52	2.00	0.00	1.00	0.00	95.74	5.91	2.00	0.00	1.00	0.00
95.81	20.28	2.00	0.00	1.00	0.00	95.87	23.71	2.00	0.00	1.00	0.00
95.94	29.68	2.00	0.00	1.00	0.00	96.00	31.59	2.00	0.00	1.00	0.00
96.10	27.65	2.00	0.00	1.00	0.00	96.14	24.58	2.00	0.00	1.00	0.00
96.21	20.79	2.00	0.00	1.00	0.00	96.27	18.10	2.00	0.00	1.00	0.00
96.34	18.19	2.00	0.00	1.00	0.00	96.42	19.04	2.00	0.00	1.00	0.00
96.47	20.17	2.00	0.00	1.00	0.00	96.54	21.17	2.00	0.00	1.00	0.00
96.61	22.05	2.00	0.00	1.00	0.00	96.66	22.83	2.00	0.00	1.00	0.00
96.72	23.62	2.00	0.00	1.00	0.00	96.79	24.41	2.00	0.00	1.00	0.00
96.88	24.64	2.00	0.00	1.00	0.00	96.92	23.97	2.00	0.00	1.00	0.00
96.99	23.68	2.00	0.00	1.00	0.00	97.09	22.73	2.00	0.00	1.00	0.00
97.14	21.57	2.00	0.00	1.00	0.00	97.20	19.83	2.00	0.00	1.00	0.00
97.25	18.60	2.00	0.00	1.00	0.00	97.32	16.33	2.00	0.00	1.00	0.00
97.39	15.32	2.00	0.00	1.00	0.00	97.46	15.22	2.00	0.00	1.00	0.00

:: Post-earthquake settlement due to soil liquefaction :: (continued)

Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$q_{c1N,cs}$	FS	e_v (%)	DF	Settlement (in)
97.52	15.13	2.00	0.00	1.00	0.00	97.58	14.35	2.00	0.00	1.00	0.00
97.64	12.76	2.00	0.00	1.00	0.00	97.71	12.08	2.00	0.00	1.00	0.00
97.80	10.86	2.00	0.00	1.00	0.00	97.85	10.48	2.00	0.00	1.00	0.00
97.91	10.06	2.00	0.00	1.00	0.00	97.97	9.65	2.00	0.00	1.00	0.00
98.07	10.06	2.00	0.00	1.00	0.00	98.10	9.52	2.00	0.00	1.00	0.00
98.17	10.05	2.00	0.00	1.00	0.00	98.28	11.42	2.00	0.00	1.00	0.00
98.33	12.30	2.00	0.00	1.00	0.00	98.38	13.49	2.00	0.00	1.00	0.00
98.43	14.26	2.00	0.00	1.00	0.00	98.52	15.72	2.00	0.00	1.00	0.00
98.56	16.73	2.00	0.00	1.00	0.00	98.64	18.05	2.00	0.00	1.00	0.00
98.69	20.25	2.00	0.00	1.00	0.00	98.79	22.62	2.00	0.00	1.00	0.00
98.84	23.82	2.00	0.00	1.00	0.00	98.90	25.03	2.00	0.00	1.00	0.00
98.95	25.40	2.00	0.00	1.00	0.00	99.06	28.11	2.00	0.00	1.00	0.00
99.10	29.31	2.00	0.00	1.00	0.00	99.15	25.76	2.00	0.00	1.00	0.00
99.22	33.65	2.00	0.00	1.00	0.00	99.28	35.23	2.00	0.00	1.00	0.00
99.36	36.57	2.00	0.00	1.00	0.00	99.41	36.91	2.00	0.00	1.00	0.00
99.48	37.00	2.00	0.00	1.00	0.00	99.55	37.29	2.00	0.00	1.00	0.00
99.64	37.63	2.00	0.00	1.00	0.00	99.69	37.82	2.00	0.00	1.00	0.00
99.75	38.55	2.00	0.00	1.00	0.00	99.84	38.78	2.00	0.00	1.00	0.00
99.89	39.50	2.00	0.00	1.00	0.00	99.95	40.44	2.00	0.00	1.00	0.00
100.01	41.43	2.00	0.00	1.00	0.00	100.07	44.14	2.00	0.00	1.00	0.00
100.16	46.61	2.00	0.00	1.00	0.00						

Total estimated settlement: 8.62

Abbreviations

$Q_{tn,cs}$: Equivalent clean sand normalized cone resistance
FS: Factor of safety against liquefaction
e_v (%): Post-liquefaction volumentric strain
DF: e_v depth weighting factor
Settlement: Calculated settlement

Appendix D

Percolation Testing



APPENDIX D: PERCOLATION TESTING

Percolation tests were performed utilizing exploratory borings B-3 on May 31, 2024. The borings were pre-soaked prior to performing a falling-head percolation test to determine infiltration rates of the fill and native soils encountered between depths of 3.8 to 10.1 feet below the ground surface at the boring locations in accordance with Los Angeles County Low Impact Development, Best Management Practices Guidelines. The test borings were prepared by placing a perforated 2-inch diameter PVC pipe surrounded by pea gravel after drilling and sampling. Water was filled to the ground surface to pre-soak prior to testing.

The borings were cased using a two-inch diameter perforated casing. Water was added to the bore hole until the water level was as near the ground surface as could be achieved and allowed to pre-soak for at least 2 hours. After pre-soak, water was added to the bore hole until the water level was as near ground surface as could be achieved. The water level was measured to the nearest 1/10-foot and recorded every 10 minutes for 60 minutes for B-3. The results of the percolation tests are tabulated below.

Table No. D-1, Percolation Test Results

Boring No.	Depth of Boring* (feet)	Predominant Soil Types (USCS)	Average Percolation Rate (inches/hour)	Lowest Percolation Rate (inches/hour)
B-3	3.8 – 10.1	Silty Sand (SM)	1.75	1.69

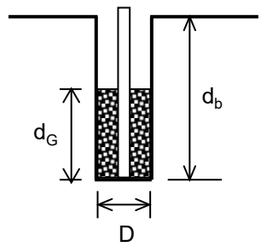
*Approximate

In accordance with County of Los Angeles requirements, the minimum percolation rate for design of infiltration system for storm water management is 0.30 inch per hour. Percolation rates of B-3 for infiltration system meet the minimum rate and are considered suitable for percolation drainage systems. The project Civil Engineer should review the raw data of percolation test presented herein to determine specific soil layers and percolation rates for design of the proposed infiltration system. Such systems should be constructed a minimum distance of 10 feet laterally from any existing or future planned building or subsurface structure so as not to disturb or undermine foundations. Percolation systems should be constructed a minimum distance of 10 feet above design ground water level. The percolation rates were determined in general accordance with Los Angeles County guidelines. The detailed percolation test results are shown on the following data sheet.

Percolation Testing

Job Name: New Student Housing Project
Job No.: 24-31-138-01
Location: Cerritos Community College - 11110 Alondra Boulevard, Norwalk, California 90650
Test Date: May 31, 2024

Test Boring No. **B-3**
Depth of Boring (d_b): 10.2 feet
Diameter of Boring (D): 0.66 feet
Diameter of Casing (d_c): 0.25 feet
Percolation Test Zone: 3.8-10.1 feet bgs
Test Performer: A. Zhukov



Time of Testing			Water Level Measurement		Water Level Calculations				Infiltration Rate Calculations			
Initial Time	Final Time	Time Interval	Initial depth to water	Final depth to water	Initial Height of water column	Final Height of water column	Drop in Height	Average height of water column	Pre-adjusted Percolation Rate	Reduction Factor	Adjusted Percolation Rate	Infiltration Rate by Porchet Method*
T_i	T_f	ΔT	d_1	d_2	d_i	d_f	$\Delta d = d_i - d_f$	L_{ave}	$P_i = \Delta d / \Delta T$	R_f	$k = P_i / R_f$	$I = \Delta dD / [2\Delta T(D/2+2L_{ave})R_f]$
		(hr)	(feet)	(feet)	(feet)	(feet)	(feet)	(feet)	(inch/hr)		(inch/hr)	(inch/hr)
Percolation Test												
0.00	10.00	0.17	4.03	7.41	6.27	2.89	3.38	4.58	243.36	3.0	81.12	2.82
10.00	20.00	0.17	3.83	6.85	6.47	3.45	3.02	4.96	217.44	3.0	72.48	2.33
20.00	30.00	0.17	4.11	6.68	6.19	3.62	2.57	4.91	185.04	3.0	61.68	2.01
30.00	40.00	0.17	3.93	6.35	6.37	3.95	2.42	5.16	174.24	3.0	58.08	1.80
40.00	50.00	0.17	3.82	6.24	6.48	4.06	2.42	5.27	174.24	3.0	58.08	1.76
50.00	60.00	0.17	3.82	6.16	6.48	4.14	2.34	5.31	168.48	3.0	56.16	1.69

Reference: Adminstrative Manual - County of Los Angeles Public Works Guidelines for Geotechnical Investigation and Reporting Low Impact Development Stomrwater Infiltration, dated 6/30/21

Reduction Factors:

RF_t (small diameter boring) = 1
RF_v (site variability) = 1
RF_s (siltation, plugging) = 1

Total Reduction Factor (RF) = RFt +RFv +RFs 3

Design Infiltration Rate = 1.75 inch/hr

Note: Design Infiltration Rate = Average of last three adjusted precolation rate readings

APPENDIX E: EARTHWORK SPECIFICATIONS

Scope of Work

The work includes all labor, supplies and construction equipment required to construct the building pads in a good, workman-like manner, as shown on the drawings and herein specified. The major items of work covered in this section include the following:

- Site Inspection
- Authority of Geotechnical Engineer
- Site Clearing
- Excavations
- Preparation of Fill Areas
- Placement and Compaction of Fill
- Observation and Testing

Site Inspection

- The Contractor shall carefully examine the site and make all inspections necessary, in order to determine the full extent of the work required to make the completed work conform to the drawings and specifications. The Contractor shall satisfy himself as to the nature and location of the work, ground surface and the characteristics of equipment and facilities needed prior to and during prosecution of the work. The Contractor shall satisfy himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered. Any inaccuracies or discrepancies between the actual field conditions and the drawings, or between the drawings and specifications must be brought to the Owner's attention in order to clarify the exact nature of the work to be performed.

- This G*eotechnical Study Report* by Converse Consultants may be used as a reference to the surface and subsurface conditions on this project. The information presented in this report is intended for use in design and is subject to confirmation of the conditions encountered during construction. The exploration logs and related information depict subsurface conditions only at the particular time and location designated on the boring logs. Subsurface conditions at other locations may differ from conditions encountered at the exploration locations. In addition, the passage of time may result in a change in subsurface conditions at the exploration locations. Any review of this information shall not relieve the Contractor from performing such independent investigation and evaluation to satisfy himself as to the nature of the surface and subsurface conditions to be encountered and the procedures to be used in performing his work.

Authority of the Geotechnical Engineer

- The Geotechnical Engineer will observe the placement of compacted fill and will take sufficient tests to evaluate the uniformity and degree of compaction of filled ground.

- As the Owner's representative, the Geotechnical Engineer will (a) have the authority to cause the removal and replacement of loose, soft, disturbed and other unsatisfactory soils and uncontrolled fill; (b) have the authority to approve the preparation of native ground to receive fill material; and (c) have the authority to approve or reject soils proposed for use in building areas.

- The Civil Engineer and/or Owner will decide all questions regarding (a) the interpretation of the drawings and specifications, (b) the acceptable fulfillment of the contract on the part of the Contractor and (c) the matters of compensation.

Site Clearing

- Clearing and grubbing shall consist of the removal from building areas to be graded of all existing structures, pavements, utilities, trees, roots, grass and vegetation.

- Organic and inorganic materials resulting from the clearing and grubbing operations shall be hauled away from the areas to be graded.

Excavations

- Based on observations made during our field explorations, the surficial soils can be excavated with conventional earthwork equipment.

Preparation of Fill Areas

- All organic material, organic soils, incompetent alluvium, undocumented fill soils and debris should be removed from the proposed building areas.

- Over-excavation depth and lateral extend should follow the report.

- The subgrade in all areas to receive fill shall be scarified to a minimum depth of 6.0 inches, the soil moisture adjusted within three percent (3%) above optimum, and then compacted to at least ninety percent (90%) of the laboratory maximum dry density as determined by ASTM Standard D1557 test method.

- Compacted fill may be placed on native soils that have been properly scarified and re-compacted as discussed above.

- All areas to receive compacted fill will be observed and approved by the Geotechnical Engineer before the placement of fill.

Placement and Compaction of Fill

- Compacted fill placed for the support of footings, slabs-on-grade, exterior concrete flatwork, and driveways will be considered structural fill. Structural fill may consist of approved on-site soils or imported fill that meets the criteria indicated below.

- Fill consisting of selected on-site earth materials or imported soils approved by the Geotechnical Engineer shall be placed in layers on approved earth materials. Soils used as compacted structural fill shall have the following characteristics:

    - All fill soil particles shall not exceed 3.0 inches in nominal size and shall be free of organic matter and miscellaneous inorganic debris and inert rubble.

    - Imported fill materials shall have an Expansion Index (EI) less than 20. All imported fill should be compacted to at least ninety percent (90%) of the laboratory maximum dry density (ASTM Standard D1557) at about to three percent (3%) above optimum moisture.

    - Fill soils shall be evenly spread in maximum 8-inch lifts, watered or dried as necessary, mixed and compacted to at least the density specified below. The fill shall be placed and compacted on a horizontal plane, unless otherwise approved by the Geotechnical Engineer.

    - All fill placed at the site shall be compacted to at least ninety percent (90%) of the laboratory maximum dry density as determined by ASTM Standard D1557 test method. The on-site soils shall be moisture conditioned at approximate three percent (3%) above the optimum moisture content.

- Representative samples of materials being used, as compacted fill will be analyzed in the laboratory by the Geotechnical Engineer to obtain information on their physical properties. Maximum laboratory density of each soil type used in the compacted fill will be determined by the ASTM Standard D1557 compaction method.

- Fill materials shall not be placed, spread or compacted during unfavorable weather conditions. When site grading is interrupted by heavy rain, filling operations shall not resume until the Geotechnical Engineer approves the moisture and density conditions of the previously placed fill.

- It shall be the Grading Contractor's obligation to take all measures deemed necessary during grading to provide erosion control devices in order to protect slope areas and adjacent properties from storm damage and flood hazard

originating on this project. It shall be the contractor's responsibility to maintain slopes in their as-graded form until all slopes are in satisfactory compliance with job specifications, all berms have been properly constructed, and all associated drainage devices meet the requirements of the Civil Engineer.

Trench Backfill

The following specifications are recommended to provide a basis for quality control during the placement of trench backfill.

- Trench excavations to receive backfill shall be free of trash, debris or other unsatisfactory materials at the time of backfill placement.

- Trench backfill shall be compacted to a minimum relative compaction of ninety percent (90%) as per ASTM Standard D1557 test method.

- Rocks larger than 1.0 inch should not be placed within 12.0 inches of the top of the pipeline or within the upper 12.0 inches of pavement or structure subgrade. No more than thirty percent (30%) of the backfill volume shall be larger than 3/4-inches in largest dimension. Rocks shall be well mixed with finer soil.

- The pipe design engineer should select bedding material for the pipe. Bedding materials generally should have a Sand Equivalent (SE) greater than or equal to 30, as determined by the ASTM Standard D2419 test method.

- Trench backfill shall be compacted by mechanical methods, such as sheepsfoot, vibrating or pneumatic rollers, or mechanical tampers, to achieve the density specified herein. The backfill materials shall be brought to between optimum and three percent (3%) above optimum, then placed in horizontal layers. The thickness of uncompacted layers should not exceed 8.0 inches. Each layer shall be evenly spread, moistened or dried as necessary, and then tamped or rolled until the specified density has been achieved.

- The contractor shall select the equipment and processes to be used to achieve the specified density without damage to adjacent ground and completed work.

- The field density of the compacted soil shall be measured by the ASTM Standard D1556 or ASTM Standard D2922 test methods or equivalent.

- Observation and field tests should be performed by Converse during construction to confirm that the required degree of compaction has been obtained. Where compaction is less than that specified, additional compactive effort shall be made with adjustment of the moisture content as necessary, until the specified compaction is obtained.

- It should be the responsibility of the Contractor to maintain safe conditions during cut and/or fill operations.

- Trench backfill shall not be placed, spread or rolled during unfavorable weather conditions. When the work is interrupted by heavy rain, fill operations shall not be resumed until field tests by the project's geotechnical consultant indicate that the moisture content and density of the fill are as previously specified.

Observation and Testing

- During the progress of grading, the Geotechnical Engineer will provide observation of the fill placement operations.

- Field density tests will be made during grading to provide an opinion on the degree of compaction being obtained by the contractor. Where compaction of less than specified herein is indicated, additional compactive effort with adjustment of the moisture content shall be made as necessary, until the required degree of compaction is obtained

- A sufficient number of field density tests will be performed to provide an opinion to the degree of compaction achieved. In general, density tests will be performed on each one-foot lift of fill, but not less than one for each 500 cubic yards of fill placed.

Appendix F

Seismic Hazard Analysis Results

Site Class Determination

SIMPLIFIED EVALUATION OF SITE CLASS AND GEOTECHNICAL DESIGN PARAMETERS USING STANDARD PENETRATION TEST (SPT) DATA

(Copyright © 2015, 2020, SPTPROP, All Rights Reserved; By: InfraGEO Software)

PROJECT INFORMATION

Project Name	Proposed Student Housing Building
Project No.	24-31-138-01
Project Location	11110 Alondra Boulevard Norwalk, California 90650
Analyzed By	B. Abbasi
Reviewed By	S. Sivathasan

GENERAL INPUT DATA

Analysis Description		
Boring ID No.	BH-2	
Ground Surface Elevation	65.00	feet
Proposed Grade Elevation	65.00	feet
Total Unit Weight of New Fill	120.40	pcf
Borehole Diameter	8.00	inches
Hammer Weight	140.00	pounds
Hammer Drop	30.00	inches
Hammer Efficiency Ratio, ER	80.00	%
Hammer Dist. to Ground Surface	5.00	feet
Groundwater Depth During Test	38.00	feet

SPT BLOW COUNT AND RELATIVE DENSITY

- Based on the recommendations by Idriss and Boulanger (2008), the normalized SPT blow count is defined as $(N_1)_{60} = N_{60}\, C_N$

where $N_{60} = N_{field}\, C_E\, C_B\, C_R\, C_S$

and the relative density of granular soils is estimated as

$D_r = 15\ [(N_1)_{60}]^{0.5}$ in percent

SHEAR WAVE VELOCITY AND SITE CLASSIFICATION

- Shear wave velocities are estimated based on empirical correlations with SPT N_{60} values for various soil types, as derived by Brandenberg, Bellana and Shantz (2010) from regression analyses.
- Site classification is analyzed using the method by Boore (2004).

Ave. Shear Wave Velocity (Top Depth d), $V_{s,d}$ = 229.10 m/s

Ave. Shear Wave Velocity (Top 30 m), $V_{s,30} = 10^{\,a + b \log (Vs,d)}$

where a = 0.01389

b = 1.02370

Coefficients a and b vary with depth, as derived by Boore (2004).

Computed $V_{s,30}$ = 269.0 m/s

Site Class = D

SOIL STRENGTH AND DEFORMATION MODULUS PARAMETERS

- For granular soils, the effective peak friction angle, ϕ', is estimated from correlations with the normalized SPT blow count, $(N_1)_{60}$ from Bowles (1996) and recommended adjustments from Caltrans Geotechnical Manual (2014).
- For cohesive soils, the undrained shear strength, S_u, is based on field measurements with torvane or pocket penetrometer. When only SPT values are available, S_u is estimated using the correlation chart with $(N_1)_{60}$ value provided in the Caltrans Geotechnical Manual (2014).
- Modulus of Elasticity, E_s, values for granular soils and cohesive soils are estimated from correlations with SPT N_{60} and undrained shear strength, S_u, respectively summarized by Bowles (1996).
- Shear Modulus, $G = E_s / [3\,(1 - 2\mu)]$ and Bulk Modulus, $K = E_s / [2\,(1 + \mu)]$ based on theory of elasticity where μ is the Poisson's ratio of the soil. Typical values of Poisson's ratio are estimated from various references.

REFERENCES:

1. AASHTO, 1988. Manual on Subsurface Investigations.
2. Boore, D.M., 2004. "Estimating Vs(30) (or NEHRP Site Classes) from shallow velocity models (depths < 30 m)", Bulletin of Seismological Society of America, 94(2), pp. 591-597.
3. Brandenberg, S.J., Bellana, N. and Shantz, T., 2010. "Shear Wave Velocity as a Statistical Function of Standard Penetration Test Resistance and Vertical Effective Stress at Caltrans Bridge Sites," PEER Report 201/03.
4. FHWA, 2002. Subsurface Investigations Reference Manual, Geotechnical Site Characterization.
5. Idriss, I.M. and Boulanger, R.W., 2008, "Soil Liquefaction During Earthquakes", EERI Monograph MNO-12.

INPUT SOIL PROFILE DATA

Depth to Top of Soil Layer (feet)	Depth to Bottom of Soil Layer (feet)	Material Type, USCS Group Symbol (ASTM D2487)	Total Soil Unit Weight γ_t (pcf)	Type of Soil Sampler	Field Blow Count N_{field} (blows/ft)	Pocket Penetrometer Shear Test Results PP (tsf)	Torvane Shear Test Results TV (tsf)
0.00	5.00	SM	105.4	MCal	17.0		
5.00	10.00	SM	106.5	MCal	23.0		
10.00	15.00	SM	95.6	MCal	26.0		
15.00	20.00	SP-SM	120.0	MCal	18.0		
20.00	25.00	SP-SM	120.0	SPT1	9.0		
25.00	30.00	ML	122.6	MCal	54.0		
30.00	35.00	SM	120.0	SPT1	12.0		
35.00	40.00	CL	123.2	MCal	39.0		
40.00	45.00	SM	120.0	SPT1	25.0		
45.00	51.50	CL	123.0	MCal	82.0		

ESTIMATED GEOTECHNICAL DESIGN PARAMETERS

Bottom of Soil Layer Elevation (feet)	Soil Depth During Test (feet)	SPT Corr. For Vert. Stress C_N	SPT Corr. For Hammer Energy C_E	SPT Corr. For Borehole Size C_B	SPT Corr. For Rod Length C_R	SPT Corr. For Sampling Method C_S	Corrected SPT Blow Count N_{60}	Normalized SPT Blow Count $(N_1)_{60}$	Relative Density D_r (%)	Shear Wave Velocity V_s (ft/s)	Effective Peak Friction Angle ϕ' (deg)	Undrained Shear Strength S_u (ksf)	Apparent Density / Soil Consistency Description, FHWA (2002) and AASHTO (1988)	Poisson's Ratio μ	Modulus of Elasticity E_s (ksf)	Shear Modulus G (ksf)	Bulk Modulus K (ksf)
60.00	2.50	1.700	1.333	1.150	0.750	0.650	12.7	21.6	70.00	434.92	34.00		Medium Dense Sand	0.30	372.15	310.13	143.14
55.00	7.50	1.588	1.333	1.150	0.800	0.650	18.3	29.1	81.00	584.33	36.00		Medium Dense Sand	0.30	446.06	372.00	172.00
50.00	12.50	1.241	1.333	1.150	0.850	0.650	22.0	27.3	78.00	668.05	36.00		Medium Dense Sand	0.30	490.49	409.00	189.00
45.00	17.50	1.043	1.333	1.150	0.950	0.650	17.0	17.8	63.00	707.45	35.00		Medium Dense Sand	0.30	429.79	358.00	165.00
40.00	22.50	0.906	1.333	1.150	0.950	1.000	13.1	11.9	52.00	737.43	33.00		Medium Dense Sand	0.30	377.75	315.00	145.00
35.00	27.50	0.811	1.333	1.150	0.950	0.650	51.1	41.4		917.79		6.37	Hard Silt	0.45	9,549.66	31,832.00	3,293.00
30.00	32.50	0.740	1.333	1.150	1.000	1.000	18.4	13.6	55.00	838.01	32.00		Medium Dense Sand	0.30	446.82	372.00	172.00
25.00	37.50	0.690	1.333	1.150	1.000	0.650	38.9	26.8		987.68		4.81	Hard Clay	0.45	7,214.53	24,048.00	2,488.00
20.00	42.50	0.660	1.333	1.150	1.000	1.000	38.3	25.3	75.00	948.91	35.00		Dense Sand	0.35	665.64	740.00	247.00
13.50	48.25	0.637	1.333	1.150	1.000	0.650	81.7	52.1		1,203.05		10.25	Hard Clay	0.45	15,378.01	51,260.00	5,303.00

Mapped Seismic Parameters

This is a beta release of the new ATC Hazards by Location website. Please contact us with feedback.

The ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Hazards by Location

Search Information

Coordinates:	33.88339586407407, -118.09937681486363
Elevation:	70 ft
Timestamp:	2024-06-30T01:56:43.584Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	III
Site Class:	D



Basic Parameters

Name	Value	Description
S_S	1.567	MCE_R ground motion (period=0.2s)
S_1	0.562	MCE_R ground motion (period=1.0s)
S_{MS}	1.567	Site-modified spectral acceleration value
S_{M1}	* null	Site-modified spectral acceleration value
S_{DS}	1.044	Numeric seismic design value at 0.2s SA
S_{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F_a	1	Site amplification factor at 0.2s
F_v	* null	Site amplification factor at 1.0s
CR_S	0.91	Coefficient of risk (0.2s)
CR_1	0.904	Coefficient of risk (1.0s)
PGA	0.668	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.735	Site modified peak ground acceleration
T_L	8	Long-period transition period (s)
SsRT	1.567	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.722	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.441	Factored deterministic acceleration value (0.2s)
S1RT	0.562	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.621	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.82	Factored deterministic acceleration value (1.0s)
PGAd	0.986	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Please note that the ATC Hazards by Location website will not be updated to support ASCE 7-22. Find out why.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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Seismic Hazard Deaggregation

U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Please also see the new USGS Earthquake Hazard Toolbox for access to the most recent NSHMs for the conterminous U.S. and Hawaii.

Input

Edition

Dynamic: Conterminous U.S. 2014 (unknown)

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

33.8834

Time Horizon

Return period in years

2475

Longitude

Decimal degrees, negative values for western longitudes

-118.0994

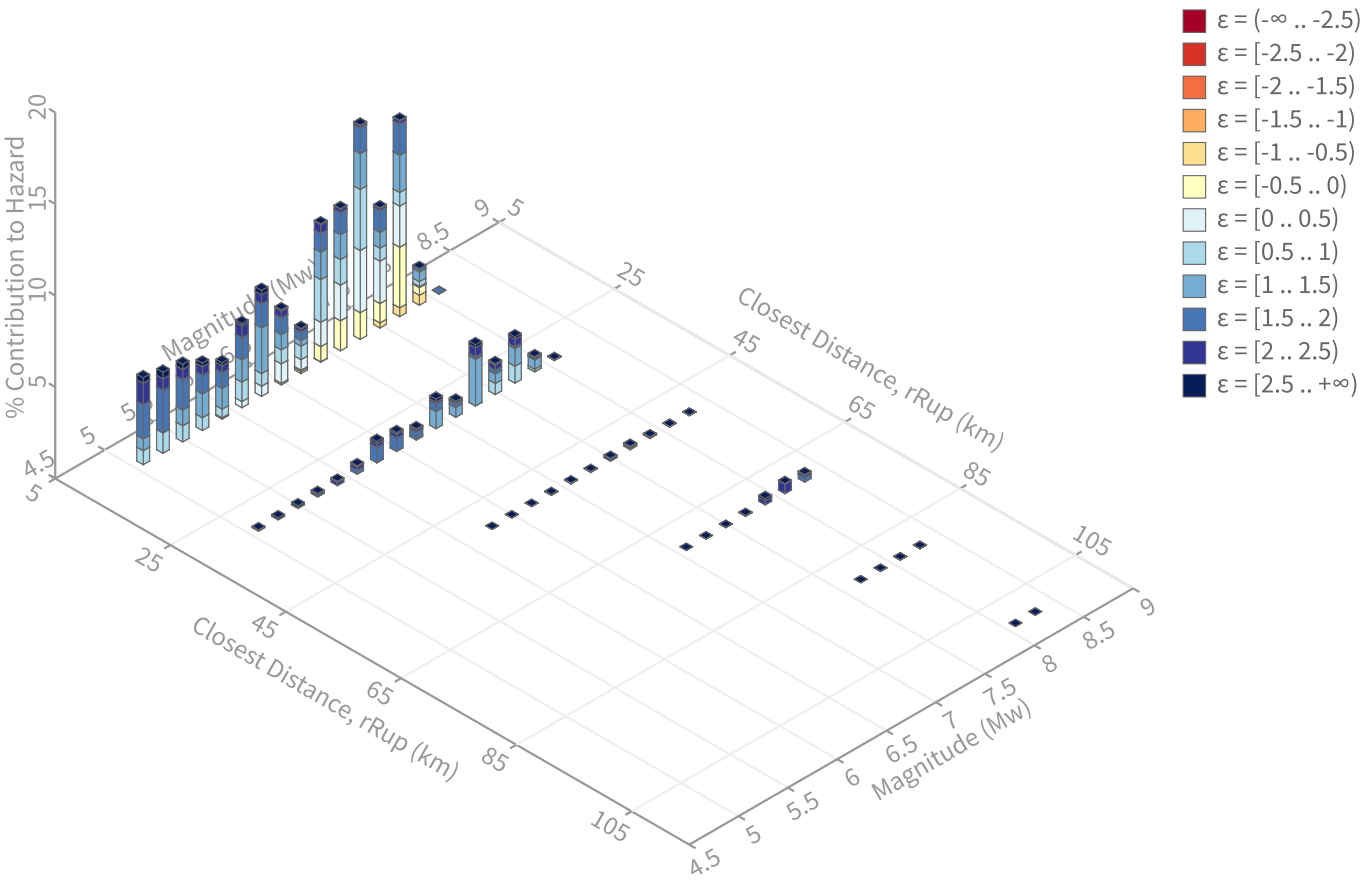
Site Class

259 m/s (Site class D)

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 0.9042685 g

Recovered targets

Return period: 2841.4104 yrs
Exceedance rate: 0.0003519379 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.09 %

Mean (over all sources)

m: 6.77
r: 12.92 km
ε_0: 1.12 σ

Mode (largest m-r bin)

m: 7.3
r: 9.83 km
ε_0: 0.68 σ
Contribution: 11.69 %

Mode (largest m-r-ε_0 bin)

m: 7.3
r: 10.88 km
ε_0: 0.17 σ
Contribution: 3.4 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM32	System							36.64
Puente Hills (Santa Fe Springs) [1]		6.75	7.06	0.58	118.113°W	33.931°N	346.33	6.55
Compton [1]		10.88	7.31	0.73	118.161°W	33.764°N	203.28	6.26
Newport-Inglewood alt 2 [4]		11.12	7.45	0.72	118.171°W	33.804°N	216.88	3.69
Puente Hills (Coyote Hills) [1]		7.32	7.34	0.50	118.044°W	33.915°N	55.69	2.99
Puente Hills (LA) [0]		12.46	7.17	0.89	118.127°W	33.989°N	347.71	2.40
Palos Verdes [10]		20.95	7.41	1.32	118.253°W	33.746°N	222.95	2.40
Puente Hills (Santa Fe Springs) [0]		7.21	7.70	0.33	118.083°W	33.935°N	14.86	2.11
Anaheim [2]		5.93	7.11	0.51	118.063°W	33.881°N	95.33	1.86
Whittier alt 2 [6]		13.66	7.19	1.02	118.028°W	33.990°N	28.92	1.25
UC33brAvg_FM31	System							31.85
Compton [1]		10.88	7.25	0.76	118.161°W	33.764°N	203.28	5.92
Newport-Inglewood alt 1 [4]		11.18	7.46	0.72	118.180°W	33.809°N	221.96	4.83
Puente Hills [2]		10.07	7.36	0.68	118.072°W	33.954°N	17.70	4.47
Whittier alt 1 [7]		13.72	7.01	1.13	118.027°W	33.991°N	29.05	2.40
Palos Verdes [10]		20.95	7.26	1.42	118.253°W	33.746°N	222.95	2.26
Anaheim [2]		5.93	7.06	0.54	118.063°W	33.881°N	95.33	1.85
Puente Hills [3]		12.15	6.86	1.06	118.143°W	33.972°N	338.02	1.09
UC33brAvg_FM32 (opt)	Grid							16.28
PointSourceFinite: -118.099, 33.897		5.23	5.60	1.18	118.099°W	33.897°N	0.00	3.22
PointSourceFinite: -118.099, 33.897		5.23	5.60	1.18	118.099°W	33.897°N	0.00	3.22
PointSourceFinite: -118.099, 33.969		10.03	5.76	1.58	118.099°W	33.969°N	0.00	2.46
PointSourceFinite: -118.099, 33.969		10.03	5.76	1.58	118.099°W	33.969°N	0.00	2.46
UC33brAvg_FM31 (opt)	Grid							15.23
PointSourceFinite: -118.099, 33.897		5.20	5.62	1.17	118.099°W	33.897°N	0.00	2.83
PointSourceFinite: -118.099, 33.897		5.20	5.62	1.17	118.099°W	33.897°N	0.00	2.83
PointSourceFinite: -118.099, 33.969		10.04	5.76	1.59	118.099°W	33.969°N	0.00	2.38
PointSourceFinite: -118.099, 33.969		10.04	5.76	1.59	118.099°W	33.969°N	0.00	2.38

Site-Specific Spectral Accelerations

Site-Specific MCE_R & Design Response Spectral Accelerations

Proposed Student Housing Building

Input Parameters

Coordinates	33.883, -118.099
V_{S30}	269 m/s



Values used in Computation

V_{S30}	269 m/s
Z1.0	850 m
Z2.5	4900 m

Calculated Results

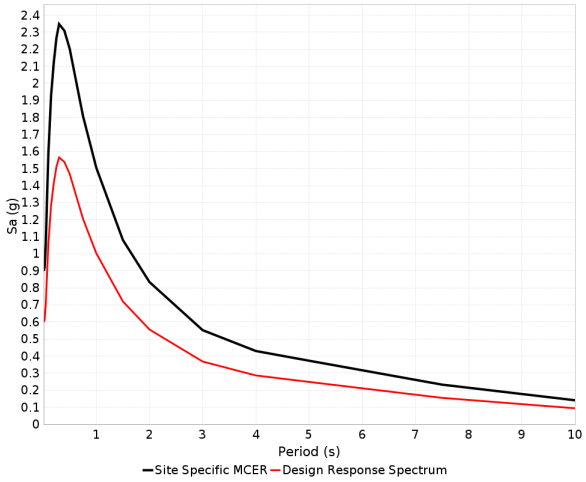
Site-Specific Design Parameters

S_{DS}	1.409	S_{MS}	2.113
S_{D1}	1.244	S_{M1}	1.866

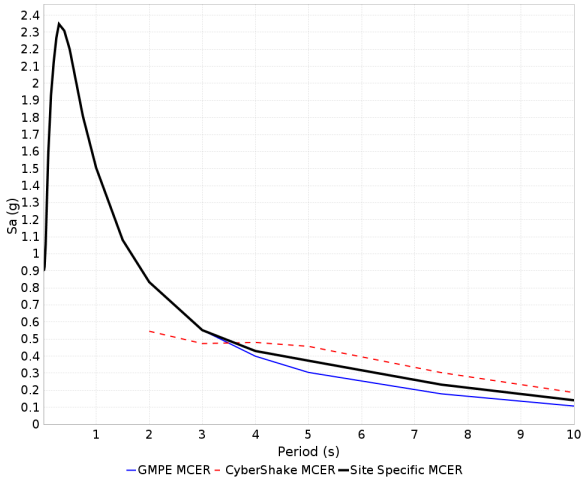
MCE_G Peak Ground Acceleration (Sect. 21.5)

PGA_M	0.777 g

MCE_R Response Spectra



MCE_R Response Spectra Comparison



Site-Specific MCE_R & Design Response Spectral Accelerations

MCE_R Response Spectrum Table

Period (s)	GMPE Sa (g)	CyberShake Sa (g)	Site-Specific MCE_R Sa* (g)
0.01	0.904		0.904
0.02	0.906		0.906
0.03	0.926		0.926
0.05	1.058		1.058
0.075	1.340		1.340
0.1	1.596		1.596
0.15	1.929		1.929
0.2	2.121		2.121
0.25	2.265		2.265
0.3	2.348		2.348
0.4	2.309		2.309
0.5	2.203		2.203
0.75	1.809		1.809
1.0	1.505		1.505
1.5	1.081		1.081
2.0	0.835	0.546	0.835
3.0	0.552	0.474	0.552
4.0	0.400	0.480	0.430
5.0	0.305	0.457	0.373
7.5	0.179	0.303	0.233
10.0	0.107	0.186	0.141

* Site-Specific MCER response spectrum obtained using obtained weighted geometric averaging procedure. See User Guide: https://data2.scec.org/ugms-mcerGM-tool_v18.4/guide

Site-Specific MCE_R & Design Response Spectral Accelerations

Important Note

The site-specific, design response spectral acceleration, Sa, returned by this tool for user-specified inputs, must be compared to the minimum Sa requirement described in Section 21.3 of ASCE 7-16 (second and third paragraphs). This minimum Sa is computed as 80% of the design response spectrum derived from the SDS, SD1, and TL values obtained from the ASCE tool at https://asce7hazardtool.online/. The larger of the site-specific Sa and the 80% minimum Sa at each period, T, is the final design response spectral acceleration. This final Sa x 1.5 is the final MCER response spectral acceleration.

About UGMS

The UGMS MCER tool was developed by the SCEC Committee for Utilization of Ground Motion Simulations (or "UGMS Committee") from research supported by the Southern California Earthquake Center (SCEC). SCEC is funded by NSF Cooperative Agreement EAR-1033462 & USGS Cooperative Agreement G12AC20038. For more information on the UGMS Committee, visit https://www.scec.org/research/ugms.

User Guide

Background

The paper Site-Specific MCE_R Response Spectra for Los Angeles Region based on 3-D Numerical Simulations and the NGA West2 Equations (https://www.scec.org/publication/8024) provides background information and the method used to obtain the site-specific MCE_R response spectra.

Abstract

The Utilization of Ground Motion Simulation (UGMS) committee of the Southern California Earthquake Center (SCEC) developed site-specific, risk-targeted Maximum Considered Earthquake (MCE_R) response spectra for the Los Angeles region. The long period (T ≥ 2-sec) MCE_R response spectra were computed as the weighted average of MCE_R spectral accelerations derived from (1) 3-D numerical ground-motion simulations using the CyberShake computational platform, and (2) empirical ground-motion prediction equations (GMPEs) from the Pacific Earthquake Engineering Research (PEER) Center NGAWest2 project. The short period (T < 2- sec) MCE_R response spectra were computed exclusively from the NGAWest2 GMPEs. A web- based lookup tool was also developed so users can obtain the MCE_R response spectrum for a specified latitude and longitude and for a specified site class or 30-m average shear-wave velocity, VS30. The tool provides acceleration ordinates of the MCE_R response spectrum at 21 natural periods in the 0 to 10-sec band.

Citation

Crouse, C., Jordan, T. H., Milner, K. R., Goulet, C. A., Callaghan, S., & Graves, R. W. (2018, 06). Site-Specific MCER Response Spectra for Los Angeles Region based on 3-D Numerical Simulations and the NGA West2 Equations. Presentation at 11th National Conference in Earthquake Engineering.

Important Note. The site-specific, design response spectral acceleration, S_a, returned by this tool for user-specified inputs, must be compared to the minimum S_a requirement described in Section 21.3 of ASCE 7-16 (second and third paragraphs). This minimum S_a is computed as 80% of the design response spectrum derived from the S_{DS}, S_{D1}, and T_L values obtained from the ASCE tool at https://asce7hazardtool.online/ (https://asce7hazardtool.online/). The larger of the site-specific S_a and the 80% minimum S_a at each period, T, is the final design response spectral acceleration. This final S_a x 1.5 is the final MCE_R response spectral acceleration.

1.0 Introduction.

The Application Page (/ugms-mcerGM-tool_v18.4/) is where the user specifies the inputs required to obtain the site-specific MCE_R response spectrum and site-specific design response spectrum (=2/3 x MCE_R spectrum), subject to the 80% minimum requirement described in the **Important Note** above.

2.0 Instructions for Specification of Inputs.

2.1 Site Location.

The user can either (1) locate the site on the map by using the cursor and zoom-in (+) or zoom-out (-) feature, or (2) enter the latitude and longitude in the boxes to the left of the map. The map, which initially shows the rectangular region where the lookup tool is valid, allows the user to zoom-in to the streets bounding the site of interest, once the general location within the region is identified. After the site is found, a left click of the mouse brings a pop-up with the site coordinates. The user can click on the box, “Use this point” or exit by clicking on the “x” in the upper right corner of the pop-up and search again.

If instead the user enters the latitude and longitude, the longitude must be a negative number. If the user only knows the site address, then the corresponding latitude and longitude can be obtained using the ASCE Lookup Tool (https://asce7hazardtool.online/)

2.2 Site Geotechnical Classification.

Three options are provided: Site Class, Vs30 (m/s), or Unknown (Vs30 estimated from Wills et al., 2015). Clicking on the circle to the left enables the option.

2.2.1 Site Class. The drop-down menu of site classes appears by clicking on the Select box. The nomenclature following the site class letter designation is identical to that in the ASCE lookup tool.

2.2.2 Vs30 (m/s). This parameter is the average shear-wave velocity in the upper 30 meters at the site (See Chapter 20 of ASCE 7-16 for equation to compute the value). Enter the number in the Value box.

2.2.3. Unknown (Vs30 estimated from Wills et al., 2015). This option is used when the user does not yet know the site class or Vs30 value, but wants a preliminary estimate of the MCE_R response spectrum for the site. In this case the tool selects a Vs30 value based on the method in Wills et al. (2015). See citation for Wills et al. in the References section of Crouse et al. (2018) (https://www.scec.org/publication/8024).

After the appropriate site classification option is selected, click on the "Compute Response Spectra" box at the bottom of the page to view the output page.

3.0 Description of Outputs.

The output page opens to a one-page Summary. Below the page header to the left of the map appears the row “Summary Detailed Download all”. The last two are links to additional information. All three are described below.

3.1 Summary.

The Input Parameters (site coordinates & classification) specified by the user are displayed under “Summary”. If the Unknown site classification option was selected, the value of Vs30 used by the tool is displayed under “Values used in Computation”.

The MCE_R and Design Earthquake (=2/3 MCE_R) response spectral parameters (S_{MS}, S_{M1}, S_{DS}, S_{D1}) and the MCE_G parameter (PGA_M) returned by the tool are listed under Computed Results. The site-specific MCE_R response spectrum is listed and plotted under MCE_R Response Spectrum.

The user must check these results against the 80% minimum requirement in the **Important Note** at the top of this User Guide. The web link to the ASCE web tool (https://asce7hazardtool.online/ (https://asce7hazardtool.online/)) at the bottom of the page can be used to extract the response spectra derived from Chapter 11 of ASCE 7-16 that is required for this check.

3.2 Detailed.

The Detailed output page provides values of parameters (Vs30 and basin depth terms, Z1.0 & Z2.5) the tool used to obtain the MCE_R response spectrum. [Note: Z1.0 & Z2.5 are the depths beneath the site to the tops of the layers with shear-wave velocities of 1.0 km/s and 2.5 km/s, respectively.]

The left hand plot under MCE_R Response Spectrum provides the site-specific MCE_R and Design Earthquake response spectra. The right hand plot provides the same MCE_R response spectrum and the MCE_R response spectra obtained from the ground-motion prediction equations (GMPE) and the 3-D numerical simulations (CyberShake). See Crouse et al. (2018) (https://www.scec.org/publication/8024) for details on the derivation of the MCE_R response spectrum from these GMPE-based and CyberShake-based MCE_R response spectra. The table below the plots provides the spectral acceleration values for the three curves in the right hand plot.

3.3 Download all.

Clicking on this link gives the user the option to download a ZIP file containing the Summary and Detailed output pages in PDF format, and an Excel CSV (comma separated values) file with the tabular MCE_R and Design response spectral data.

Appendix G

Ground Improvement and Specification Plans

CERRITOS COMMUNITY COLLEGE

New Student Housing Project

Deep Soil Mixing Ground Improvement Plans and Specifications

DEEP SOIL MIXING GROUND IMPROVEMENT GENERAL NOTES

1. These geotechnical specifications along with the accompanying plans, elevations, cross sections, and details as shown on Sheets DSM-001 through DSM-013 show the mitigation of the liquefaction hazard below the Proposed New Student Housing Project by means of deep soil mixing.

2. The following parties have various responsibilities for this project and are defined below:

- Cerritos Community College (CCC) - Owner of the project.
- Architect of Record (AOR) - Responsible for overall project building design.
- Geotechnical Engineer of Record (GEOR) - Responsible for overall geotechnical design.
- Engineering Geologist of Record (EGOR) - Responsible for overall geological assessments.
- Structural Engineer of Record (SEOR) - Responsible for overall structural design.
- General Building Contractor (GBC) - Responsible for construction of the building project.
- Specialty Geotechnical Contractor (SGC) - Responsible for construction of the ground improvement program.
- Ground Improvement Engineer (GIE) - Responsible for final design detailing and oversight of the ground improvement program and post ground improvement confirmation testing.
- Division of the State Architect (DSA) - Agency responsible for oversight of the building project.
- California Geological Survey (CGS) - Agency responsible for oversight of the ground improvement program.
- Inspector of Record (IOR) - Inspector responsible for inspection of project.

3. These plans are to be used in conjunction with the following geotechnical report:

Geotechnical Investigation Report, New Student Housing Project.
1110 Alondra Boulevard, Norwalk, California 90650
Converse Consultants, 24-31-138-01 dated July 5, 2024, updated July 16, 2025 and December 8, 2025.

4. The ground improvement program shown on these plans is to be conducted in accordance with these plans and the report listed in Note 3. Unless specifically superseded by these plans, the recommendations contained within the referenced document shall remain applicable to the conclusion of this ground improvement program.

5. Acceptance of the ground improvement installation work conducted by the GBC and SGC, is contingent upon receipt of approval of the as-built conditions by the CGS. The GBC and SCG therefore must supply the engineers (GIE and GEOR) with sufficient documentation of the ground improvement process to allow for the submission of the required as-built documents required by the CGS.

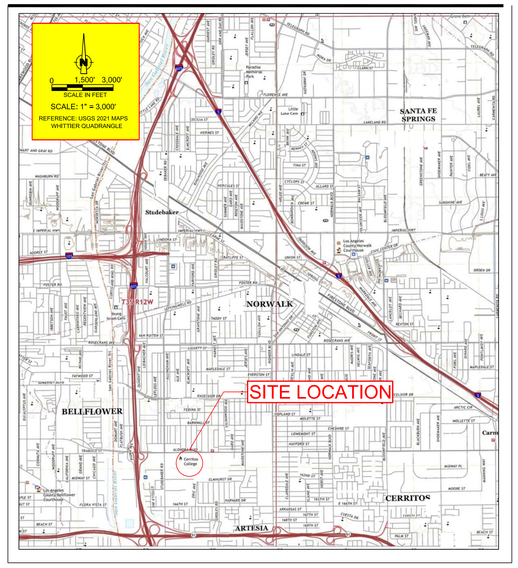
6. The shallow foundations founded on the improved soils will have minimum 3,000 psf allowable bearing capacity, static settlement of 1 inch and differential static settlement of 1/2 inch over 30 feet span, and seismic settlement of 1 inch and differential seismic settlement of 1/2 inch over 30 feet span.

7. The specified unconfined compressive strength of the deep mixed material as determined by ASTM D1633 at 28-days curing time should be 150 psi. If earlier testing is conducted, the specified strength should at least equal 125 psi at 14-days curing time.

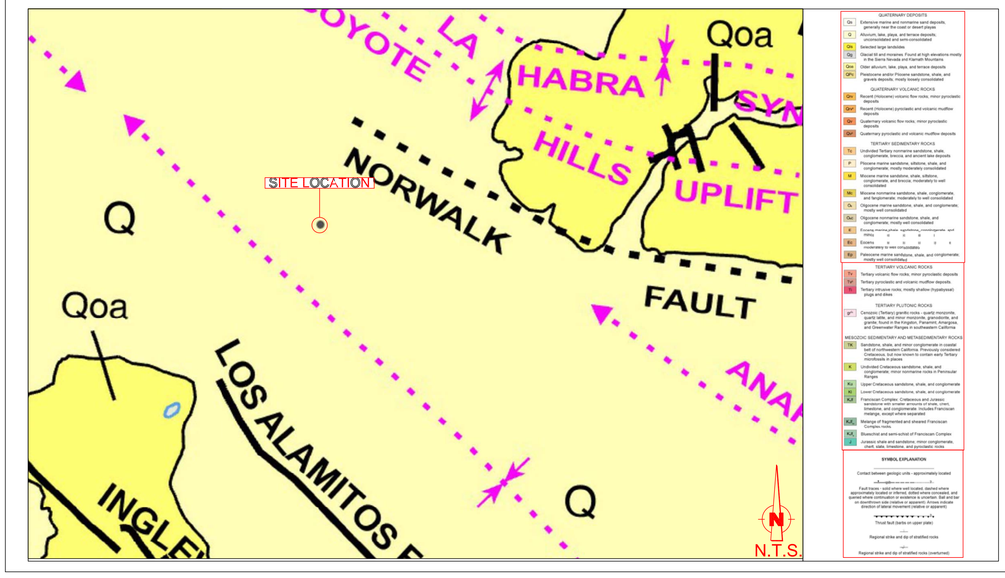
8. The project foundation work shall not be started until the final approval by CGS is issued. Final approval by CGS and DSA is contingent upon receipt of a comprehensive as-built report documenting the construction observation and the results of the confirmation testing and analysis after completion of the ground improvement program.

9. Special Inspection Requirements: All work to be completed for this ground improvement program is to be conducted under the full-time observation of a representative of the GEOR.

SITE LOCATION MAP



REGIONAL GEOLOGIC MAP



SHEET INDEX

DSM-001	TITLE SHEET - GENERAL NOTES
DSM-002	GROUND IMPROVEMENT SPECIFICATIONS
DSM-003	GROUND IMPROVEMENT SPECIFICATIONS
DSM-004	SITE PLAN - OVERALL
DSM-005	GROUND IMPROVEMENT PLAN - BLDG A & BLDG C
DSM-006	GROUND IMPROVEMENT PLAN - BLDG B & BLDG E
DSM-007	GROUND IMPROVEMENT PLAN - BLDG D
DSM-008	BLDG A - SECTIONS
DSM-009	BLDG B - SECTIONS
DSM-010	BLDG C - SECTIONS
DSM-011	BLDG D - SECTIONS
DSM-012	BLDG E - SECTIONS
DSM-013	TYPICAL DEEP SOIL MIXING DETAILS

DSA STAMP

SEAL

REGISTERED PROFESSIONAL ENGINEER
No.2708
Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
717 South Myrtle Avenue
Monrovia, CA 91016
(626)930-1200

ARCHITECTS

WESTGROUP DESIGNS
19900 MacArthur Boulevard I Suite 1000
Irvine I 92612 I California
949.250.0880 I FAX 949.250.0882
www.westgroupdesigns.com

PROJECT TITLE

NEW STUDENT HOUSING BUILDINGS
11110 ALONDRA BLVD.
NORWALK, CA 90650

CERRITOS COLLEGE

NO	DATE	BY	DESCRIPTION
1	12/08/2025		Converse
0	6/20/2025		Converse
			REVISIONS

DRAWN: A.L.	CHECKED: SIVA SIVATHASAN
DATE: 12/08/2025	SCALE: N.T.S.
PROJECT NUMBER: 24-31-138-03	

GENERAL NOTES

DRAWING NUMBER: DSM-001

PART 1 - GENERAL

1.1 Scope

A. The contractor (GBC and SGC) should furnish all labor, equipment, and materials necessary to plan, design, and construct the deep mixing and associated testing, monitoring. sampling, and recording to meet the performance requirements outlined in these plans and specifications. The execution and performance of the ground improvement shall be the responsibility of the selected SGC and GBC who shall satisfy the GEOR, GIE, IOR, SEOR, AOR, DSA, CGS, and CCC that the treated ground has achieved the requisite degree of improvement. Drawings and General Provisions of the Contract, including General and Supplemental Conditions, and Project Manual Specifications, apply to the work in this Specification.

B. Conflicts in Reference Documents: Where specifications and reference documents conflict, the GEOR shall make the final determination of the applicable document.

1.2 References

The following publications form a part of this specification to the extent indicated by the references. The latest publication as of the issue date of this specification should govern, unless indicated otherwise. These specifications are derived from the guide specification listed in Reference No. 1.

1. Federal Highway Administration. (2013). Deep Mixing Manual for Embankment and Foundation Support, U.S. Department of Transportation, Washington, DC.
2. ASTM C150. (2024). "Standard Specification for Portland Cement," Book of Standards, Volume 04.01, ASTM International, West Conshohocken. PA.
3. ASTM C192. (2024). "Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory," Book of Standards Volume 04.02, ASTM International, West Conshohocken, PA.
4. ASTM C618. (2025). "Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete," Book of Standards Volume 04.02, ASTM International, West Conshohocken, PA.
5. ASTM C821. (2022). "Standard Specification for Lime for Use with Pozzolans," Book of Standards Volume 04.01, ASTM International. West Conshohocken, PA.
6. ASTM C989. (2022). "Standard Specification for Slag Cement for Use in Concrete and Mortars," Book of Standards Volume 04.02, ASTM International, West Conshohocken, PA.
7. ASTM D1633. (2017) "Standard Test Method for Compressive Strength of Molded Soil-Cement Cylinders," Book of Standards Volume 04.08, ASTM International. West Conshohocken, PA.
8. ASTM D2166. (2024). "Standard Specification for Unconfined Compressive Strength of Cohesive Soil," Book of Standards Volume 04.08, ASTM International, West Conshohocken, PA.
9. ASTM D4380. (2020). "Standard Test Method for Density of Bentonitic Slurries." Book of Standards Volume 04.08. ASTM International, West Conshohocken, PA.
10. ASTM D5084. (2024). "Standard Test Method for Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Penneameter," Book of Standards Volume 04.08, ASTM International, West Conshohoken, PA.
11. ASTM D5731 (2016). "Standard Tes: Method for Determination of Point Load Strength Index of Rock and Application to Rock Strength Classification," Book of Standards Volume 04.08, ASTM International, West Conshohoken, PA.
12. ASTM D7012 (2023). "Standard Test Method for Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures," Book of Standards Volume 04.08, ASTM International, West Conshohoken, PA.
13. ASTM C1157 (2023). "Standard Performance Specification for Hydraulic Cement" Book of Standards Volume 04.01. ASTM International.

1.3 Definitions

The technical and construction terms used in this specification are outlined in this section.

Admixtures: Ingredients in the grout other than binder, bentonite, and water. Admixtures can be fluidifiers, dispersants, or retarding, plugging, or bridging agents that permit efficient use of materials and proper workability of the grout.

Bentonite: Ultra-fine natural clay principally comprising sodium cation montmorillonite.

Binder: Chemically reactive material (i.e., lime, cement, gypsum, blast furnace slag, flyash, or other hardening reagents) that can be used for mixing with in situ soils to strengthen the soils and form DMM columns. Also referred to as stabilizer or reagent. In U.S. practice, binder slurry is frequently referred to as grout or slurry.

Binder content: Ratio of weight of dry binder to dry weight of soil to be treated.

Binder factor: Ratio of weight of dry binder to volume of soil to be treated.

Binder factor in-place: Ratio of weight of dry binder to volume of mixture, which is the volume of the soil to be treated plus the volume of the slurry for the wet method or the volume of the dry binder for the dry method.

Binder slurry: Stable colloidal mixture of water, binder, and admixtures that assists in loosening the soils for effective mixing and strengthening the in-situ soil upon setting.

BRN: Total number of mixing blade rotations per meter of shaft movement.

Column: Pillar of treated soil produced in-situ by a single installation process using a mixing tool, typically a rotating auger, to make a round column. A rectangular barrette produced by twin horizontal mixing shafts is also a column. See "element" and "wall," which are related geometric terms.

Deep mixing equipment: Deep mixing equipment with various mixing tools including single vertical shaft mixing tools, multiple vertical shaft mixing tools etc.

DMM:In-situ ground treatment in which soil is blended with cementitious and/or other binder materials to improve strength, permeability. and/or compressibility characteristics (synonymous terms (some proprietary) include DSM, deep mixing, CDSM, and soil cement mixing).

Dry mixing: Process of mechanical disaggregation of the soil in-situ and its mixing with binders with or without fillers and admixtures in dry powder form. Binders are delivered primarily on tool retrieval.

Element: This is an inclusive term that refers to a DMM element produced by a single stroke of the mixing tools at a single equipment location. A column produced by a single-axis machine, a set of overlapping columns produced by a single stroke of a multiple-shaft mixing tool, and a rectangular barrette produced by a mixing tool with horizontal axis rotating cutter blades are each considered an element. An element consisting of overlapping columns produced by a single stroke of a multiple-shaft mixing tool is sometimes referred to as a "panel".

Engineer: The representative of the design engineer or of the project owner (owner).

Filler: Non-reacting materials (i.e., sand, limestone powder, etc.).

Mix design: Ratios of soil, binder, water, and additive quantities required to meet the design requirements of the project.

Mixing process: Mechanical disaggregation of the soil structure and dispersion of binders and tillers in the soil.

Mixing tool: Equipment used to disaggregate the soil and distribute and mix the binder with the soil. Consists of one or several rotating units equipped with several blades, arms, and paddles with or without continuous or discontinuous flight augers, or horizontal rotating cutter blades.

Penetration (downstroke): Stage/phase of mixing process cycle in which the mixing tool is delivered to the appropriate depth (disaggregation phase) for withdrawal injection and disaggregation and mixing for penetration injection.

Penetration/retrieval speed: Vertical movement per unit time of the mixing tool during penetration or withdrawal.

Restroke: Additional penetration and withdrawal cycle of the mixing tool to increase the binder content and/or the mixing energy.

Retrieval: Withdrawal of mixing tool from bottom depth to the ground surface. Binder may be injected during retrieval, which also imparts additional mixing energy.

Rotation speed: Number of revolutions of the mixing tool per unit time.

Soil-cement: Product of DMM consisting of a mixture of the in-situ soil and binder. Also referred to as treated soil or deep mixed material.

Strength: During QC/QA "strength" means unconfined compressive strength.

Stroke: One complete cycle (penetration and withdrawal) of the mixing process.

Volume ratio: Ratio of the volume of slurry injected (in wet mixing) to the volume of soil to be treated.

Wall: Group of overlapping elements arranged to form a continuous wall.

Water: Fresh water that is free of deleterious substances that adversely affect the strength and mixing properties of the grout and is used to manufacture grout.

Water-to-binder ratio: Weight of water added to the dry binder divided by the weight of the dry binder. In wet mixing, the water-to-binder ratio of the slurry is determined from the weights of water and dry binder used to manufacture the slurry in a plant at the ground surface. In either wet or dry mixing, the total water-to-binder ratio is the weight of water in the mixture divided by the weight of dry binder. For wet mixing, the total water-to-binder ratio is the weight of slurry water plus the weight of soil water divided by the weight of dry binder. For dry mixing, the total water-to-slurry ratio is the weight of soil water divided by the weight of dry binder.

Wet mixing: Process of mechanical disaggregation of the soil in-situ and its mixing with slurry consisting of water and binders with or without fillers and admixtures. Binder is delivered on mixing tool penetration for vertical and horizontal axis mixing tools.

Withdrawal (upstroke): Stage or phase of retrieval of the mixing tool in which the final mixing occurs for penetration injection and initial mixing for withdrawal injection. Disaggregation occurs during the penetration for both penetration injection and withdrawal injection.

Withdrawal rate: The average up-hole retrieval rate of the mixing tool.

1.4 Project Description and Performance Requirements

A. The ground improvement program outlined in these plans and specifications is for the purpose of supporting the new buildings against liquefaction.

B. Spoil Handling requirements: Deep soil mixing may produce large quantities of spoil that consists of the in-situ soils mixed with the binder that are brought to tie surface during the mixing process. These spoils are to be mixed with the onsite soils that exist within the upper 5 feet of the building pad and used to provide fill material for replacement of the over-excavated zone as shown on Detail 4 of Sheet DSM-013. If excess volume of soils exists after fill replacement within the over-excavated zone these soils should be exported offsite by the contractor (GBC or SGC). The over-excavation of the building pads may only occur after the deep mixing process has been completed within any particular area of the building pad. It is the intent of these specifications and the drawings that the building pad be underlain by a fill material that consist of spoils soils from the deep mixing process. or fill soils from the deep mixing process blended with onsite soils currently existing within the building pad footprints. Over-excavation and replacement of the building pad areas with the onsite soils alone, without mixing with the spoils generated from the deep mixing process is not acceptable. Therefore, spoil soils shall be stockpiled onsite prior to placement as fill. Fill soils shall be placed and compacted in a manner meeting the requirements of the approved soils reports for the site.

C. Operational Restrictions: Deep soil mixing may produce vibrations and noise that are not tolerable during college sessions. Coordinate all operational times and noise and vibration nuisance issues with the project general specifications. If during the operation of the deep mixing process, vibration, and noise cause intolerable disruptions to the school operation, in the opinion of the College Officials or Inspector of Record, the Contractor (GBC or SGC) may be asked to suspend such activities until college is out of session.

D. Maximum allowable displacement of adjacent structures: The work shall be monitored by the GBC and the SGC such that the existing school building are not displaced by the work. The maximum allowable movement of the adjacent school buildings or any structures designated by the project plans and specification to be protected in place shall no exceed 1/2 inch in either vertical or horizontal displacement.

E. Allowable geometric parameters for Deep Mixing Method (DMM) construction are as follows:

Table No. 1
Allowable Geometric Parameters for DMM Construction

Parameter	Minimum and/or Maximum	Value
Top elevation of DMM element	Minimum	Detail on Sheet DSM-013
Bottom elevation of DMM element	Maximum Elevation/ Minimum Depth of Penetration	50' B.G.S
Net Area Replacement Ratio of DMM	Minimum	33%
Column diameter, d	Minimum and Maximum	Min = 6.0 Feet Max = 9.0 Feet

F. The sizes of deep mixing elements that adhere to the minimum and maximum values of the parameters listed in Table 1 and included in the plans and/or specifications will be deemed acceptable to meet the requirements of the engineer's design. The layout of the elements if the column diameter is different than shown on the drawings shall substantially follow the layout provided. Shop drawings shall be prepared by the SGC demonstrating that the contractor's proposed layout provides substantially similar coverage of the pattern of coverage and layout that is shown on the drawings. The owner/engineer is not obligated to accept designs that fall outside the geometric limits in the plans and specifications.

1.5 Qualifications of Specialty Geotechnical Contractor (SGC)-To Be Submitted with the Bid

A. A Specialty Geotechnical Contractor (SGC) shall be selected for the work by the General Building Contractor (GBC). The SGC shall submit documentation to the GEOR for review and approval, demonstrating their experience with Deep Mixing Methods (DMM), dependability of the equipment and techniques to be used, and the proposed work plan. The GBC shall make their own arrangements with the SGC for their expertise and for the services necessary in the performance of work under this item. The SGC for the ground improvement system shall have a minimum of 3 years of experience with the installation of this type of work and shall have completed at least 5 projects. The SGC must have previous successful experience with DMM projects for the soil conditions and project scope similar to that of the project being bid. The SGC shall submit a list of their qualifications and key personnel demonstration compliance with these qualification requirements in Section 1.5.

B. Satisfactorily completed at least five (5) school projects with DSA/CGS involvement for liquefaction mitigation, during the last three years.

C. The SGC must assign a project manager who has had significant experience on at least five DMM projects.

D. The SGC must assign a project engineer to supervise the construction of the DMM work. The project engineer must have had significant experience on at least five DMM projects.

E. The SGC must assign a full-time project superintendent with at least five projects and at least 100,000 yd3 of total treatment volume in DMM construction.

F. The SGC must provide at least one DMM equipment operator with at least 1 year of experience with the equipment and DMM construction.

G. Written requests for substitution of these key personnel must be submitted prior to personnel changes. Documentation must be submitted to the owner that demonstrates that the substitute meets the requirements listed. Substitution may not be made until written approval is provided by the owner.

1.6 Construction Site Survey

A. Prior to bidding, the GBC and SGC should review the available subsurface information and visit the site to assess the site geometry, equipment access conditions, location of existing structures, and above-ground utilities and facilities

B. The GBC and SGC should field locate and verify the locations of all utilities prior to starting work. The contractor should maintain uninterrupted service for those utilities designated to remain in service throughout the work. The contractor should notify the engineer of any utility locations different from those shown in the plans that may require relocation of deep mixed elements or structure design modification. Subject to the engineer's approval, the contractor may be separately compensated for additional costs of element relocation and/or structure design modifications resulting from utility locations different from those shown in the plans.

1.7 Submittals

A. SGC experience profile: The SGC must submit documentation evidencing the experience requirements outlined in Section 1.5.

B. Field validation program plan: At least 30 days before the start of the field validation program, the SGC should submit a field validation program plan that contains descriptions of the construction procedures, equipment, and ancillary equipment to be used for mixing and binder proportioning and injection; mix design parameters and associated soil strata to be evaluated; operational and material parameters to be monitored during field validation; layout of the DMM elements to be constructed; a summary of QC/QA samples to be collected and tested; and examples of the forms that will be used to document the work.

C. Deep mixing work plan: Based on the results of the preconstruction testing (bench-scale and field validation program), at least 30 days prior to the start of deep mixing work, the SGC must submit a deep mixing work plan for review and approval. This plan must include the following items:

- Detailed descriptions of sequence of construction and all construction procedures, equipment (catalog cut sheets), and ancillary equipment to be used to penetrate the ground, proportion and mix binders, and inject and mix the site soils.
- Proposed mix design(s), including binder types, additives, fillers, reagents, and their relative proportions, and the required mixing time, water-to-binder ratio of the slurry (for wet mixing), binder factor (for dry and wet mixing), and volume ratio (for wet mixing) for a deep mixed element.
- Proposed injection and mixing parameters, including mixing slurry rates, slurry pumping rates, air injection pressure and volume flow rates, mixing tool rotational speeds, and penetration and withdrawal rates.
- Methods for controlling and recording the verticality and the top and bottom elevation of each element.
- Working drawings and calculations for the DMM elements showing the site location of the DMM project as well as the dimensions, layout. and locations of all DMM elements. Drawings should indicate the identification number of every element if a multi-shaft mixing tool is used and every column if a single-auger mixing tool is used. Calculations and drawings should demonstrate that the element layout, depth, and quantity meet the specification requirements.
- DMM schedule information.
- Sample daily production report, including the items described in Section 1.7.
- Details of all means and methods proposed for QC/QA activities, including surveying, process monitoring, sampling, testing, documenting, and marking schedule milestones.
- Names of any subcontractors used for QC/QA activities. Materials testing of the soil cement samples and core samples will be performed by the GEOR, or the GIE as requested by the GEOR.

D. Material certifications: Certificates of compliance must be submitted as proof of conformance to materials standards and requirements for each truckload of binder, admixtures, as needed.

E. Production records: By the end of the next business day following each deep mixing shift. the SGC should submit a daily production report in the approved format. The report should be completed and signed by the SGC's project superintendent. The report should contain at a minimum the following information:

- Project name.
- Day, month, year, and time of work shift (beginning and end).
- Name of field superintendent in charge of the work for the SGC.
- Deep mixing equipment (rig number) in operation during the shift and specific activities conducted by said equipment.
- Type of mixing tool.
- Treatment zone and reference drawing number.
- Elevation of top and bottom of treatment zone.
- Element number, diameter, and location coordinates.
- Date and time (start and finish) of clement.
- Location of each completed column/element installed during the work shift and all zones completed to date on a plan at 1 inch = 10 ft to clearly show the location of the elements.
- Mix design (not applicable for dry mixing).
- Slurry specific gravity measurements (not applicable for dry mixing).
- Binder slurry injection rate (gal/min (L/min)) plotted at each 3-ft (1-m) depth interval for the full depth of the treated zone. Variations in volumes should be noted.
- Mixing tool rotation speed in revolutions per minute versus depth.
- Penetration/withdrawal rates of the mixing tool in ft/min (m/min) plotted at each 3 ft (1 m) of depth.
- Element verticality measurements.
- Plots of BRN and binder factor versus depth for each element plotted at least every 3 ft (1 m) of depth. The total number of rotations should be reported for CSM.
- A description of obstructions, interruptions of binder injections, or other difficulties during installation and their resolution.
- Other pertinent observations including but not limited to binder escapes, ground settlement or heave, collapses of the treatment zone, and any unusual behavior of any equipment during the deep mixing process.
- For both wet grab samples and coring, provide collection date, time, plan location, elevation, and identification numbers of all deep mixed samples, including unsuccessful attempts to retrieve samples.
- For coring operations, provide the coring method, equipment, and personnel; recovery percentage and percent treatment (percent of run length that is treated) for each core run; sample collection, handling, and storage details; and name of person responsible for logging and collecting cores and samples to be tested.
- Quantities of all binder materials delivered to the site plus a reconciliation showing the amount injected.
- Summary of any down time or other unproductive time including time, duration, and reason.

F. QC/QA records: Calibration data must be submitted for all measurement devices used for binder production, deep mixing operational monitoring, and laboratory testing. Within 3 business days of completing any QC/QA testing, the SGC should submit the test results, including original data sheets from the laboratory and an evaluation of the compliance of the test results with project acceptance criteria. Equipment should be calibrated prior to initial use and repeated every 3 months.

G. As-Builts: As-Built documentation is required by the State (CGS and DSA) for final approval of the work. The Specialty Geotechnical Contractor (SGC) shall assist the GEOR and GIE in finalizing the required as-built documentation by submittal of a complete final as-built plan of the work constructed, and any as-built information deemed necessary to satisfy the State that the work has been completed in substantial conformance with these plans and specifications and the approval documentation and stipulations issued by the state. The work by the SGC cannot be acceptable by the CCC until receipt of final approval of the as-built documentation from the State.

1.8 Preconstruction Meeting

Prior to commencement of the ground improvement a preconstruction meeting shall be held at the site.

DSA STAMP

SEAL

REGISTERED PROFESSIONAL ENGINEER
SATHIGAVETPILLAI SIVATHASAN
No.2708
Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
717 South Myrtle Avenue
Monrovia, CA 91016
(626)930-1200

ARCHITECTS

WESTGROUP DESIGNS
19900 MacArthur Boulevard I Suite 1000
Irvine I 92612 I California
949.250.0880 I FAX 949.250.0882
www.westgroupdesigns.com

PROJECT TITLE

NEW STUDENT HOUSING BUILDINGS

11110 ALONDRA BLVD.
NORWALK, CA 90650

Cerritos College

CERRITOS COLLEGE

NO	DATE	BY	DESCRIPTION
1	12/08/2025		Converse
0	6/20/2025		Converse
			REVISIONS

DRAWN: A.L.	CHECKED: SIVA SIVATHASAN
DATE: 12/08/2025	SCALE: N.T.S.
PROJECT NUMBER: 24-31-138-03	

GROUND IMPROVEMENT SPECIFICATIONS

DRAWING NUMBER: **DSM-002**

PART 2 - MATERIALS AND EQUIPMENT

2.1 Materials

A. Cement binder materials should conform to ASTM C150 low-alkali type II PCC. Type III PCC should not be used. Slag cement should conform to ASTM C1157. All cement should be homogeneous in composition and properties and should be manufactured using the same methods at each plant by each supplier. Tricalcium aluminate content should not exceed 8 percent.

B. Water used in drilling, mixing cement grout, and other applications should be potable.

C. Admixtures will not be allowed unless the SGC submits documentation demonstrating the effects of the admixture and the admixture is approved by the GEOR.

D. Binder slurry should be a stable homogeneous mixture of approved binder. approved admixtures, and water. The ratios of various components may be proposed for modifications by the SGC but should not be implemented until reviewed and accepted by the GEOR. Any proposed deviations from the submitted and approved mix design should be resubmitted for the engineer's approval. Revalidation through laboratory or field testing is necessary for changes that exceed 10 percent of previously approved mix designs. Regardless of such changes, the SGC is responsible for satisfying the acceptance criteria.

E. Soil-binder mixture should be a stable mixture of binder slurry and in situ soil. The SGC should propose the ratios and quantities of various components.

2.2 Equipment

A. Deep mixing equipment should be of sufficient size, capacity, and torque to perform the required deep mixing to the desired depths. Characteristics of deep mixing equipment arc as follows:

- The equipment should be capable of advancing through previously installed elements to achieve designed overlapping or remixing as needed and be sufficient to maintain the necessary revolutions per minute and penetration rate at the maximum depth to achieve thorough mixing.
- The mixing and injection equipment should be sufficient to adequately blend and distribute the binder with the in-situ soils to provide the required strength.
- The mixing tools should be adequately marked to allow the engineer to confirm the penetration depth to within 1 ft (0.3 m) during construction. If rigs with varying mixing tool lengths are used, the shortest tools should extend to the lowest element termination elevations indicated in the plans.
- All equipment should have monitoring equipment to permit accurate and continuous monitoring, recording, and controlling of mixing tool depth, location, binder volume flow rates and factors, binder injection pressures and quantities, tool rotational speeds, tool advancement, and withdrawal rates.
- The monitoring equipment should be calibrated at the beginning of the project, and the data should be submitted to the owner. Calibration should be repeated every 3 months.
- The owner/engineer should have access to monitoring equipment.

B. Binder material handling and storage:

- The SGC should measure, handle the transport, and store bulk binder in accordance with the manufacturer's recommendations.
- Dry materials should be stored in dry containers. The binder should be adequately protected from moisture and contamination while in transit and when stored at the project site.
- Dry materials should be transported to the project site and placed in the onsite storage tanks using a closed system. Any air evacuated from the storage tanks during the loading process should be filtered before being discharged to the atmosphere.
- Material that has become caked due to moisture absorption should not be used. Binder materials containing lumps or foreign matter of a nature and in amounts that may be deleterious to the injection operation should not be used. In each instance in which the binder source is changed, the batch plant silos should be completely emptied before storing binder from the new source. Mixing binders from different sources in the same silos is not permitted.
- Equipment used for proportioning during binder production should be calibrated prior to initial use and repeated every 3 months or every time the batch plant is relocated, whichever is sooner. Calibration records must be submitted to the owner in accordance with Section 1.7.
- Positive displacement pumps should be used to transfer the slurry to the injection point. The SGC should demonstrate that the equipment can uniformly deliver binder at suitable rates in accordance with the construction plan.

PART 3 - EXECUTION

3.1 General

Deep mixed elements should be constructed to the lines, grades, and cross sections indicated in the plans and should meet the strength and uniformity requirements specified in Section 3.6. The SGC should establish consistent procedures during construction to ensure that the acceptance criteria are satisfied. The procedures should be established based on the results of the field validation program.

3.2 Field Validation Program

A. Prior to production, the SGC must construct a test section at the location shown in the plans to verify that the SGC's proposed equipment, procedures, and mix design can uniformly mix the onsite soils and achieve the product requirements outlined in the acceptance criteria in Section 3.6.

B. The SGC should submit the results of the field validation program to the owner as outlined in Section 1.7.

C. The test section should be installed at a suitable location proposed by the SGC and approved by the CCC. The SGC should submit a plan drawing showing the locations of the test section elements. At least three elements should be installed with different mixing parameters for each element. Each element should extend from the top elevation to the bottom elevation (or required penetration into bearing layer) if different mixing parameters are used. At least one full-depth core should be obtained from each element or group of elements installed using the same mixing parameters.

D. The SGC should obtain full-depth core samples from the test elements in accordance with the QC/QA requirements outlined in Section 3.6. Test samples should be submitted to the GEOR for testing. The SGC may propose other sampling techniques to obtain continuous samples of the deep mixed material which, if approved by the GEOR, could be submitted as further evidence of compliance with the acceptance requirements.

E. SGC may choose to commence production work at its risk. Any remedial work, if required shall be SGC's responsibility.

3.3 Binder Preparation (Wet Method)

A. The SGC should mix dry binder and water in the slurry plant to produce a uniform suspension of binder in the water.

B. The slurry should be held in the agitation tank for a maximum holding time of 4 hour. Holding time is calculated from the beginning of the initial mixing.

C. Slurry density must be measured in accordance with the requirements outlined in Section 3.6. If the slurry density is outside the tolerance required by the mix design, the SGC should recalibrate monitoring equipment and perform additional testing as required by the GEOR at no additional cost to the owner. The SGC may also adjust binder or water quantities appropriately and retest at no additional cost to the owner. The specific gravity of the binder slurry measured during production may not deviate by more than 3 percent from the established specific gravity.

D. Monitoring data should be recorded in the daily production report.

3.4 Locating Elements

A. Before beginning installation, the SGC should accurately stake the location of the deep mixed elements shown in the plans using a licensed surveyor. The SGC should provide an adequate method for locating elements to allow the GEOR to verify the as-built location of the elements during construction. The SGC will not be compensated for elements that are located outside of the tolerances specified in Section 3.6. The location of misaligned elements will be reviewed to determine if the elements interfere with the proposed construction. If it is determined that misaligned elements will interfere with construction, the SGC should correct the alignment. The method of correction should be submitted by the SGC to the GEOR for review and approval.

B. If an obstruction is encountered that prevents drilling advancement, the SGC should immediately notify the GEOR and investigate the location and extent of the obstruction using methods approved by the GEOR. The contractor should propose remedial measures to clear the obstruction for approval by the GEOR. The SGC will be compensated for removal or clearing of obstructions with prior approval from the owner. If the element cannot be installed at the design location due to obstructions, the clement should be relocated as directed by the GIE or GEOR.

3.5 Mixing

A. The equipment, installation procedures, materials, and sampling and testing methods established during the field validation program should be used for production. The SGC may request that the established mix design, equipment, installation procedure, or test methods be modified; however, the GEOR may require additional testing or a new test section at no additional cost to the owner to verify that acceptable results can be achieved. The SGC should not employ modified mix designs, equipment, installation procedures, or sampling and testing methods until approved by the GEOR in writing.

B. If the SGC must modify established methods due to equipment breakdowns, manpower changes, or improved conditions, a new test section should be installed at no cost to the owner. If owner requests modifications to the means and methods for design or other reasons (e.g., site conditions differ from what were encountered during the geotechnical explorations and the preproduction test program), the SGC should be compensated for new test sections.

C. Installation of each column should be continuous. If an interruption of more than 1 hour occurs, the element should be remixed while injecting binder at the design rate for the entire height of the element at no additional cost to the owner.

D. Binder slurry injection rate: The SGC should record in the daily production report on a real-time basis the weight of dry binder or the volume of binder slurry injected for each 3 ft (1 in) (measured vertically) during penetration and withdrawal for each element. If the weight of dry binder or the volume of binder slurry injected per vertical foot (meter) is less than the amount required to meet the binder factor or volume ratio established during the field validation program, the clement should be remixed, and additional binder should be injected at the design binder injection rate to a depth at least 3 ft (1 m) below the deficient zone at no additional cost to the owner. The binder factor should be recorded and plotted versus depth, and the records should be visible to the operator on a screen during construction so that proper adjustments may be made in real time.

E. Rotational speed and penetration/withdrawal rates: The necessary rotational speeds and penetration/withdrawal rates for the various soil layers encountered should be determined during the field validation program. The penetration and withdrawal rates must be monitored on a real-time basis. If the BRN is more than 15 percent below the value determined to be reliably acceptable from the field validation program, the column/element section must be remixed while injecting grout at the design binder injection rate.

F. Vertical alignment: The SGC should monitor and control the vertical alignment of the mixing tool stroke in two directions (longitudinal and transverse to the element alignment). Vertical alignment should be maintained within 1 percent of plumb during the element installation.

G. Element top and bottom elevations:

- Elements should be installed in accordance with the line and grades shown in the plans.
- The total depth of penetration should be measured either by observing the length of the mixing shaft inserted below a reference point on the mast or by subtracting the exposed length of shaft above the reference point from the total shaft length. Care should be taken to note ground surface heave that may affect reference points for measuring mixing shaft length. The SGC should note and record on the daily production report the final depth of the stroke. The equipment should be adequately marked to allow the GEOR to confirm the penetration depth during construction.

H. Bottom mixing: The contractor should conduct bottom mixing as established in the field validation program

I. Premixing: Above the standing water table, the existing clayey soils may be difficult to mix properly with the slurry. in order to facilitate more uniform mixing of the dryer, stiffer, clayey soils near the surface, premixing, including adding water is acceptable within the upper 12 to 15 feet.

3.6 QC

A. The SGC should provide the personnel and equipment necessary to implement the QC/QA requirements of the project. The GEOR or GIE will review daily production reports and QC/QA reports to verify that QC/QA procedures are being properly implemented. All strength testing will be conducted by the GEOR or the GIE if requested by the GEOR or SGC.

B. Deep mixing work plan: The contractor's deep mixing work plan should include descriptions of all QC/QA activities and reporting as outlined in Section 1.7. After the field validation program is conducted, the SGC may revise the QC/QA procedures, if approved by the GEOR. The SGC should maintain the established and approved QC/QA procedures throughout production to ensure consistency in the deep mixing installation and to verify that the work complies with all requirements indicated in the approved working drawings.

C. Daily production records should be submitted as outlined in Section 1.7.

D. Binder slurry density: The SGC should measure the specific gravity of the binder slurry at least twice per shift per slurry plant using the methods outlined in ASTM D4380 (not appropriate for dry mixing). The specific gravity of the binder slurry measured during production may not deviate by more than 3 percent from the established specific gravity. If the slurry density deviates by more than 3 percent, the contractor should recalibrate monitoring equipment and perform additional testing as required by the GEOR at no additional cost to the district. The SGC may also adjust binder or water quantities appropriately and retest at no additional cost to the district.

E. The SGC should make simple routine checks of material quantities such as counting the number of bags or truckloads of binder materials that have been used. These quantities should be recorded in the daily production report.

F. Wet sampling and testing (not appropriate for dry mixing):

- The SGC should perform all wet sampling in the presence of the GEOR. The SGC should notify the GEOR at least 1 business day in advance of beginning sampling operations.
- The SGC should propose locations for wet sampling while considering input from the GEOR. Sample locations should be distributed uniformly both laterally and vertically within the deep mixed zone. Sampling depths should be selected to ensure that wet samples are retrieved from every main soil stratum underlying the site.
- The SGC should report the information required in the daily production report (sec Section 1.7) for all attempts, successful and unsuccessful, to obtain wet samples.
- The SGC should collect a minimum of three wet bulk samples (each sample is taken at one selected depth at one location) for each mix design used in each test section. At least one wet bulk sample (one selected depth at one location) should be collected from within each main soil layer from elements produced using each mix design.
- One wet bulk sample (one selected depth at one location) should be retrieved every 1 production days or for every 1,000 yd3 of treated soil, whichever produces the higher sampling frequency.
- Wet bulk samples should be collected using a bailer-type sampling tool or similar.
- Eight test specimens from each wet bulk sample should be made with 3-inch (76-mm) diameter and 6-inch (152-mm) length, using the following general procedures outlined in ASTM D1632 and as follows:
  - Pour the sample into a container, screening for oversized lumps (gravel versus unmixed soil). Place the sample in specimen molds in three to five layers. Tap, vibrate, or rod the specimens to remove trapped air bubbles. Use care to avoid additional mixing or kneading action as much as possible on the sample during screening and specimen preparation so that the sample is representative of in-place mixing conditions.
  - Measure and describe the volume and composition of oversized lumps.
  - Seal the specimen to prevent moisture from entering or leaving, and store the specimen in a humid environment in accordance with ASTM D1632.
  - The GEOR may request additional test specimens for QA testing by the GIE.

G. Coring:

- Coring should be performed on 2% of the total DMM elements.
- The SGC should perform all coring operations in the presence of the GEOR. The SGC should notify the GEOR at least 1 business day in advance of beginning sampling operations.
- The SGC should determine the time interval between element installation and coring except that the interval should be no longer than required to conduct 28-day strength testing.
- The full-depth samples should be obtained along a vertical alignment located as shown on the detail on Sheet B201. If it is difficult to avoid drilling out of the column at this coring location, the SGC may drill one-fourth of a column diameter along the centerline of an element or shear wall so the core enters the adjacent column in the same element.
- Core samples should be retrieved using standard triple-tube or equivalent continuous coring techniques.
- Samples should have a diameter as noted on Sheet B201, and each core run should be at least 3 ft (1 m) in length.
- For each field validation test section, the SGC should collect at least one full-depth core for each mix design at locations defined by the owner/GEOR.
- The cores should be drilled at locations defined by the owner/GEOR. An element is defined as the treated soil produced by one setup of either a single- or multiple-axis machine.
- The SGC should photograph each core run.
- Upon retrieval, the SGC should provide the cores to the GEOR for logging and test specimen selection.
- Following logging, the GEOR will select at least five specimens from each full-depth continuous core for strength testing. Each test specimen should have a length-to-diameter ratio of 2 or greater.
- Immediately following logging and test specimen selection by the GEOR, the SGC should seal the entire full-depth sample, including the designated test specimens, in plastic wrap to prevent drying and provide them to the GEOR for transport of the sealed sample to the laboratory. The samples should be protected against drying and mechanical damage prior to and during transport.
- The samples should be stored in a moist room in accordance with ASTM C192 until the test date.
- Samples must not be submerged in water during curing unless they are sealed in a water-tight plastic bag (e.g., a Ziploc® bag) with as much air removed as possible prior to sealing to avoid swelling.
- All cores shall be maintained by the GEOR until completion and acceptance of all DMM work.
- All core holes should be filled with cement grout that will obtain a 28-day unconfined compressive strength equal to or greater than the 28-day unconfined compressive strength of the deep mixed material.

H. Strength testing:

- Strength testing should be conducted by the GEOR or GIE.
- Testing for unconfined compressive strength should be conducted in accordance with ASTM D1633. except that loading should continue on all specimens until the cylinders break sufficiently to examine the interior of the specimen.
- The broken specimen should be photographed so that the GEOR may document any apparent segregation, lenses, and pockets in the specimen.
- For field validation testing, unconfined compressive strength testing should be performed on specimens from wet grab samples 3, 7, 14, 28, and 56 days or more after mixing.
- For full production work, unconfined compressive strength testing should be performed on specimens from wet grab samples 7, 14, & 28 days after mixing.
- For specimens obtained by coring, unconfined compressive strength testing should be performed 28 days after mixing.

I. Uniformity evaluation: The SGC should provide the continuous core samples to the GEOR for logging and assessing uniformity in accordance with the acceptance criteria outlined in section 3.6.

J. Both the SGC's testing (if performed) and the GEOR's or GIE's testing must demonstrate that the required strengths are met prior to accepting the work. The contractor should conduct additional coring and testing required to demonstrate the acceptability of the DMM product due to non-conformance at no additional cost to CCC.

K. Geometric acceptance criteria:

- The GEOR or GIE should make the sole determination as to whether the test results satisfy the geometric acceptance criteria.
- The horizontal alignment of the DMM element should be within 6 inches (100 mm) of the planned location at the top of design DMM layout.
- The overlap between any two adjacent elements should be as shown on the details on Sheet B201.
- Vertical alignment within 1 percent of plumb should be maintained during the DMM column installation.
- The top of the column should extend upward to the designated elevation or higher.
- The bottom of the DMM column should extend at least to the depth indicated on the construction drawings.
- The GEOR should make the sole determination as to whether the test results satisfy the following strength acceptance criteria.
- The specified unconfined compressive strength of the deep mixed material as determined by ASTM D1633 at **28-days** curing time should **be 150 psi**. If earlier testing is conducted, the specified strength should at least equal **125 psi at 14-days** curing time.
- 80 percent of unconfined compressive strength test results as determined by ASTM D1633 from each tested deep mixed element should equal or exceed the specified strength. If a strength specimen falls below the specified strength due to an obviously unrepresentative lump of unmixed soil in the specimen. the engineer has the option to select another specimen from the same core run and to test the replacement specimen and substitute the strength from the replacement specimen for the strength from the unrepresentative specimen that failed to satisfy the strength requirement. Only one such retest will be allowed per core run.
- To prevent a weak layer at one elevation in the DMM foundation system, strengths below the specified strength are not permitted within 10 ft (3 m) of the same elevation in more than two nearby cored elements. "Nearby cored elements" refer to cored elements without an intervening cored element that has a passing test result in the suspect elevation zone.
- 90 percent of all of the test results across the site should equal or exceed the specified strength.
- No test results should fall below 60 psi when tested at 14 days time, or 75 psi if tested at 28 days.

M. Uniformity criteria:

- The GEOR should make the sole determination as to whether the test results satisfy the uniformity acceptance criteria.
- Full-depth continuous core samples retrieved by the contractor from the DMM element should be used to evaluate uniformity.
- Core recovery (expressed as a percentage) should be reported for each run and is equal to the total length of recovered core divided by the total core run length. Length of recovered core includes lengths of treated and untreated soil.
- Percent treatment is calculated as the total length of recovered core minus the sum of the lengths of unmixed or poorly mixed soil regions or lumps that extend across the entire diameter of the core divided by the total core run length expressed as a percentage. Percent treatment must be at least 80 percent for every 5 ft (1.5 m) core run. If 80 percent treatment cannot be confirmed by coring in coarse sandy or gravelly soil, optical televiewer logs can be used to confirm uniformity.
- If the SGC uses core runs shorter than 5 ft (1.5 m) (e.g., 3 ft (1 m)), then the recovery and percent treatment can be calculated taking into equal amounts of core run length on either side of the short core run length to make up a total 5-ft (1.5-m) run length for calculation purposes.

N. Non-conformance:

- The SGC is responsible for correcting the location or alignment of misplaced elements that will adversely affect the project quality. The SGC should correct misaligned elements that interfere with the project in a manner acceptable to the district and according to the details on Sheet DSM-013.
- If the strength and uniformity acceptance criteria are not achieved for production elements, the SGC should submit a proposed plan for investigating, remixing, or repairing failed sections for review and approval by the GEOR. The plan should conform to the details shown on Sheet DSM-013.
- To prove acceptability of the failed element, the SGC may core elements on both sides of the failed element. If those two cores meet the criteria, then the element should be accepted. If the additional cores fail, then the SGC can propose additional investigations and remedial measures, which the GEOR will review and has the option to accept or reject depending on whether the proposed remedial measures meet the design intent. Examples of such investigations and remedial measures include the following:
  - In the case that the treated soil meets the uniformity criteria but fails to meet the strength criteria, the elements or zone could be assigned a lower strength level. The SGC could propose installing additional elements to compensate the strength required by the design intent in accordance with the detail on Sheet DSM-013. If the treated soil fails to meet the uniformity criteria, the elements need to be remixed or replaced per detail on Sheet DSM-013.
  - If the treated soil that failed to meet the uniformity criteria is concentrated in a narrow elevation range forming weak planes or zones, the SGC could propose redrilling and remixing to 3 ft (1 m) below the deficient zone. If redrilling and remixing cannot be done efficiently, the SGC must replace the elements to the full depth per detail on Sheet DSM-013. If the treated soil in the narrow elevation meets the uniformity criteria but fails to meet the strength criteria, the SGC could propose to redrill and remix the deficient zone or to assign a lower strength level to the deficient zone and install additional elements to compensate for the strength deficiency per detail on Sheet DSM-013.
  - If the treated soil that failed to pass cannot be isolated in a specific zone, the SGC must provide remedial measures for all elements constructed during all rig shifts that occurred between passing elements.

Remedial measures are subject to coring and application of the specification acceptance criteria.

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REGISTERED PROFESSIONAL ENGINEER
SIVATHAYANITHILLAISIVATHASAN
No.2708
Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
717 South Myrtle Avenue
Monrovia, CA 91016
(626)930-1200

ARCHITECTS

WESTGROUP DESIGNS
19900 MacArthur Boulevard I Suite 1000
Irvine I 92612 I California
949.250.0880 I FAX 949.250.0882
www.westgroupdesigns.com

PROJECT TITLE

NEW STUDENT HOUSING BUILDINGS
11110 ALONDRA BLVD.
NORWALK, CA 90650

CERRITOS COLLEGE

NO	DATE	BY	DESCRIPTION
1	12/08/2025		Converse
0	6/20/2025		Converse
			REVISIONS

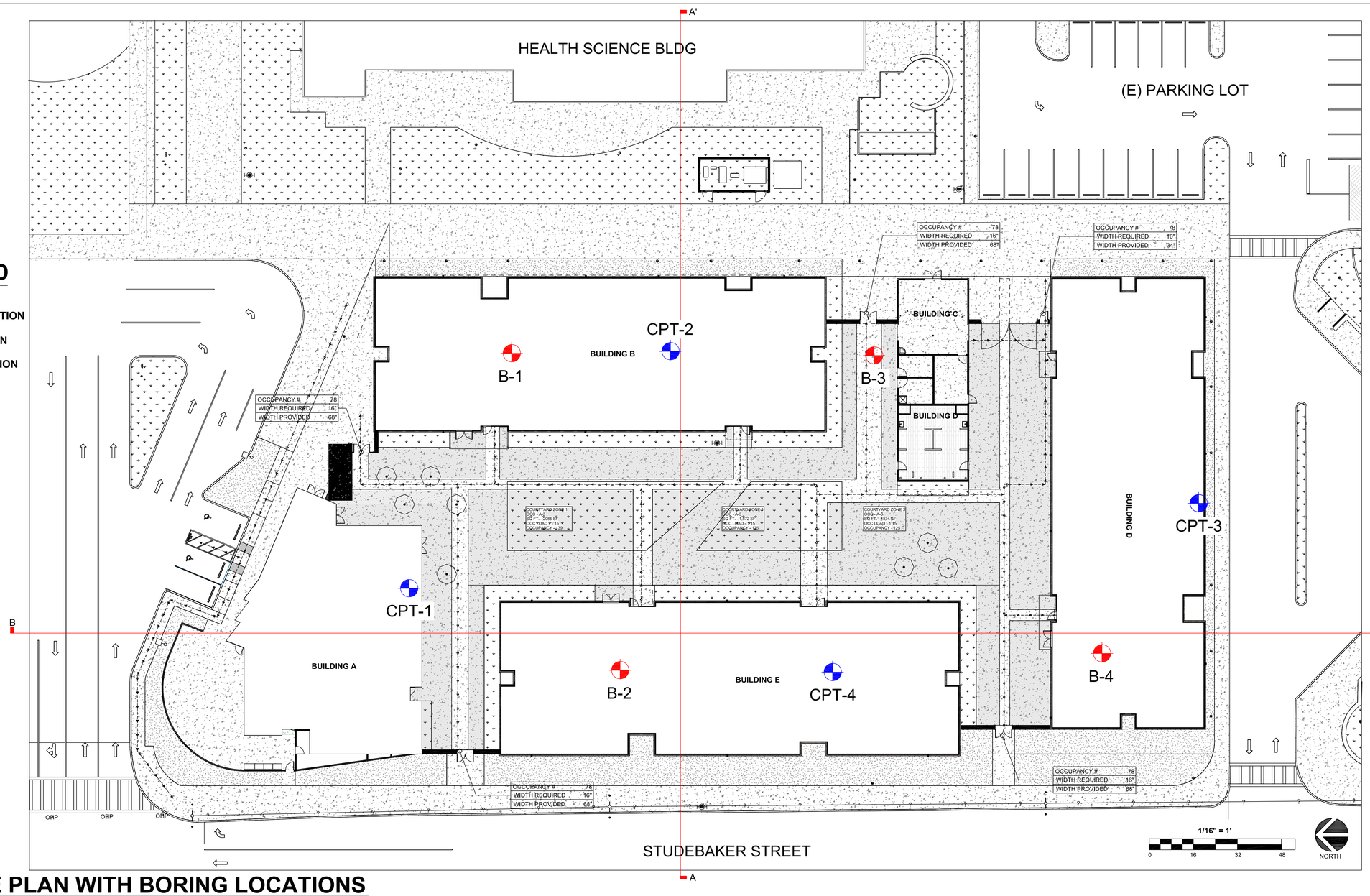
DRAWN: A.L.	CHECKED: SIVA SIVATHASAN
DATE: 12/08/2025	SCALE: N.T.S.
PROJECT NUMBER: 24-31-138-03	

GROUND IMPROVEMENT SPECIFICATIONS

DRAWING NUMBER: **DSM-003**

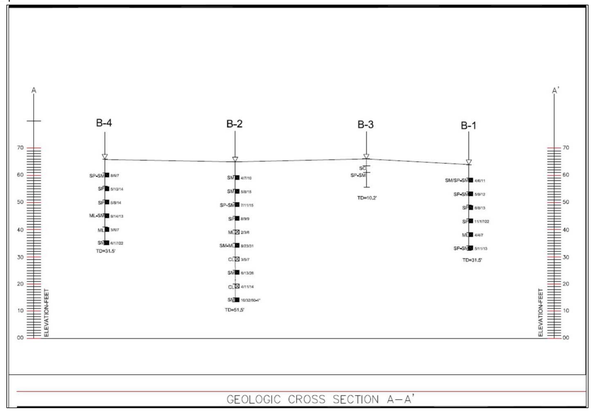
LEGEND

- BORING LOCATION
- CPT LOCATION
- CROSS SECTION



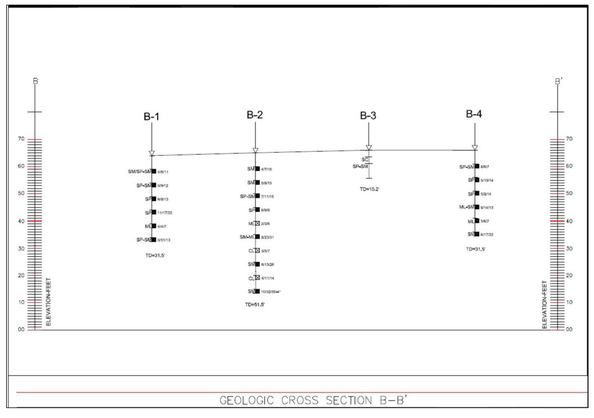
1 SITE PLAN WITH BORING LOCATIONS

1/16"=1'



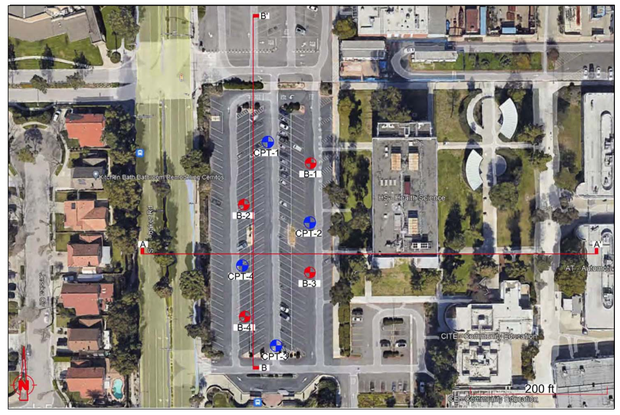
2 GEOLOGIC CROSS SECTION A-A'

N.T.S.



3 GEOLOGIC CROSS SECTION B-B'

N.T.S.



4 BORING LOCATIONS AERIAL VIEW

N.T.S.

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No.2708
Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
717 South Myrtle Avenue
Monrovia, CA 91016
(626)930-1200

ARCHITECTS

WESTGROUP DESIGNS
19900 MacArthur Boulevard I Suite 1000
Irvine I 92612 I California
949.250.0880 I FAX 949.250.0882
www.westgroupdesigns.com

PROJECT TITLE

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NORWALK, CA 90650

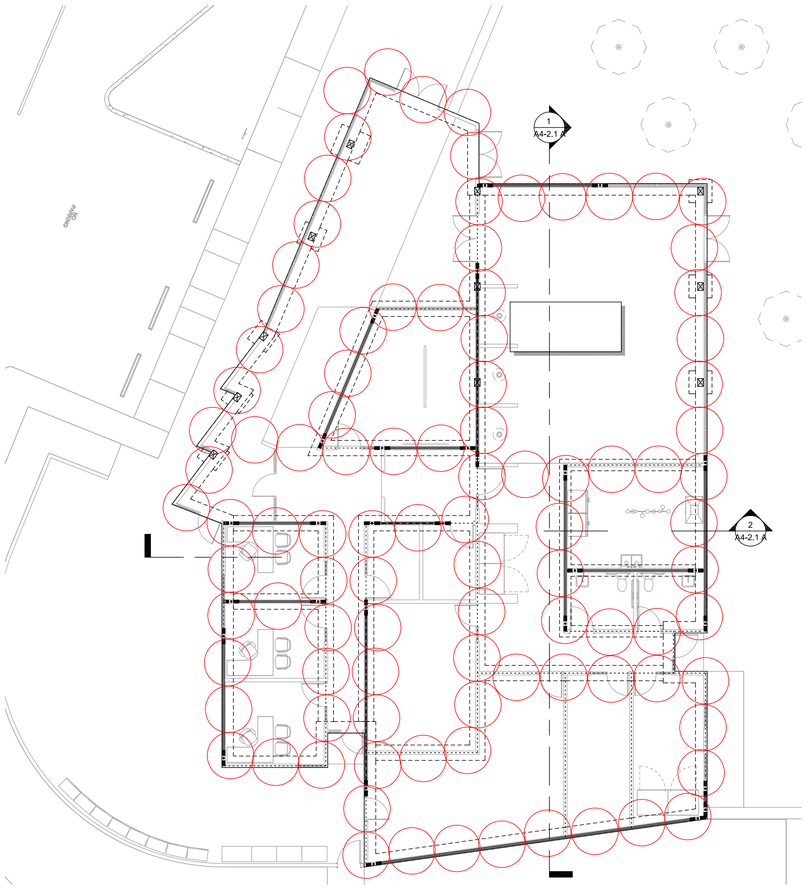
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PROJECT NUMBER: 24-31-138-03	

SITE PLAN - OVERALL

DRAWING NUMBER: DSM-004

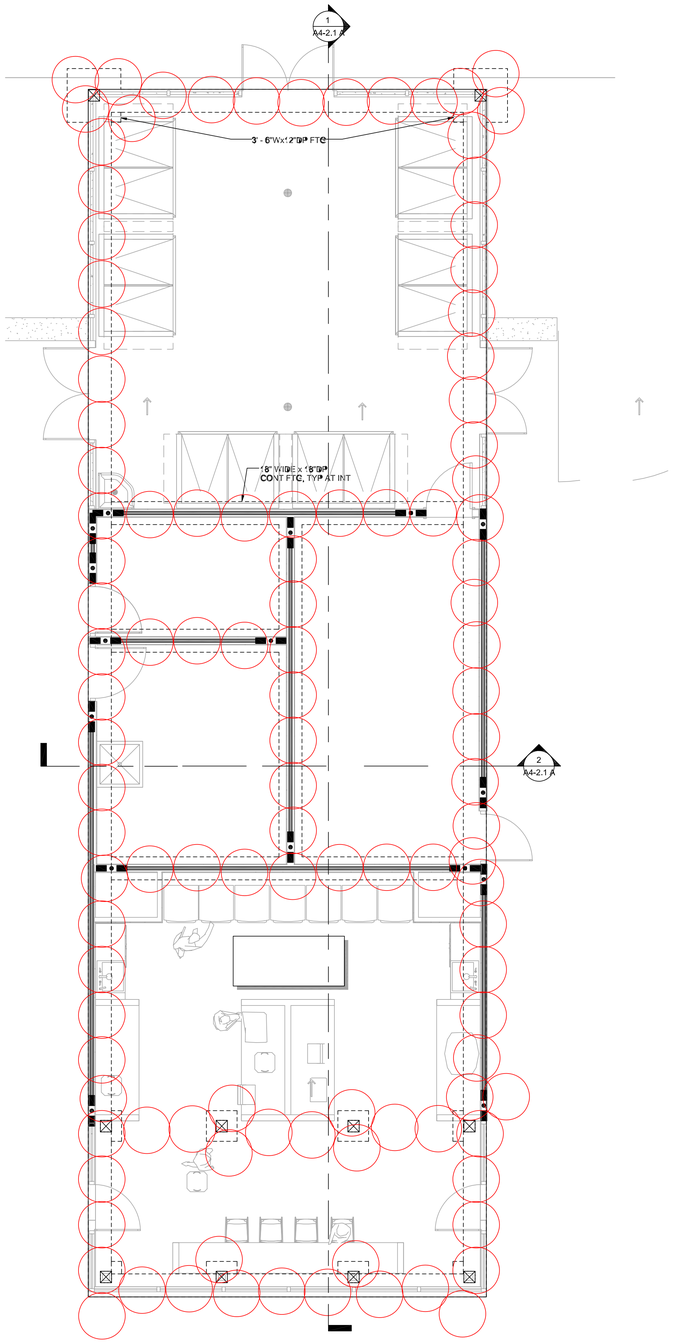


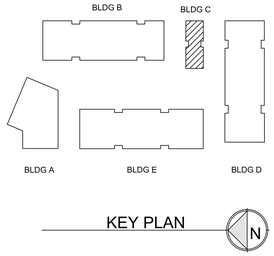
1 GROUND IMPROVEMENT LAYOUT
1/8"=1'

BUILDING A

LEGEND

6 FOOT DIAMETER DMM ELEMENTS





2 GROUND IMPROVEMENT LAYOUT
1/8"=1'

BUILDING C

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REGISTERED PROFESSIONAL ENGINEER
SATHIGAVATHI THILLAISIVATHASAN
No.2708
Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
717 South Myrtle Avenue
Monrovia, CA 91016
(626)930-1200

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WESTGROUP DESIGNS
19900 MacArthur Boulevard I Suite 1000
Irvine I 92612 I California
949.250.0880 I FAX 949.250.0882
www.westgroupdesigns.com

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523 W 6th Street, Suite 616
Los Angeles, California 90014
P: (213) 298-3700 www.dci-engineers.com

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PROJECT TITLE

NEW STUDENT HOUSING BUILDINGS
11110 ALONDRA BLVD.
NORWALK, CA 90650

Cerritos College

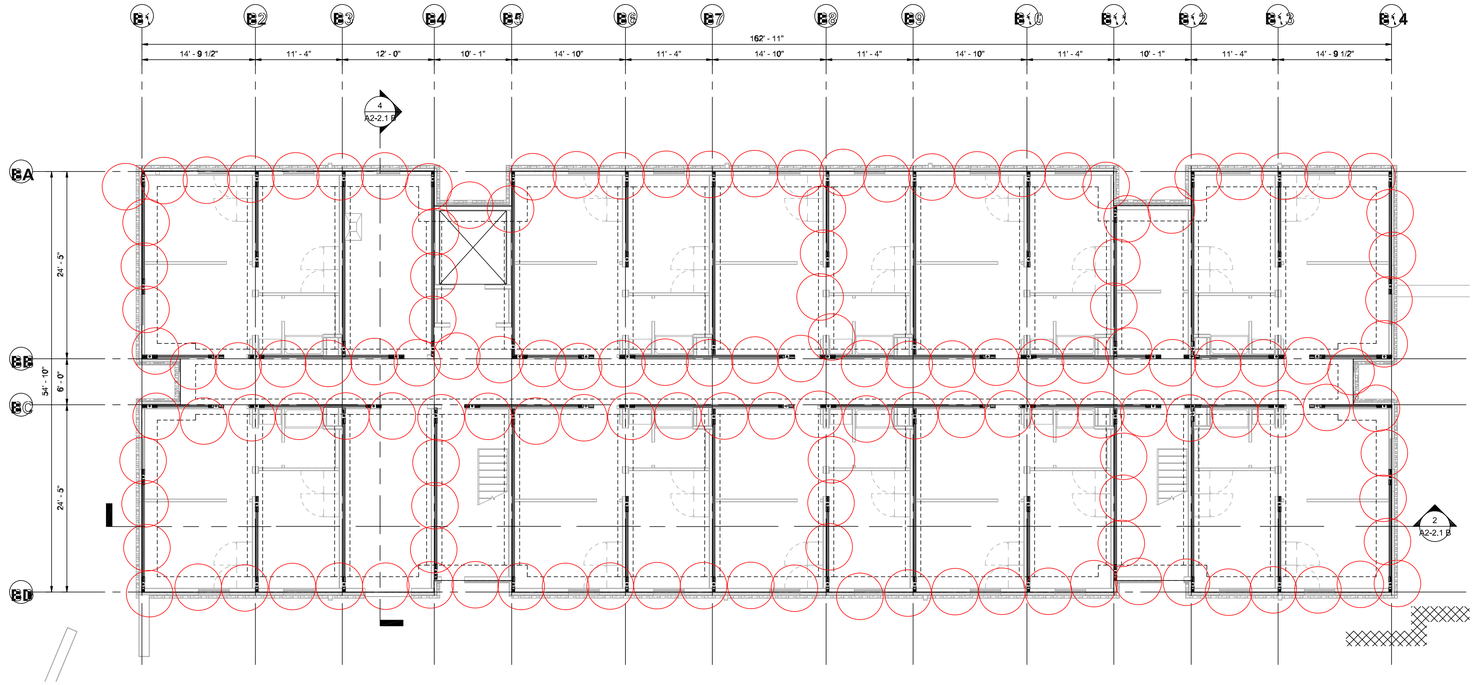
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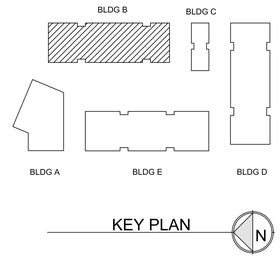
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PROJECT NUMBER: 24-31-138-03	

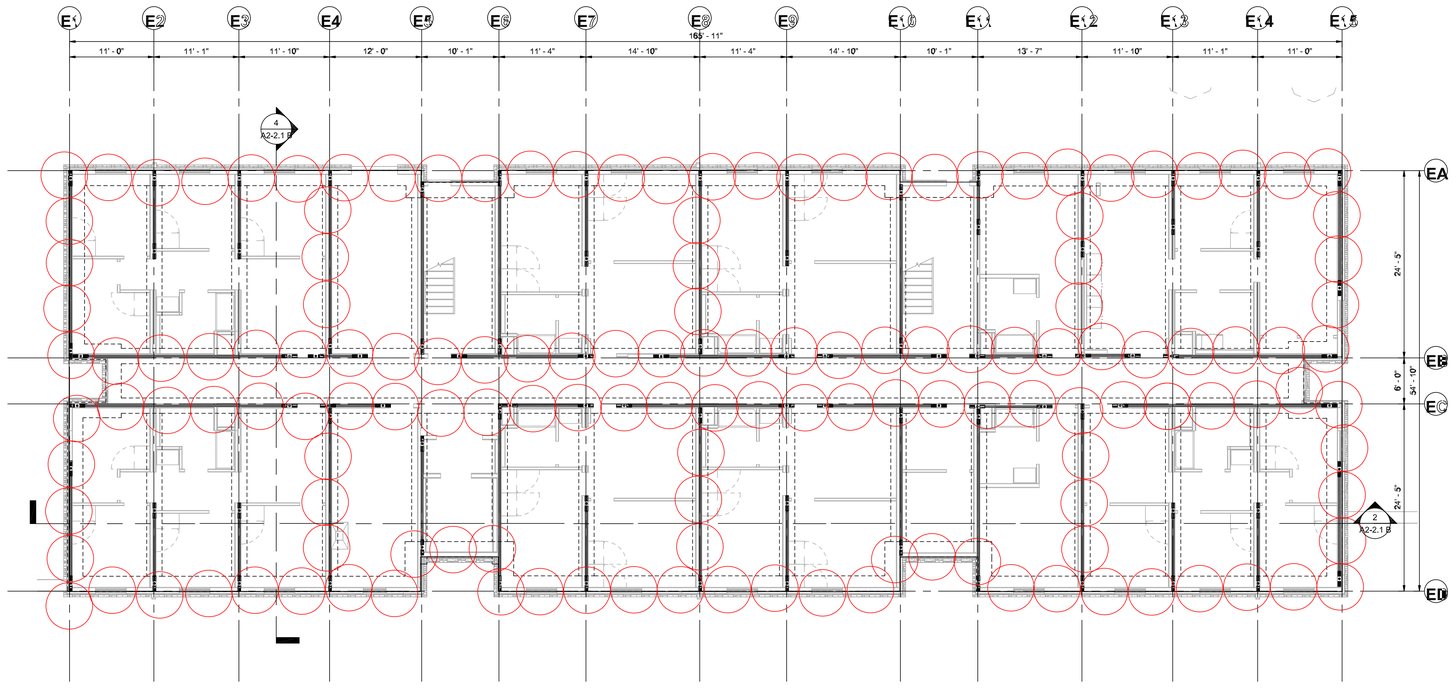
GROUND IMPROVEMENT PLAN BLDG A AND BLDG C

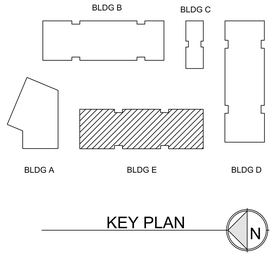
DRAWING NUMBER: DSM-005





1 GROUND IMPROVEMENT LAYOUT
BUILDING B
1/8"=1'





2 GROUND IMPROVEMENT LAYOUT
BUILDING E
1/8"=1'

LEGEND

6 FOOT DIAMETER DMM ELEMENTS

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SIVATHASAN VIETPILLAI SIVATHASAN
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Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
717 South Myrtle Avenue
Monrovia, CA 91016
(626)930-1200

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PROJECT TITLE

NEW STUDENT HOUSING BUILDINGS

11110 ALONDRA BLVD,
NORWALK, CA 90650

Cerritos College

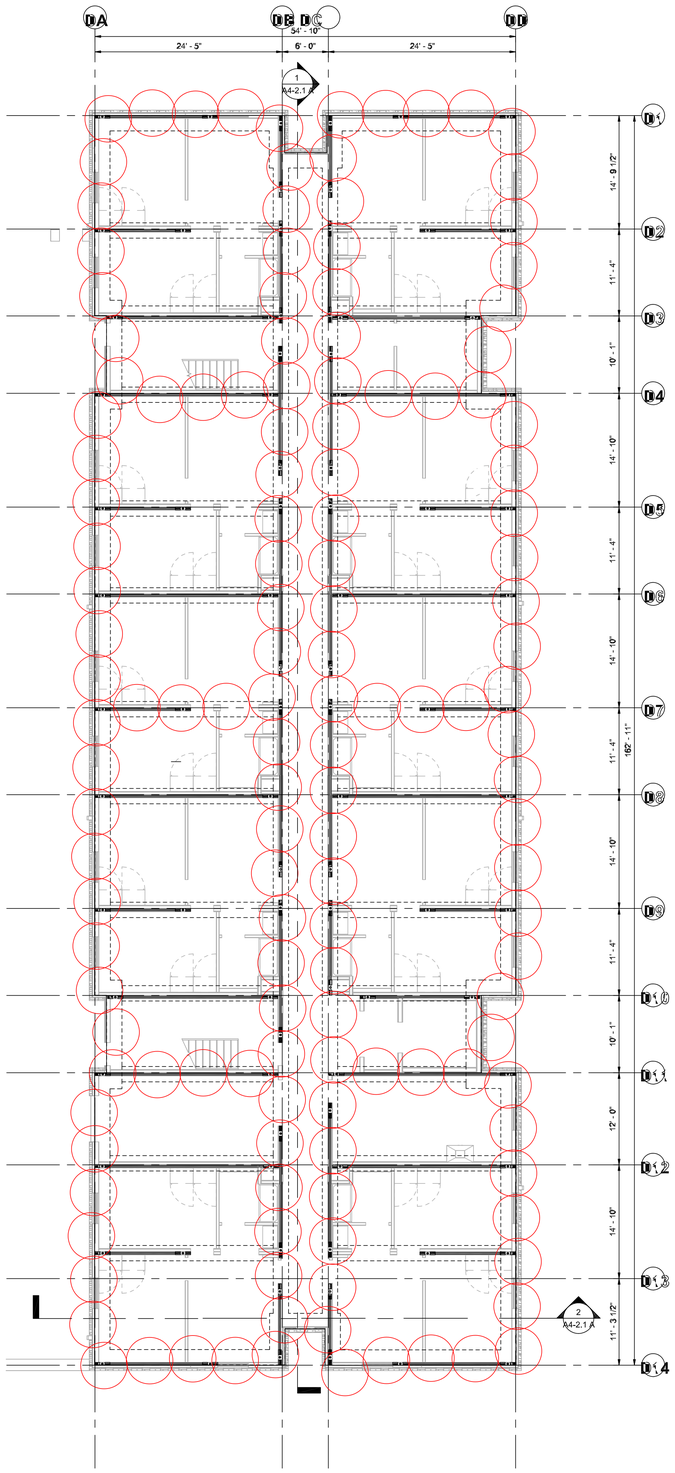
CERRITOS COLLEGE

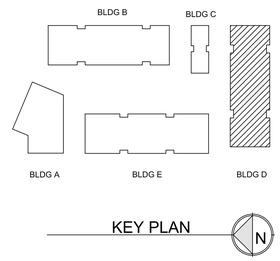
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PROJECT NUMBER: 24-31-138-03	

GROUND IMPROVEMENT PLAN BLDG B AND BLDG E

DRAWING NUMBER: DSM-006





LEGEND

6 FOOT DIAMETER DMM ELEMENTS

1 GROUND IMPROVEMENT LAYOUT

3/8"=1'

BUILDING D

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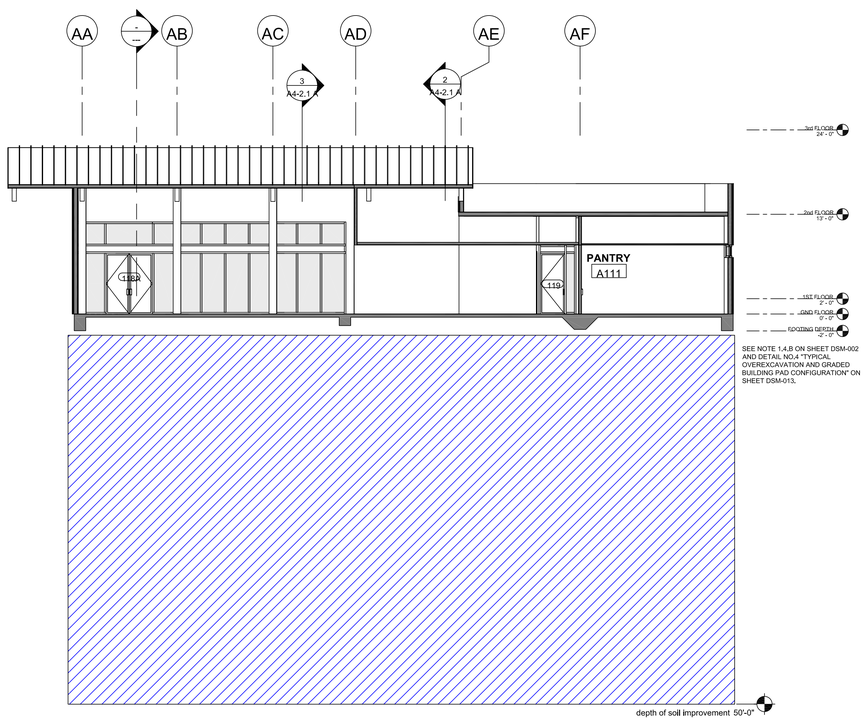
Cerritos College
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PROJECT NUMBER: 24-31-138-03	

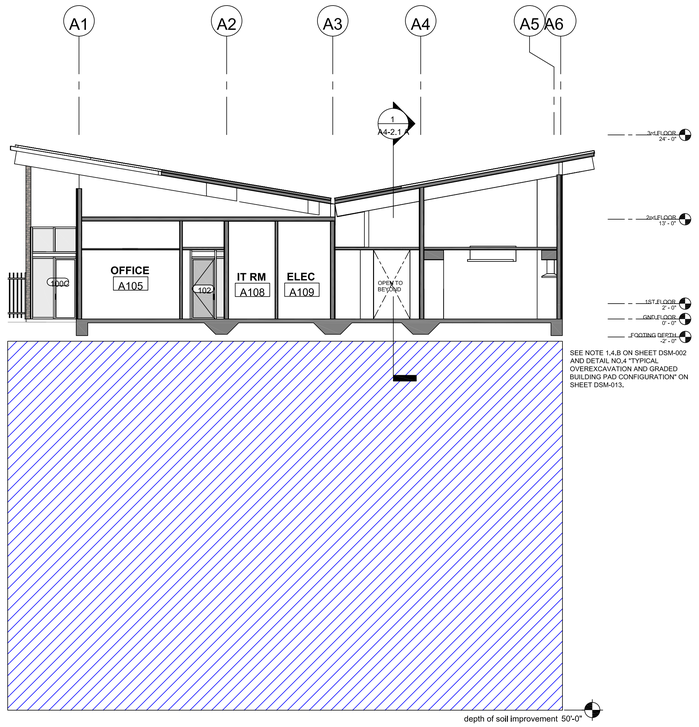
GROUND IMPROVEMENT PLAN BLDG D

DRAWING NUMBER: DSM-007



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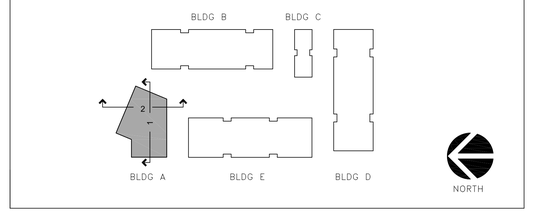
3/8"=1'



2 BUILDING A - SECTION 2

3/8"=1'

KEYPLAN



1/8" = 1'

0 8 16 24

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www.converseconsultants.com
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Monrovia, CA 91016
(626)930-1200

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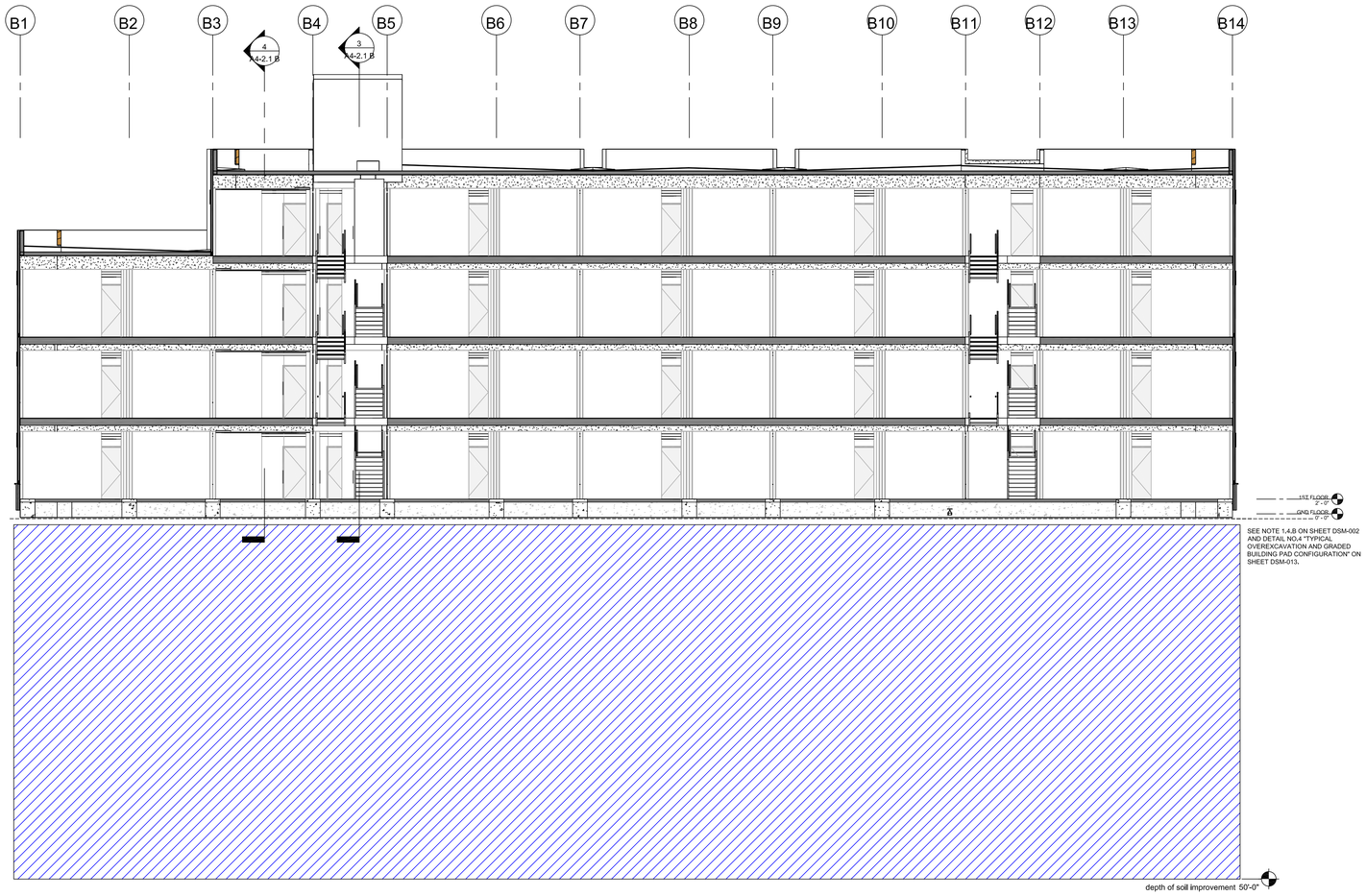
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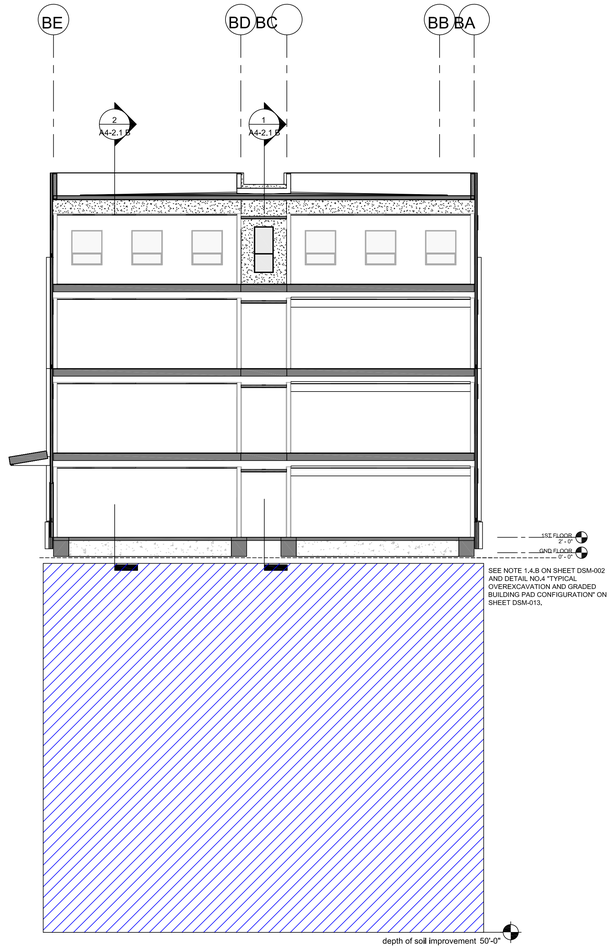
BUILDING A SECTIONS

DRAWING NUMBER: DSM-008



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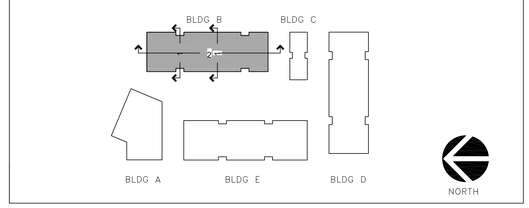
1/8"=1'



2 BUILDING B - SECTION 4

1/8"=1'

KEYPLAN



1/8" = 1'

0 8 16 24

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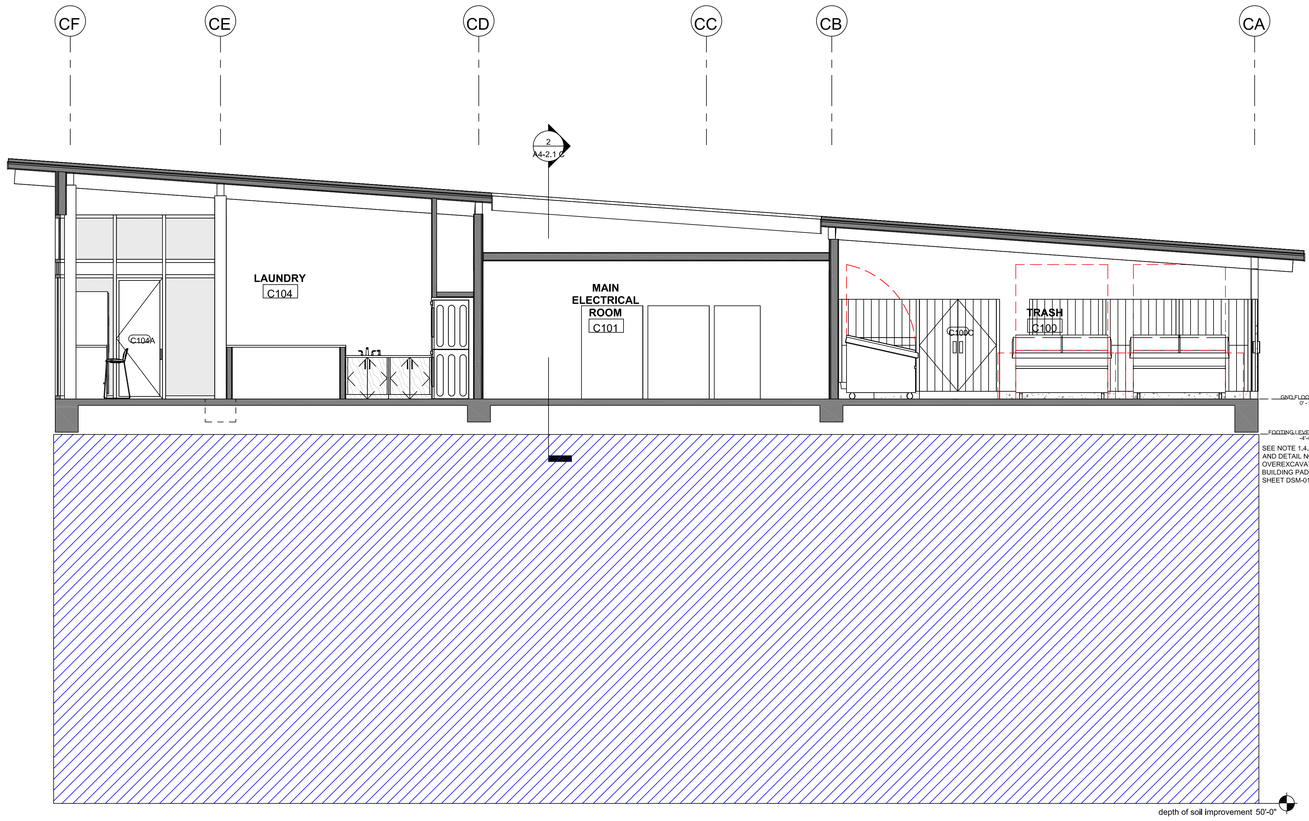
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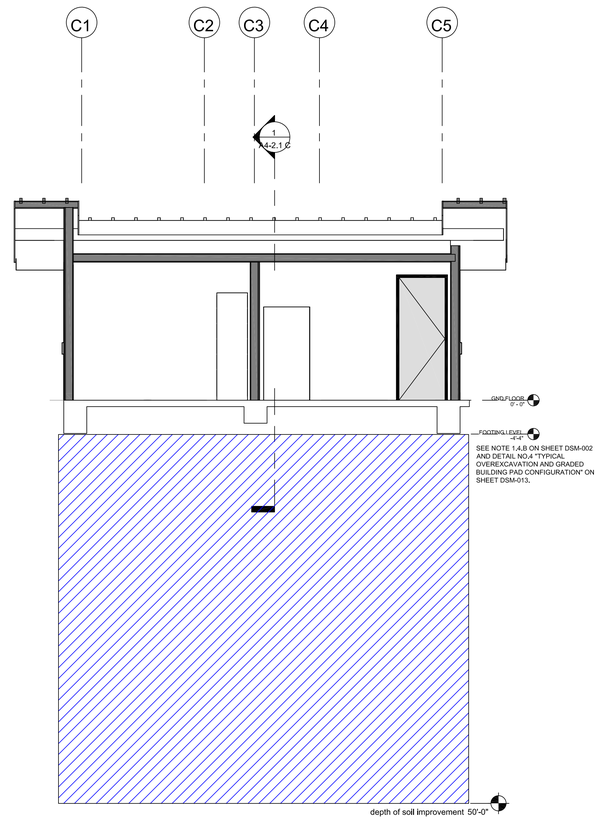
BUILDING B SECTIONS

DRAWING NUMBER: **DSM-009**



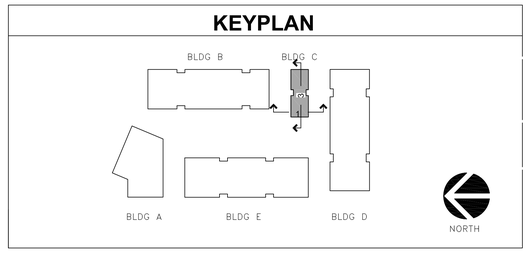
1 BUILDING C - SECTION 1

1/8"=1'



2 BUILDING C - SECTION 2

1/8"=1'



1/8" = 1'

0 8 16 24

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Monrovia, CA 91016
(626)930-1200

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11110 ALONDRA BLVD.
NORWALK, CA 90650

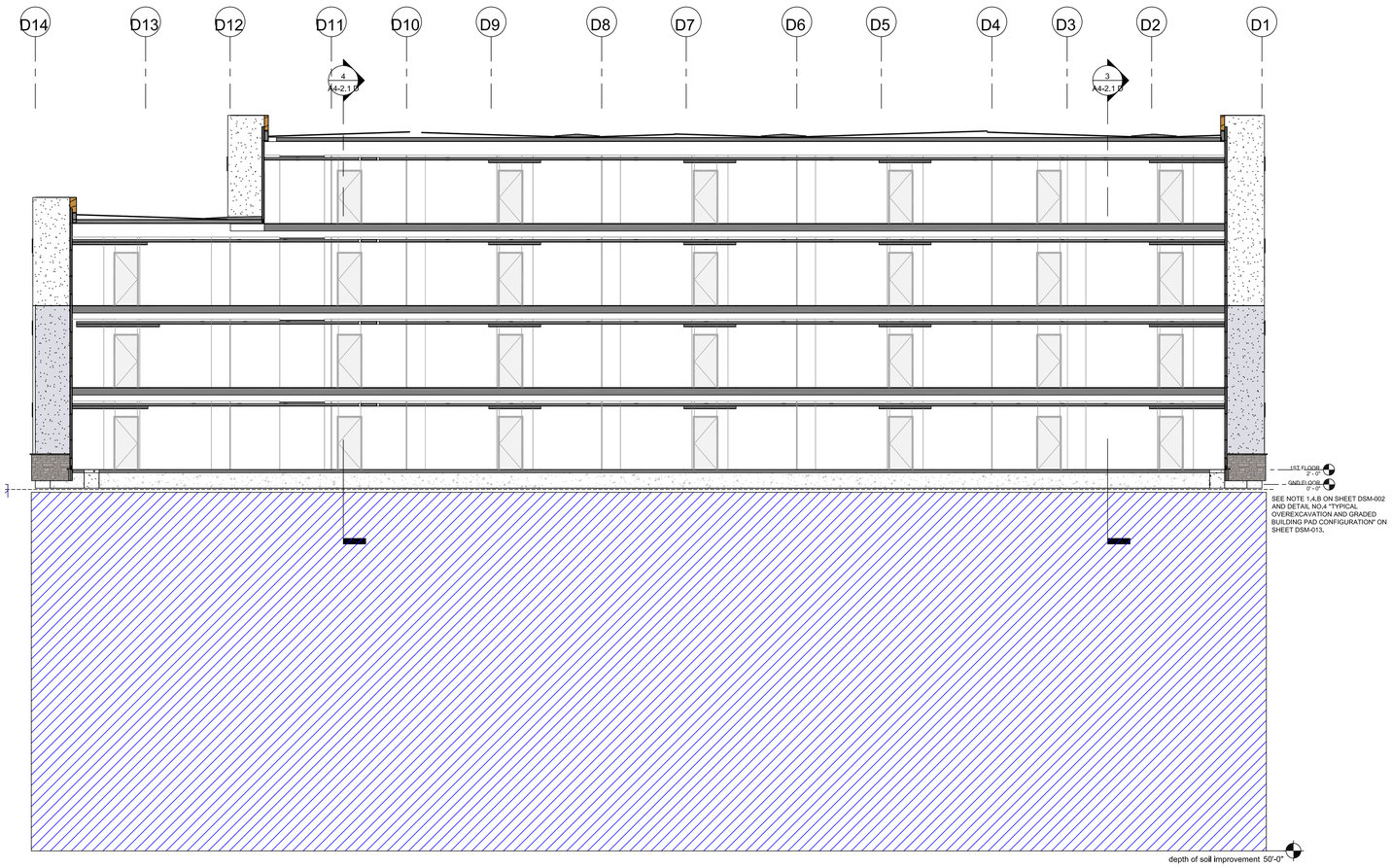
CERRITOS COLLEGE

NO	DATE	BY	DESCRIPTION
1	12/08/2025		Converse
0	6/20/2025		Converse
			REVISIONS

DRAWN: A.L.	CHECKED: SIVA SIVATHASAN
DATE: 12/08/2025	SCALE: N.T.S.
PROJECT NUMBER: 24-31-138-03	

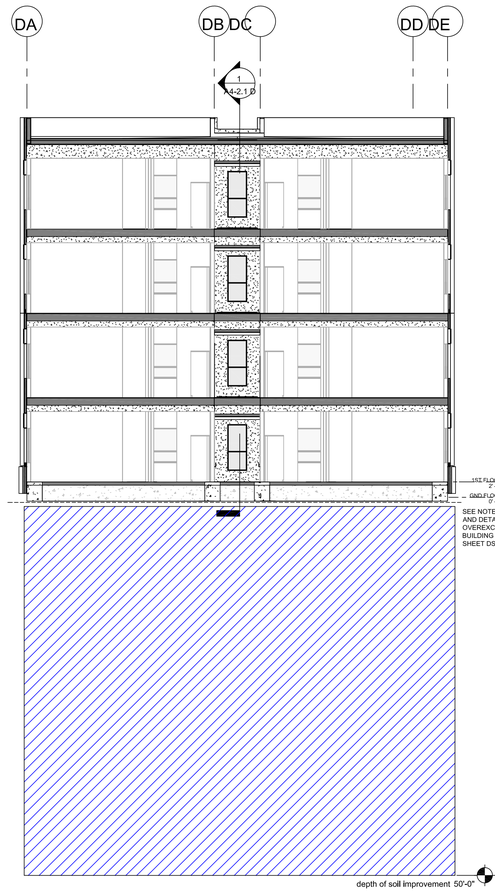
BUILDING C SECTIONS

DRAWING NUMBER: **DSM-010**



1 BUILDING D - SECTION 1

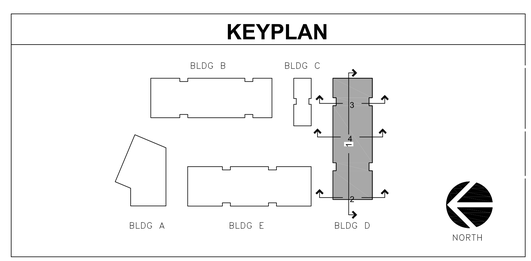
1/8"=1'



2 BUILDING D - SECTION 2

1/8"=1'

KEYPLAN



1/8" = 1'

0 8 16 24

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Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
717 South Myrtle Avenue
Monrovia, CA 91016
(626)930-1200

ARCHITECTS

WESTGROUP DESIGNS

19900 MacArthur Boulevard I Suite 1000
Irvine I 92612 I California
949.250.0880 I FAX 949.250.0882
www.westgroupdesigns.com

PROJECT TITLE

NEW STUDENT HOUSING BUILDINGS

11110 ALONDRA BLVD.
NORWALK, CA 90650

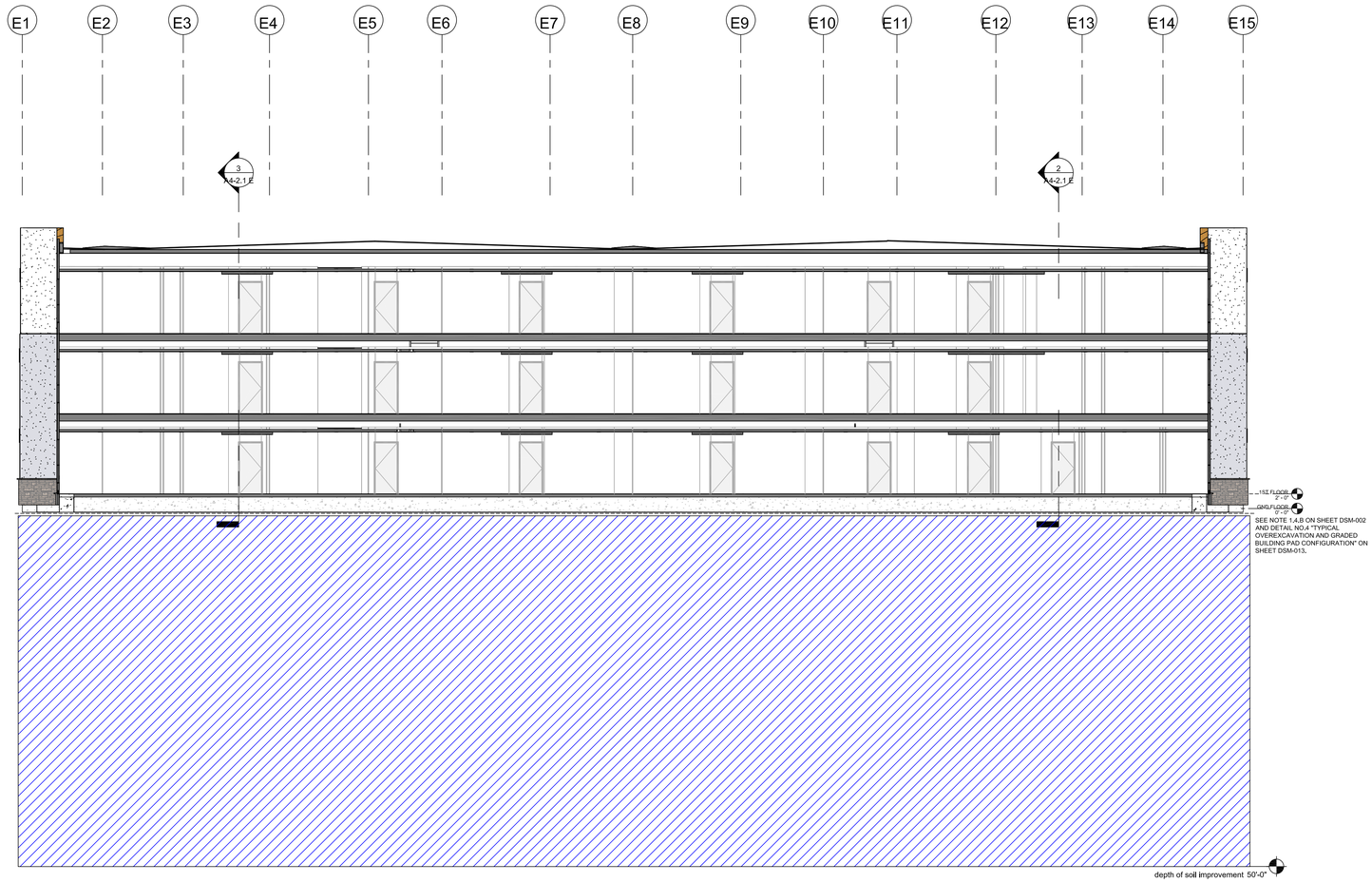
CERRITOS COLLEGE

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0	6/20/2025		Converse
#	REVISIONS		

DRAWN: A.L.	**CHECKED:** SIVA SIVATHASAN
DATE: 12/08/2025	**SCALE:** 1/8"=1'
PROJECT NUMBER: 24-31-138-03	

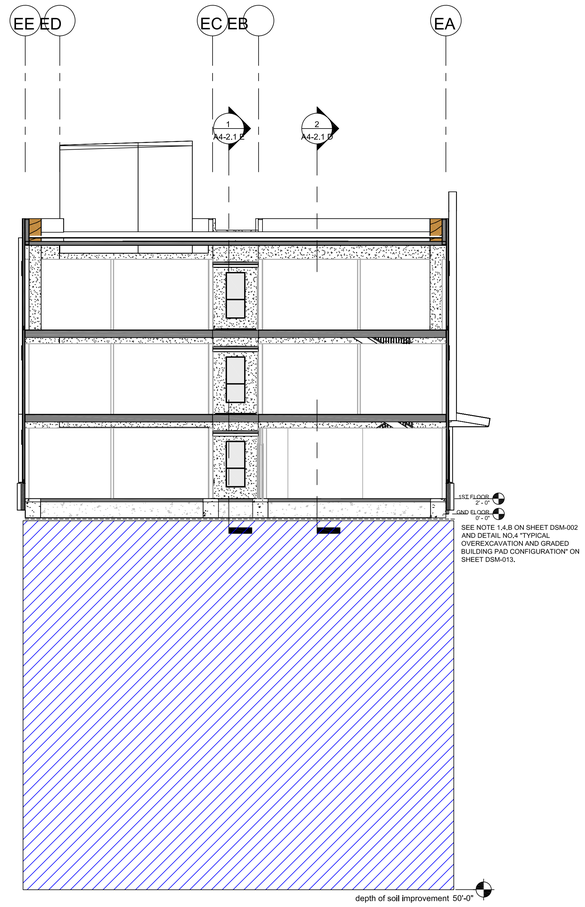
BUILDING D SECTIONS

DRAWING NUMBER: **DSM-011**



1 BUILDING E - SECTION 1

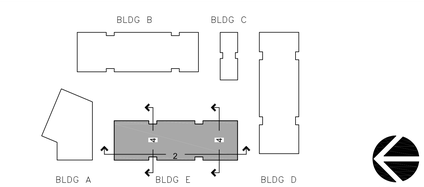
1/8"=1'



2 BUILDING E - SECTION 4

1/8"=1'

KEYPLAN



1/8" = 1'

0 8 16 24

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ATHIRAN VETPILLAISIVATHASAN
No.2708
Exp.06/30/2025
GEOTECHNICAL
STATE OF CALIFORNIA

CONSULTANTS

Converse Consultants

www.converseconsultants.com
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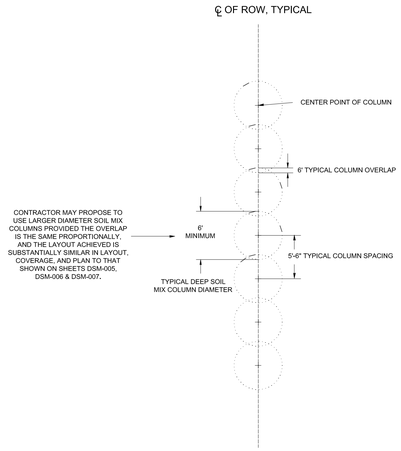
CERRITOS COLLEGE

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PROJECT NUMBER: 24-31-138-03	

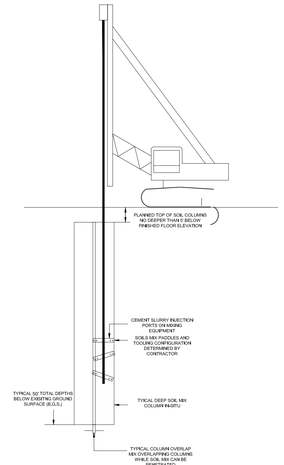
BUILDING E SECTIONS

DRAWING NUMBER: DSM-012



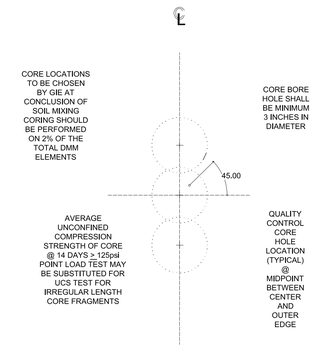
TYPICAL DEEP SOIL MIX COLUMN LAYOUT

1 N.T.S.



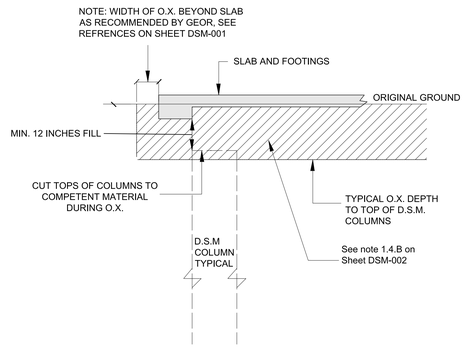
TYPICAL VERTICAL PROFILE OF DSM COLUMNS & INSTATLLATION PROCESS

2 N.T.S.



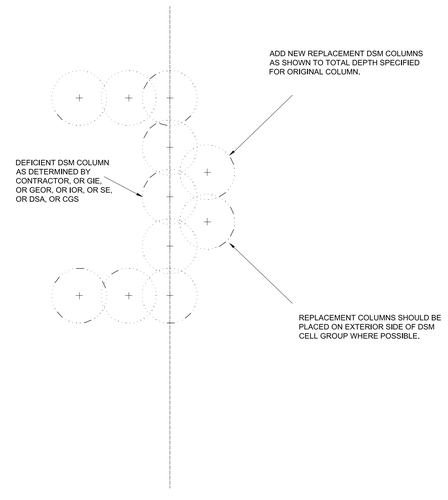
TYPICAL DSM COLUMN QUALITY CONTROL CORE BORE HOLE LAYOUT

3 N.T.S.



TYPICAL OVER EXCAVATION AND GRADED BUILDING PAD CONFIGURATION

4 N.T.S.



DETAIL FOR TYPICAL DEFICIENT DSM COLUMN REPLACEMENT

5 N.T.S.

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Cerritos College
CERRITOS COLLEGE

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DRAWN: A.L.	CHECKED: SIVA SIVATHASAN
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PROJECT NUMBER: 24-31-138-03	

TYPICAL DEEP SOIL MIXING DETAILS

DRAWING NUMBER: DSM-013