EXHIBIT Q

GEOTECHNICAL FEASIBILITY REPORT

FOR

SAN BERNARDINO COUNTY

303 W. 5TH STREET DESIGN-BUILD PROJECT

PROJECT NUMBER 10.10.1699

NOT FOR BID

Future Redevelopment Project

Geotechnical Feasibility Report

San Bernardino, California

February 6, 2025 | Terracon Project No. CB245136

Prepared for:

San Bernardino County
385 N Arrowhead Ave, 3rd Floor
San Bernardino, CA

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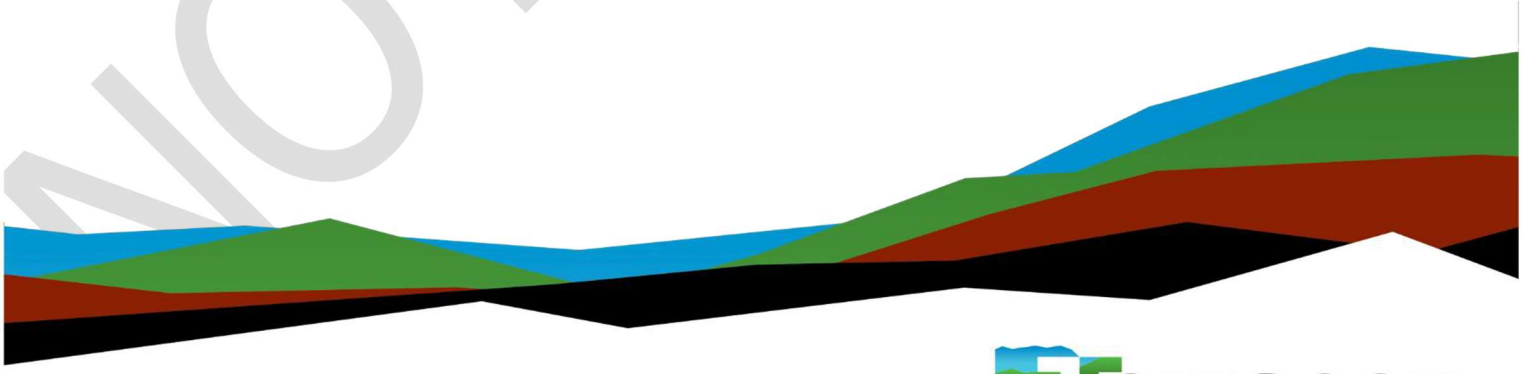

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February 6, 2025

San Bernardino County
385 N Arrowhead Ave, 3rd Floor
San Bernardino, CA

Attn: Mr. Brenton Rankin
P: (909)-387-5000
E: Brenton.rankin@res.sbcounty.gov

Re: Geotechnical Feasibility Report
Future Redevelopment Project
303 W. Fifth Street
San Bernardino, California
Terracon Project No. CB245136

Dear Mr. Rankin:

We have completed the scope of services for the Geotechnical Feasibility of the above referenced project in general accordance with Terracon Proposal No. PCB245136 dated October 15, 2024. This report presents the findings of the subsurface exploration and preliminary liquefaction analysis for feasibility of the proposed project. This report is not intended for design, additional geotechnical investigation is required for proposed development.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

Eduardo Dominguez-Beltran, E.I.T.
Senior Staff Engineer

Joshua R. Morgan, P.E.
Geotechnical Regional Manager

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Attachments

Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the terracon logo will bring you back to this page. For more interactive features, please view your project online at **client.terracon.com**.

Refer to each individual Attachment for a listing of contents.

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Introduction

This report presents the results of our subsurface exploration and Geotechnical Feasibility services performed for the existing structure and adjacent project areas located at 303 W. Fifth Street in San Bernardino, California. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic Site Class per 2022 California Building Code (CBC)
- Site preparation and earthwork
- Preliminary liquefaction settlement analysis

The geotechnical engineering Scope of Services for this project included the advancement of test borings, cone penetration testing, laboratory testing, limited engineering analysis, and preparation of this report.

Drawings showing the site, boring, and cone penetration testing locations are shown on the **Site Location** and **Exploration Plan**, respectively. The results of the laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs and/or as separate graphs in the **Exploration Results** section.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Project Description	The site boundary and a brief project description were provided by the client by email on September 25, 2024. The client also indicated the soils information would be used for Design-Build Entities for proposing on the possible rehabilitation of the existing structure and potential development of the rest of the site. The type of rehabilitation or development of the site were not available. The existing building is pedestalled over a ground level parking lot that is asphalt concrete cover and has a 12 feet height clearance.

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Item	Description
	The site is part of a block bounded by West 5th Street, North Arrowhead Avenue, West 4th St., and North D Street. The size of the parcel associated with the future redevelopment of the building is approximately 1.24 acres.
Building Construction	The type of rehabilitation and lot development were not provided. We understand that the existing structure may require seismic upgrades. The existing structure is reinforced concrete. Potential building construction in the adjoining lots could be: Wood frame or steel frame Reinforced concrete Slab-on-grade
Finished Floor Elevation	We assume the proposed building floor elevations to be similar to that of the existing structure or existing grades.
Maximum Loads (Assumed)	We assume that the proposed structural improvements will have the following loads: ▪ Columns: 100 to 300 kips ▪ Walls: 3 to 5 kips per linear foot (klf) ▪ Slabs: 200 pounds per square foot (psf)
Grading/Slopes	We assume the proposed grade elevations will follow the existing site elevations with minimum grading required. Slopes are not planned.
Below-Grade Structures	None anticipated
Free-Standing Retaining Walls	None anticipated
Building Code	2022 California Building Code, ASCE 7-16

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the grading limits, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at 303 W. Fifth Street, in San Bernardino, California. The site is approximately 1.24 acres. It consists of the following parcels: ▪ APN 013510127 (0.98 acres): Existing two story reinforced concrete building with ground level parking lot on the first level. Additionally, an asphalt concrete paved parking lot ▪ APN 013510128 (0.13 acres): Empty dirt lot with overgrown dry shrubs ▪ APN 013510108 (0.13 acres): Empty dirt lot with overgrown dry shrubs The approximate coordinates of the center of the site are: 34.10806° N 117.29020° W (See **Site Location**)
Existing Improvements	The project site has an existing two story reinforced concrete building pedestalled over an existing parking lot paved with asphalt concrete. Additionally, there are two vacant asphalt paved and dirt lots adjacent west of the existing building.
Current Ground Cover	Asphalt concrete with very limited landscaping, and dirt lots with overgrown shrubs.

Geotechnical Characterization

We have developed a general characterization of the subsurface soil and groundwater conditions based upon our review of the data and our understanding of the geologic setting and potential construction. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration and Laboratory Results**.

The subsurface materials encountered in the borings generally consist of silty sand, sand, and silt with varying amounts of silt, sand, and gravel interbedded with layers of clay with varying amounts of sand and silt. Granular materials varied from loose to very dense and fine-grained materials from stiff to hard. Undocumented fill soils were encountered in our borings B-1 and B-2 to a depth from approximately 4 to 8 feet and was identified by the evidence of various debris observed in the cuttings. Fill may be present in other areas of the proposed development. The stated fill depths should not be considered exact due to the similarity of lithology, color, and densities of the graded materials and native soils.

NOT FOR

The soil behaviour types from the cone penetration testing soundings generally consisted of silty sand, sand, and silt with varying amounts of silt and sand interbedded with layers of clay with varying amounts of sand and silt. Cone penetration soundings CPT-1, CPT-2, CPT-3, and CPT-5, encountered refusal at depths approximately ranging between 12½ to 31½ feet. CPT-5 was relocated a few feet and CPT-5A was advanced to a depth of 100 feet. The shear wave velocity profile was measured in CPT-4 at 10 foot intervals for subgrade classification purposes. The CPT soundings and shear wave velocity results can be found in the **Exploration and Laboratory Results**.

Groundwater

The borings were advanced using a hollow-stem auger drilling technique that allow short-term groundwater observations to be made while drilling. Groundwater was not encountered within the 51.5-foot depth (bgs) of borings at the time of our field exploration.

According to data collected from the Department of Water Resources Water Data Library for the State of California from well number 01S04W03N006S, located approximately 0.25 mile northeast of the site, the highest groundwater level recorded between 2005 and 2010 was 88 feet bgs.[1] Groundwater contour mapping by Matti and Carson (1991)[2] indicates a groundwater depth on the order of 10 feet bgs between 1973 and 1983.

Groundwater conditions may be different at the time of construction. Groundwater conditions may change because of seasonal variations in rainfall, runoff, and other conditions not apparent at the time of drilling. Long-term groundwater monitoring was outside the scope of services for this project.

Laboratory Results

Laboratory tests were conducted on selected soil samples and the test results are presented in the **Exploration Results** section and on the boring logs.

Atterberg limit test results indicate that the near-surface fine grained soils generally have low plasticity. Collapse/swell testing indicated no collapse potential for the sample

[1] Groundwater elevation was obtained from the Water Data Library for the State of California Well Name 01S04W03N006S

[2] Matti, J.C. and Carson, S.E., 1991, Liquefaction Susceptibility in the San Bernardino Valley and Vicinity, Southern California – A Regional Evaluation, US Geological Survey Bulletin 1898.

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collected from boring B-1 at 5 feet bgs and confined with a typical footing pressure of 2,000 psf. Direct shear testing indicated onsite soils within the upper 5 feet have friction angles ranging between 25.8 and 33.4 with corresponding cohesion ranging between 60 and 210 psf, respectively.

Seismic Characterization

Seismic Site Class

The 2022 California Building Code (CBC) Seismic Design Parameters have been generated using the ASCE Hazards Report Tool. This web-based software application calculates seismic design parameters in accordance with ASCE 7-16, and 2022 CBC. The 2022 CBC requires that a site-specific ground motion study be performed in accordance with Section 11.4.8 of ASCE 7-16 for Site Class D sites with a mapped S_s value greater than or equal to 0.2.

An exception to this requirement is included in Supplement 3 to ASCE 7-16 that states: "A ground motion hazard analysis is not required where the value of the parameter S_{M1} determined by Eq. (11.4-2) is increased by 50% for all applications of S_{M1} in this standard. The resulting value of the parameter S_{D1} determined by Eq. (11.4-4) shall be used for all applications of S_{D1} in the Standard." **The structural engineer should verify the applicability of this exception and apply the modifications to the applied values of S_{M1} and S_{D1} as per Supplement No. 3, if warranted.**

Based on this exception, the spectral response accelerations presented below were determined using the site coefficients (F_a and F_v) from Tables 1613.2.3(1) and 1613.2.3(2) presented in Section 16.4.4 of the 2022 CBC.

Description	Value
2022 California Building Code Site Classification (CBC)[1]	F[2,3]
Site Latitude (°N)	34.1080
Site Longitude (°W)	117.2903
S_s Spectral Acceleration for a 0.2-Second Period	2.196
S_1 Spectral Acceleration for a 1-Second Period	0.864
F_a Site Coefficient for a 0.2-Second Period	1.0
F_v Site Coefficient for a 1-Second Period	1.7

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Description	Value

1. Seismic site classification in general accordance with the *2022 California Building Code*.
2. The 2022 California Building Code (CBC) requires a site soil profile determination extending to a depth of 100 feet for seismic site classification. The seismic site class is based on seismic shear wave velocity soundings in CPT-4 to an approximate depth of 100 feet bgs.
3. Site classification is designated as site class F due to the liquefaction potential estimated at the site. In accordance with the ASCE 7-16 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. The values presented above are for Site Class D seismic site class assuming this exception is valid. Terracon should be notified if this exemption does not apply to the proposed structures as a site specific seismic analysis would be required.

A site-specific ground motion study may generate less conservative coefficients and acceleration values which may reduce construction costs. We recommend consulting with a structural engineer to evaluate the need for such study and its potential impact on construction costs. Terracon should be contacted if a site-specific ground motion study is desired.

Faulting and Estimated Ground Motions

The site is located in southern California, which is a seismically active area. The type and magnitude of seismic hazards affecting the site are dependent on the distance to causative faults, the intensity, and the magnitude of the seismic event. As determined using the USGS Earthquake Hazard Toolbox disaggregation of seismic hazard, the San Jacinto fault is the closest fault seismic source to the site with a characteristic magnitude of 7.54 at a geologic map distance of approximately 3 kilometers from the site.

Based on the USGS Design Maps Summary Report, using the American Society of Civil Engineers (ASCE 7-16) standard, the design peak ground acceleration (PGA_M) for the project site is 1.006g. Based on the USGS Earthquake Hazard Toolbox, the project site seismicity for the 2% chance of exceedance hazard in 50 years is defined by a modal magnitude of 7.8.

The site is not located within an Alquist-Priolo Earthquake Fault Zone for fault rupture hazard based on our review of the State Fault Hazard Maps.[3]

[3] California Geological Survey. https://maps.conservation.ca.gov/cgs/informationwarehouse.

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Liquefaction

Liquefaction is a mode of ground failure that results from the generation of high pore water pressures during earthquake ground shaking, causing loss of shear strength. Liquefaction is typically a hazard where loose sandy soils exist below groundwater. The California Geological Survey (CGS) has designated certain areas as potential liquefaction hazard zones. These are areas considered at a risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow water table. The County of San Bernardino Geologic Hazard Overlays includes the site in a zone of 'high' liquefaction susceptibility.

The subsurface materials encountered generally consist of silty sand, sand, and silt with varying amounts of silt, sand, and gravel interbedded with layers of clay with varying amounts of sand and silt. Historical shallow groundwater is documented at 10 feet bgs in the vicinity of the site. Therefore, due to the anticipated subsurface soil characteristics, the potential for liquefaction to occur at the site is considered moderate to high.

We performed a liquefaction evaluation using data from soundings CPT-4 and CPT-5a. To estimate the potential for liquefaction and estimate the associated settlement and, subsurface soil and groundwater data were obtained from the boring and CPT data. A Peak Ground Acceleration (PGA_M) of 1.006g and the disaggregated modal magnitude of 7.8 were utilized as input data in the liquefaction analysis program. A historical high groundwater depth of 10 feet below existing site grade was used in the analysis.

The analysis results show the potential total liquefaction-induced settlement at the site is ranges from approximately 1½ to 3½ inches. The maximum differential seismic settlement could be on the order of one-half of the total seismic settlement over a distance of 40 feet. Additional exploration and liquefaction studies should be considered for final design as well as considerations and mitigation measures for other effects from liquefaction occurring, such as the potential for sand boils.

Corrosivity

The results of laboratory sulfides, soluble sulfate, chlorides, electrical resistivity, redox potential, total salts, and pH testing are presented in our appendix within the **Exploration Results** section. The values may be used to estimate potential corrosive characteristics of the on-site soils with respect to contact with the various underground materials which will be used for project construction.

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Boring	Sample Depth (feet)	Soil Description	Soluble Sulfate (%)	Soluble Chloride (%)	Electrical Resistivity (Ω-cm)	pH
B-3	1 - 5	Silty Sand	0.006	0.001	3,100	7.55

Results of soluble sulfate testing indicate samples of the on-site soils tested possess negligible sulfate concentrations when classified in accordance with Table 19.3.1.1 of the ACI Design Manual. Concrete should be designed in accordance with the exposure class S0 provisions of the ACI Design Manual, Section 318, Chapter 19.

Utility Survey

Utility Mapping

An investigation was performed in accordance with a Subsurface Utility Engineering (SUE) scope of work as described in American Society of Civil Engineers (ASCE) 38-22 "Standard Guideline for Investigating and Documenting Existing Utilities". The standard is often used for public, civil projects and provides important guidelines for utility investigations. The site map attached to this report illustrates the utilities that were identified within the designated survey area.

The standard is summarized below.

- Quality Level D (QLD): Review plans and notes, public records, maps, databases, and verbal communication to identify possible subsurface utilities.
- Quality Level C (QLC): Survey above-ground utility features (man-holes, drainage grates, etc.).
- Quality Level B (QLB): Perform geophysical survey methods to scan for utilities in the project area. Use existing above-ground utility features to characterize utilities.
- Quality Level A (QLA): **(not included in scope of work)** Perform minimally intrusive excavation methods at selected locations of marked utilities.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become

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evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. The findings and recommendations presented in this report were prepared in a manner consistent with the standards of care and skill ordinarily exercised by members of its profession completing similar studies and practicing under similar conditions in the geographic vicinity and at the time these services have been performed. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for feasibility purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly affect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

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Figures

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Attachments

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Exploration and Testing Procedures

Field Exploration

Boring Designation	Approximate Boring Depth or Refusal (feet)	Location
B-1 and B-2	21½ to 51½	Asphalt Parking Lot
B-3 and B-4	21½ to 51½	Dirt Lot
CPT-1 through CPT-3	12 to 20½	Within Existing Building Structure
CPT-4	100	Asphalt Parking Lot
CPT-5 and CPT-5a	20 to 100	Dirt Lot

Boring Layout and Elevations: Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about ±10 feet) and referencing existing site features. If elevations and a more precise boring layout are desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with a truck-mounted drill rig using continuous flight hollow stem augers. Four samples were generally obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. A 3-inch O.D. split-barrel sampling spoon with 2.5-inch I.D. ring lined sampler was also used for sampling soils at the project site. Ring-lined, split-barrel sampling procedures are similar to standard split spoon sampling procedure. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

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Cone Penetrometer Testing: We performed five (5) cone penetrometer tests (CPT) to depths ranging from approximately 12½ feet to 100 feet bgs. Refusals due to dense materials were encountered in CPT-1, CPT-2, CPT-3, and CPT-5. The digital data recorded includes tip resistance, friction resistance, and probe inclination angle and was recorded about every 2 centimeters while advancing through the ground at a rate between 1½ and 2½ centimeters per second. Additionally, seismic cone measurements were obtained at intervals of approximately 10 feet in CPT-4 and utilized for shear wave velocity determination. No soil samples were gathered through the CPT subsurface investigation technique. CPT testing was conducted in general accordance with ASTM D5778 "Standard Test Method for Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils."

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Moisture Content
- Dry Unit Weight
- Atterberg Limits
- Fines Content (Percent Passing #200 Sieve)
- One-dimensional Consolidation
- Direct Shear
- Corrosion Suite

The laboratory testing program often included examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.

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Site Location and Exploration Plans

Contents:

Site Location Plan
Exploration Plan

Note: All attachments are one page unless noted above.

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Site Location

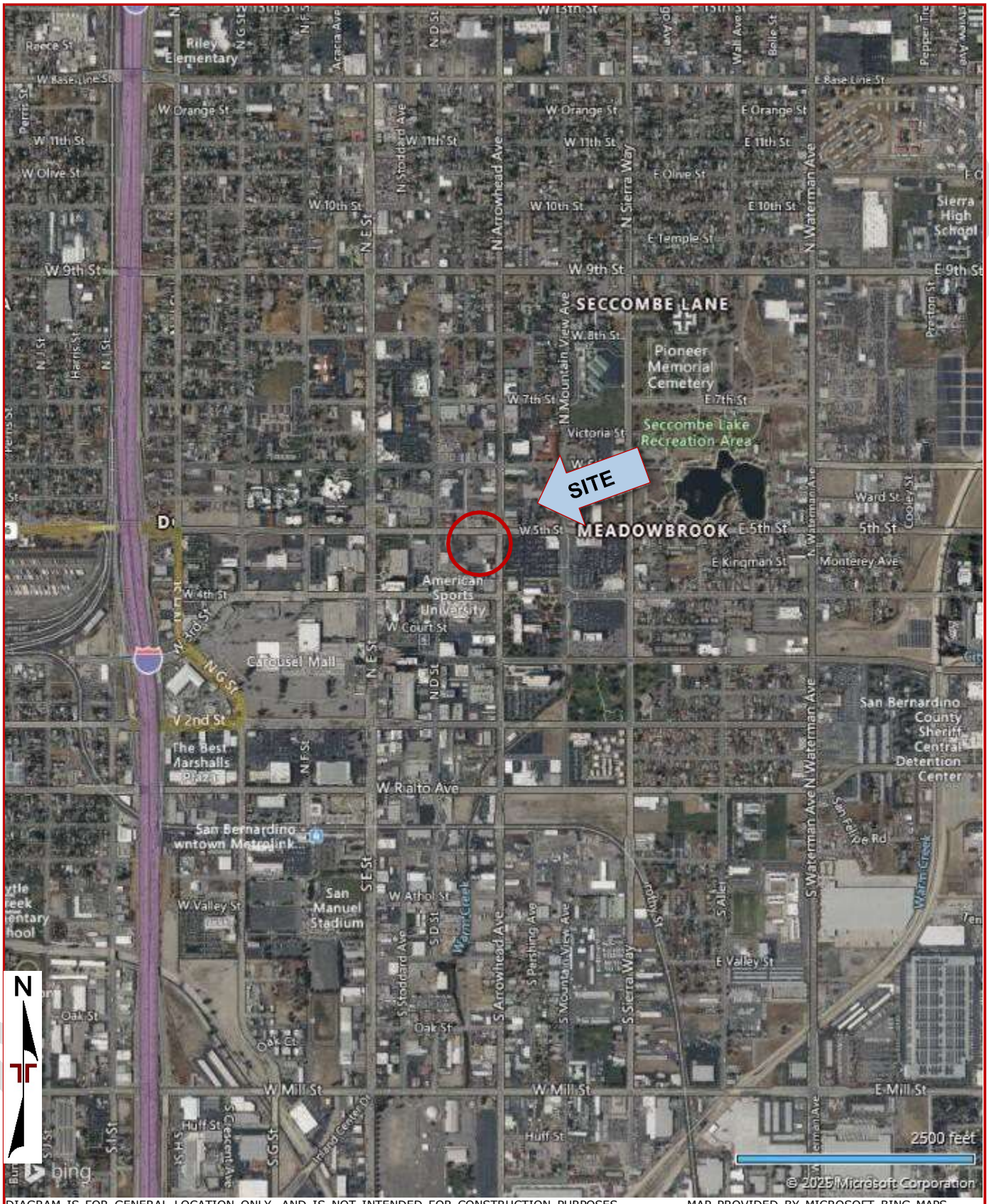

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exploration and Laboratory Results

Contents:

Boring Logs (B-1 through B-4)
CPT Soundings (CPT-1 through CPT-5)
Atterberg Limit
Consolidation/Swell
Direct Shear
Corrosivity

Note: All attachments are one page unless noted above.

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SBC - Future Redevelopment Project
303 W 5th St | San Bernardino, CA
Terracon Project No. CB245136

ierracon
1355 E Cooley Dr
Colton, CA

Boring Log No. B-1

Location: See Exploration Plan

Latitude: 34.1081° Longitude: -117.2905°

Depth (Ft.)	Description	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.2	**ASPHALT**, 2-inch thickness					
	FILL - SILTY SAND (SM), dark brown, red brick debris					
	medium dense	4-7-10	13.2	110		
4.0						
	SILT WITH SAND (ML), dark brown					
	very stiff	7-9-11	25.1	89	41-26-15	71
	olive gray	8-10-11	16.5	107		
		6-10-14	17.2	110		
	stiff	4-5-7 N=12				
19.5						
	POORLY GRADED SAND (SP), gray					
	dense	15-15-15 N=30	4.0			5.4
		15-12-29 N=41				

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
SIMCO 2800

Hammer Type
Automatic

Driller
2R Drilling

Logged by
GA

Boring Started
12-13-2024

Boring Completed
12-13-2024

Notes

Advancement Method
8" HSA

Abandonment Method
Boring backfilled with cement-bentonite grout upon completion.

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1355 E Cooley Dr
Colton, CA

Boring Log No. B-1

Location: See Exploration Plan

Latitude: 34.1081° Longitude: -117.2905°

Depth (Ft.)	Material Description	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
	POORLY GRADED SAND (SP), gray *(continued)*							
29.0								
	WELL GRADED SAND WITH GRAVEL (SW), gray							
30								
			X	11-16-14 N=30				
34.0								
	SANDY SILT (ML), olive gray							
	very stiff							
35								
			X	8-11-14 N=25				
40								
			X	6-7-11 N=18	21.5			63.2
44.0								
	POORLY GRADED SAND (SP), trace gravel, yellowish tan							
	dense							
45								
			X	6-16-33 N=49				
49.0								
	SILTY CLAY (CL-ML), bluish gray							
	very stiff							
50								
			X	14-9-8 N=17				
51.5								
	Boring Terminated at 51.5 Feet							

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See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes

Advancement Method
8" HSA

Abandonment Method
Boring backfilled with cement-bentonite grout upon completion.

Drill Rig
SIMCO 2800

Hammer Type
Automatic

Driller
2R Drilling

Logged by
GA

Boring Started
12-13-2024

Boring Completed
12-13-2024

1355 E Cooley Dr
Colton, CA

Boring Log No. B-2

Location: See Exploration Plan

Latitude: 34.1079° Longitude: -117.2905°

Depth (Ft.)	Material Description	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0.2	**ASPHALT**, 2-inch thickness								
0.5	**AGGREGATE BASE COURSE**, 4-inch thickness								
	FILL - SILTY SAND (SM), trace gravel, dark brown, red brick and glass debris								
	medium dense				8-18-19	12.5	114		
	loose	5			7-5-6	21.8	94		
8.0	medium dense				8-12-12	14.4	112		
	SILTY SAND (SM), olive gray	10							
	medium dense				6-11-13	15.2	109		
14.0									
	SANDY SILT (ML), with clay, olive gray	15							
	stiff				4-3-8 N=11				
19.0	stiff								
	SANDY LEAN CLAY (CL), olive	20							
21.0					3-6-5 N=11				
	Boring Terminated at 21 Feet								

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Drill Rig
SIMCO 2800

Hammer Type
Automatic

Driller
2R Drilling

Logged by
GA

Boring Started
12-13-2024

Boring Completed
12-13-2024

Notes

Advancement Method
8" HSA

Abandonment Method
Boring backfilled with auger cuttings upon completion.

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1355 E Cooley Dr
Colton, CA

Boring Log No. B-3

Location: See Exploration Plan

Latitude: 34.1080° Longitude: -117.2909°

Depth (Ft.)	Graphic Log	Material Description	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
0		**SILTY SAND (SM)**, trace gravel, tan							
		loose			5-6-7	2.2	99		
		dark brown							
5.0		**SANDY SILT (ML)**, dark brown, very stiff			5-9-15	16.0	94		
					12-22-24	7.8	115		
10		with calcium nodules, stiff			6-7-7 N=14				
		olive							
15		very stiff			5-8-10 N=18				
19.0		**WELL GRADED SAND (SW)**, trace gravel, brownish gray, dense							
20					14-15-23 N=38				
21.0		***Boring Terminated at 21 Feet***							

NOT FOR BID

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes

Water Level Observations
Groundwater not encountered

Advancement Method
8" HSA

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Drill Rig
SIMCO 2800

Hammer Type
Automatic

Driller
2R Drilling

Logged by
GA

Boring Started
12-13-2024

Boring Completed
12-13-2024

1355 E Cooley Dr
Colton, CA

Boring Log No. B-4

Location: See Exploration Plan

Latitude: 34.1079° Longitude: -117.2909°

Depth (Ft.)	Graphic Log	Material Description	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SILTY SAND WITH GRAVEL (SM), tan							
		medium dense olive gray			5-12-13	3.5	105		
5		medium dense			10-14-15	9.0	88		
		6.5							
		SANDY SILT (ML), olive							
		very stiff			8-14-16	14.0	93		74.5
10		hard			7-15-24 N=39				
15		stiff to very stiff			6-8-7 N=15	13.2			64.4
		19.0							
		SILTY SAND (SM), trace gravel, brownish gray							
20		medium dense			4-5-11 N=16				14.8
25		dense			18-18-32 N=50				

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes

Advancement Method
8" HSA

Abandonment Method
Boring backfilled with cement-bentonite grout upon completion.

Drill Rig
SIMCO 2800

Hammer Type
Automatic

Driller
2R Drilling

Logged by
GA

Boring Started
12-13-2024

Boring Completed
12-13-2024

NOT FOR BID

ierracon
1355 E Cooley Dr
Colton, CA

Boring Log No. B-4

Location: See Exploration Plan

Latitude: 34.1079° Longitude: -117.2909°

Graphic Log	Depth (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits LL-PL-PI	Percent Fines
		SILTY SAND (SM), trace gravel, brownish gray *(continued)*							
		very dense							
	30			X	15-34-50/5"				
	34.0								
		POORLY GRADED SAND WITH SILT (SP-SM), olive and tan							
	35	dense		X	15-24-26 N=50				
	39.0								
		SANDY SILT (ML), olive							
	40	hard		X	12-16-15 N=31				
	44.0								
		SILTY SAND (SM), olive gray							
	45	dense		X	14-21-29 N=50				
		bluish gray							
	50			X	4-15-15 N=30				
	51.5								
		Boring Terminated at 51.5 Feet							

NOT FOR BID

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Groundwater not encountered

Notes

Advancement Method
8" HSA

Abandonment Method
Boring backfilled with cement-bentonite grout upon completion.

Drill Rig
SIMCO 2800

Hammer Type
Automatic

Driller
2R Drilling

Logged by
GA

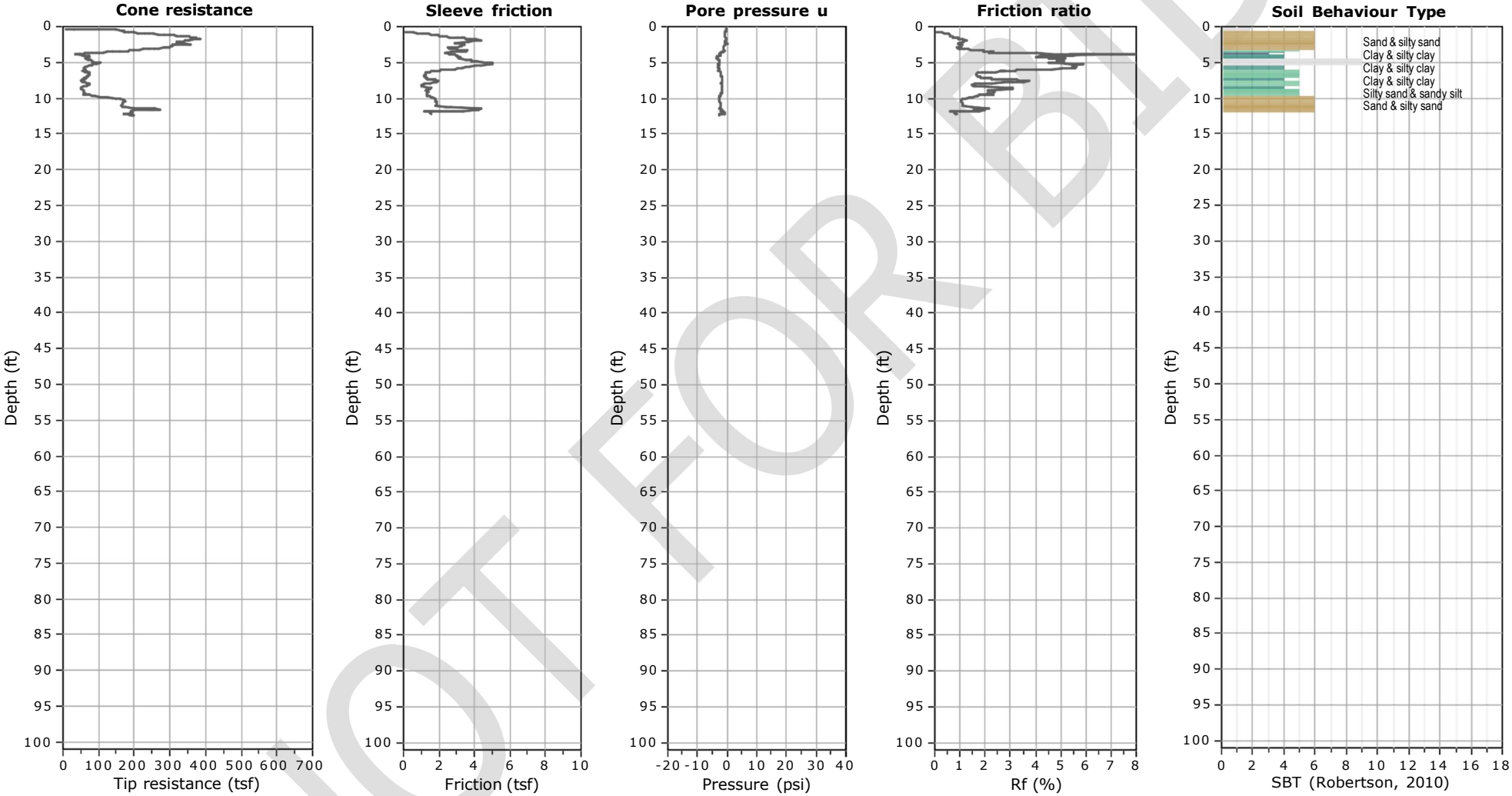
Boring Started
12-13-2024

Boring Completed
12-13-2024

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

Project: **Terracon Consultants / SBC 5th St.**
Location: **303 W. 5th St, San Bernadino, CA**

CPT-1
Total depth: 12.45 ft, Date: 1/13/2025

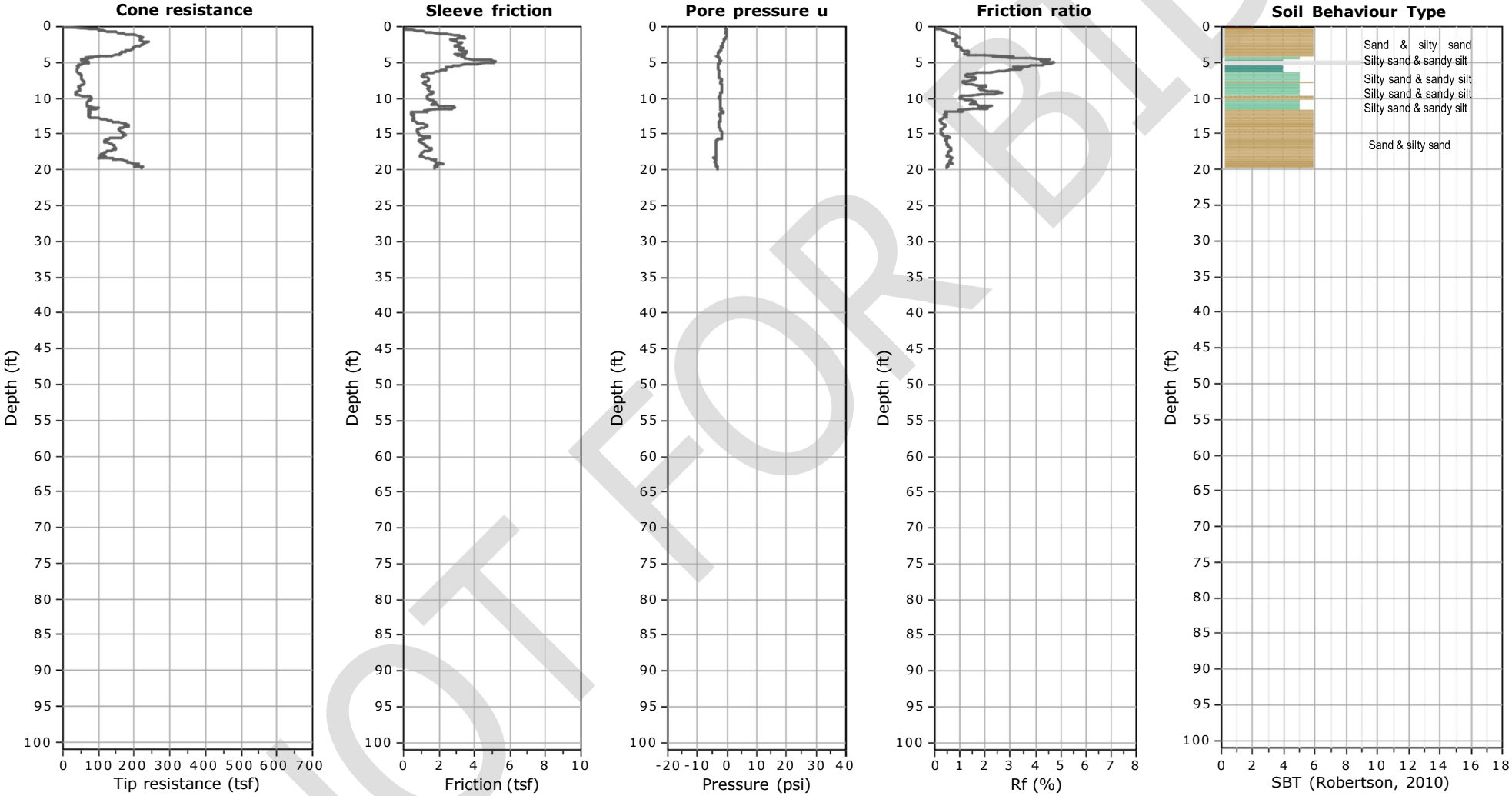


NOT FOR BID

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

Project: **Terracon Consultants / SBC 5th St.**
Location: **303 W. 5th St, San Bernadino, CA**

CPT-2
Total depth: 19.83 ft, Date: 1/13/2025



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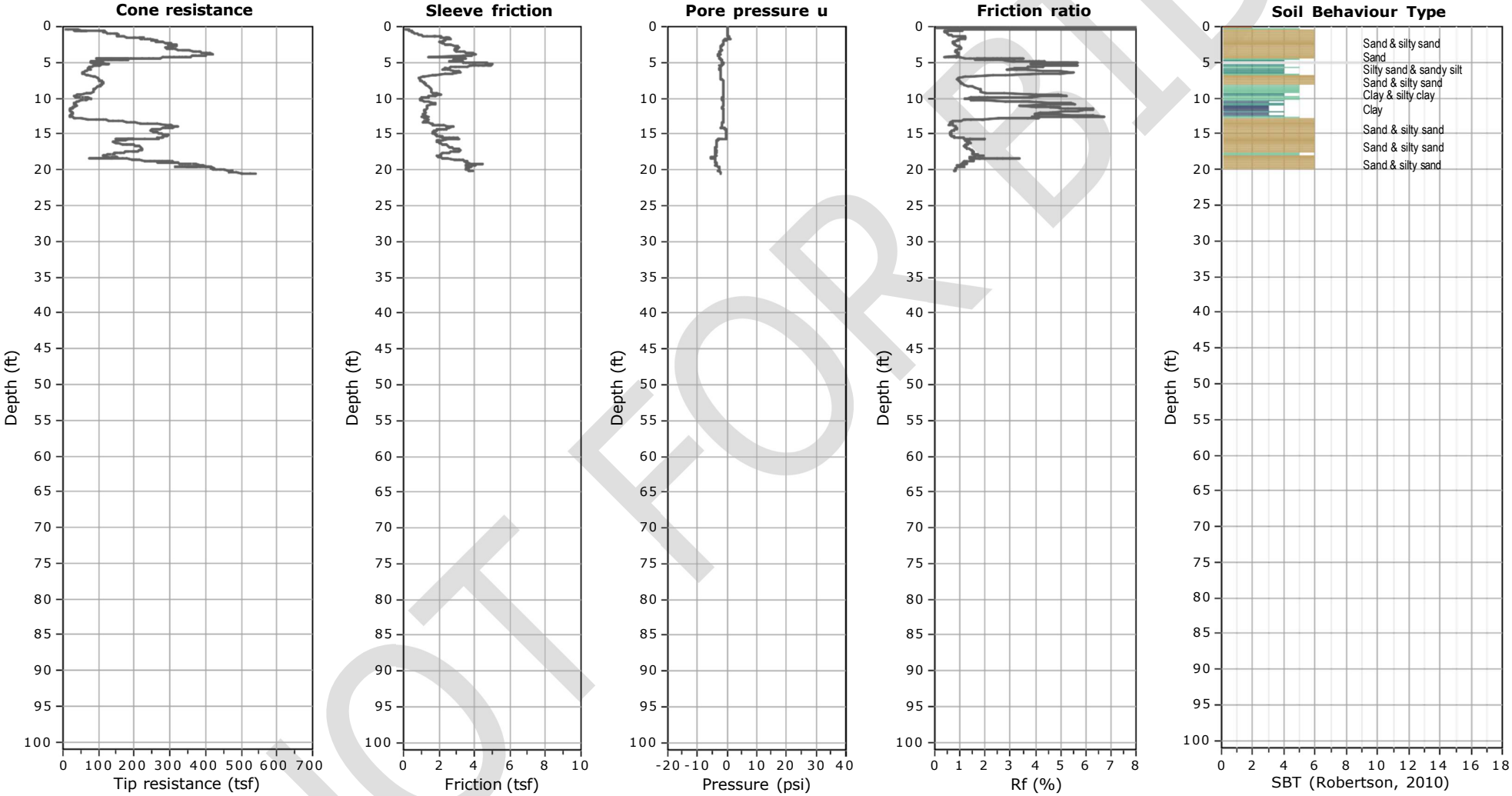
Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **Terracon Consultants / SBC 5th St.** **CPT-3**

Location: **303 W. 5th St, San Bernadino, CA** Total depth: 20.51 ft, Date: 1/13/2025

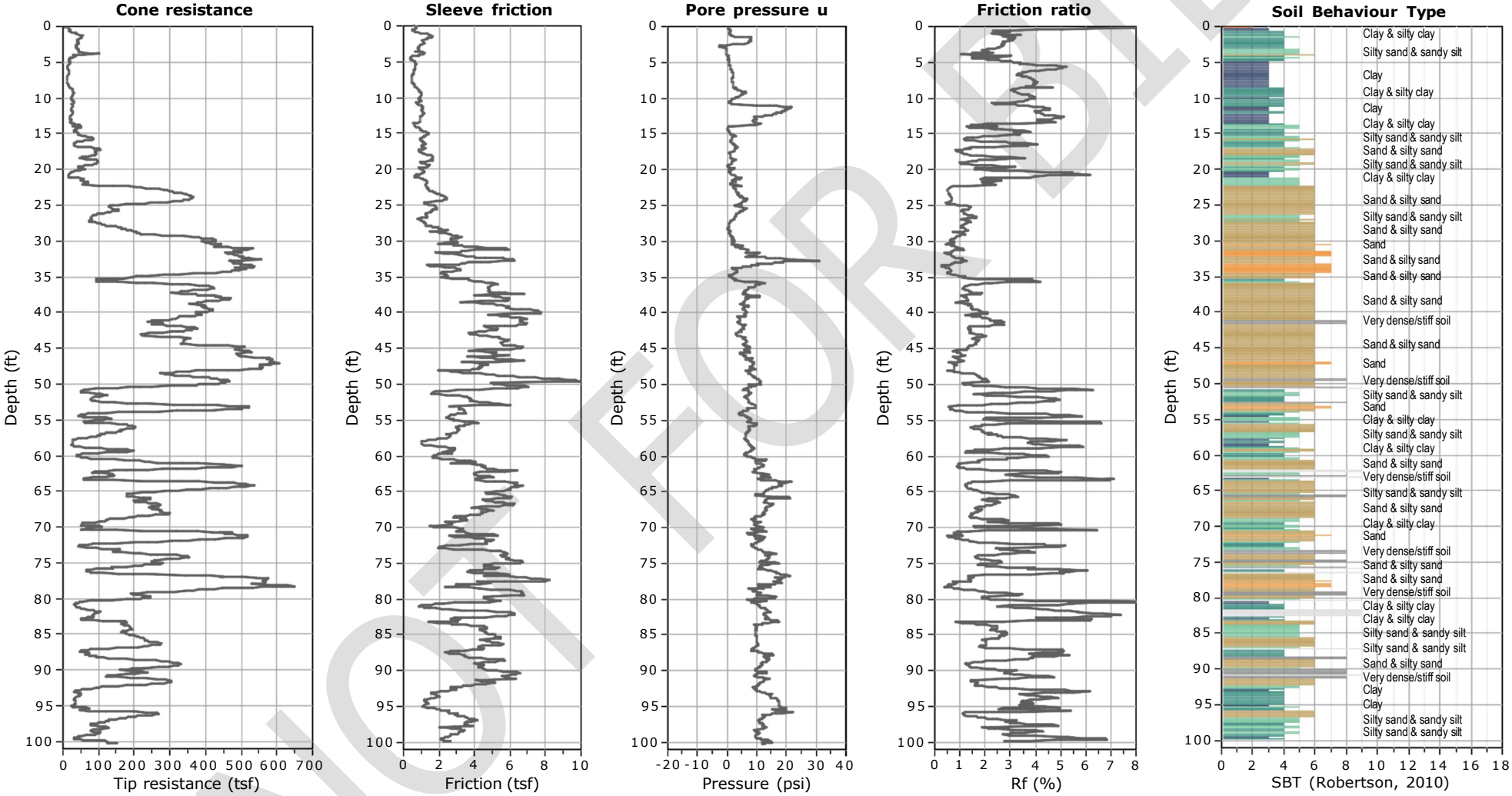


NOT FOR BID

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

Project: **Terracon Consultants / SBC 5th St.**
Location: **303 W. 5th St, San Bernadino, CA**

CPT-4
Total depth: 100.21 ft, Date: 1/13/2025

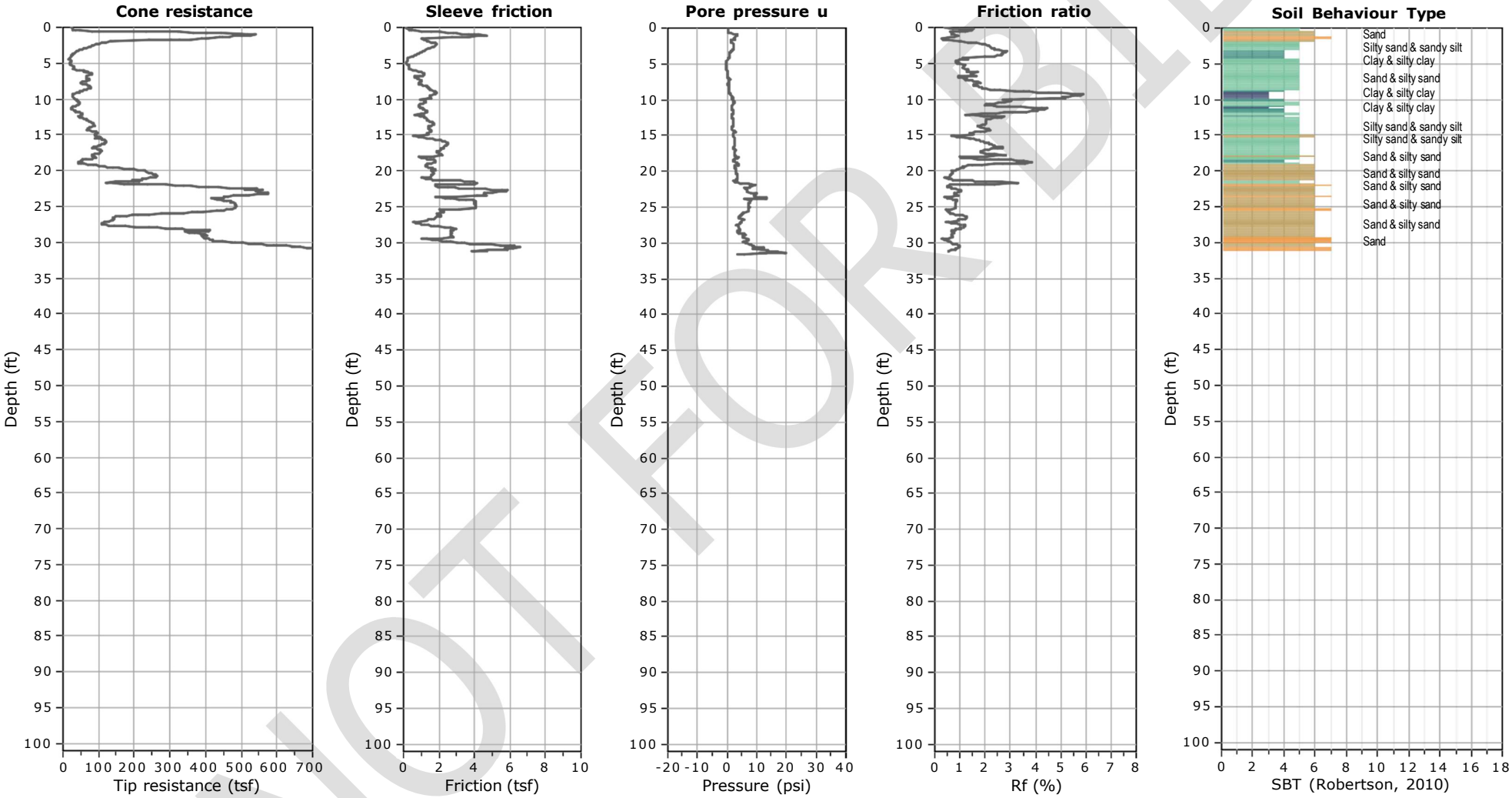


NOT FOR BID

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

Project: Terracon Consultants / SBC 5th St.
Location: 303 W. 5th St, San Bernadino, CA

CPT-5
Total depth: 31.63 ft, Date: 1/13/2025

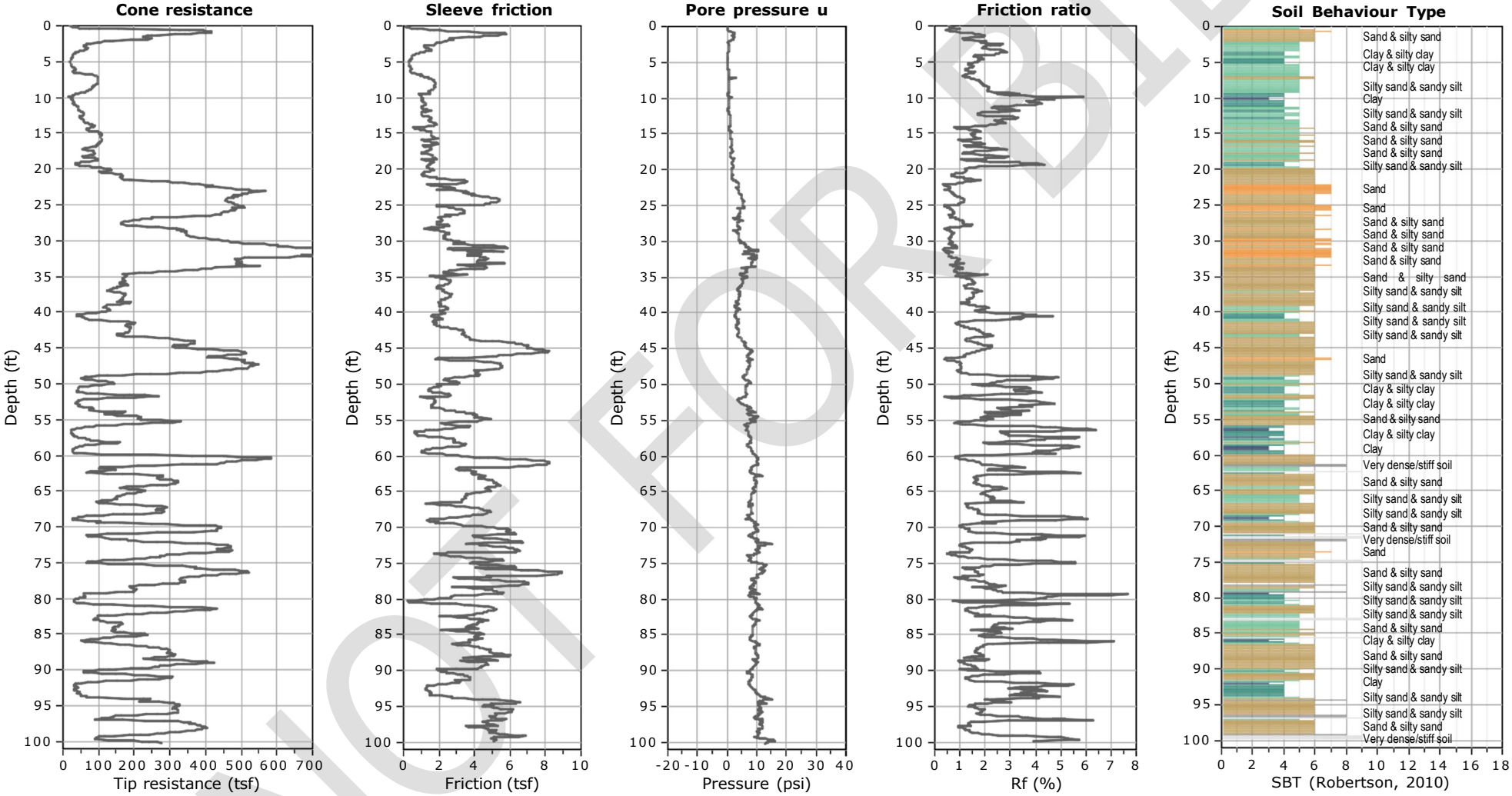


NOT FOR BID

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

Project: **Terracon Consultants / SBC 5th St.**
Location: **303 W. 5th St, San Bernadino, CA**

CPT-5A
Total depth: 100.13 ft, Date: 1/13/2025



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Terracon Consultants
SBC 5th St.
San Bernadino, CA

CPT Shear Wave Measurements

Location	Tip Depth (ft)	Geophone Depth (ft)	Travel Distance (ft)	S-Wave Arrival (msec)	S-Wave Velocity from Surface (ft/sec)	Interval S-Wave Velocity (ft/sec)
CPT-4	10.01	9.01	9.23	14.44	639	
	19.98	18.98	19.09	28.24	676	714
	29.99	28.99	29.06	39.82	730	861
	39.99	38.99	39.04	48.28	809	1180
	50.00	49.00	49.04	57.50	853	1085
	60.01	59.01	59.04	69.16	854	858
	70.01	69.01	69.04	77.30	893	1228
	79.99	78.99	79.02	86.70	911	1061
	89.99	88.99	89.01	95.48	932	1139
	100.00	99.00	99.02	105.66	937	983

Shear Wave Source Offset - 2 ft

S-Wave Velocity from Surface = Travel Distance/S-Wave Arrival
Interval S-Wave Velocity = (Travel Dist2-Travel Dist1)/(Time2-Time1)

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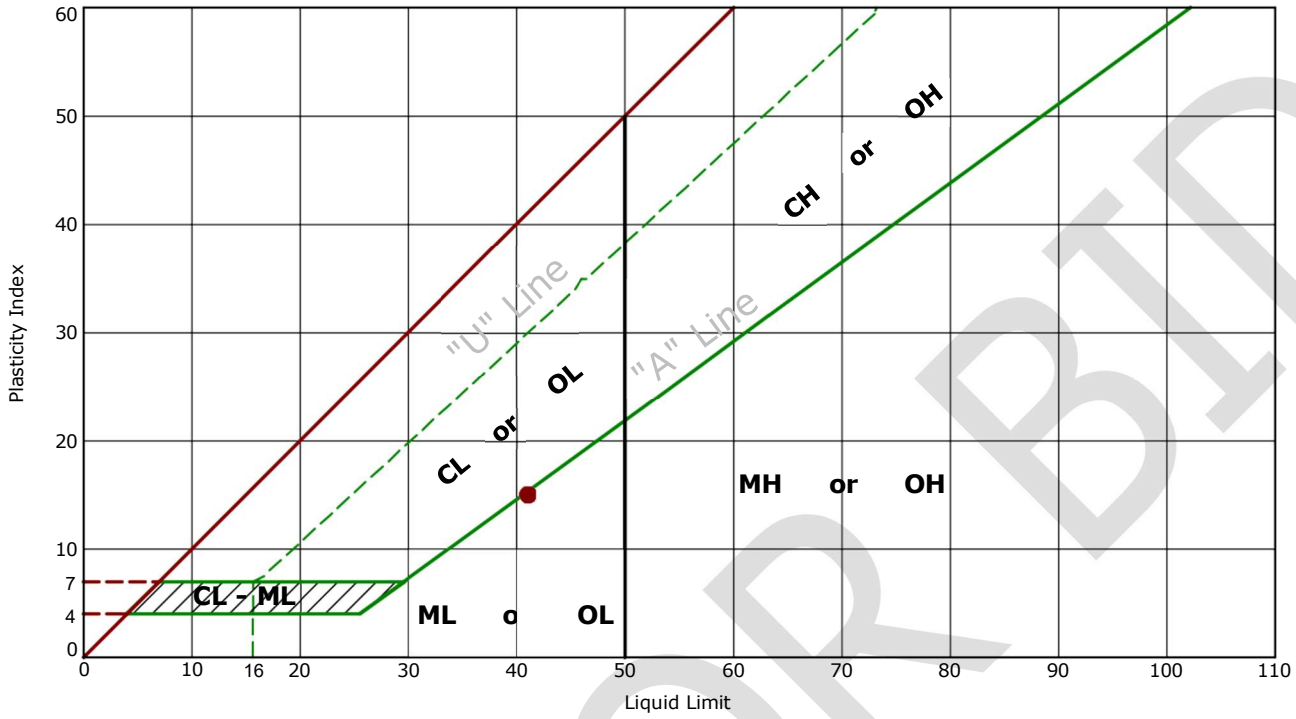
SBC - Future Redevelopment Project
303 W 5th St | San Bernardino, CA
Terracon Project No. CB245136

Terracon
1355 E Cooley Dr
Colton, CA

Atterberg Limit Results

ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-1	5 - 6.5	41	26	15	71.0	ML	SILT with SAND

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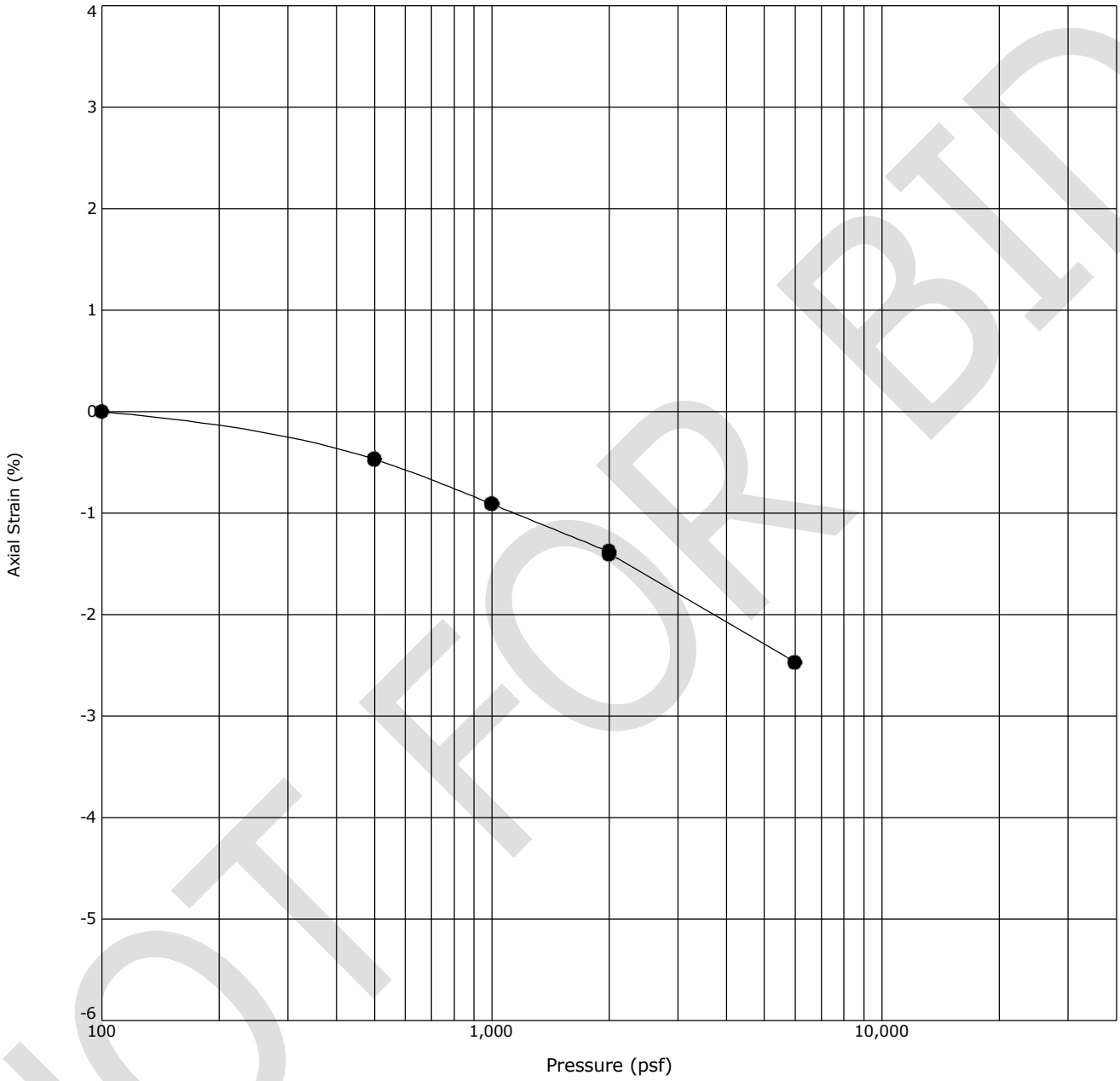
1355 E Cooley Dr
Colton, CA

One-Dimensional Swell or Collapse

ASTM D4546



NOT FOR BID

Boring ID		Depth (Ft)	Description	USCS	γ_d (pcf)	WC (%)
●	B-1	5 - 6.5	SILT with SAND	ML	13	89.3

Notes: Water added at 2,000 psf

SBC - Future Redvelopment Project
303 W 5th St | San Bernardino, CA
Terracon Project No.: CB245136

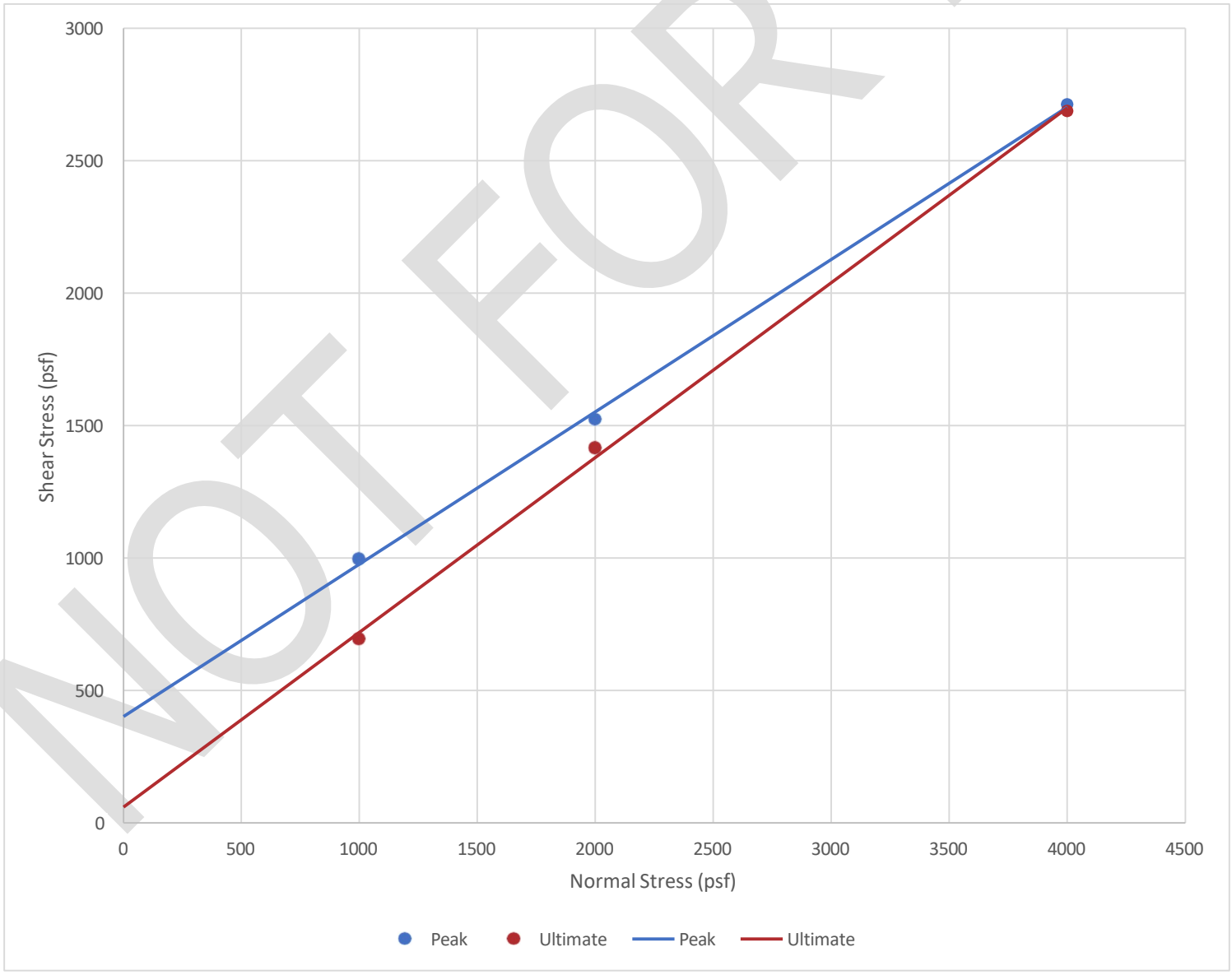
1355 E Colley Dr
Colton, CA

Direct Shear Test

ASTM D3080

Boring ID	Depth	Description	USCS	γ_d (pcf)	W(%)
B-1	2.5-4'	Silty Sand	SM	110	13.2

Normal Stress (psf)	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Peak		Ultimate	
			φ°	C (psf)	φ°	C (psf)
1000	996	696				
2000	1524	1416	**29.9**	**402**	**33.4**	**60**
4000	2712	2688				



NOT FOR

SBC - Future Redvelopment Project
303 W 5th St | San Bernardino, CA
Terracon Project No.: CB245136

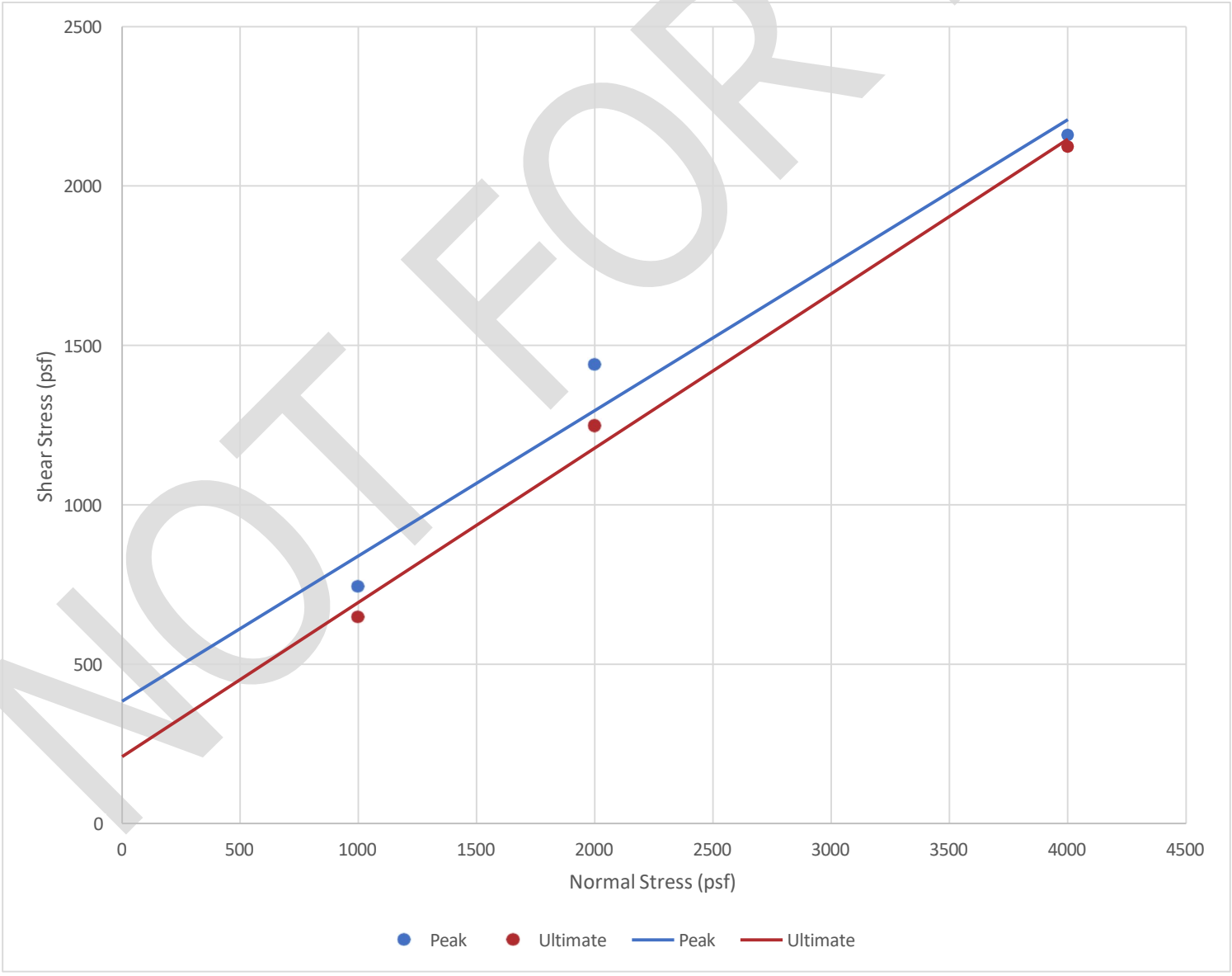
1355 E Colley Dr
Colton, CA

Direct Shear Test

ASTM D3080

Boring ID	Depth	Description	USCS	γ_d (pcf)	W(%)
B-4	5-6.5'	Silty Sand	SM	88	9.0

Normal Stress (psf)	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Peak		Ultimate	
			φ°	C (psf)	φ°	C (psf)
1000	744	648	**24.5**	**384**	**25.8**	**210**
2000	1440	1248				
4000	2160	2124				



NOT FOR

Supporting Information

Contents:

Liquefaction Analysis (50 Pages)
Site Map with Geophysical Interpretation
General Notes
Unified Soil Classification System

Note: All attachments are one page unless noted above.

NOT FOR BID

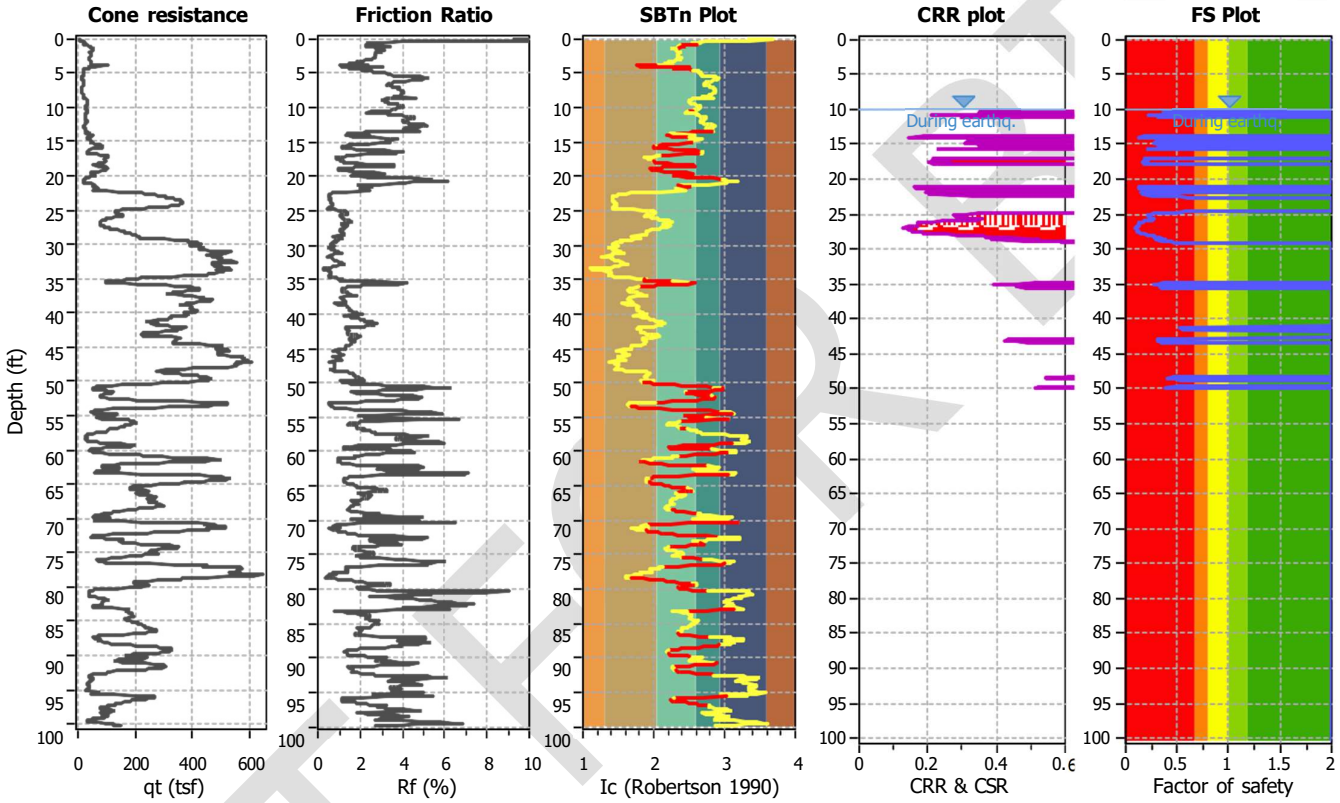
LIQUEFACTION ANALYSIS REPORT

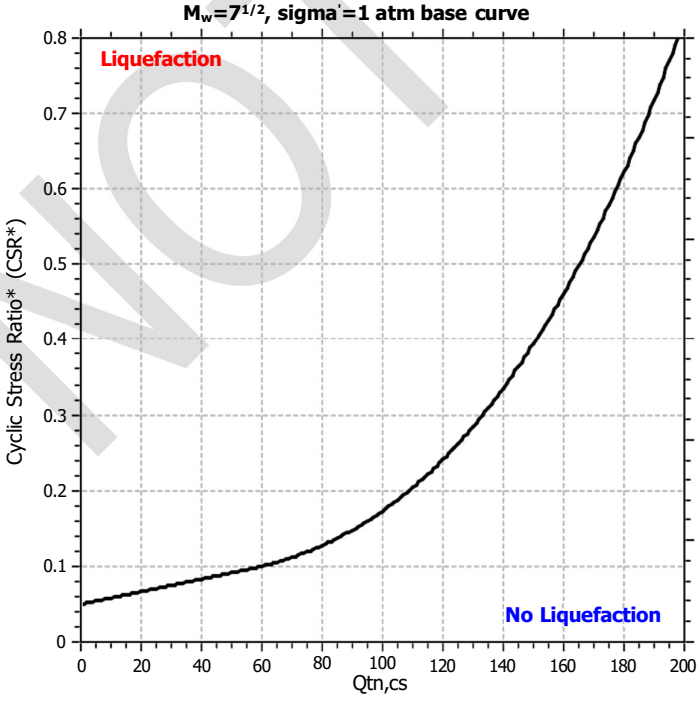
Project title : CB245136 **Location : SB County 5th St.**

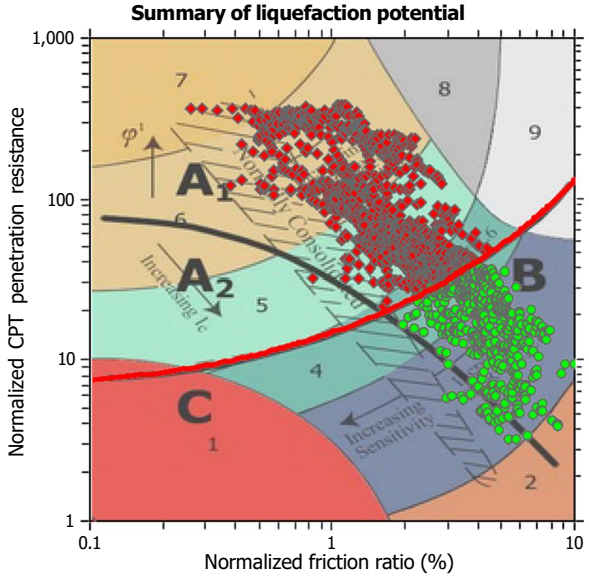
CPT file : CPT-4

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	100.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	10.00 ft	Fill height:	N/A	Limit depth applied:	Yes
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth:	50.00 ft
Earthquake magnitude M_w:	7.80	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	1.01	Unit weight calculation:	Based on SBT	K_σ applied:	Yes		



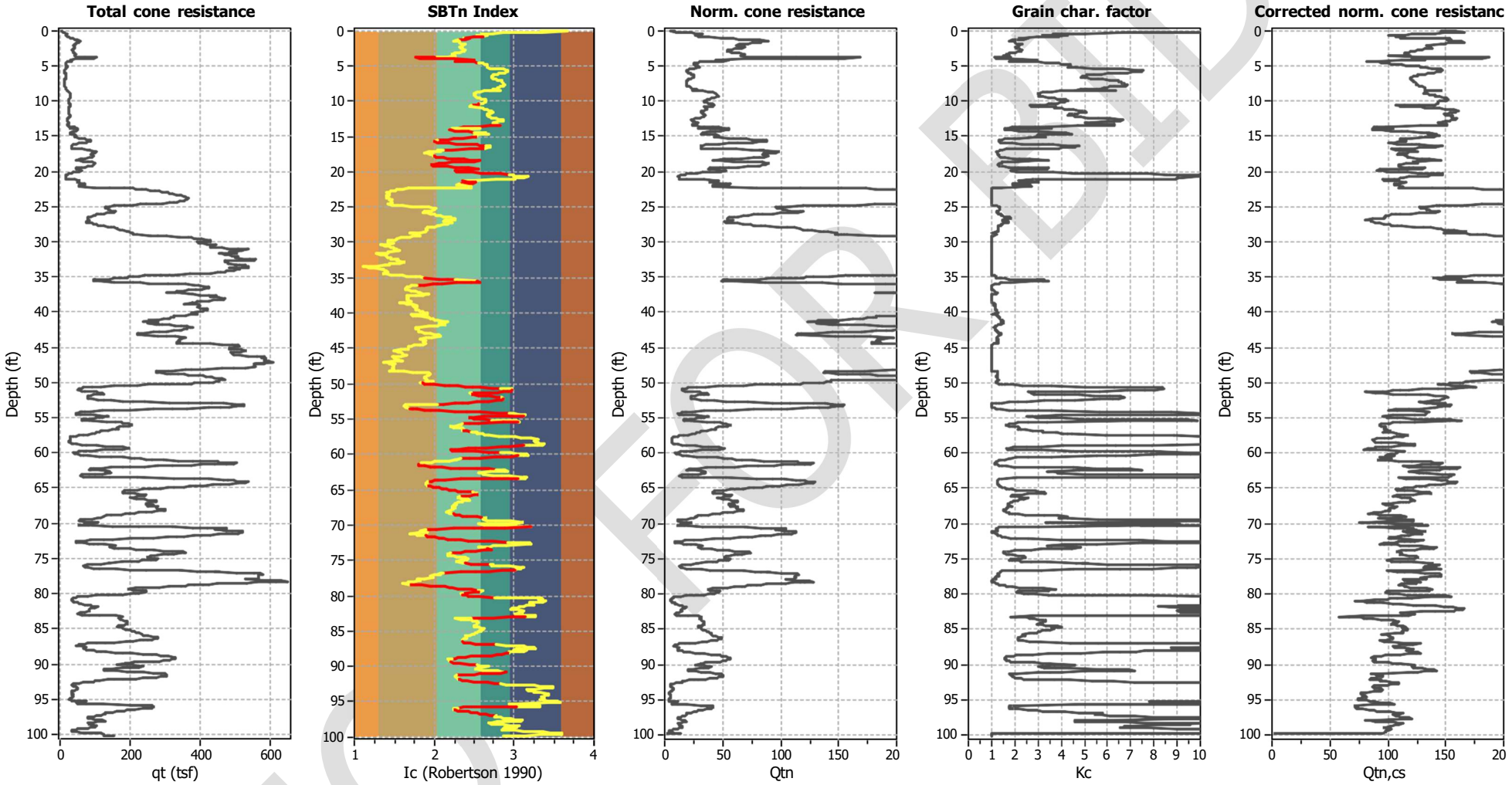




Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

NOT FOR

Liquefaction analysis overall plots (intermediate results)

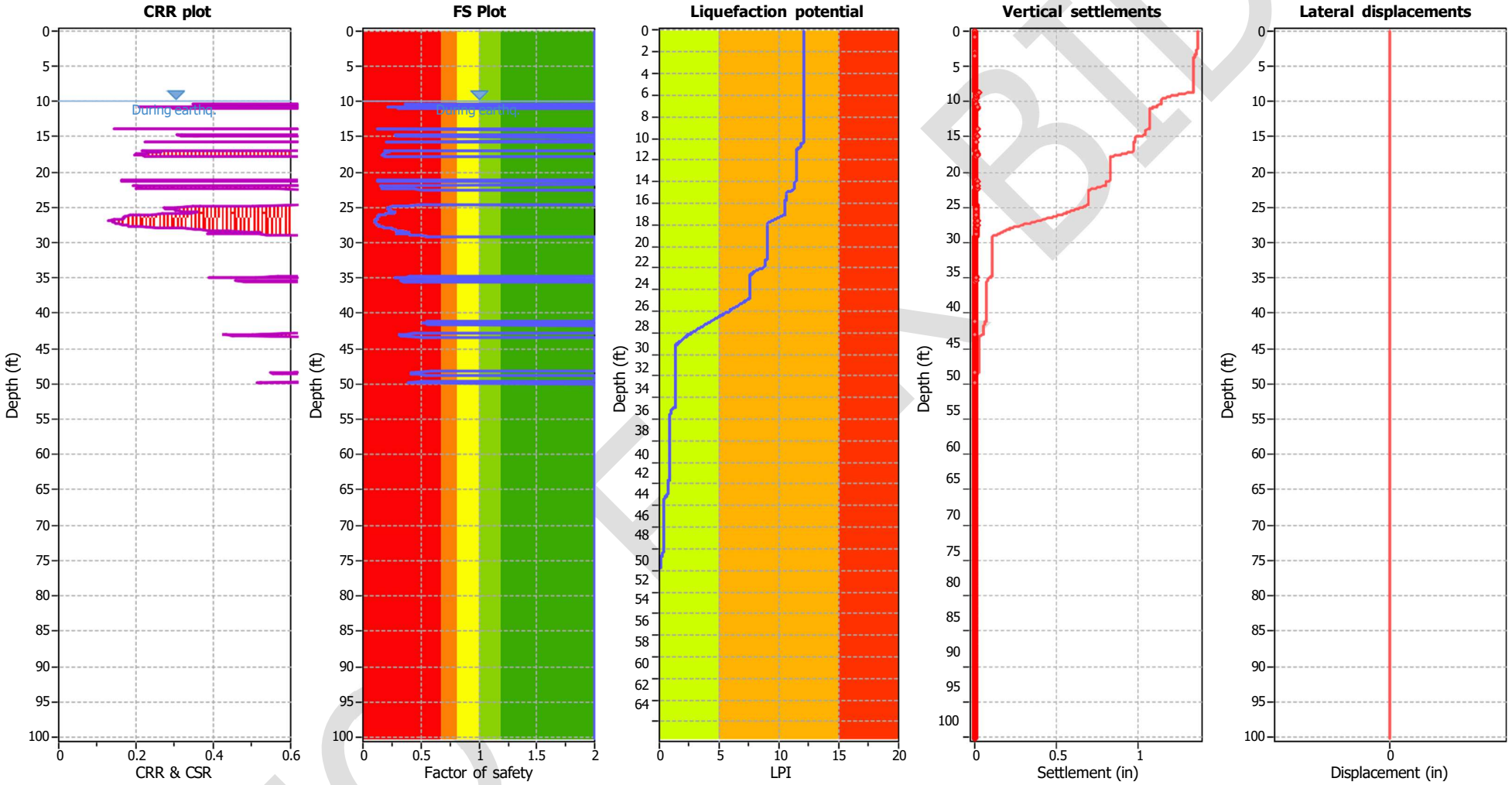


Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

NOT FOR BID

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

F.S. color scheme

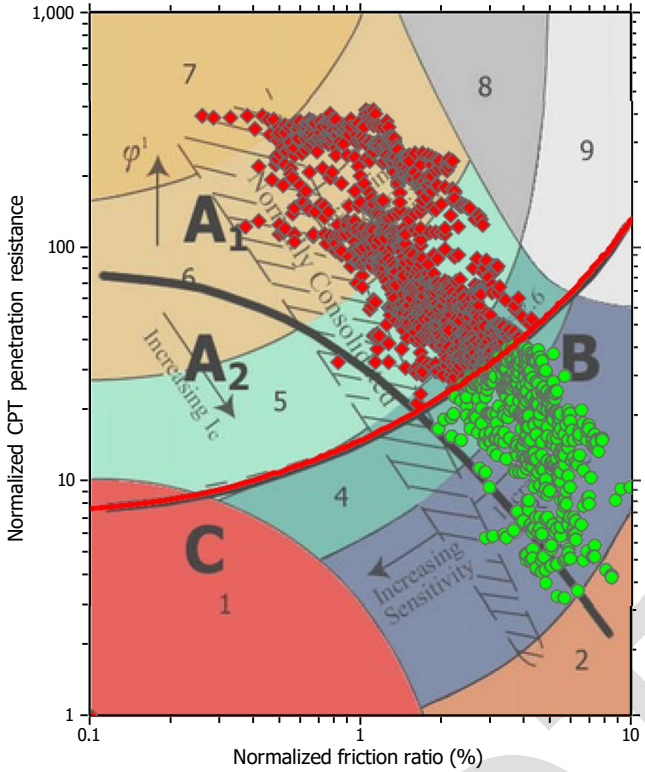
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

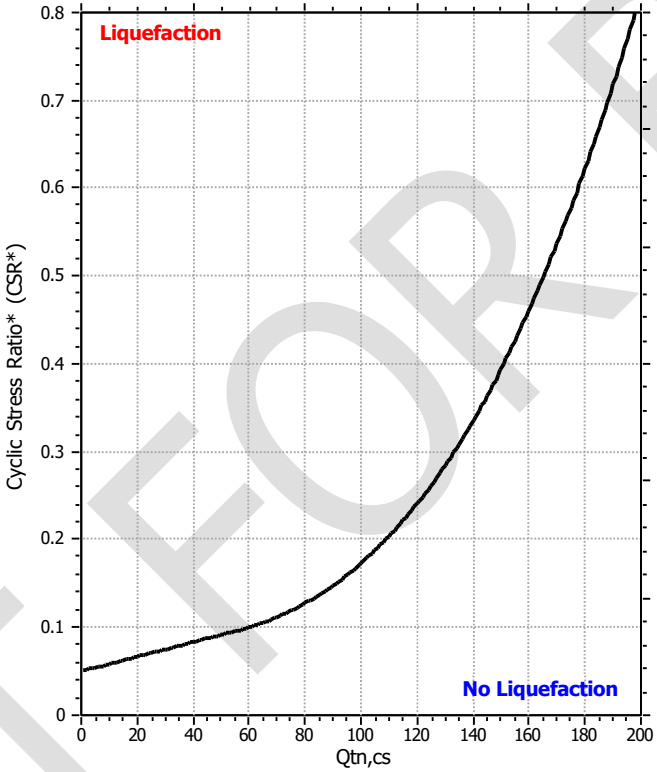
LPI color scheme

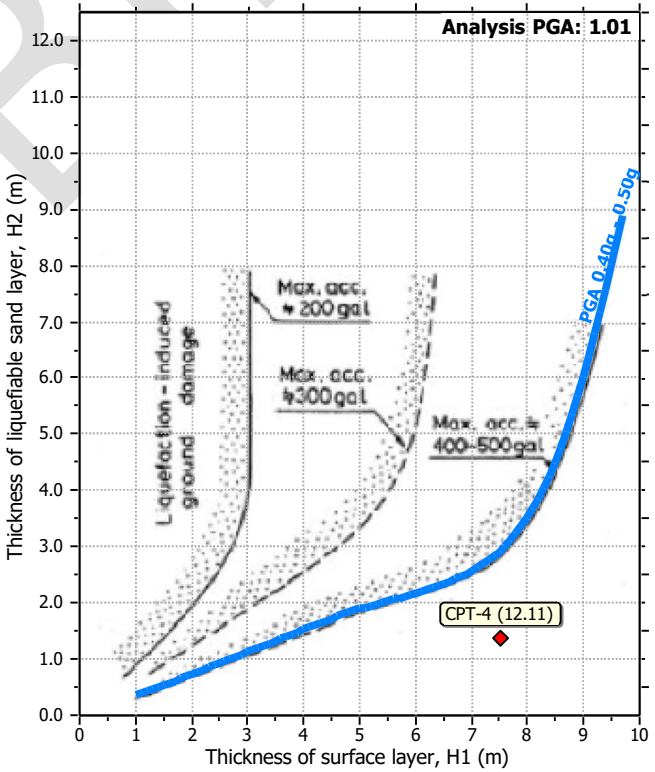
- Very high risk
- High risk
- Low risk

NOT BID

Liquefaction analysis summary plots





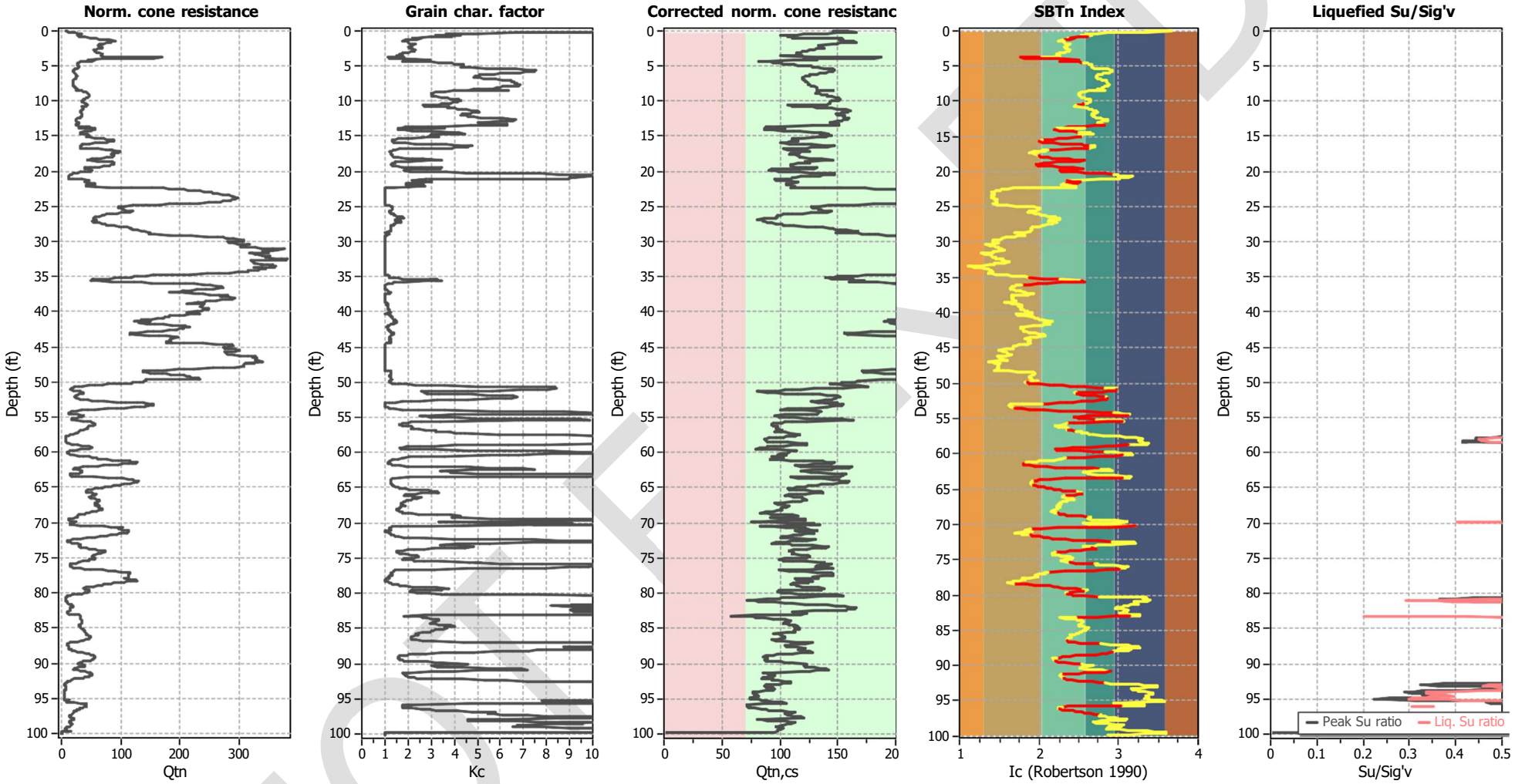


Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

NOT FOR BID

Check for strength loss plots (Robertson (2010))

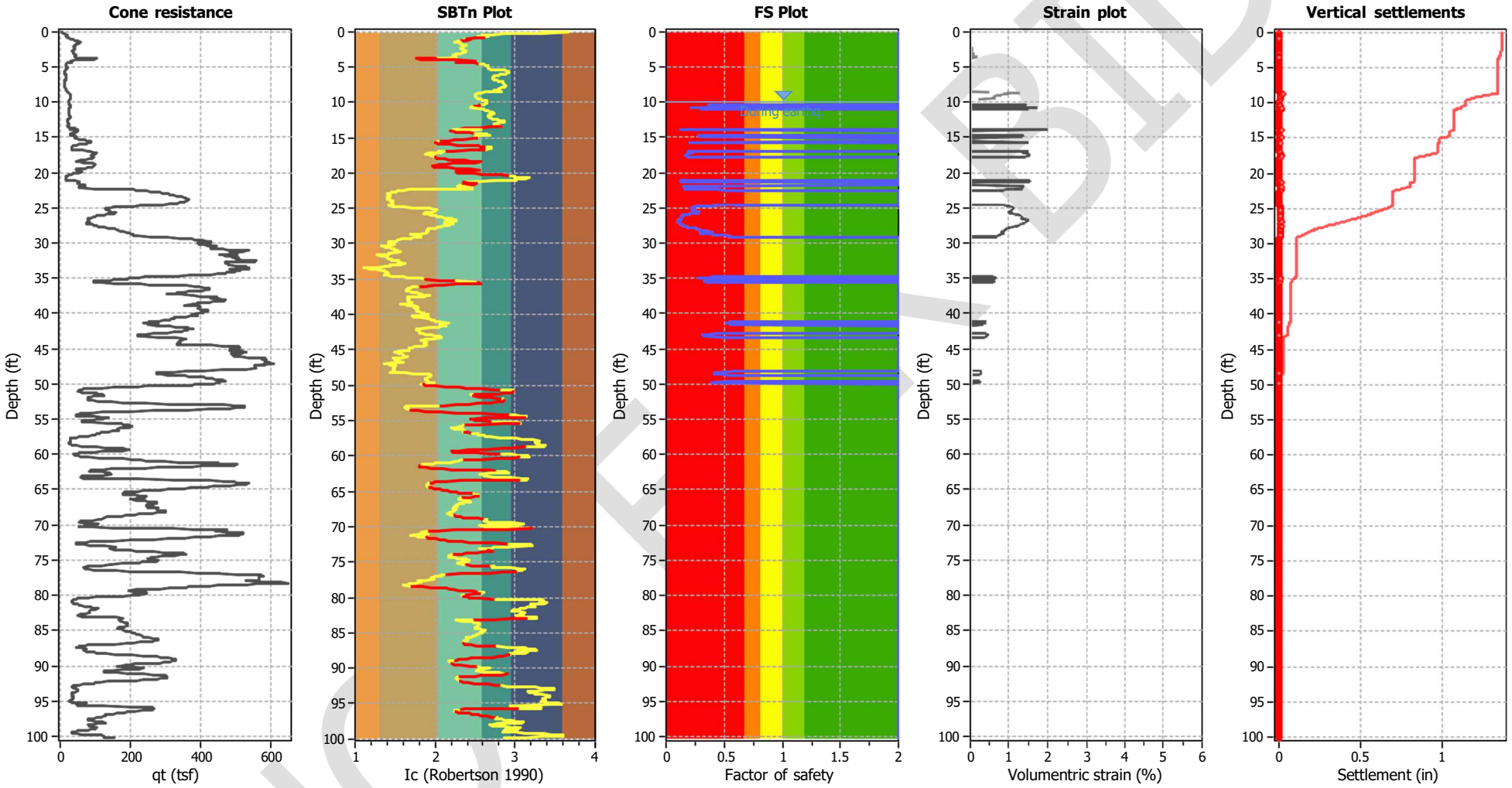


Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

NOT FOR

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

NOT BID

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.07	3.32	9.20	15.83	145.60	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.14	3.67	5.59	28.41	158.91	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.21	3.34	10.20	16.28	166.09	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.27	3.09	15.80	10.34	163.50	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.33	2.87	22.28	6.72	149.69	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.40	2.73	28.03	4.99	139.81	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.46	2.73	27.88	5.03	140.29	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.53	2.59	32.92	3.67	120.93	33	490	0.94	0.008	0.00	18.12	0.00	0.000
0.61	2.66	26.59	4.30	114.27	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.67	2.52	32.34	3.12	100.92	26	441	0.94	0.014	0.01	18.12	0.01	0.000
0.72	2.66	26.14	4.30	112.44	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.82	2.56	31.74	3.38	107.39	28	452	0.94	0.018	0.01	18.12	0.01	0.000
0.87	2.61	29.44	3.87	113.96	0	0	0.94	0.000	0.00	0.00	0.00	0.000
0.95	2.49	38.20	2.94	112.22	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.00	2.38	48.84	2.26	110.54	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.06	2.35	53.87	2.15	115.57	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.12	2.39	56.02	2.32	129.96	32	647	0.94	0.012	0.01	18.12	0.01	0.000
1.18	2.44	59.18	2.59	153.52	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.26	2.40	64.36	2.37	152.26	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.33	2.33	73.56	2.06	151.38	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.40	2.29	81.46	1.90	154.45	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.44	2.24	89.67	1.73	155.33	0	0	0.94	0.000	0.00	0.00	0.00	0.000
1.53	2.31	81.91	1.97	161.64	38	858	0.94	0.011	0.01	18.12	0.01	0.000
1.60	2.32	82.67	1.98	164.06	39	869	0.94	0.012	0.01	18.12	0.01	0.000
1.64	2.32	83.31	1.99	166.10	39	878	0.94	0.012	0.01	18.12	0.01	0.000
1.71	2.32	79.99	2.02	161.57	38	850	0.94	0.013	0.01	18.12	0.01	0.000
1.78	2.32	75.22	2.02	151.63	36	799	0.94	0.016	0.01	18.12	0.01	0.000
1.84	2.34	71.91	2.07	148.69	36	776	0.94	0.018	0.01	18.12	0.01	0.000
1.94	2.36	68.30	2.19	149.35	36	762	0.94	0.021	0.01	18.12	0.01	0.000
1.98	2.39	63.56	2.30	146.32	36	731	0.94	0.024	0.01	18.12	0.01	0.000
2.04	2.36	61.40	2.17	133.23	32	682	0.94	0.030	0.02	18.12	0.02	0.000
2.12	2.35	63.69	2.12	135.10	32	698	0.94	0.030	0.02	18.12	0.02	0.000
2.17	2.36	62.95	2.18	136.99	33	700	0.94	0.031	0.02	18.12	0.02	0.000
2.25	2.35	63.81	2.15	137.06	33	704	0.94	0.033	0.02	18.12	0.02	0.000
2.32	2.35	64.67	2.12	136.92	33	708	0.94	0.034	0.02	18.12	0.02	0.000
2.37	2.33	66.38	2.06	136.46	33	713	0.94	0.034	0.02	18.12	0.02	0.000
2.43	2.32	68.65	1.99	136.30	32	722	0.94	0.035	0.02	18.12	0.02	0.000
2.50	2.33	67.16	2.06	138.63	33	724	0.94	0.037	0.02	18.12	0.02	0.000
2.56	2.35	64.96	2.12	137.76	33	712	0.94	0.040	0.02	18.12	0.02	0.000
2.65	2.36	60.32	2.19	132.22	32	674	0.94	0.050	0.03	18.12	0.03	0.001
2.71	2.38	57.39	2.26	129.49	32	652	0.94	0.059	0.03	18.12	0.04	0.001
2.76	2.38	55.93	2.27	127.06	31	638	0.94	0.066	0.04	18.12	0.04	0.001
2.84	2.39	54.06	2.32	125.17	31	624	0.94	0.076	0.05	18.12	0.05	0.001
2.90	2.36	55.92	2.20	122.96	30	626	0.94	0.078	0.05	18.12	0.05	0.001
2.96	2.39	53.33	2.31	123.28	30	615	0.94	0.087	0.05	18.12	0.05	0.001
3.05	2.35	55.96	2.14	119.71	29	616	0.94	0.092	0.06	18.12	0.06	0.001
3.10	2.33	58.27	2.02	117.89	28	620	0.94	0.093	0.06	18.12	0.06	0.001
3.16	2.28	61.84	1.86	115.17	27	624	0.94	0.095	0.07	18.12	0.07	0.001

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

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
3.24	2.25	64.58	1.77	114.22	26	629	0.94	0.097	0.07	18.12	0.07	0.001
3.29	2.23	67.73	1.68	113.88	26	635	0.94	0.096	0.07	18.12	0.07	0.001
3.38	2.21	69.74	1.63	113.85	26	639	0.94	0.100	0.07	18.12	0.08	0.002
3.44	2.22	69.45	1.66	115.38	26	646	0.94	0.100	0.07	18.12	0.07	0.001
3.49	2.25	67.85	1.76	119.68	28	659	0.94	0.095	0.06	18.12	0.07	0.001
3.55	2.27	66.27	1.81	119.75	28	655	0.94	0.101	0.07	18.12	0.07	0.001
3.61	2.26	65.39	1.78	116.34	27	639	0.94	0.115	0.08	18.12	0.08	0.001
3.68	2.17	65.68	1.54	100.96	22	572	0.94	0.195	0.17	18.12	0.17	0.003
3.77	2.26	72.00	1.80	129.50	30	709	0.94	0.085	0.05	18.12	0.05	0.001
3.83	2.01	113.00	1.32	149.16	31	812	0.94	0.056	0.03	18.12	0.03	0.000
3.88	1.76	168.82	1.11	186.83	0	0	0.94	0.000	0.00	0.00	0.00	0.000
3.97	1.82	154.42	1.17	181.04	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.02	2.14	88.96	1.48	131.68	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.07	2.24	69.83	1.73	121.04	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.15	2.50	44.51	2.96	131.66	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.21	2.39	53.12	2.34	124.25	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.28	2.33	55.27	2.03	112.06	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.36	2.25	50.81	1.76	89.60	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.40	2.32	40.74	2.02	82.30	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.49	2.50	30.66	2.98	91.36	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.56	2.54	28.49	3.30	94.08	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.60	2.56	27.77	3.42	95.03	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.70	2.62	25.61	3.92	100.29	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.75	2.63	25.61	4.01	102.56	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.79	2.64	25.60	4.11	105.19	0	0	0.94	0.000	0.00	0.00	0.00	0.000
4.88	2.67	25.60	4.38	112.16	0	0	0.93	0.000	0.00	0.00	0.00	0.000
4.94	2.67	26.17	4.43	115.99	0	0	0.93	0.000	0.00	0.00	0.00	0.000
4.99	2.66	27.59	4.32	119.25	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.07	2.67	28.31	4.42	125.03	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.13	2.67	29.03	4.38	127.29	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.22	2.66	29.73	4.30	127.83	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.28	2.67	29.60	4.36	129.17	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.32	2.69	28.44	4.65	132.15	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.41	2.76	25.70	5.38	138.28	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.46	2.82	23.53	6.06	142.56	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.52	2.86	21.80	6.68	145.60	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.58	2.90	20.35	7.26	147.67	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.66	2.92	19.49	7.58	147.66	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.71	2.92	19.49	7.51	146.36	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.79	2.92	19.48	7.47	145.57	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.86	2.91	19.77	7.28	143.92	0	0	0.93	0.000	0.00	0.00	0.00	0.000
5.92	2.90	19.91	7.14	142.04	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.00	2.88	20.32	6.87	139.58	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.05	2.85	21.04	6.56	138.00	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.13	2.81	22.33	6.04	134.89	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.20	2.79	23.05	5.74	132.37	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.24	2.77	23.90	5.43	129.82	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.34	2.74	24.62	5.12	126.03	0	0	0.93	0.000	0.00	0.00	0.00	0.000

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

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
6.38	2.74	24.61	5.10	125.64	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.44	2.73	24.76	5.04	124.81	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.50	2.73	24.75	5.01	123.89	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.57	2.72	25.04	4.88	122.12	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.63	2.71	24.89	4.85	120.76	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.70	2.71	24.59	4.86	119.43	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.78	2.73	23.43	5.08	119.05	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.83	2.75	22.57	5.28	119.18	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.91	2.78	21.26	5.62	119.50	0	0	0.93	0.000	0.00	0.00	0.00	0.000
6.97	2.79	20.68	5.79	119.65	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.02	2.82	19.82	6.08	120.40	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.12	2.84	18.94	6.40	121.17	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.17	2.85	18.79	6.50	122.25	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.22	2.85	18.79	6.49	121.92	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.29	2.85	18.78	6.54	122.80	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.35	2.86	18.77	6.58	123.44	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.46	2.86	18.76	6.61	124.00	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.50	2.86	18.61	6.67	124.18	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.56	2.87	18.47	6.72	124.16	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.62	2.87	18.46	6.73	124.30	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.69	2.87	18.31	6.83	125.06	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.75	2.88	18.31	6.86	125.49	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.84	2.87	18.74	6.79	127.27	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.89	2.86	19.31	6.60	127.55	0	0	0.93	0.000	0.00	0.00	0.00	0.000
7.94	2.83	20.30	6.27	127.40	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.02	2.82	21.16	6.10	129.10	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.09	2.81	22.03	5.97	131.60	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.14	2.80	22.75	5.83	132.64	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.23	2.79	23.30	5.67	132.13	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.28	2.77	23.73	5.54	131.52	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.37	2.74	25.60	5.09	130.26	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.43	2.71	27.17	4.86	132.12	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.47	2.69	28.76	4.61	132.66	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.56	2.84	23.29	6.33	147.31	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.61	2.63	33.21	3.99	132.57	0	0	0.93	0.000	0.00	0.00	0.00	0.000
8.70	2.58	37.37	3.56	133.07	36	547	0.93	2.780	1.39	18.12	1.29	0.029
8.73	2.56	38.95	3.40	132.57	35	556	0.93	2.517	1.28	18.12	1.19	0.010
8.80	2.53	41.41	3.18	131.76	34	570	0.93	2.197	1.14	18.12	1.06	0.018
8.89	2.50	43.56	3.01	130.95	34	581	0.93	1.997	1.06	18.12	0.98	0.021
8.95	2.50	44.57	2.97	132.59	34	592	0.93	1.824	0.96	18.12	0.89	0.012
8.99	2.51	44.28	3.04	134.72	35	595	0.93	1.785	0.92	18.12	0.85	0.009
9.06	2.50	45.16	3.00	135.37	35	602	0.93	1.701	0.87	18.12	0.80	0.013
9.13	2.50	45.54	3.00	136.62	35	608	0.93	1.642	0.83	18.12	0.76	0.013
9.19	2.51	45.64	3.02	137.87	36	614	0.93	1.571	0.79	18.12	0.72	0.010
9.26	2.51	45.86	3.07	140.86	37	625	0.93	1.436	0.70	18.12	0.64	0.011
9.32	2.51	46.31	3.05	141.22	37	633	0.93	1.367	0.66	18.12	0.61	0.009
9.38	2.52	45.97	3.09	142.21	37	635	0.93	1.358	0.65	18.12	0.60	0.009
9.45	2.53	45.01	3.22	145.04	38	638	0.93	1.360	0.63	18.12	0.58	0.010

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

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
9.53	2.56	43.27	3.44	148.73	39	636	0.93	1.422	0.63	18.12	0.57	0.011
9.59	2.58	41.79	3.60	150.29	40	630	0.93	1.530	0.66	18.12	0.60	0.009
9.65	2.59	40.71	3.69	150.38	41	624	0.92	1.648	0.71	18.12	0.64	0.008
9.72	2.61	39.04	3.86	150.55	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.81	2.64	37.11	4.09	151.74	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.85	2.65	36.37	4.19	152.22	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.91	2.65	35.50	4.24	150.62	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.99	2.66	34.35	4.31	148.18	0	0	0.92	0.000	0.00	0.00	0.00	0.000

Total estimated settlement: 0.22

Abbreviations

Q_{tn}: Equivalent clean sand normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Post-liquefaction volumentric strain
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: 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)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
10.04	144.44	2.00	0.00	0.83	0.00	10.11	142.92	2.00	0.00	0.83	0.00
10.19	142.26	2.00	0.00	0.83	0.00	10.25	143.17	2.00	0.00	0.83	0.00
10.30	143.26	2.00	0.00	0.83	0.00	10.38	142.63	0.37	1.44	0.82	0.01
10.44	142.04	0.37	1.44	0.82	0.01	10.50	140.84	2.00	0.00	0.82	0.00
10.59	127.60	2.00	0.00	0.82	0.00	10.64	114.06	2.00	0.00	0.82	0.00
10.70	106.91	2.00	0.00	0.82	0.00	10.77	113.97	0.23	1.72	0.82	0.02
10.83	110.85	0.21	1.75	0.82	0.01	10.89	128.15	2.00	0.00	0.82	0.00
10.98	132.41	0.31	1.51	0.81	0.02	11.04	139.04	2.00	0.00	0.81	0.00
11.10	144.13	2.00	0.00	0.81	0.00	11.17	149.36	2.00	0.00	0.81	0.00
11.23	153.78	2.00	0.00	0.81	0.00	11.30	157.56	2.00	0.00	0.81	0.00
11.35	160.69	2.00	0.00	0.81	0.00	11.43	161.17	2.00	0.00	0.81	0.00
11.50	159.67	2.00	0.00	0.81	0.00	11.57	159.00	2.00	0.00	0.80	0.00
11.62	157.26	2.00	0.00	0.80	0.00	11.71	153.72	2.00	0.00	0.80	0.00
11.76	152.50	2.00	0.00	0.80	0.00	11.81	150.63	2.00	0.00	0.80	0.00
11.89	148.85	2.00	0.00	0.80	0.00	11.96	150.29	2.00	0.00	0.80	0.00
12.01	151.44	2.00	0.00	0.80	0.00	12.10	154.26	2.00	0.00	0.79	0.00
12.15	155.96	2.00	0.00	0.79	0.00	12.23	155.71	2.00	0.00	0.79	0.00
12.29	155.15	2.00	0.00	0.79	0.00	12.34	154.85	2.00	0.00	0.79	0.00
12.41	156.31	2.00	0.00	0.79	0.00	12.49	157.83	2.00	0.00	0.79	0.00
12.54	160.06	2.00	0.00	0.79	0.00	12.64	158.35	2.00	0.00	0.79	0.00
12.69	155.77	2.00	0.00	0.78	0.00	12.74	154.39	2.00	0.00	0.78	0.00
12.81	153.42	2.00	0.00	0.78	0.00	12.88	151.34	2.00	0.00	0.78	0.00
12.93	149.91	2.00	0.00	0.78	0.00	13.02	145.12	2.00	0.00	0.78	0.00
13.06	143.93	2.00	0.00	0.78	0.00	13.13	143.89	2.00	0.00	0.78	0.00
13.20	144.43	2.00	0.00	0.78	0.00	13.27	147.30	2.00	0.00	0.78	0.00
13.36	151.48	2.00	0.00	0.77	0.00	13.40	151.04	2.00	0.00	0.77	0.00
13.46	150.00	2.00	0.00	0.77	0.00	13.52	128.44	2.00	0.00	0.77	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
13.61	99.15	2.00	0.00	0.77	0.00	13.66	98.10	2.00	0.00	0.77	0.00
13.74	90.93	2.00	0.00	0.77	0.00	13.80	88.66	2.00	0.00	0.77	0.00
13.85	87.68	2.00	0.00	0.77	0.00	13.91	105.42	0.18	1.71	0.76	0.01
14.00	87.25	0.13	1.99	0.76	0.02	14.05	87.35	2.00	0.00	0.76	0.00
14.12	88.88	2.00	0.00	0.76	0.00	14.18	94.92	2.00	0.00	0.76	0.00
14.25	103.77	2.00	0.00	0.76	0.00	14.32	111.98	2.00	0.00	0.76	0.00
14.38	117.24	2.00	0.00	0.76	0.00	14.46	129.87	2.00	0.00	0.75	0.00
14.52	133.03	2.00	0.00	0.75	0.00	14.58	135.65	2.00	0.00	0.75	0.00
14.66	142.26	2.00	0.00	0.75	0.00	14.72	136.26	0.29	1.36	0.75	0.01
14.77	134.60	0.28	1.37	0.75	0.01	14.86	136.39	0.28	1.36	0.75	0.01
14.92	139.02	0.30	1.33	0.75	0.01	14.97	144.74	0.33	1.29	0.75	0.01
15.03	142.26	0.31	1.30	0.75	0.01	15.11	139.65	2.00	0.00	0.74	0.00
15.16	132.44	2.00	0.00	0.74	0.00	15.26	119.16	2.00	0.00	0.74	0.00
15.30	115.79	2.00	0.00	0.74	0.00	15.36	112.91	2.00	0.00	0.74	0.00
15.44	111.04	2.00	0.00	0.74	0.00	15.49	110.38	2.00	0.00	0.74	0.00
15.58	113.71	2.00	0.00	0.74	0.00	15.64	115.14	2.00	0.00	0.73	0.00
15.69	115.52	0.20	1.52	0.73	0.01	15.79	112.44	2.00	0.00	0.73	0.00
15.84	109.07	2.00	0.00	0.73	0.00	15.89	105.35	2.00	0.00	0.73	0.00
15.97	100.70	2.00	0.00	0.73	0.00	16.03	102.60	2.00	0.00	0.73	0.00
16.08	108.71	2.00	0.00	0.73	0.00	16.17	121.07	2.00	0.00	0.73	0.00
16.22	124.78	2.00	0.00	0.73	0.00	16.28	127.64	2.00	0.00	0.72	0.00
16.36	137.85	2.00	0.00	0.72	0.00	16.42	146.82	2.00	0.00	0.72	0.00
16.48	146.25	2.00	0.00	0.72	0.00	16.54	140.60	2.00	0.00	0.72	0.00
16.61	137.44	2.00	0.00	0.72	0.00	16.67	126.63	2.00	0.00	0.72	0.00
16.76	122.84	2.00	0.00	0.72	0.00	16.81	111.32	2.00	0.00	0.72	0.00
16.88	102.78	2.00	0.00	0.71	0.00	16.94	107.42	2.00	0.00	0.71	0.00
17.00	114.56	2.00	0.00	0.71	0.00	17.07	113.13	0.18	1.50	0.71	0.01
17.13	125.82	0.23	1.37	0.71	0.01	17.19	125.58	0.23	1.37	0.71	0.01
17.27	118.75	0.20	1.44	0.71	0.01	17.33	116.66	0.19	1.45	0.71	0.01
17.39	112.96	0.18	1.49	0.71	0.01	17.47	109.39	0.17	1.53	0.70	0.01
17.52	107.93	0.17	1.54	0.70	0.01	17.61	110.04	0.17	1.52	0.70	0.02
17.67	110.31	0.17	1.51	0.70	0.01	17.72	113.15	0.18	1.48	0.70	0.01
17.80	115.72	0.19	1.45	0.70	0.01	17.86	116.77	2.00	0.00	0.70	0.00
17.92	117.42	2.00	0.00	0.70	0.00	18.00	117.50	2.00	0.00	0.69	0.00
18.06	118.23	2.00	0.00	0.69	0.00	18.12	119.92	2.00	0.00	0.69	0.00
18.21	125.56	2.00	0.00	0.69	0.00	18.25	130.06	2.00	0.00	0.69	0.00
18.31	135.39	2.00	0.00	0.69	0.00	18.39	146.46	2.00	0.00	0.69	0.00
18.45	145.82	2.00	0.00	0.69	0.00	18.51	137.90	2.00	0.00	0.69	0.00
18.59	123.45	2.00	0.00	0.68	0.00	18.65	120.67	2.00	0.00	0.68	0.00
18.70	124.01	2.00	0.00	0.68	0.00	18.77	126.11	2.00	0.00	0.68	0.00
18.84	123.62	2.00	0.00	0.68	0.00	18.91	116.06	2.00	0.00	0.68	0.00
18.97	111.20	2.00	0.00	0.68	0.00	19.03	110.43	2.00	0.00	0.68	0.00
19.11	109.43	2.00	0.00	0.68	0.00	19.18	108.90	2.00	0.00	0.67	0.00
19.23	109.33	2.00	0.00	0.67	0.00	19.29	109.32	2.00	0.00	0.67	0.00
19.39	113.42	2.00	0.00	0.67	0.00	19.44	117.82	2.00	0.00	0.67	0.00
19.50	122.57	2.00	0.00	0.67	0.00	19.58	131.82	2.00	0.00	0.67	0.00
19.63	128.99	2.00	0.00	0.67	0.00	19.69	120.18	2.00	0.00	0.67	0.00
19.78	93.18	2.00	0.00	0.66	0.00	19.83	90.94	2.00	0.00	0.66	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
19.89	92.83	2.00	0.00	0.66	0.00	19.97	96.16	2.00	0.00	0.66	0.00
20.03	99.59	2.00	0.00	0.66	0.00	20.11	109.01	2.00	0.00	0.66	0.00
20.18	117.44	2.00	0.00	0.66	0.00	20.23	126.67	2.00	0.00	0.66	0.00
20.29	140.23	2.00	0.00	0.66	0.00	20.37	147.76	2.00	0.00	0.65	0.00
20.42	147.49	2.00	0.00	0.65	0.00	20.48	142.80	2.00	0.00	0.65	0.00
20.55	138.14	2.00	0.00	0.65	0.00	20.61	136.56	2.00	0.00	0.65	0.00
20.68	134.64	2.00	0.00	0.65	0.00	20.75	125.77	2.00	0.00	0.65	0.00
20.80	118.84	2.00	0.00	0.65	0.00	20.88	113.09	2.00	0.00	0.65	0.00
20.94	112.18	2.00	0.00	0.65	0.00	21.02	111.02	2.00	0.00	0.64	0.00
21.08	109.19	2.00	0.00	0.64	0.00	21.13	105.24	2.00	0.00	0.64	0.00
21.20	95.36	0.13	1.56	0.64	0.01	21.28	96.45	0.13	1.54	0.64	0.01
21.34	99.83	2.00	0.00	0.64	0.00	21.42	107.98	2.00	0.00	0.64	0.00
21.47	112.76	2.00	0.00	0.64	0.00	21.53	115.93	2.00	0.00	0.64	0.00
21.59	115.51	2.00	0.00	0.63	0.00	21.68	111.17	2.00	0.00	0.63	0.00
21.73	107.43	2.00	0.00	0.63	0.00	21.80	105.92	2.00	0.00	0.63	0.00
21.87	106.29	0.15	1.40	0.63	0.01	21.92	108.82	0.16	1.37	0.63	0.01
22.02	110.05	0.16	1.35	0.63	0.02	22.07	110.17	0.16	1.35	0.63	0.01
22.14	112.08	0.17	1.33	0.62	0.01	22.19	112.61	0.17	1.32	0.62	0.01
22.28	109.42	0.16	1.35	0.62	0.02	22.34	138.63	0.26	1.11	0.62	0.01
22.38	151.66	0.32	1.03	0.62	0.01	22.47	173.02	0.44	0.92	0.62	0.01
22.51	182.46	0.51	0.88	0.62	0.00	22.59	195.86	0.61	0.71	0.62	0.01
22.66	205.83	2.00	0.00	0.62	0.00	22.71	215.59	2.00	0.00	0.62	0.00
22.77	225.06	2.00	0.00	0.61	0.00	22.85	235.12	2.00	0.00	0.61	0.00
22.90	242.03	2.00	0.00	0.61	0.00	22.98	250.36	2.00	0.00	0.61	0.00
23.05	254.96	2.00	0.00	0.61	0.00	23.10	256.17	2.00	0.00	0.61	0.00
23.17	258.97	2.00	0.00	0.61	0.00	23.23	264.99	2.00	0.00	0.61	0.00
23.30	274.02	2.00	0.00	0.61	0.00	23.39	280.56	2.00	0.00	0.60	0.00
23.43	282.85	2.00	0.00	0.60	0.00	23.49	283.64	2.00	0.00	0.60	0.00
23.58	289.58	2.00	0.00	0.60	0.00	23.63	291.38	2.00	0.00	0.60	0.00
23.69	291.24	2.00	0.00	0.60	0.00	23.78	295.74	2.00	0.00	0.60	0.00
23.83	296.42	2.00	0.00	0.60	0.00	23.91	298.85	2.00	0.00	0.59	0.00
23.96	294.81	2.00	0.00	0.59	0.00	24.02	289.02	2.00	0.00	0.59	0.00
24.09	289.08	2.00	0.00	0.59	0.00	24.17	286.74	2.00	0.00	0.59	0.00
24.22	283.47	2.00	0.00	0.59	0.00	24.29	272.95	2.00	0.00	0.59	0.00
24.37	267.91	2.00	0.00	0.59	0.00	24.42	261.38	2.00	0.00	0.59	0.00
24.49	249.91	2.00	0.00	0.58	0.00	24.56	232.30	2.00	0.00	0.58	0.00
24.61	218.07	2.00	0.00	0.58	0.00	24.69	194.35	0.59	0.67	0.58	0.01
24.74	181.56	0.49	0.83	0.58	0.01	24.81	165.46	0.39	0.90	0.58	0.01
24.87	145.11	0.28	1.00	0.58	0.01	24.94	142.30	0.27	1.01	0.58	0.01
25.02	133.61	0.23	1.06	0.58	0.01	25.07	129.00	0.22	1.09	0.58	0.01
25.15	127.60	0.21	1.10	0.57	0.01	25.20	128.08	0.21	1.09	0.57	0.01
25.26	129.12	0.22	1.08	0.57	0.01	25.36	133.18	0.23	1.05	0.57	0.01
25.41	133.55	0.23	1.05	0.57	0.01	25.48	134.04	0.23	1.04	0.57	0.01
25.53	135.35	0.24	1.03	0.57	0.01	25.60	137.15	0.25	1.02	0.57	0.01
25.67	143.06	0.27	0.98	0.56	0.01	25.73	144.22	0.28	0.98	0.56	0.01
25.80	140.78	0.26	0.99	0.56	0.01	25.86	133.24	0.23	1.04	0.56	0.01
25.93	126.53	0.21	1.08	0.56	0.01	25.99	120.10	0.18	1.13	0.56	0.01
26.08	111.19	0.16	1.20	0.56	0.01	26.13	106.95	0.15	1.23	0.56	0.01

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
26.18	103.71	0.14	1.26	0.56	0.01	26.26	100.01	0.13	1.30	0.55	0.01
26.32	98.28	0.13	1.31	0.55	0.01	26.41	97.02	0.13	1.32	0.55	0.01
26.46	97.34	0.13	1.32	0.55	0.01	26.52	98.51	0.13	1.30	0.55	0.01
26.60	98.32	0.13	1.30	0.55	0.01	26.66	97.19	0.13	1.31	0.55	0.01
26.71	95.45	0.12	1.33	0.55	0.01	26.78	87.35	0.11	1.43	0.55	0.01
26.86	80.80	0.10	1.52	0.54	0.02	26.91	82.60	0.10	1.49	0.54	0.01
27.01	85.39	0.10	1.44	0.54	0.02	27.04	85.61	0.10	1.44	0.54	0.01
27.10	85.59	0.10	1.44	0.54	0.01	27.17	87.28	0.11	1.41	0.54	0.01
27.24	88.89	0.11	1.39	0.54	0.01	27.31	89.77	0.11	1.37	0.54	0.01
27.37	91.85	0.11	1.34	0.54	0.01	27.43	93.45	0.12	1.32	0.54	0.01
27.50	96.83	0.12	1.28	0.53	0.01	27.60	101.48	0.13	1.23	0.53	0.01
27.65	103.22	0.14	1.21	0.53	0.01	27.70	104.83	0.14	1.19	0.53	0.01
27.77	108.15	0.15	1.16	0.53	0.01	27.83	111.86	0.16	1.13	0.53	0.01
27.91	123.51	0.19	1.04	0.53	0.01	27.98	130.71	0.22	0.99	0.53	0.01
28.03	137.27	0.24	0.95	0.52	0.01	28.10	143.79	0.27	0.91	0.52	0.01
28.17	145.38	0.27	0.90	0.52	0.01	28.22	145.46	0.27	0.90	0.52	0.01
28.29	148.87	0.29	0.88	0.52	0.01	28.35	152.74	0.31	0.86	0.52	0.01
28.42	156.65	0.33	0.84	0.52	0.01	28.50	165.18	0.37	0.80	0.52	0.01
28.55	167.96	0.39	0.79	0.52	0.01	28.61	166.63	0.38	0.79	0.52	0.01
28.68	148.40	0.29	0.87	0.51	0.01	28.76	162.51	0.36	0.80	0.51	0.01
28.81	167.45	0.38	0.78	0.51	0.00	28.89	170.51	0.40	0.77	0.51	0.01
28.94	176.75	0.44	0.75	0.51	0.00	29.02	182.49	0.48	0.73	0.51	0.01
29.07	185.05	0.50	0.72	0.51	0.00	29.14	192.11	0.55	0.69	0.51	0.01
29.21	201.63	2.00	0.00	0.50	0.00	29.28	219.98	2.00	0.00	0.50	0.00
29.34	247.26	2.00	0.00	0.50	0.00	29.41	265.22	2.00	0.00	0.50	0.00
29.47	272.69	2.00	0.00	0.50	0.00	29.53	278.19	2.00	0.00	0.50	0.00
29.61	281.20	2.00	0.00	0.50	0.00	29.67	290.73	2.00	0.00	0.50	0.00
29.75	303.02	2.00	0.00	0.50	0.00	29.81	303.77	2.00	0.00	0.49	0.00
29.86	307.65	2.00	0.00	0.49	0.00	29.94	307.56	2.00	0.00	0.49	0.00
30.00	308.71	2.00	0.00	0.49	0.00	30.06	280.27	2.00	0.00	0.49	0.00
30.12	283.17	2.00	0.00	0.49	0.00	30.20	286.85	2.00	0.00	0.49	0.00
30.26	291.67	2.00	0.00	0.49	0.00	30.34	299.43	2.00	0.00	0.49	0.00
30.39	306.50	2.00	0.00	0.48	0.00	30.45	317.47	2.00	0.00	0.48	0.00
30.52	316.00	2.00	0.00	0.48	0.00	30.58	305.08	2.00	0.00	0.48	0.00
30.64	304.05	2.00	0.00	0.48	0.00	30.72	303.63	2.00	0.00	0.48	0.00
30.78	302.61	2.00	0.00	0.48	0.00	30.86	314.55	2.00	0.00	0.48	0.00
30.92	328.21	2.00	0.00	0.48	0.00	30.98	338.38	2.00	0.00	0.47	0.00
31.05	358.17	2.00	0.00	0.47	0.00	31.11	378.12	2.00	0.00	0.47	0.00
31.17	365.05	2.00	0.00	0.47	0.00	31.23	366.15	2.00	0.00	0.47	0.00
31.30	365.82	2.00	0.00	0.47	0.00	31.38	343.03	2.00	0.00	0.47	0.00
31.45	337.18	2.00	0.00	0.47	0.00	31.51	346.54	2.00	0.00	0.47	0.00
31.59	351.51	2.00	0.00	0.46	0.00	31.63	317.42	2.00	0.00	0.46	0.00
31.70	323.51	2.00	0.00	0.46	0.00	31.77	327.36	2.00	0.00	0.46	0.00
31.83	330.59	2.00	0.00	0.46	0.00	31.91	335.50	2.00	0.00	0.46	0.00
31.97	334.48	2.00	0.00	0.46	0.00	32.04	340.80	2.00	0.00	0.46	0.00
32.09	342.81	2.00	0.00	0.46	0.00	32.16	352.07	2.00	0.00	0.45	0.00
32.22	344.50	2.00	0.00	0.45	0.00	32.31	348.30	2.00	0.00	0.45	0.00
32.35	348.35	2.00	0.00	0.45	0.00	32.43	360.01	2.00	0.00	0.45	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
32.48	372.15	2.00	0.00	0.45	0.00	32.55	382.87	2.00	0.00	0.45	0.00
32.63	380.61	2.00	0.00	0.45	0.00	32.69	345.40	2.00	0.00	0.45	0.00
32.76	321.70	2.00	0.00	0.44	0.00	32.81	322.77	2.00	0.00	0.44	0.00
32.89	325.02	2.00	0.00	0.44	0.00	32.94	326.98	2.00	0.00	0.44	0.00
33.01	326.84	2.00	0.00	0.44	0.00	33.09	327.74	2.00	0.00	0.44	0.00
33.14	326.35	2.00	0.00	0.44	0.00	33.22	341.98	2.00	0.00	0.44	0.00
33.27	338.96	2.00	0.00	0.44	0.00	33.34	347.25	2.00	0.00	0.43	0.00
33.41	358.92	2.00	0.00	0.43	0.00	33.48	358.41	2.00	0.00	0.43	0.00
33.53	352.69	2.00	0.00	0.43	0.00	33.60	362.47	2.00	0.00	0.43	0.00
33.67	361.22	2.00	0.00	0.43	0.00	33.74	325.05	2.00	0.00	0.43	0.00
33.81	340.10	2.00	0.00	0.43	0.00	33.87	345.00	2.00	0.00	0.43	0.00
33.96	339.22	2.00	0.00	0.42	0.00	34.01	337.01	2.00	0.00	0.42	0.00
34.06	332.40	2.00	0.00	0.42	0.00	34.15	321.21	2.00	0.00	0.42	0.00
34.20	316.93	2.00	0.00	0.42	0.00	34.26	315.40	2.00	0.00	0.42	0.00
34.35	306.42	2.00	0.00	0.42	0.00	34.40	299.87	2.00	0.00	0.42	0.00
34.45	284.93	2.00	0.00	0.42	0.00	34.52	266.15	2.00	0.00	0.41	0.00
34.59	246.46	2.00	0.00	0.41	0.00	34.68	217.18	2.00	0.00	0.41	0.00
34.72	206.58	2.00	0.00	0.41	0.00	34.78	187.86	0.50	0.57	0.41	0.00
34.85	173.44	0.41	0.61	0.41	0.01	34.91	166.69	0.37	0.63	0.41	0.00
34.98	157.81	0.32	0.65	0.41	0.01	35.06	149.15	0.28	0.68	0.41	0.01
35.12	145.54	2.00	0.00	0.40	0.00	35.20	137.83	2.00	0.00	0.40	0.00
35.26	140.98	2.00	0.00	0.40	0.00	35.31	144.28	2.00	0.00	0.40	0.00
35.37	163.44	2.00	0.00	0.40	0.00	35.45	159.25	0.33	0.64	0.40	0.01
35.51	163.22	0.35	0.62	0.40	0.00	35.59	172.36	2.00	0.00	0.40	0.00
35.63	169.28	2.00	0.00	0.40	0.00	35.70	159.72	2.00	0.00	0.39	0.00
35.78	172.81	2.00	0.00	0.39	0.00	35.84	183.69	2.00	0.00	0.39	0.00
35.90	198.05	2.00	0.00	0.39	0.00	35.98	233.13	2.00	0.00	0.39	0.00
36.04	247.46	2.00	0.00	0.39	0.00	36.09	252.74	2.00	0.00	0.39	0.00
36.16	248.89	2.00	0.00	0.39	0.00	36.23	251.58	2.00	0.00	0.39	0.00
36.32	263.31	2.00	0.00	0.38	0.00	36.37	267.38	2.00	0.00	0.38	0.00
36.43	271.38	2.00	0.00	0.38	0.00	36.50	272.42	2.00	0.00	0.38	0.00
36.57	273.66	2.00	0.00	0.38	0.00	36.63	273.64	2.00	0.00	0.38	0.00
36.69	267.95	2.00	0.00	0.38	0.00	36.77	257.55	2.00	0.00	0.38	0.00
36.82	245.42	2.00	0.00	0.38	0.00	36.88	247.01	2.00	0.00	0.37	0.00
36.95	243.91	2.00	0.00	0.37	0.00	37.03	237.44	2.00	0.00	0.37	0.00
37.09	235.37	2.00	0.00	0.37	0.00	37.15	235.53	2.00	0.00	0.37	0.00
37.22	238.82	2.00	0.00	0.37	0.00	37.27	227.32	2.00	0.00	0.37	0.00
37.34	247.18	2.00	0.00	0.37	0.00	37.43	272.62	2.00	0.00	0.37	0.00
37.48	254.15	2.00	0.00	0.36	0.00	37.54	238.96	2.00	0.00	0.36	0.00
37.60	252.65	2.00	0.00	0.36	0.00	37.68	267.68	2.00	0.00	0.36	0.00
37.75	280.41	2.00	0.00	0.36	0.00	37.80	269.52	2.00	0.00	0.36	0.00
37.86	271.44	2.00	0.00	0.36	0.00	37.94	281.21	2.00	0.00	0.36	0.00
38.00	290.66	2.00	0.00	0.36	0.00	38.06	294.95	2.00	0.00	0.35	0.00
38.13	293.26	2.00	0.00	0.35	0.00	38.19	289.82	2.00	0.00	0.35	0.00
38.26	279.13	2.00	0.00	0.35	0.00	38.33	270.45	2.00	0.00	0.35	0.00
38.40	264.57	2.00	0.00	0.35	0.00	38.46	251.50	2.00	0.00	0.35	0.00
38.52	244.91	2.00	0.00	0.35	0.00	38.59	240.90	2.00	0.00	0.35	0.00
38.65	234.14	2.00	0.00	0.34	0.00	38.72	231.77	2.00	0.00	0.34	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
38.78	243.53	2.00	0.00	0.34	0.00	38.85	243.55	2.00	0.00	0.34	0.00
38.92	251.94	2.00	0.00	0.34	0.00	38.99	255.20	2.00	0.00	0.34	0.00
39.05	260.63	2.00	0.00	0.34	0.00	39.11	265.22	2.00	0.00	0.34	0.00
39.18	267.49	2.00	0.00	0.34	0.00	39.25	264.25	2.00	0.00	0.33	0.00
39.31	265.39	2.00	0.00	0.33	0.00	39.37	264.07	2.00	0.00	0.33	0.00
39.44	266.06	2.00	0.00	0.33	0.00	39.51	273.32	2.00	0.00	0.33	0.00
39.58	282.47	2.00	0.00	0.33	0.00	39.64	288.31	2.00	0.00	0.33	0.00
39.70	290.65	2.00	0.00	0.33	0.00	39.78	288.23	2.00	0.00	0.33	0.00
39.84	284.70	2.00	0.00	0.32	0.00	39.93	281.75	2.00	0.00	0.32	0.00
39.97	280.74	2.00	0.00	0.32	0.00	40.03	265.78	2.00	0.00	0.32	0.00
40.10	264.92	2.00	0.00	0.32	0.00	40.16	264.13	2.00	0.00	0.32	0.00
40.24	235.69	2.00	0.00	0.32	0.00	40.31	245.03	2.00	0.00	0.32	0.00
40.36	248.38	2.00	0.00	0.32	0.00	40.43	248.93	2.00	0.00	0.31	0.00
40.49	246.10	2.00	0.00	0.31	0.00	40.56	229.53	2.00	0.00	0.31	0.00
40.63	228.46	2.00	0.00	0.31	0.00	40.68	229.17	2.00	0.00	0.31	0.00
40.75	229.11	2.00	0.00	0.31	0.00	40.82	227.34	2.00	0.00	0.31	0.00
40.89	223.63	2.00	0.00	0.31	0.00	40.95	220.33	2.00	0.00	0.31	0.00
41.01	213.38	2.00	0.00	0.30	0.00	41.08	204.63	2.00	0.00	0.30	0.00
41.16	192.82	0.54	0.41	0.30	0.00	41.21	202.97	2.00	0.00	0.30	0.00
41.27	189.37	0.51	0.42	0.30	0.00	41.36	202.57	2.00	0.00	0.30	0.00
41.41	205.94	2.00	0.00	0.30	0.00	41.47	198.71	0.58	0.33	0.30	0.00
41.55	205.00	2.00	0.00	0.30	0.00	41.60	195.18	0.56	0.34	0.29	0.00
41.68	201.21	2.00	0.00	0.29	0.00	41.75	203.46	2.00	0.00	0.29	0.00
41.81	207.71	2.00	0.00	0.29	0.00	41.87	216.93	2.00	0.00	0.29	0.00
41.93	218.57	2.00	0.00	0.29	0.00	42.00	225.89	2.00	0.00	0.29	0.00
42.09	233.17	2.00	0.00	0.29	0.00	42.13	235.89	2.00	0.00	0.29	0.00
42.20	238.72	2.00	0.00	0.28	0.00	42.27	237.25	2.00	0.00	0.28	0.00
42.33	238.26	2.00	0.00	0.28	0.00	42.39	238.42	2.00	0.00	0.28	0.00
42.47	233.39	2.00	0.00	0.28	0.00	42.54	227.10	2.00	0.00	0.28	0.00
42.59	221.96	2.00	0.00	0.28	0.00	42.65	214.08	2.00	0.00	0.28	0.00
42.74	203.28	2.00	0.00	0.28	0.00	42.80	189.01	0.51	0.38	0.27	0.00
42.85	178.30	0.44	0.40	0.27	0.00	42.93	165.42	0.36	0.42	0.27	0.00
42.99	156.15	0.31	0.44	0.27	0.00	43.06	154.59	0.31	0.44	0.27	0.00
43.11	156.05	0.31	0.44	0.27	0.00	43.18	158.33	0.33	0.43	0.27	0.00
43.25	158.81	0.33	0.43	0.27	0.00	43.31	164.07	0.36	0.41	0.27	0.00
43.39	189.48	0.52	0.37	0.26	0.00	43.45	205.89	2.00	0.00	0.26	0.00
43.51	218.57	2.00	0.00	0.26	0.00	43.60	234.12	2.00	0.00	0.26	0.00
43.65	234.61	2.00	0.00	0.26	0.00	43.70	231.66	2.00	0.00	0.26	0.00
43.80	228.55	2.00	0.00	0.26	0.00	43.84	229.44	2.00	0.00	0.26	0.00
43.91	227.42	2.00	0.00	0.26	0.00	43.98	224.61	2.00	0.00	0.25	0.00
44.04	225.38	2.00	0.00	0.25	0.00	44.10	225.14	2.00	0.00	0.25	0.00
44.18	225.15	2.00	0.00	0.25	0.00	44.23	222.67	2.00	0.00	0.25	0.00
44.30	219.39	2.00	0.00	0.25	0.00	44.36	219.71	2.00	0.00	0.25	0.00
44.44	227.59	2.00	0.00	0.25	0.00	44.49	241.55	2.00	0.00	0.25	0.00
44.56	260.33	2.00	0.00	0.24	0.00	44.62	267.43	2.00	0.00	0.24	0.00
44.69	279.73	2.00	0.00	0.24	0.00	44.76	288.34	2.00	0.00	0.24	0.00
44.83	291.96	2.00	0.00	0.24	0.00	44.89	286.81	2.00	0.00	0.24	0.00
44.96	284.29	2.00	0.00	0.24	0.00	45.02	281.27	2.00	0.00	0.24	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
45.09	274.79	2.00	0.00	0.24	0.00	45.15	276.94	2.00	0.00	0.23	0.00
45.22	277.45	2.00	0.00	0.23	0.00	45.28	287.20	2.00	0.00	0.23	0.00
45.35	294.30	2.00	0.00	0.23	0.00	45.41	299.26	2.00	0.00	0.23	0.00
45.50	303.21	2.00	0.00	0.23	0.00	45.54	299.95	2.00	0.00	0.23	0.00
45.60	293.30	2.00	0.00	0.23	0.00	45.67	283.57	2.00	0.00	0.23	0.00
45.75	282.44	2.00	0.00	0.22	0.00	45.80	277.00	2.00	0.00	0.22	0.00
45.88	279.48	2.00	0.00	0.22	0.00	45.94	278.22	2.00	0.00	0.22	0.00
46.00	277.92	2.00	0.00	0.22	0.00	46.07	282.02	2.00	0.00	0.22	0.00
46.13	285.81	2.00	0.00	0.22	0.00	46.20	289.52	2.00	0.00	0.22	0.00
46.26	303.70	2.00	0.00	0.22	0.00	46.34	317.13	2.00	0.00	0.21	0.00
46.39	328.80	2.00	0.00	0.21	0.00	46.46	323.61	2.00	0.00	0.21	0.00
46.52	330.37	2.00	0.00	0.21	0.00	46.59	331.89	2.00	0.00	0.21	0.00
46.66	329.68	2.00	0.00	0.21	0.00	46.73	326.47	2.00	0.00	0.21	0.00
46.80	329.95	2.00	0.00	0.21	0.00	46.86	327.65	2.00	0.00	0.21	0.00
46.92	328.40	2.00	0.00	0.20	0.00	46.99	333.50	2.00	0.00	0.20	0.00
47.06	339.76	2.00	0.00	0.20	0.00	47.12	337.99	2.00	0.00	0.20	0.00
47.18	341.25	2.00	0.00	0.20	0.00	47.26	310.85	2.00	0.00	0.20	0.00
47.31	327.20	2.00	0.00	0.20	0.00	47.38	314.08	2.00	0.00	0.20	0.00
47.44	311.68	2.00	0.00	0.20	0.00	47.53	308.24	2.00	0.00	0.19	0.00
47.59	308.02	2.00	0.00	0.19	0.00	47.64	307.83	2.00	0.00	0.19	0.00
47.71	307.56	2.00	0.00	0.19	0.00	47.78	311.34	2.00	0.00	0.19	0.00
47.84	309.38	2.00	0.00	0.19	0.00	47.90	292.75	2.00	0.00	0.19	0.00
47.98	274.49	2.00	0.00	0.19	0.00	48.04	256.00	2.00	0.00	0.19	0.00
48.11	225.49	2.00	0.00	0.18	0.00	48.17	207.24	2.00	0.00	0.18	0.00
48.23	196.52	0.59	0.21	0.18	0.00	48.31	178.25	0.45	0.26	0.18	0.00
48.38	183.30	0.49	0.26	0.18	0.00	48.44	171.42	0.41	0.27	0.18	0.00
48.50	172.13	0.41	0.27	0.18	0.00	48.56	174.89	0.43	0.26	0.18	0.00
48.63	180.99	0.47	0.25	0.18	0.00	48.70	189.82	0.54	0.24	0.17	0.00
48.77	197.54	0.60	0.20	0.17	0.00	48.83	210.09	2.00	0.00	0.17	0.00
48.90	220.31	2.00	0.00	0.17	0.00	48.95	228.20	2.00	0.00	0.17	0.00
49.02	243.72	2.00	0.00	0.17	0.00	49.09	253.68	2.00	0.00	0.17	0.00
49.15	258.80	2.00	0.00	0.17	0.00	49.22	264.64	2.00	0.00	0.17	0.00
49.29	268.82	2.00	0.00	0.16	0.00	49.35	273.78	2.00	0.00	0.16	0.00
49.41	280.99	2.00	0.00	0.16	0.00	49.49	286.48	2.00	0.00	0.16	0.00
49.54	289.85	2.00	0.00	0.16	0.00	49.63	289.35	2.00	0.00	0.16	0.00
49.67	186.80	0.52	0.22	0.16	0.00	49.75	168.14	0.39	0.24	0.16	0.00
49.81	168.27	0.40	0.24	0.16	0.00	49.88	166.94	0.39	0.24	0.15	0.00
49.94	164.88	2.00	0.00	0.15	0.00	50.01	162.03	2.00	0.00	0.15	0.00
50.07	153.01	2.00	0.00	0.15	0.00	50.15	152.48	2.00	0.00	0.15	0.00
50.20	143.15	2.00	0.00	0.15	0.00	50.27	146.08	2.00	0.00	0.15	0.00
50.34	149.66	2.00	0.00	0.15	0.00	50.41	155.96	2.00	0.00	0.15	0.00
50.48	161.70	2.00	0.00	0.14	0.00	50.52	167.75	2.00	0.00	0.14	0.00
50.59	175.58	2.00	0.00	0.14	0.00	50.67	173.94	2.00	0.00	0.14	0.00
50.74	168.52	2.00	0.00	0.14	0.00	50.80	154.40	2.00	0.00	0.14	0.00
50.86	143.39	2.00	0.00	0.14	0.00	50.93	130.06	2.00	0.00	0.14	0.00
51.00	118.66	2.00	0.00	0.14	0.00	51.06	110.94	2.00	0.00	0.13	0.00
51.12	103.94	2.00	0.00	0.13	0.00	51.20	99.62	2.00	0.00	0.13	0.00
51.25	95.52	2.00	0.00	0.13	0.00	51.32	81.33	2.00	0.00	0.13	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
51.38	80.04	2.00	0.00	0.13	0.00	51.45	88.76	2.00	0.00	0.13	0.00
51.53	96.58	2.00	0.00	0.13	0.00	51.59	104.55	2.00	0.00	0.13	0.00
51.64	115.44	2.00	0.00	0.12	0.00	51.72	128.03	2.00	0.00	0.12	0.00
51.78	135.11	2.00	0.00	0.12	0.00	51.84	140.70	2.00	0.00	0.12	0.00
51.93	145.67	2.00	0.00	0.12	0.00	51.97	149.32	2.00	0.00	0.12	0.00
52.05	151.67	2.00	0.00	0.12	0.00	52.11	151.54	2.00	0.00	0.12	0.00
52.18	149.80	2.00	0.00	0.12	0.00	52.26	148.14	2.00	0.00	0.11	0.00
52.30	147.02	2.00	0.00	0.11	0.00	52.37	146.73	2.00	0.00	0.11	0.00
52.46	145.21	2.00	0.00	0.11	0.00	52.50	141.57	2.00	0.00	0.11	0.00
52.56	139.21	2.00	0.00	0.11	0.00	52.65	132.38	2.00	0.00	0.11	0.00
52.71	128.64	2.00	0.00	0.11	0.00	52.76	126.87	2.00	0.00	0.11	0.00
52.84	133.95	2.00	0.00	0.10	0.00	52.90	144.72	2.00	0.00	0.10	0.00
52.98	149.40	2.00	0.00	0.10	0.00	53.02	137.84	2.00	0.00	0.10	0.00
53.10	146.64	2.00	0.00	0.10	0.00	53.18	153.73	2.00	0.00	0.10	0.00
53.23	154.14	2.00	0.00	0.10	0.00	53.29	153.80	2.00	0.00	0.10	0.00
53.36	143.77	2.00	0.00	0.10	0.00	53.42	146.94	2.00	0.00	0.09	0.00
53.49	140.70	2.00	0.00	0.09	0.00	53.55	139.84	2.00	0.00	0.09	0.00
53.62	140.10	2.00	0.00	0.09	0.00	53.70	128.74	2.00	0.00	0.09	0.00
53.75	118.00	2.00	0.00	0.09	0.00	53.81	106.56	2.00	0.00	0.09	0.00
53.88	100.49	2.00	0.00	0.09	0.00	53.94	108.23	2.00	0.00	0.09	0.00
54.01	121.46	2.00	0.00	0.08	0.00	54.07	135.44	2.00	0.00	0.08	0.00
54.15	134.92	2.00	0.00	0.08	0.00	54.20	134.36	2.00	0.00	0.08	0.00
54.27	133.08	2.00	0.00	0.08	0.00	54.34	133.11	2.00	0.00	0.08	0.00
54.40	133.13	2.00	0.00	0.08	0.00	54.47	133.51	2.00	0.00	0.08	0.00
54.54	132.38	2.00	0.00	0.08	0.00	54.59	123.90	2.00	0.00	0.07	0.00
54.68	104.35	2.00	0.00	0.07	0.00	54.73	95.72	2.00	0.00	0.07	0.00
54.80	95.76	2.00	0.00	0.07	0.00	54.87	101.98	2.00	0.00	0.07	0.00
54.92	99.74	2.00	0.00	0.07	0.00	54.99	108.46	2.00	0.00	0.07	0.00
55.06	113.37	2.00	0.00	0.07	0.00	55.12	122.86	2.00	0.00	0.07	0.00
55.22	145.69	2.00	0.00	0.06	0.00	55.26	153.59	2.00	0.00	0.06	0.00
55.31	159.22	2.00	0.00	0.06	0.00	55.39	163.87	2.00	0.00	0.06	0.00
55.45	153.08	2.00	0.00	0.06	0.00	55.53	122.80	2.00	0.00	0.06	0.00
55.59	111.16	2.00	0.00	0.06	0.00	55.65	103.83	2.00	0.00	0.06	0.00
55.73	101.29	2.00	0.00	0.06	0.00	55.78	101.69	2.00	0.00	0.05	0.00
55.84	100.07	2.00	0.00	0.05	0.00	55.92	94.91	2.00	0.00	0.05	0.00
55.98	92.74	2.00	0.00	0.05	0.00	56.04	91.97	2.00	0.00	0.05	0.00
56.11	92.45	2.00	0.00	0.05	0.00	56.17	93.96	2.00	0.00	0.05	0.00
56.25	96.58	2.00	0.00	0.05	0.00	56.32	97.90	2.00	0.00	0.05	0.00
56.37	97.91	2.00	0.00	0.04	0.00	56.45	96.83	2.00	0.00	0.04	0.00
56.51	96.43	2.00	0.00	0.04	0.00	56.56	96.48	2.00	0.00	0.04	0.00
56.65	97.43	2.00	0.00	0.04	0.00	56.71	98.87	2.00	0.00	0.04	0.00
56.77	101.04	2.00	0.00	0.04	0.00	56.85	102.55	2.00	0.00	0.04	0.00
56.90	99.73	2.00	0.00	0.04	0.00	56.96	95.90	2.00	0.00	0.03	0.00
57.05	104.71	2.00	0.00	0.03	0.00	57.10	104.74	2.00	0.00	0.03	0.00
57.18	107.62	2.00	0.00	0.03	0.00	57.24	107.40	2.00	0.00	0.03	0.00
57.29	107.80	2.00	0.00	0.03	0.00	57.35	108.52	2.00	0.00	0.03	0.00
57.44	117.43	2.00	0.00	0.03	0.00	57.49	118.12	2.00	0.00	0.03	0.00
57.55	115.79	2.00	0.00	0.02	0.00	57.62	113.02	2.00	0.00	0.02	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
57.68	111.73	2.00	0.00	0.02	0.00	57.78	106.18	2.00	0.00	0.02	0.00
57.81	103.32	2.00	0.00	0.02	0.00	57.88	96.44	2.00	0.00	0.02	0.00
57.94	90.21	2.00	0.00	0.02	0.00	58.02	88.14	2.00	0.00	0.02	0.00
58.09	87.43	2.00	0.00	0.02	0.00	58.14	87.30	2.00	0.00	0.01	0.00
58.22	87.69	2.00	0.00	0.01	0.00	58.27	88.07	2.00	0.00	0.01	0.00
58.34	88.41	2.00	0.00	0.01	0.00	58.41	89.59	2.00	0.00	0.01	0.00
58.47	94.68	2.00	0.00	0.01	0.00	58.53	101.15	2.00	0.00	0.01	0.00
58.60	107.11	2.00	0.00	0.01	0.00	58.69	116.36	2.00	0.00	0.01	0.00
58.74	119.50	2.00	0.00	0.00	0.00	58.80	122.64	2.00	0.00	0.00	0.00
58.87	123.24	2.00	0.00	0.00	0.00	58.94	122.27	2.00	0.00	0.00	0.00
59.01	110.83	2.00	0.00	0.00	0.00	59.07	102.65	2.00	0.00	0.00	0.00
59.13	95.80	2.00	0.00	0.00	0.00	59.21	89.89	2.00	0.00	0.00	0.00
59.27	88.79	2.00	0.00	0.00	0.00	59.33	88.55	2.00	0.00	0.00	0.00
59.39	83.64	2.00	0.00	0.00	0.00	59.47	78.77	2.00	0.00	0.00	0.00
59.52	84.47	2.00	0.00	0.00	0.00	59.59	97.78	2.00	0.00	0.00	0.00
59.65	110.45	2.00	0.00	0.00	0.00	59.71	114.44	2.00	0.00	0.00	0.00
59.78	107.85	2.00	0.00	0.00	0.00	59.86	108.25	2.00	0.00	0.00	0.00
59.91	107.81	2.00	0.00	0.00	0.00	59.99	107.32	2.00	0.00	0.00	0.00
60.05	107.55	2.00	0.00	0.00	0.00	60.13	105.46	2.00	0.00	0.00	0.00
60.18	102.99	2.00	0.00	0.00	0.00	60.24	100.69	2.00	0.00	0.00	0.00
60.31	98.27	2.00	0.00	0.00	0.00	60.37	100.91	2.00	0.00	0.00	0.00
60.44	105.62	2.00	0.00	0.00	0.00	60.51	99.90	2.00	0.00	0.00	0.00
60.57	94.68	2.00	0.00	0.00	0.00	60.63	93.14	2.00	0.00	0.00	0.00
60.71	96.02	2.00	0.00	0.00	0.00	60.77	99.37	2.00	0.00	0.00	0.00
60.84	103.53	2.00	0.00	0.00	0.00	60.90	98.29	2.00	0.00	0.00	0.00
60.97	91.03	2.00	0.00	0.00	0.00	61.03	99.16	2.00	0.00	0.00	0.00
61.11	109.58	2.00	0.00	0.00	0.00	61.16	120.14	2.00	0.00	0.00	0.00
61.23	137.16	2.00	0.00	0.00	0.00	61.30	139.15	2.00	0.00	0.00	0.00
61.36	147.63	2.00	0.00	0.00	0.00	61.44	147.12	2.00	0.00	0.00	0.00
61.51	145.13	2.00	0.00	0.00	0.00	61.56	143.36	2.00	0.00	0.00	0.00
61.62	136.93	2.00	0.00	0.00	0.00	61.70	129.08	2.00	0.00	0.00	0.00
61.75	123.26	2.00	0.00	0.00	0.00	61.85	114.94	2.00	0.00	0.00	0.00
61.90	113.09	2.00	0.00	0.00	0.00	61.95	118.38	2.00	0.00	0.00	0.00
62.04	144.21	2.00	0.00	0.00	0.00	62.07	162.28	2.00	0.00	0.00	0.00
62.14	160.25	2.00	0.00	0.00	0.00	62.22	153.62	2.00	0.00	0.00	0.00
62.27	146.96	2.00	0.00	0.00	0.00	62.37	144.48	2.00	0.00	0.00	0.00
62.43	142.57	2.00	0.00	0.00	0.00	62.48	130.14	2.00	0.00	0.00	0.00
62.55	118.11	2.00	0.00	0.00	0.00	62.61	118.65	2.00	0.00	0.00	0.00
62.67	120.56	2.00	0.00	0.00	0.00	62.75	127.35	2.00	0.00	0.00	0.00
62.81	130.98	2.00	0.00	0.00	0.00	62.87	133.90	2.00	0.00	0.00	0.00
62.95	147.03	2.00	0.00	0.00	0.00	63.00	156.98	2.00	0.00	0.00	0.00
63.06	157.54	2.00	0.00	0.00	0.00	63.14	153.18	2.00	0.00	0.00	0.00
63.20	154.51	2.00	0.00	0.00	0.00	63.29	153.68	2.00	0.00	0.00	0.00
63.35	153.92	2.00	0.00	0.00	0.00	63.39	151.91	2.00	0.00	0.00	0.00
63.46	123.65	2.00	0.00	0.00	0.00	63.53	109.44	2.00	0.00	0.00	0.00
63.60	115.16	2.00	0.00	0.00	0.00	63.67	126.83	2.00	0.00	0.00	0.00
63.72	136.50	2.00	0.00	0.00	0.00	63.81	145.35	2.00	0.00	0.00	0.00
63.87	147.67	2.00	0.00	0.00	0.00	63.92	150.39	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
64.00	152.61	2.00	0.00	0.00	0.00	64.05	154.35	2.00	0.00	0.00	0.00
64.11	157.55	2.00	0.00	0.00	0.00	64.18	160.37	2.00	0.00	0.00	0.00
64.24	158.50	2.00	0.00	0.00	0.00	64.33	154.66	2.00	0.00	0.00	0.00
64.37	152.32	2.00	0.00	0.00	0.00	64.45	146.13	2.00	0.00	0.00	0.00
64.51	141.02	2.00	0.00	0.00	0.00	64.58	136.26	2.00	0.00	0.00	0.00
64.64	131.57	2.00	0.00	0.00	0.00	64.72	127.26	2.00	0.00	0.00	0.00
64.77	124.68	2.00	0.00	0.00	0.00	64.83	121.41	2.00	0.00	0.00	0.00
64.92	117.36	2.00	0.00	0.00	0.00	64.98	114.99	2.00	0.00	0.00	0.00
65.03	112.06	2.00	0.00	0.00	0.00	65.12	107.53	2.00	0.00	0.00	0.00
65.18	107.49	2.00	0.00	0.00	0.00	65.22	108.31	2.00	0.00	0.00	0.00
65.32	114.78	2.00	0.00	0.00	0.00	65.37	122.23	2.00	0.00	0.00	0.00
65.42	127.80	2.00	0.00	0.00	0.00	65.49	133.13	2.00	0.00	0.00	0.00
65.56	135.35	2.00	0.00	0.00	0.00	65.66	137.45	2.00	0.00	0.00	0.00
65.69	138.90	2.00	0.00	0.00	0.00	65.76	135.51	2.00	0.00	0.00	0.00
65.82	129.84	2.00	0.00	0.00	0.00	65.89	121.90	2.00	0.00	0.00	0.00
65.95	114.05	2.00	0.00	0.00	0.00	66.02	108.42	2.00	0.00	0.00	0.00
66.08	104.36	2.00	0.00	0.00	0.00	66.15	104.64	2.00	0.00	0.00	0.00
66.22	108.30	2.00	0.00	0.00	0.00	66.28	112.06	2.00	0.00	0.00	0.00
66.34	117.16	2.00	0.00	0.00	0.00	66.42	120.12	2.00	0.00	0.00	0.00
66.48	119.04	2.00	0.00	0.00	0.00	66.56	119.12	2.00	0.00	0.00	0.00
66.61	120.67	2.00	0.00	0.00	0.00	66.68	123.55	2.00	0.00	0.00	0.00
66.75	123.02	2.00	0.00	0.00	0.00	66.82	121.03	2.00	0.00	0.00	0.00
66.88	118.29	2.00	0.00	0.00	0.00	66.95	115.24	2.00	0.00	0.00	0.00
67.02	112.91	2.00	0.00	0.00	0.00	67.07	110.98	2.00	0.00	0.00	0.00
67.15	102.52	2.00	0.00	0.00	0.00	67.19	95.72	2.00	0.00	0.00	0.00
67.28	97.75	2.00	0.00	0.00	0.00	67.34	99.51	2.00	0.00	0.00	0.00
67.41	101.00	2.00	0.00	0.00	0.00	67.48	103.03	2.00	0.00	0.00	0.00
67.53	105.67	2.00	0.00	0.00	0.00	67.61	107.32	2.00	0.00	0.00	0.00
67.65	108.01	2.00	0.00	0.00	0.00	67.75	106.15	2.00	0.00	0.00	0.00
67.80	103.77	2.00	0.00	0.00	0.00	67.85	101.80	2.00	0.00	0.00	0.00
67.92	101.07	2.00	0.00	0.00	0.00	67.99	101.67	2.00	0.00	0.00	0.00
68.08	102.02	2.00	0.00	0.00	0.00	68.14	101.67	2.00	0.00	0.00	0.00
68.19	100.83	2.00	0.00	0.00	0.00	68.25	98.58	2.00	0.00	0.00	0.00
68.33	94.08	2.00	0.00	0.00	0.00	68.38	91.15	2.00	0.00	0.00	0.00
68.45	87.93	2.00	0.00	0.00	0.00	68.52	84.17	2.00	0.00	0.00	0.00
68.58	83.44	2.00	0.00	0.00	0.00	68.66	86.46	2.00	0.00	0.00	0.00
68.71	89.30	2.00	0.00	0.00	0.00	68.77	93.16	2.00	0.00	0.00	0.00
68.86	104.41	2.00	0.00	0.00	0.00	68.92	110.98	2.00	0.00	0.00	0.00
68.97	115.13	2.00	0.00	0.00	0.00	69.05	114.20	2.00	0.00	0.00	0.00
69.11	114.35	2.00	0.00	0.00	0.00	69.17	101.65	2.00	0.00	0.00	0.00
69.25	92.13	2.00	0.00	0.00	0.00	69.30	97.71	2.00	0.00	0.00	0.00
69.37	106.48	2.00	0.00	0.00	0.00	69.45	116.64	2.00	0.00	0.00	0.00
69.50	121.65	2.00	0.00	0.00	0.00	69.57	122.13	2.00	0.00	0.00	0.00
69.63	120.17	2.00	0.00	0.00	0.00	69.72	101.42	2.00	0.00	0.00	0.00
69.76	83.73	2.00	0.00	0.00	0.00	69.82	75.57	2.00	0.00	0.00	0.00
69.89	77.66	2.00	0.00	0.00	0.00	69.95	92.11	2.00	0.00	0.00	0.00
70.02	112.35	2.00	0.00	0.00	0.00	70.09	122.81	2.00	0.00	0.00	0.00
70.15	129.47	2.00	0.00	0.00	0.00	70.22	126.22	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
70.28	134.51	2.00	0.00	0.00	0.00	70.35	122.27	2.00	0.00	0.00	0.00
70.43	97.50	2.00	0.00	0.00	0.00	70.49	83.35	2.00	0.00	0.00	0.00
70.55	92.53	2.00	0.00	0.00	0.00	70.63	105.23	2.00	0.00	0.00	0.00
70.68	113.21	2.00	0.00	0.00	0.00	70.75	121.86	2.00	0.00	0.00	0.00
70.80	116.71	2.00	0.00	0.00	0.00	70.87	123.94	2.00	0.00	0.00	0.00
70.94	122.55	2.00	0.00	0.00	0.00	71.00	129.61	2.00	0.00	0.00	0.00
71.06	133.15	2.00	0.00	0.00	0.00	71.13	130.60	2.00	0.00	0.00	0.00
71.20	112.89	2.00	0.00	0.00	0.00	71.26	116.36	2.00	0.00	0.00	0.00
71.33	124.53	2.00	0.00	0.00	0.00	71.41	127.84	2.00	0.00	0.00	0.00
71.47	129.07	2.00	0.00	0.00	0.00	71.52	121.78	2.00	0.00	0.00	0.00
71.60	122.58	2.00	0.00	0.00	0.00	71.66	118.15	2.00	0.00	0.00	0.00
71.73	114.66	2.00	0.00	0.00	0.00	71.78	112.36	2.00	0.00	0.00	0.00
71.85	107.36	2.00	0.00	0.00	0.00	71.92	103.66	2.00	0.00	0.00	0.00
71.99	101.48	2.00	0.00	0.00	0.00	72.07	101.21	2.00	0.00	0.00	0.00
72.12	103.35	2.00	0.00	0.00	0.00	72.18	109.64	2.00	0.00	0.00	0.00
72.26	124.00	2.00	0.00	0.00	0.00	72.32	128.62	2.00	0.00	0.00	0.00
72.39	131.31	2.00	0.00	0.00	0.00	72.45	123.76	2.00	0.00	0.00	0.00
72.52	119.63	2.00	0.00	0.00	0.00	72.57	115.04	2.00	0.00	0.00	0.00
72.64	108.91	2.00	0.00	0.00	0.00	72.71	105.56	2.00	0.00	0.00	0.00
72.79	96.95	2.00	0.00	0.00	0.00	72.86	92.98	2.00	0.00	0.00	0.00
72.91	96.99	2.00	0.00	0.00	0.00	72.99	103.29	2.00	0.00	0.00	0.00
73.05	108.14	2.00	0.00	0.00	0.00	73.12	110.26	2.00	0.00	0.00	0.00
73.17	117.96	2.00	0.00	0.00	0.00	73.24	128.36	2.00	0.00	0.00	0.00
73.31	137.58	2.00	0.00	0.00	0.00	73.36	136.90	2.00	0.00	0.00	0.00
73.43	142.09	2.00	0.00	0.00	0.00	73.51	139.28	2.00	0.00	0.00	0.00
73.56	135.84	2.00	0.00	0.00	0.00	73.66	127.83	2.00	0.00	0.00	0.00
73.71	122.74	2.00	0.00	0.00	0.00	73.77	116.10	2.00	0.00	0.00	0.00
73.82	111.71	2.00	0.00	0.00	0.00	73.90	107.83	2.00	0.00	0.00	0.00
73.95	107.43	2.00	0.00	0.00	0.00	74.02	108.60	2.00	0.00	0.00	0.00
74.08	109.87	2.00	0.00	0.00	0.00	74.16	112.07	2.00	0.00	0.00	0.00
74.22	112.43	2.00	0.00	0.00	0.00	74.28	111.64	2.00	0.00	0.00	0.00
74.37	110.27	2.00	0.00	0.00	0.00	74.42	109.93	2.00	0.00	0.00	0.00
74.48	111.56	2.00	0.00	0.00	0.00	74.56	118.24	2.00	0.00	0.00	0.00
74.62	122.73	2.00	0.00	0.00	0.00	74.70	125.03	2.00	0.00	0.00	0.00
74.76	126.03	2.00	0.00	0.00	0.00	74.81	126.51	2.00	0.00	0.00	0.00
74.88	124.87	2.00	0.00	0.00	0.00	74.95	122.71	2.00	0.00	0.00	0.00
75.01	117.17	2.00	0.00	0.00	0.00	75.09	104.28	2.00	0.00	0.00	0.00
75.16	99.62	2.00	0.00	0.00	0.00	75.20	99.01	2.00	0.00	0.00	0.00
75.29	102.37	2.00	0.00	0.00	0.00	75.35	102.80	2.00	0.00	0.00	0.00
75.39	103.31	2.00	0.00	0.00	0.00	75.47	111.24	2.00	0.00	0.00	0.00
75.53	121.60	2.00	0.00	0.00	0.00	75.60	135.78	2.00	0.00	0.00	0.00
75.67	139.59	2.00	0.00	0.00	0.00	75.73	134.78	2.00	0.00	0.00	0.00
75.81	137.09	2.00	0.00	0.00	0.00	75.87	140.86	2.00	0.00	0.00	0.00
75.93	144.57	2.00	0.00	0.00	0.00	76.01	140.60	2.00	0.00	0.00	0.00
76.06	135.23	2.00	0.00	0.00	0.00	76.13	131.98	2.00	0.00	0.00	0.00
76.20	131.32	2.00	0.00	0.00	0.00	76.25	130.50	2.00	0.00	0.00	0.00
76.32	135.22	2.00	0.00	0.00	0.00	76.39	145.60	2.00	0.00	0.00	0.00
76.45	144.89	2.00	0.00	0.00	0.00	76.53	140.70	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.60	123.94	2.00	0.00	0.00	0.00	76.64	103.18	2.00	0.00	0.00	0.00
76.74	99.33	2.00	0.00	0.00	0.00	76.79	108.20	2.00	0.00	0.00	0.00
76.85	114.99	2.00	0.00	0.00	0.00	76.91	122.03	2.00	0.00	0.00	0.00
76.97	121.96	2.00	0.00	0.00	0.00	77.05	131.94	2.00	0.00	0.00	0.00
77.14	141.07	2.00	0.00	0.00	0.00	77.18	144.86	2.00	0.00	0.00	0.00
77.23	146.43	2.00	0.00	0.00	0.00	77.31	146.69	2.00	0.00	0.00	0.00
77.36	146.05	2.00	0.00	0.00	0.00	77.43	145.53	2.00	0.00	0.00	0.00
77.50	143.99	2.00	0.00	0.00	0.00	77.58	136.98	2.00	0.00	0.00	0.00
77.64	128.46	2.00	0.00	0.00	0.00	77.71	130.82	2.00	0.00	0.00	0.00
77.77	132.71	2.00	0.00	0.00	0.00	77.82	133.40	2.00	0.00	0.00	0.00
77.89	129.27	2.00	0.00	0.00	0.00	77.96	113.37	2.00	0.00	0.00	0.00
78.03	114.41	2.00	0.00	0.00	0.00	78.09	119.02	2.00	0.00	0.00	0.00
78.16	124.32	2.00	0.00	0.00	0.00	78.23	127.98	2.00	0.00	0.00	0.00
78.29	121.17	2.00	0.00	0.00	0.00	78.36	116.63	2.00	0.00	0.00	0.00
78.41	122.85	2.00	0.00	0.00	0.00	78.49	124.09	2.00	0.00	0.00	0.00
78.55	111.51	2.00	0.00	0.00	0.00	78.64	109.32	2.00	0.00	0.00	0.00
78.69	109.44	2.00	0.00	0.00	0.00	78.74	110.20	2.00	0.00	0.00	0.00
78.81	112.63	2.00	0.00	0.00	0.00	78.88	113.94	2.00	0.00	0.00	0.00
78.94	113.89	2.00	0.00	0.00	0.00	79.01	115.72	2.00	0.00	0.00	0.00
79.07	119.53	2.00	0.00	0.00	0.00	79.16	126.91	2.00	0.00	0.00	0.00
79.22	132.73	2.00	0.00	0.00	0.00	79.28	138.30	2.00	0.00	0.00	0.00
79.35	137.76	2.00	0.00	0.00	0.00	79.42	134.90	2.00	0.00	0.00	0.00
79.47	135.76	2.00	0.00	0.00	0.00	79.53	123.27	2.00	0.00	0.00	0.00
79.61	101.27	2.00	0.00	0.00	0.00	79.66	99.64	2.00	0.00	0.00	0.00
79.75	98.01	2.00	0.00	0.00	0.00	79.81	98.17	2.00	0.00	0.00	0.00
79.86	98.63	2.00	0.00	0.00	0.00	79.93	101.57	2.00	0.00	0.00	0.00
80.00	104.88	2.00	0.00	0.00	0.00	80.06	109.42	2.00	0.00	0.00	0.00
80.13	117.15	2.00	0.00	0.00	0.00	80.19	135.04	2.00	0.00	0.00	0.00
80.26	149.27	2.00	0.00	0.00	0.00	80.33	154.73	2.00	0.00	0.00	0.00
80.38	152.99	2.00	0.00	0.00	0.00	80.46	135.43	2.00	0.00	0.00	0.00
80.52	120.31	2.00	0.00	0.00	0.00	80.58	107.68	2.00	0.00	0.00	0.00
80.65	102.23	2.00	0.00	0.00	0.00	80.71	98.81	2.00	0.00	0.00	0.00
80.80	92.60	2.00	0.00	0.00	0.00	80.84	88.71	2.00	0.00	0.00	0.00
80.93	77.08	2.00	0.00	0.00	0.00	80.97	72.06	2.00	0.00	0.00	0.00
81.04	74.39	2.00	0.00	0.00	0.00	81.11	77.85	2.00	0.00	0.00	0.00
81.17	81.36	2.00	0.00	0.00	0.00	81.24	88.52	2.00	0.00	0.00	0.00
81.31	95.39	2.00	0.00	0.00	0.00	81.39	104.49	2.00	0.00	0.00	0.00
81.44	110.56	2.00	0.00	0.00	0.00	81.54	122.00	2.00	0.00	0.00	0.00
81.57	124.89	2.00	0.00	0.00	0.00	81.64	132.35	2.00	0.00	0.00	0.00
81.70	140.91	2.00	0.00	0.00	0.00	81.76	148.73	2.00	0.00	0.00	0.00
81.83	152.44	2.00	0.00	0.00	0.00	81.89	155.97	2.00	0.00	0.00	0.00
81.98	161.06	2.00	0.00	0.00	0.00	82.02	162.81	2.00	0.00	0.00	0.00
82.11	165.56	2.00	0.00	0.00	0.00	82.17	165.34	2.00	0.00	0.00	0.00
82.25	160.72	2.00	0.00	0.00	0.00	82.30	159.04	2.00	0.00	0.00	0.00
82.36	157.36	2.00	0.00	0.00	0.00	82.44	149.73	2.00	0.00	0.00	0.00
82.49	140.84	2.00	0.00	0.00	0.00	82.55	129.17	2.00	0.00	0.00	0.00
82.63	112.83	2.00	0.00	0.00	0.00	82.70	110.19	2.00	0.00	0.00	0.00
82.75	117.30	2.00	0.00	0.00	0.00	82.83	123.67	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
82.89	121.77	2.00	0.00	0.00	0.00	82.98	118.29	2.00	0.00	0.00	0.00
83.03	112.56	2.00	0.00	0.00	0.00	83.09	103.00	2.00	0.00	0.00	0.00
83.14	79.60	2.00	0.00	0.00	0.00	83.20	58.24	2.00	0.00	0.00	0.00
83.28	67.13	2.00	0.00	0.00	0.00	83.38	76.15	2.00	0.00	0.00	0.00
83.43	79.08	2.00	0.00	0.00	0.00	83.47	82.34	2.00	0.00	0.00	0.00
83.54	86.54	2.00	0.00	0.00	0.00	83.61	93.98	2.00	0.00	0.00	0.00
83.67	100.14	2.00	0.00	0.00	0.00	83.73	104.90	2.00	0.00	0.00	0.00
83.82	108.13	2.00	0.00	0.00	0.00	83.87	107.94	2.00	0.00	0.00	0.00
83.96	109.14	2.00	0.00	0.00	0.00	83.99	109.23	2.00	0.00	0.00	0.00
84.06	108.50	2.00	0.00	0.00	0.00	84.15	104.95	2.00	0.00	0.00	0.00
84.21	102.67	2.00	0.00	0.00	0.00	84.26	101.89	2.00	0.00	0.00	0.00
84.32	102.70	2.00	0.00	0.00	0.00	84.39	105.30	2.00	0.00	0.00	0.00
84.45	108.08	2.00	0.00	0.00	0.00	84.54	112.22	2.00	0.00	0.00	0.00
84.59	113.76	2.00	0.00	0.00	0.00	84.65	115.83	2.00	0.00	0.00	0.00
84.73	113.79	2.00	0.00	0.00	0.00	84.79	111.37	2.00	0.00	0.00	0.00
84.85	112.75	2.00	0.00	0.00	0.00	84.94	115.83	2.00	0.00	0.00	0.00
84.99	117.49	2.00	0.00	0.00	0.00	85.06	116.45	2.00	0.00	0.00	0.00
85.12	114.54	2.00	0.00	0.00	0.00	85.17	112.66	2.00	0.00	0.00	0.00
85.25	111.79	2.00	0.00	0.00	0.00	85.31	112.88	2.00	0.00	0.00	0.00
85.37	113.67	2.00	0.00	0.00	0.00	85.47	112.66	2.00	0.00	0.00	0.00
85.52	111.23	2.00	0.00	0.00	0.00	85.57	106.35	2.00	0.00	0.00	0.00
85.66	94.65	2.00	0.00	0.00	0.00	85.71	95.85	2.00	0.00	0.00	0.00
85.77	97.03	2.00	0.00	0.00	0.00	85.85	99.96	2.00	0.00	0.00	0.00
85.91	100.91	2.00	0.00	0.00	0.00	85.98	101.71	2.00	0.00	0.00	0.00
86.03	101.32	2.00	0.00	0.00	0.00	86.11	102.65	2.00	0.00	0.00	0.00
86.17	104.20	2.00	0.00	0.00	0.00	86.23	104.73	2.00	0.00	0.00	0.00
86.29	104.99	2.00	0.00	0.00	0.00	86.38	103.50	2.00	0.00	0.00	0.00
86.42	101.74	2.00	0.00	0.00	0.00	86.49	98.21	2.00	0.00	0.00	0.00
86.56	94.34	2.00	0.00	0.00	0.00	86.63	92.76	2.00	0.00	0.00	0.00
86.68	93.67	2.00	0.00	0.00	0.00	86.76	96.85	2.00	0.00	0.00	0.00
86.82	101.30	2.00	0.00	0.00	0.00	86.92	114.94	2.00	0.00	0.00	0.00
86.96	122.38	2.00	0.00	0.00	0.00	87.02	127.05	2.00	0.00	0.00	0.00
87.09	128.04	2.00	0.00	0.00	0.00	87.15	122.25	2.00	0.00	0.00	0.00
87.21	115.70	2.00	0.00	0.00	0.00	87.29	110.92	2.00	0.00	0.00	0.00
87.35	107.81	2.00	0.00	0.00	0.00	87.41	105.02	2.00	0.00	0.00	0.00
87.50	104.72	2.00	0.00	0.00	0.00	87.55	105.86	2.00	0.00	0.00	0.00
87.60	108.43	2.00	0.00	0.00	0.00	87.67	114.06	2.00	0.00	0.00	0.00
87.75	121.14	2.00	0.00	0.00	0.00	87.80	122.63	2.00	0.00	0.00	0.00
87.87	121.66	2.00	0.00	0.00	0.00	87.94	120.64	2.00	0.00	0.00	0.00
88.00	115.92	2.00	0.00	0.00	0.00	88.09	116.95	2.00	0.00	0.00	0.00
88.13	118.18	2.00	0.00	0.00	0.00	88.19	121.31	2.00	0.00	0.00	0.00
88.25	124.11	2.00	0.00	0.00	0.00	88.34	126.37	2.00	0.00	0.00	0.00
88.42	128.08	2.00	0.00	0.00	0.00	88.47	124.33	2.00	0.00	0.00	0.00
88.53	118.66	2.00	0.00	0.00	0.00	88.59	110.10	2.00	0.00	0.00	0.00
88.68	102.57	2.00	0.00	0.00	0.00	88.73	98.52	2.00	0.00	0.00	0.00
88.79	94.29	2.00	0.00	0.00	0.00	88.85	90.92	2.00	0.00	0.00	0.00
88.92	87.45	2.00	0.00	0.00	0.00	89.00	86.12	2.00	0.00	0.00	0.00
89.05	86.68	2.00	0.00	0.00	0.00	89.11	87.91	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
89.19	89.38	2.00	0.00	0.00	0.00	89.25	90.40	2.00	0.00	0.00	0.00
89.32	89.51	2.00	0.00	0.00	0.00	89.37	87.84	2.00	0.00	0.00	0.00
89.44	87.60	2.00	0.00	0.00	0.00	89.55	87.18	2.00	0.00	0.00	0.00
89.58	87.76	2.00	0.00	0.00	0.00	89.64	90.32	2.00	0.00	0.00	0.00
89.72	98.78	2.00	0.00	0.00	0.00	89.77	100.77	2.00	0.00	0.00	0.00
89.83	104.02	2.00	0.00	0.00	0.00	89.90	108.59	2.00	0.00	0.00	0.00
89.97	110.82	2.00	0.00	0.00	0.00	90.03	122.64	2.00	0.00	0.00	0.00
90.10	119.46	2.00	0.00	0.00	0.00	90.16	121.03	2.00	0.00	0.00	0.00
90.23	122.77	2.00	0.00	0.00	0.00	90.29	122.25	2.00	0.00	0.00	0.00
90.36	120.76	2.00	0.00	0.00	0.00	90.42	121.87	2.00	0.00	0.00	0.00
90.50	126.26	2.00	0.00	0.00	0.00	90.56	129.35	2.00	0.00	0.00	0.00
90.64	134.51	2.00	0.00	0.00	0.00	90.70	136.53	2.00	0.00	0.00	0.00
90.75	139.39	2.00	0.00	0.00	0.00	90.84	141.97	2.00	0.00	0.00	0.00
90.90	138.53	2.00	0.00	0.00	0.00	90.95	132.14	2.00	0.00	0.00	0.00
91.03	126.05	2.00	0.00	0.00	0.00	91.08	122.37	2.00	0.00	0.00	0.00
91.15	117.80	2.00	0.00	0.00	0.00	91.24	92.90	2.00	0.00	0.00	0.00
91.29	85.56	2.00	0.00	0.00	0.00	91.34	85.96	2.00	0.00	0.00	0.00
91.41	87.77	2.00	0.00	0.00	0.00	91.49	91.07	2.00	0.00	0.00	0.00
91.58	94.43	2.00	0.00	0.00	0.00	91.60	95.11	2.00	0.00	0.00	0.00
91.68	95.08	2.00	0.00	0.00	0.00	91.73	94.14	2.00	0.00	0.00	0.00
91.81	91.18	2.00	0.00	0.00	0.00	91.87	89.88	2.00	0.00	0.00	0.00
91.95	87.84	2.00	0.00	0.00	0.00	92.01	86.07	2.00	0.00	0.00	0.00
92.07	84.36	2.00	0.00	0.00	0.00	92.15	88.39	2.00	0.00	0.00	0.00
92.21	92.74	2.00	0.00	0.00	0.00	92.26	94.00	2.00	0.00	0.00	0.00
92.36	93.41	2.00	0.00	0.00	0.00	92.41	95.43	2.00	0.00	0.00	0.00
92.46	98.02	2.00	0.00	0.00	0.00	92.56	104.43	2.00	0.00	0.00	0.00
92.60	108.24	2.00	0.00	0.00	0.00	92.65	110.01	2.00	0.00	0.00	0.00
92.72	109.55	2.00	0.00	0.00	0.00	92.80	106.59	2.00	0.00	0.00	0.00
92.87	103.33	2.00	0.00	0.00	0.00	92.92	99.51	2.00	0.00	0.00	0.00
92.99	93.69	2.00	0.00	0.00	0.00	93.06	88.49	2.00	0.00	0.00	0.00
93.12	87.18	2.00	0.00	0.00	0.00	93.19	86.87	2.00	0.00	0.00	0.00
93.26	87.50	2.00	0.00	0.00	0.00	93.31	88.14	2.00	0.00	0.00	0.00
93.41	92.11	2.00	0.00	0.00	0.00	93.46	94.33	2.00	0.00	0.00	0.00
93.51	93.17	2.00	0.00	0.00	0.00	93.57	95.37	2.00	0.00	0.00	0.00
93.65	95.92	2.00	0.00	0.00	0.00	93.72	94.29	2.00	0.00	0.00	0.00
93.81	91.38	2.00	0.00	0.00	0.00	93.85	89.98	2.00	0.00	0.00	0.00
93.90	87.66	2.00	0.00	0.00	0.00	93.99	81.66	2.00	0.00	0.00	0.00
94.04	78.54	2.00	0.00	0.00	0.00	94.11	77.26	2.00	0.00	0.00	0.00
94.17	77.13	2.00	0.00	0.00	0.00	94.24	77.74	2.00	0.00	0.00	0.00
94.30	78.39	2.00	0.00	0.00	0.00	94.38	78.47	2.00	0.00	0.00	0.00
94.43	78.98	2.00	0.00	0.00	0.00	94.49	80.60	2.00	0.00	0.00	0.00
94.56	82.19	2.00	0.00	0.00	0.00	94.62	81.05	2.00	0.00	0.00	0.00
94.72	77.70	2.00	0.00	0.00	0.00	94.77	76.84	2.00	0.00	0.00	0.00
94.82	76.38	2.00	0.00	0.00	0.00	94.91	74.65	2.00	0.00	0.00	0.00
94.96	73.79	2.00	0.00	0.00	0.00	95.01	75.62	2.00	0.00	0.00	0.00
95.11	81.63	2.00	0.00	0.00	0.00	95.16	83.78	2.00	0.00	0.00	0.00
95.23	85.68	2.00	0.00	0.00	0.00	95.29	87.07	2.00	0.00	0.00	0.00
95.35	88.43	2.00	0.00	0.00	0.00	95.43	94.18	2.00	0.00	0.00	0.00

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

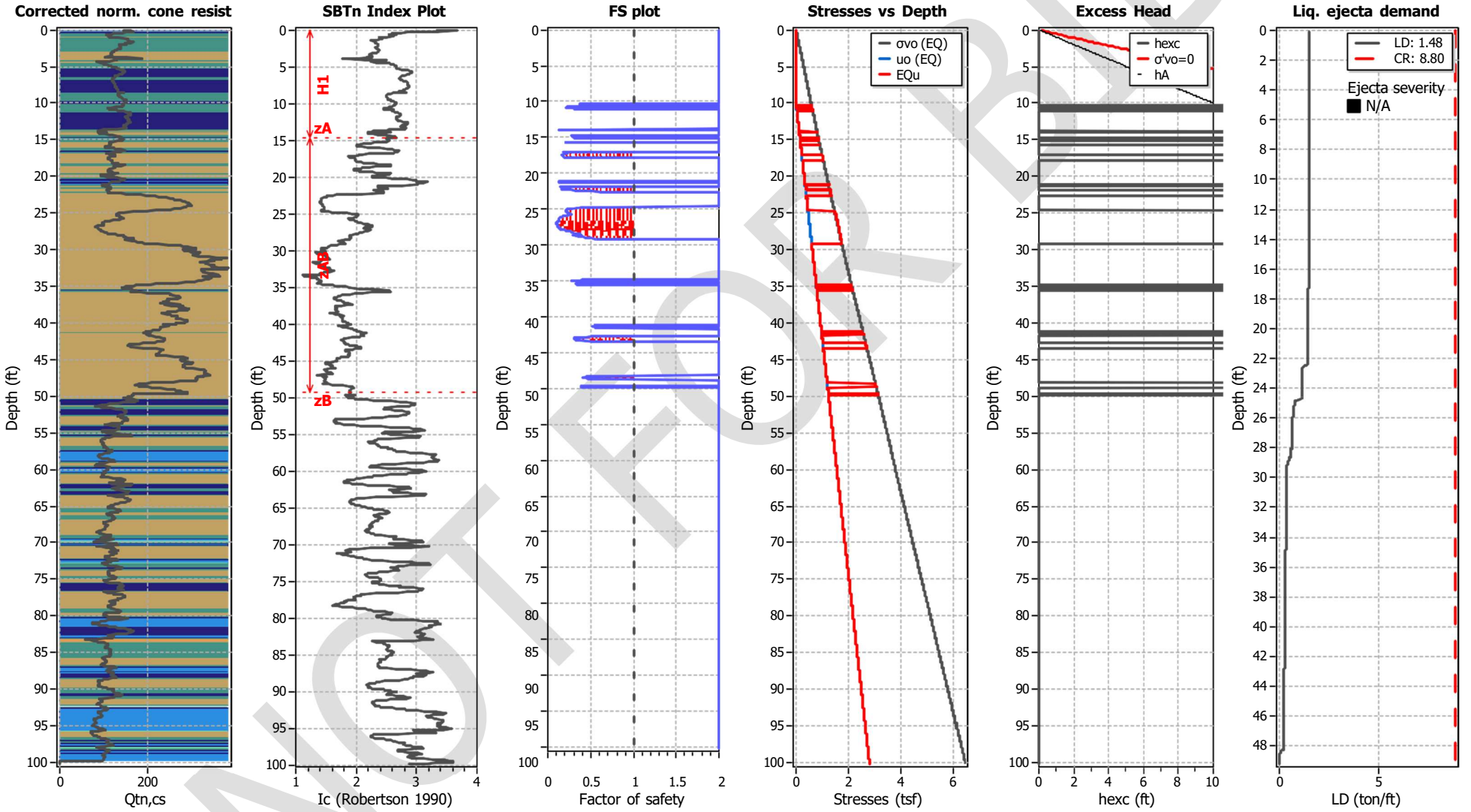
Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
95.48	97.26	2.00	0.00	0.00	0.00	95.54	102.22	2.00	0.00	0.00	0.00
95.62	105.93	2.00	0.00	0.00	0.00	95.68	100.11	2.00	0.00	0.00	0.00
95.74	87.04	2.00	0.00	0.00	0.00	95.82	71.11	2.00	0.00	0.00	0.00
95.88	70.01	2.00	0.00	0.00	0.00	95.95	73.09	2.00	0.00	0.00	0.00
96.01	73.96	2.00	0.00	0.00	0.00	96.07	73.72	2.00	0.00	0.00	0.00
96.13	72.19	2.00	0.00	0.00	0.00	96.22	72.87	2.00	0.00	0.00	0.00
96.28	75.00	2.00	0.00	0.00	0.00	96.33	77.73	2.00	0.00	0.00	0.00
96.42	83.77	2.00	0.00	0.00	0.00	96.46	85.61	2.00	0.00	0.00	0.00
96.52	88.01	2.00	0.00	0.00	0.00	96.60	90.54	2.00	0.00	0.00	0.00
96.66	93.68	2.00	0.00	0.00	0.00	96.74	98.48	2.00	0.00	0.00	0.00
96.79	102.41	2.00	0.00	0.00	0.00	96.86	107.74	2.00	0.00	0.00	0.00
96.92	112.03	2.00	0.00	0.00	0.00	96.99	113.29	2.00	0.00	0.00	0.00
97.06	108.90	2.00	0.00	0.00	0.00	97.13	104.21	2.00	0.00	0.00	0.00
97.20	104.76	2.00	0.00	0.00	0.00	97.25	106.51	2.00	0.00	0.00	0.00
97.32	107.41	2.00	0.00	0.00	0.00	97.38	108.81	2.00	0.00	0.00	0.00
97.45	111.03	2.00	0.00	0.00	0.00	97.52	113.58	2.00	0.00	0.00	0.00
97.58	117.81	2.00	0.00	0.00	0.00	97.66	120.37	2.00	0.00	0.00	0.00
97.71	121.05	2.00	0.00	0.00	0.00	97.77	118.52	2.00	0.00	0.00	0.00
97.87	86.34	2.00	0.00	0.00	0.00	97.92	80.17	2.00	0.00	0.00	0.00
97.97	84.01	2.00	0.00	0.00	0.00	98.05	88.81	2.00	0.00	0.00	0.00
98.12	94.08	2.00	0.00	0.00	0.00	98.17	97.95	2.00	0.00	0.00	0.00
98.24	104.62	2.00	0.00	0.00	0.00	98.32	109.91	2.00	0.00	0.00	0.00
98.37	112.20	2.00	0.00	0.00	0.00	98.43	112.93	2.00	0.00	0.00	0.00
98.51	108.94	2.00	0.00	0.00	0.00	98.57	109.19	2.00	0.00	0.00	0.00
98.63	106.51	2.00	0.00	0.00	0.00	98.70	103.23	2.00	0.00	0.00	0.00
98.76	102.58	2.00	0.00	0.00	0.00	98.84	101.55	2.00	0.00	0.00	0.00
98.90	98.60	2.00	0.00	0.00	0.00	98.96	95.07	2.00	0.00	0.00	0.00
99.04	97.67	2.00	0.00	0.00	0.00	99.09	100.37	2.00	0.00	0.00	0.00
99.16	102.57	2.00	0.00	0.00	0.00	99.24	102.63	2.00	0.00	0.00	0.00
99.30	100.81	2.00	0.00	0.00	0.00	99.35	98.96	2.00	0.00	0.00	0.00
99.44	97.75	2.00	0.00	0.00	0.00	99.49	97.53	2.00	0.00	0.00	0.00
99.55	97.40	2.00	0.00	0.00	0.00	99.64	98.77	2.00	0.00	0.00	0.00
99.69	98.33	2.00	0.00	0.00	0.00	99.74	96.06	2.00	0.00	0.00	0.00
99.83	95.82	2.00	0.00	0.00	0.00	99.89	-1.00	2.00	0.00	0.00	0.00
99.94	-1.00	2.00	0.00	0.00	0.00	100.00	-1.00	2.00	0.00	0.00	0.00
100.08	-1.00	2.00	0.00	0.00	0.00	100.14	-1.00	2.00	0.00	0.00	0.00
100.21	-1.00	2.00	0.00	0.00	0.00						

Total estimated settlement: 1.14

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

Ejecta Severity Estimation



NOT FOR BID

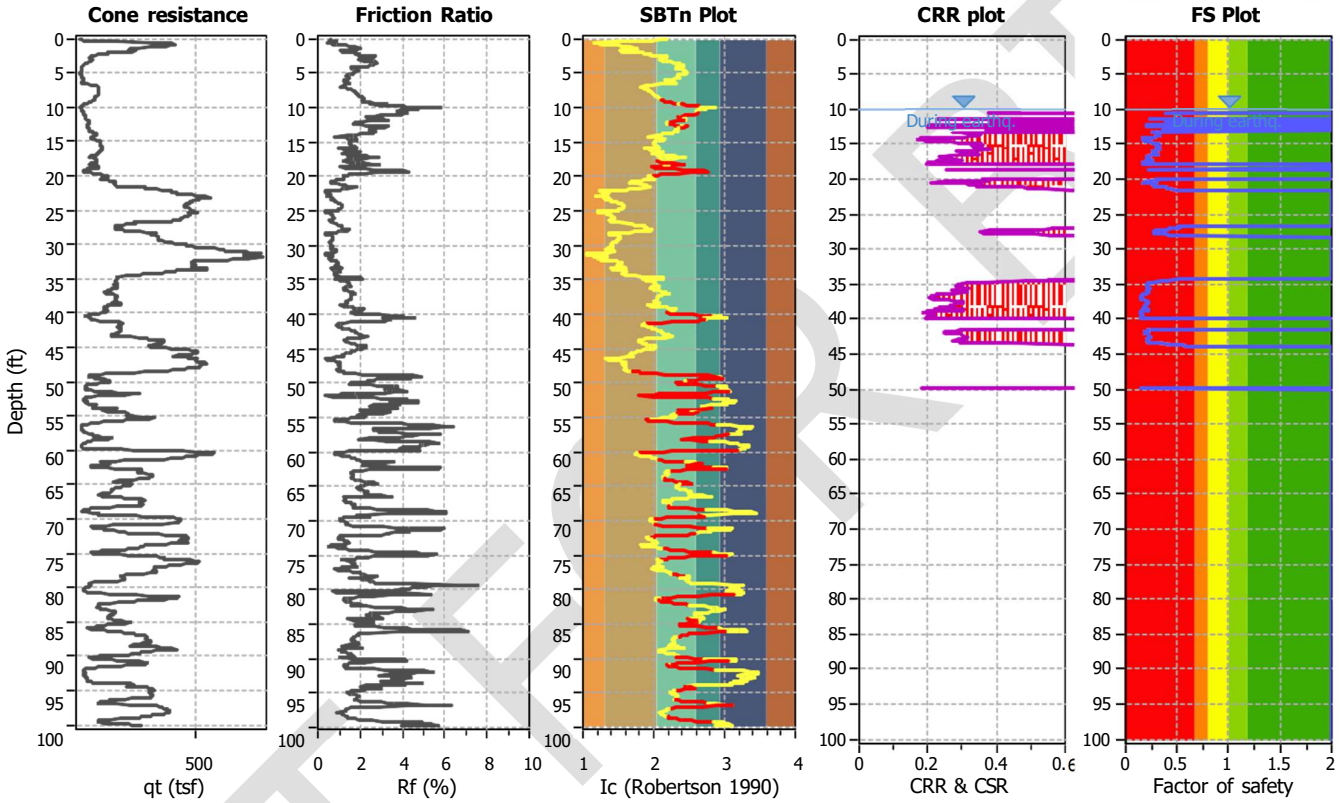
LIQUEFACTION ANALYSIS REPORT

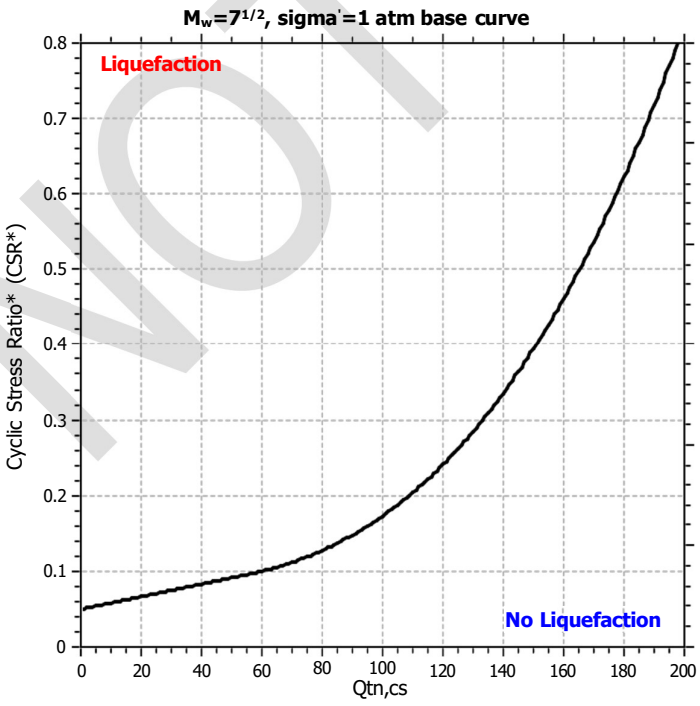
Project title : CB245136 **Location : SB County 5th St.**

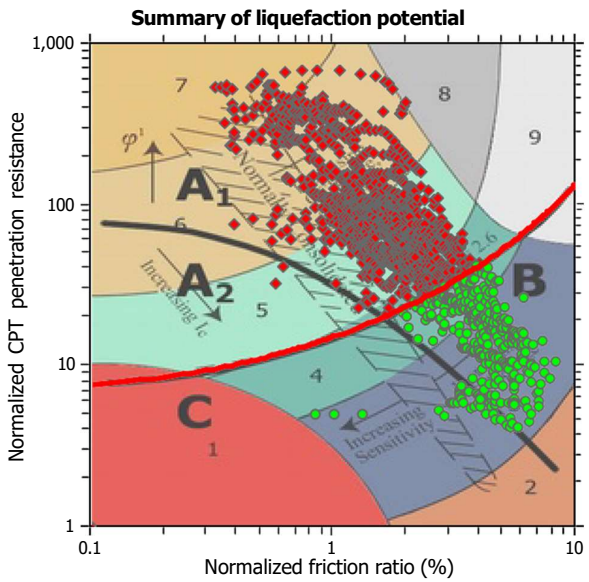
CPT file : CPT-5A

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	100.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	10.00 ft	Fill height:	N/A		
Points to test:	Based on Ic value	Average results interval:	1	Fill weight:	N/A	Limit depth applied:	Yes
Earthquake magnitude M_w:	7.80	Ic cut-off value:	2.60	Trans. detect. applied:	Yes	Limit depth:	50.00 ft
Peak ground acceleration:	1.01	Unit weight calculation:	Based on SBT	K_σ applied:	Yes	MSF method:	Method based



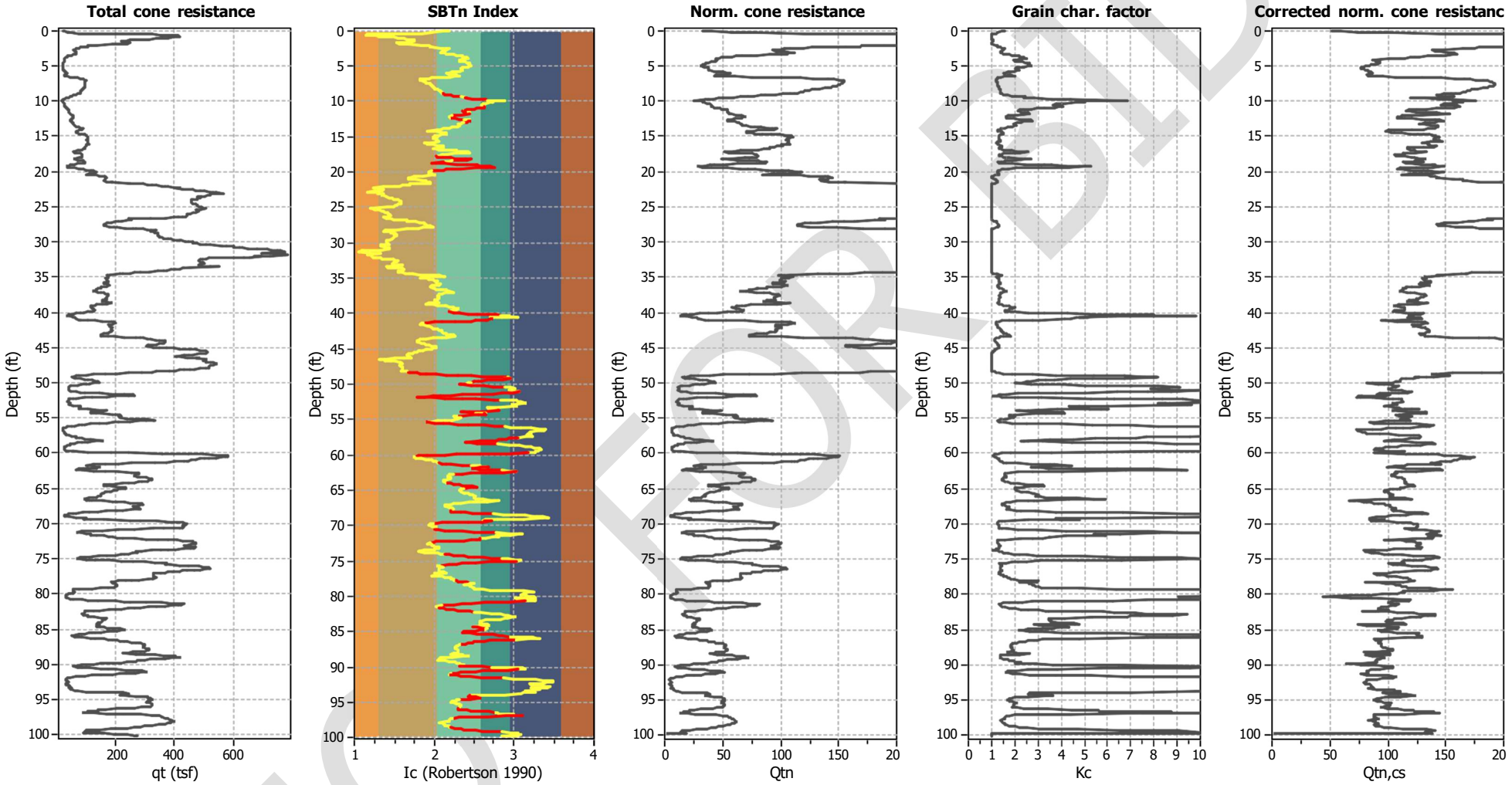




Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and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

NOT FOR

Liquefaction analysis overall plots (intermediate results)

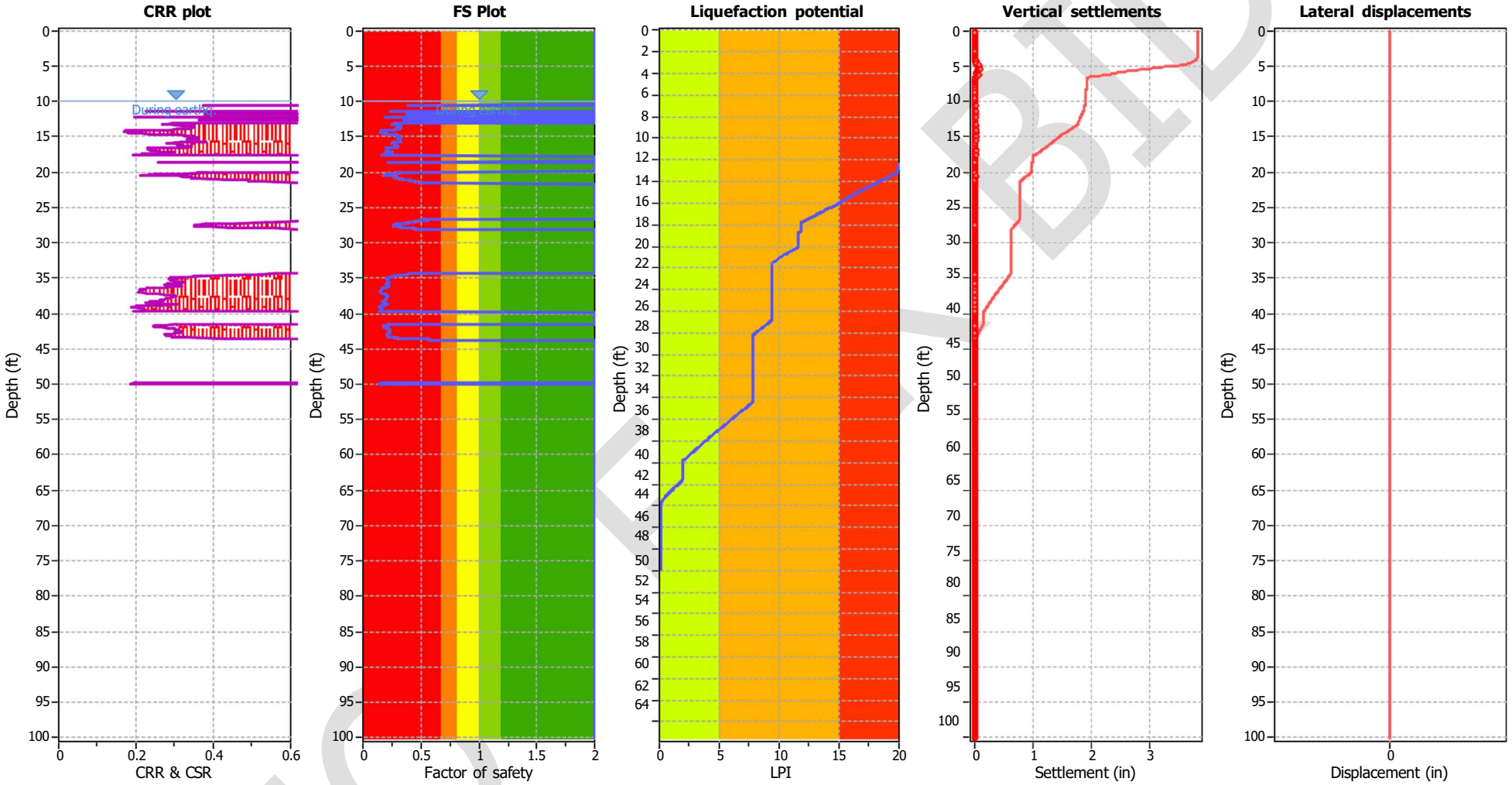


Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

NOT FOR BID

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

F.S. color scheme

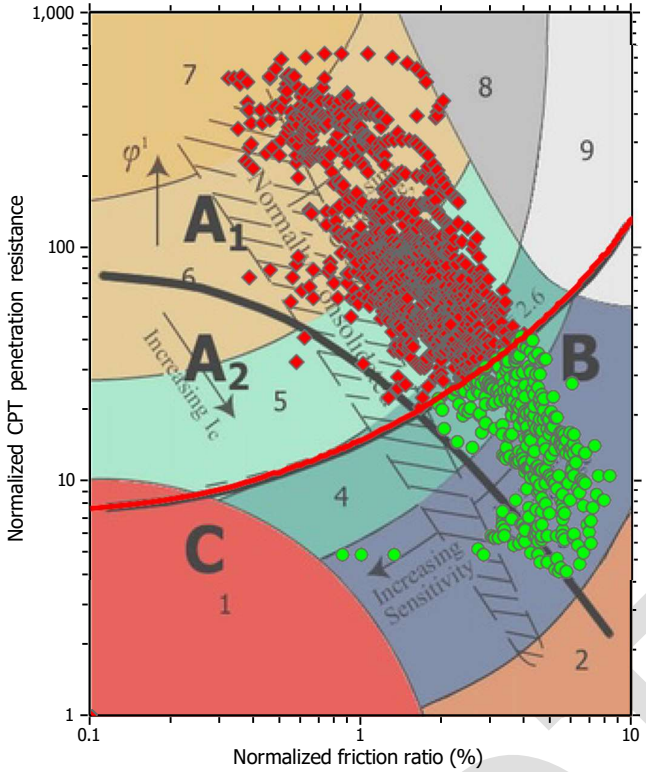
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

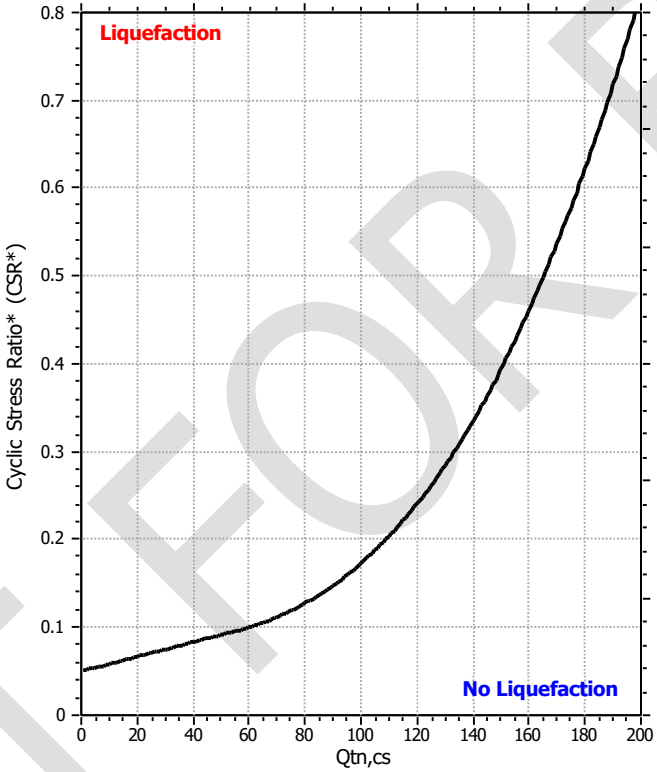
LPI color scheme

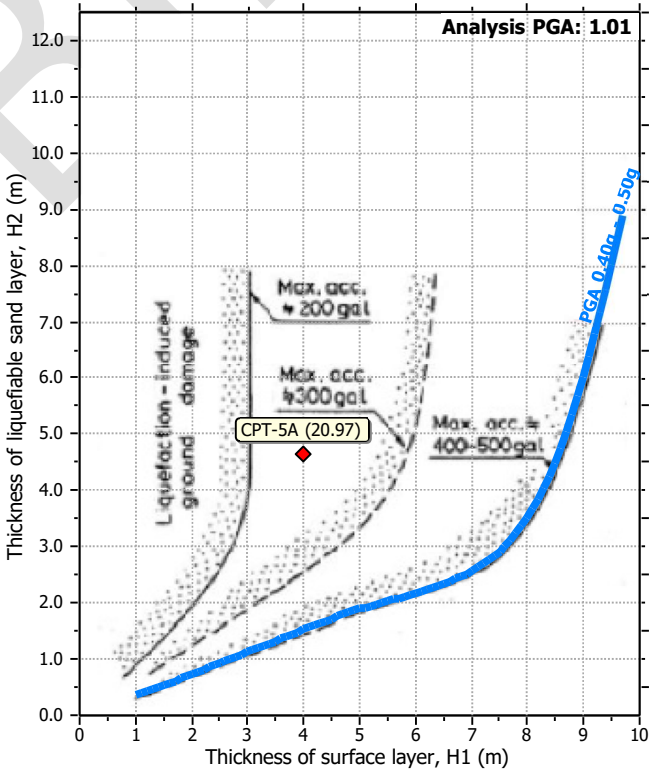
- Very high risk
- High risk
- Low risk

NOT BID

Liquefaction analysis summary plots





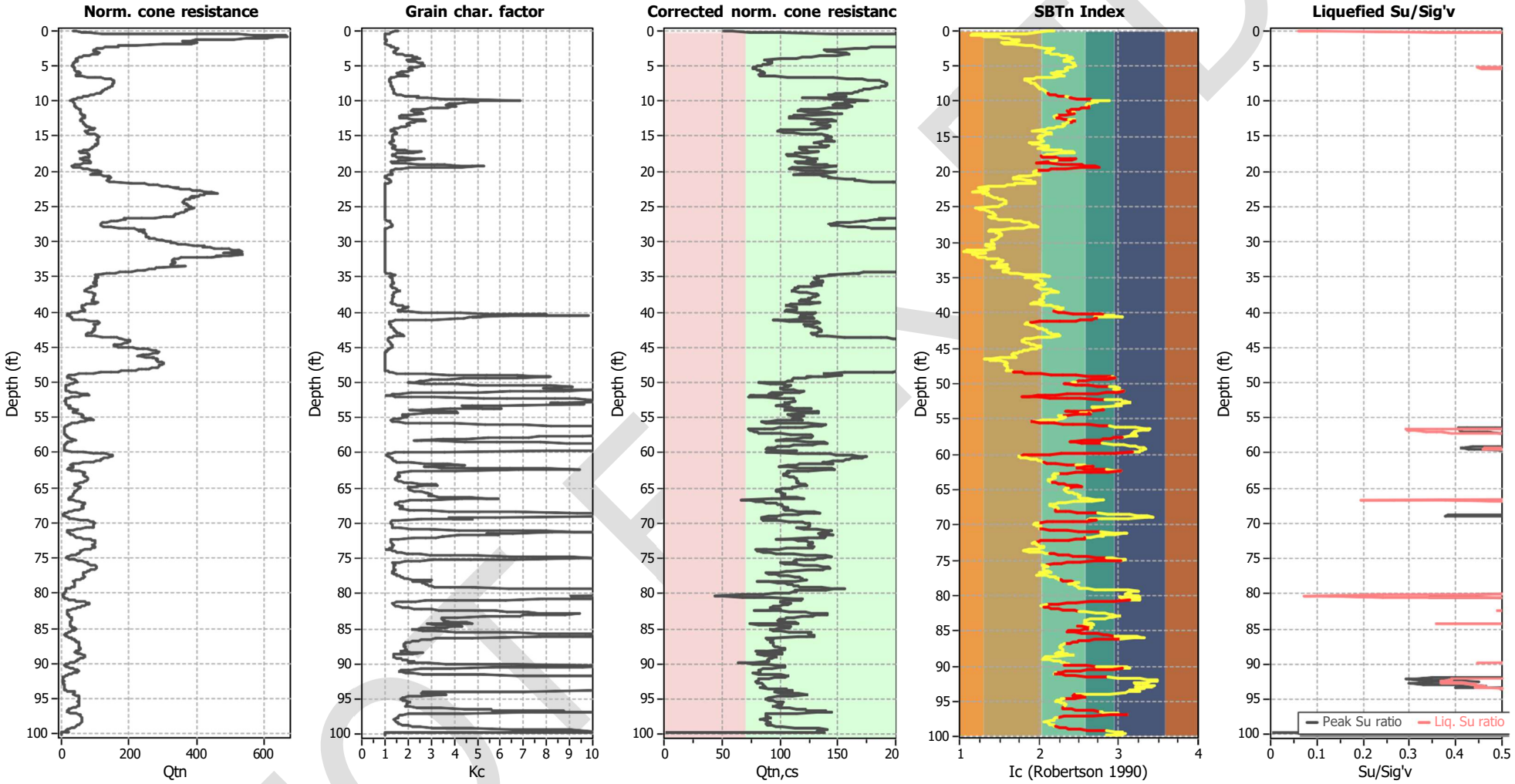


Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

NOT FOR BID

Check for strength loss plots (Robertson (2010))

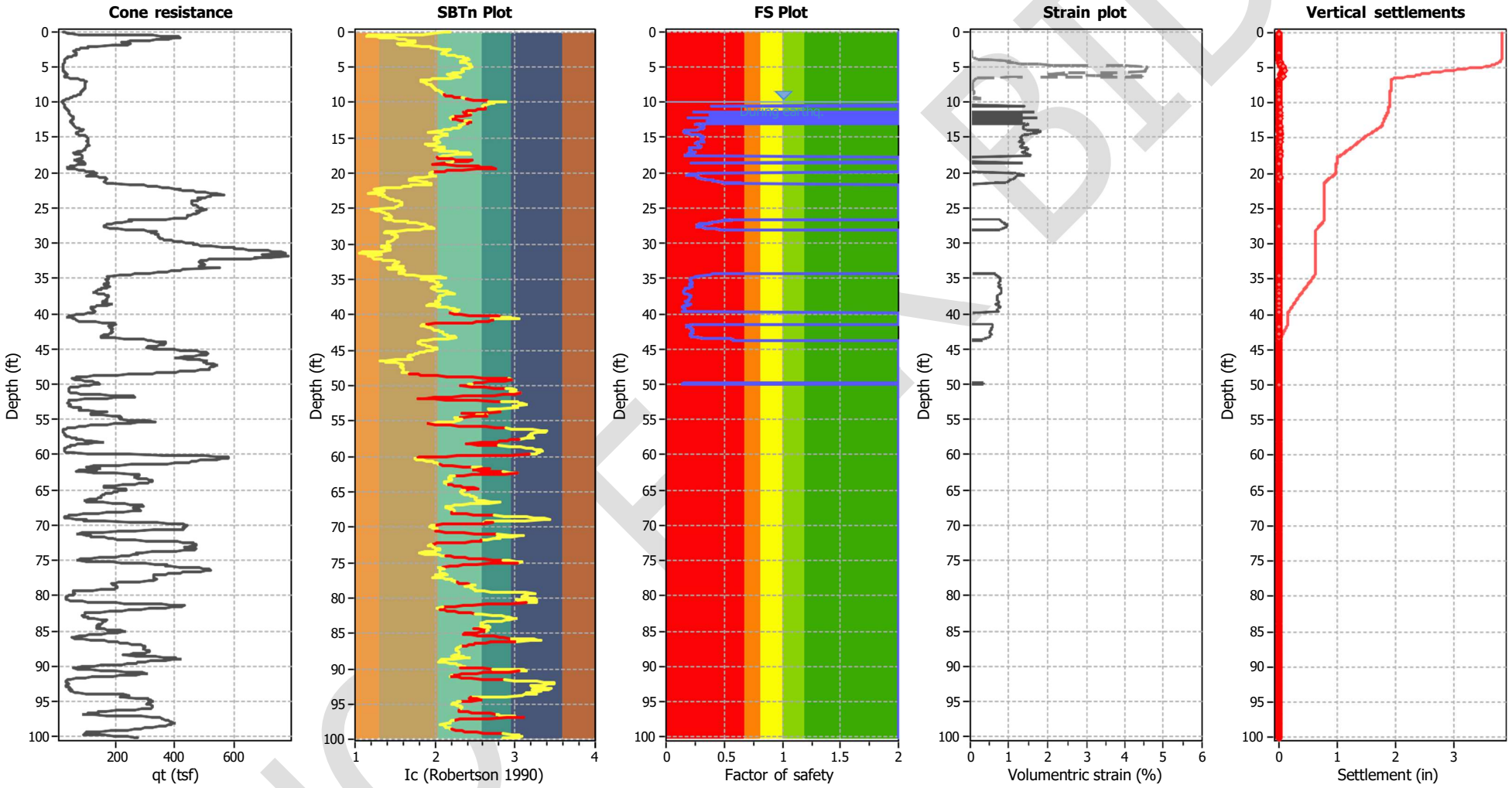


Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	10.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	1	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.80	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	1.01	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	100.00 ft	Fill height:	N/A	Limit depth:	50.00 ft

NOT FOR

Estimation of post-earthquake settlements



Abbreviations

q_t:	Total cone resistance (cone resistance q_c corrected for pore water effects)
I_c:	Soil Behaviour Type Index
FS:	Calculated Factor of Safety against liquefaction
Volumentric strain:	Post-liquefaction volumentric strain

NOT BID

:: Post-earthquake settlement of dry sands ::

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
0.08	2.19	32.48	1.59	51.73	12	292	0.94	0.001	0.00	18.12	0.00	0.000
0.14	2.12	40.87	1.44	59.05	13	334	0.94	0.002	0.00	18.12	0.00	0.000
0.23	1.96	58.18	1.28	74.25	15	390	0.94	0.003	0.00	18.12	0.01	0.000
0.28	1.94	65.24	1.26	82.27	17	425	0.94	0.004	0.00	18.12	0.01	0.000
0.34	1.97	77.37	1.28	99.26	20	524	0.94	0.003	0.00	18.12	0.00	0.000
0.41	1.85	121.27	1.20	145.42	29	705	0.94	0.003	0.00	18.12	0.00	0.000
0.47	1.50	250.65	1.00	250.65	44	941	0.94	0.002	0.00	18.12	0.00	0.000
0.55	1.16	523.85	1.00	523.85	82	1276	0.94	0.002	0.00	18.12	0.00	0.000
0.60	1.15	569.47	1.00	569.47	89	1376	0.94	0.002	0.00	18.12	0.00	0.000
0.66	1.15	632.29	1.00	632.29	99	1511	0.94	0.002	0.00	18.12	0.00	0.000
0.73	1.21	645.70	1.00	645.70	103	1681	0.94	0.002	0.00	18.12	0.00	0.000
0.80	1.27	664.77	1.00	664.77	108	1856	0.94	0.002	0.00	18.12	0.00	0.000
0.85	1.32	670.83	1.00	670.83	111	1994	0.94	0.002	0.00	18.12	0.00	0.000
0.93	1.41	665.65	1.00	665.65	113	2219	0.94	0.002	0.00	18.12	0.00	0.000
0.99	1.49	639.36	1.00	639.36	111	2371	0.94	0.002	0.00	18.12	0.00	0.000
1.05	1.55	611.76	1.00	611.76	109	2451	0.94	0.002	0.00	18.12	0.00	0.000
1.12	1.60	573.65	1.00	573.65	103	2431	0.94	0.002	0.00	18.12	0.00	0.000
1.18	1.62	547.65	1.00	547.65	99	2390	0.94	0.002	0.00	18.12	0.00	0.000
1.25	1.65	509.08	1.00	509.08	93	2311	0.94	0.002	0.00	18.12	0.00	0.000
1.31	1.74	422.41	1.07	451.96	86	2147	0.94	0.003	0.00	18.12	0.00	0.000
1.38	1.74	399.45	1.08	429.46	81	2038	0.94	0.003	0.00	18.12	0.00	0.000
1.45	1.75	378.51	1.08	408.65	78	1937	0.94	0.004	0.00	18.12	0.00	0.000
1.53	1.76	361.75	1.10	396.86	76	1877	0.94	0.004	0.00	18.12	0.00	0.000
1.58	1.75	356.70	1.09	389.33	74	1842	0.94	0.004	0.00	18.12	0.00	0.000
1.64	1.69	365.21	1.00	365.21	68	1738	0.94	0.005	0.00	18.12	0.00	0.000
1.73	1.53	388.59	1.00	388.59	69	1514	0.94	0.006	0.00	18.12	0.00	0.000
1.78	1.53	401.59	1.00	401.59	71	1566	0.94	0.006	0.00	18.12	0.00	0.000
1.85	1.56	383.82	1.00	383.82	68	1552	0.94	0.006	0.00	18.12	0.00	0.000
1.92	1.61	347.13	1.00	347.13	63	1501	0.94	0.007	0.00	18.12	0.00	0.000
1.98	1.68	304.36	1.00	304.36	56	1429	0.94	0.008	0.00	18.12	0.00	0.000
2.05	1.85	221.75	1.20	266.31	52	1294	0.94	0.009	0.00	18.12	0.00	0.000
2.11	1.86	210.77	1.21	254.98	50	1247	0.94	0.010	0.00	18.12	0.00	0.000
2.17	1.94	188.95	1.26	238.40	48	1231	0.94	0.011	0.00	18.12	0.00	0.000
2.25	1.97	169.31	1.28	217.22	45	1147	0.94	0.013	0.00	18.12	0.01	0.000
2.31	1.93	168.58	1.26	212.06	43	1090	0.94	0.014	0.01	18.12	0.01	0.000
2.37	1.97	156.59	1.28	200.66	41	1058	0.94	0.016	0.01	18.12	0.01	0.000
2.45	2.09	127.40	1.40	178.61	38	1004	0.94	0.018	0.01	18.12	0.01	0.000
2.50	2.13	118.88	1.47	174.87	38	991	0.94	0.019	0.01	18.12	0.01	0.000
2.58	2.19	108.48	1.59	172.01	39	971	0.94	0.021	0.01	18.12	0.01	0.000
2.63	2.19	103.42	1.59	164.87	37	930	0.94	0.024	0.01	18.12	0.01	0.000
2.69	2.15	98.80	1.50	148.37	33	841	0.94	0.031	0.02	18.12	0.02	0.000
2.76	2.14	93.88	1.49	139.81	31	793	0.94	0.038	0.02	18.12	0.02	0.000
2.83	2.14	93.00	1.49	138.76	31	787	0.94	0.041	0.02	18.12	0.03	0.000
2.90	2.13	95.89	1.47	140.55	31	796	0.94	0.041	0.02	18.12	0.03	0.000
2.97	2.10	100.35	1.42	142.41	31	803	0.94	0.042	0.02	18.12	0.03	0.000
3.02	2.09	102.94	1.41	145.10	31	817	0.94	0.041	0.02	18.12	0.02	0.000
3.09	2.07	109.88	1.38	151.59	32	848	0.94	0.038	0.02	18.12	0.02	0.000
3.15	2.08	111.90	1.39	155.26	33	870	0.94	0.037	0.02	18.12	0.02	0.000

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

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
3.22	2.13	106.98	1.47	157.07	34	890	0.94	0.036	0.02	18.12	0.02	0.000
3.28	2.15	105.96	1.51	159.90	35	907	0.94	0.035	0.02	18.12	0.02	0.000
3.37	2.21	97.43	1.63	159.20	36	894	0.94	0.038	0.02	18.12	0.02	0.000
3.42	2.25	90.49	1.74	157.60	36	871	0.94	0.042	0.02	18.12	0.02	0.000
3.51	2.29	79.65	1.88	149.65	35	808	0.94	0.055	0.03	18.12	0.03	0.001
3.55	2.31	74.16	1.96	145.49	34	774	0.94	0.064	0.03	18.12	0.03	0.000
3.61	2.35	66.93	2.12	141.97	34	733	0.94	0.080	0.04	18.12	0.04	0.001
3.69	2.36	62.02	2.17	134.76	33	689	0.94	0.104	0.06	18.12	0.06	0.001
3.77	2.37	57.67	2.21	127.37	31	647	0.94	0.140	0.08	18.12	0.08	0.002
3.82	2.38	54.63	2.26	123.68	30	622	0.94	0.171	0.10	18.12	0.11	0.001
3.88	2.41	49.43	2.41	119.36	29	584	0.94	0.238	0.15	18.12	0.15	0.002
3.94	2.42	46.53	2.47	114.96	29	557	0.94	0.311	0.20	18.12	0.21	0.003
4.01	2.42	44.65	2.49	111.23	28	537	0.94	0.392	0.27	18.12	0.27	0.004
4.07	2.39	43.48	2.31	100.47	25	501	0.94	0.598	0.47	18.12	0.47	0.007
4.16	2.32	43.48	2.00	86.92	21	459	0.94	1.068	1.03	18.12	1.04	0.021
4.20	2.31	44.34	1.97	87.18	21	463	0.94	1.041	1.00	18.12	1.02	0.012
4.28	2.31	45.06	1.97	88.70	21	471	0.94	0.988	0.93	18.12	0.94	0.018
4.35	2.32	44.62	2.01	89.85	21	473	0.94	1.002	0.93	18.12	0.93	0.015
4.40	2.35	42.88	2.12	90.86	22	469	0.94	1.090	0.98	18.12	0.99	0.011
4.47	2.39	39.86	2.32	92.52	23	460	0.94	1.288	1.11	18.12	1.12	0.018
4.54	2.41	38.11	2.44	93.03	23	453	0.94	1.498	1.27	18.12	1.27	0.022
4.60	2.43	36.52	2.55	93.18	23	445	0.94	1.752	1.46	18.12	1.47	0.021
4.68	2.45	35.21	2.63	92.47	23	436	0.94	2.122	1.77	18.12	1.78	0.035
4.74	2.44	35.06	2.57	90.02	23	429	0.94	2.481	2.15	18.12	2.16	0.031
4.79	2.43	34.76	2.53	87.85	22	421	0.94	2.902	2.60	18.12	2.61	0.032
4.88	2.45	32.44	2.63	85.20	21	402	0.93	4.358	4.02	18.12	4.01	0.084
4.94	2.46	31.14	2.70	84.14	21	392	0.93	5.497	5.11	18.12	4.58	0.065
4.99	2.47	30.27	2.76	83.50	21	385	0.93	6.504	6.07	18.12	4.58	0.059
5.06	2.45	30.40	2.68	81.44	21	381	0.93	7.495	7.26	18.12	4.57	0.079
5.13	2.43	31.56	2.56	80.74	20	385	0.93	7.131	7.06	18.12	4.57	0.071
5.19	2.40	33.43	2.37	79.38	20	391	0.93	6.551	6.74	18.12	4.56	0.063
5.25	2.35	36.03	2.15	77.55	19	398	0.93	5.969	6.47	18.12	4.55	0.074
5.33	2.33	37.47	2.05	76.81	18	402	0.93	5.787	6.43	18.12	4.55	0.076
5.41	2.33	38.04	2.02	76.99	18	405	0.93	5.753	6.39	18.12	4.54	0.088
5.45	2.33	38.03	2.04	77.59	18	407	0.93	5.690	6.25	18.12	4.54	0.047
5.52	2.34	37.74	2.10	79.16	19	411	0.93	5.544	5.90	18.12	4.53	0.082
5.60	2.36	37.15	2.18	80.92	20	413	0.93	5.486	5.64	18.12	4.53	0.078
5.66	2.37	37.29	2.21	82.23	20	418	0.93	5.237	5.26	18.12	4.52	0.071
5.72	2.35	38.88	2.13	82.74	20	427	0.93	4.631	4.66	18.12	4.52	0.061
5.78	2.31	42.18	1.97	82.91	20	441	0.93	3.771	3.86	18.12	3.79	0.056
5.86	2.26	46.80	1.79	83.74	19	459	0.93	2.924	3.04	18.12	2.98	0.057
5.91	2.23	50.41	1.69	85.08	19	474	0.93	2.405	2.49	18.12	2.44	0.029
5.98	2.19	54.44	1.59	86.69	19	489	0.93	2.031	2.10	18.12	2.05	0.036
6.05	2.17	56.17	1.55	87.25	19	494	0.93	1.967	2.03	18.12	1.99	0.030
6.10	2.16	57.18	1.52	86.95	19	493	0.93	2.049	2.14	18.12	2.09	0.029
6.20	2.18	52.83	1.57	82.86	19	468	0.93	3.054	3.35	18.12	3.26	0.074
6.25	2.22	48.79	1.67	81.26	18	454	0.93	3.894	4.28	18.12	4.17	0.051
6.33	2.28	44.02	1.85	81.51	19	442	0.93	4.947	5.26	18.12	4.46	0.084

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

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
6.38	2.31	42.71	1.95	83.22	20	444	0.93	4.973	5.08	18.12	4.46	0.060
6.45	2.32	43.14	2.01	86.85	21	458	0.93	4.093	3.94	18.12	3.82	0.059
6.50	2.26	50.22	1.79	90.08	21	494	0.93	2.456	2.34	18.12	2.26	0.032
6.58	2.19	60.61	1.59	96.19	22	543	0.93	1.365	1.25	18.12	1.20	0.020
6.63	2.10	75.91	1.41	107.38	23	605	0.93	0.732	0.61	18.12	0.59	0.008
6.70	1.97	100.58	1.29	129.50	27	687	0.93	0.384	0.27	18.12	0.26	0.004
6.76	1.93	116.47	1.25	146.12	30	749	0.93	0.262	0.16	18.12	0.16	0.003
6.83	1.89	128.45	1.23	158.02	32	788	0.93	0.214	0.12	18.12	0.12	0.002
6.92	1.82	141.26	1.18	166.17	32	805	0.93	0.202	0.11	18.12	0.11	0.003
6.98	1.82	146.33	1.17	171.08	33	831	0.93	0.180	0.10	18.12	0.09	0.001
7.02	1.82	150.36	1.17	175.93	34	858	0.93	0.161	0.08	18.12	0.08	0.001
7.10	1.83	153.98	1.18	182.32	36	897	0.93	0.139	0.07	18.12	0.07	0.001
7.17	1.85	154.92	1.20	186.06	37	925	0.93	0.127	0.06	18.12	0.06	0.001
7.25	1.88	154.10	1.22	188.06	37	950	0.93	0.118	0.06	18.12	0.05	0.001
7.30	1.89	153.06	1.23	188.33	38	962	0.93	0.115	0.05	18.12	0.05	0.001
7.40	1.90	153.31	1.24	189.85	38	982	0.93	0.110	0.05	18.12	0.05	0.001
7.43	1.91	153.12	1.24	190.58	38	993	0.93	0.107	0.05	18.12	0.05	0.000
7.49	1.93	152.98	1.26	192.38	39	1017	0.93	0.100	0.04	18.12	0.04	0.001
7.55	1.94	152.44	1.27	192.94	39	1031	0.93	0.097	0.04	18.12	0.04	0.001
7.64	1.95	151.54	1.27	192.68	39	1042	0.93	0.096	0.04	18.12	0.04	0.001
7.69	1.96	150.98	1.27	192.47	39	1047	0.93	0.096	0.04	18.12	0.04	0.000
7.77	1.96	150.08	1.28	191.85	39	1053	0.93	0.096	0.04	18.12	0.04	0.001
7.83	1.97	148.89	1.28	190.67	39	1053	0.93	0.098	0.04	18.12	0.04	0.001
7.88	1.97	147.55	1.29	189.67	39	1055	0.93	0.098	0.04	18.12	0.04	0.001
7.97	1.98	146.24	1.29	188.91	39	1063	0.93	0.098	0.04	18.12	0.04	0.001
8.01	1.99	144.37	1.30	187.31	39	1061	0.93	0.100	0.05	18.12	0.04	0.000
8.07	1.99	143.84	1.30	186.71	39	1062	0.93	0.101	0.05	18.12	0.04	0.001
8.16	2.00	140.36	1.31	183.63	38	1057	0.93	0.105	0.05	18.12	0.05	0.001
8.20	2.01	138.31	1.31	181.80	38	1053	0.93	0.107	0.05	18.12	0.05	0.001
8.30	2.02	133.32	1.33	177.14	37	1040	0.93	0.115	0.05	18.12	0.05	0.001
8.36	2.04	130.19	1.34	174.77	37	1035	0.93	0.118	0.06	18.12	0.05	0.001
8.41	2.05	127.25	1.36	172.84	37	1032	0.93	0.121	0.06	18.12	0.05	0.001
8.47	2.06	125.16	1.37	171.68	37	1031	0.93	0.123	0.06	18.12	0.06	0.001
8.54	2.07	123.35	1.38	170.29	36	1030	0.93	0.126	0.06	18.12	0.06	0.001
8.61	2.08	121.30	1.39	168.70	36	1027	0.93	0.129	0.06	18.12	0.06	0.001
8.66	2.09	119.97	1.40	167.70	36	1026	0.93	0.131	0.06	18.12	0.06	0.001
8.76	2.09	118.37	1.41	166.42	36	1025	0.93	0.134	0.07	18.12	0.06	0.001
8.80	2.09	117.08	1.41	165.05	36	1020	0.93	0.138	0.07	18.12	0.06	0.001
8.88	2.10	114.73	1.41	162.02	35	1008	0.93	0.147	0.08	18.12	0.07	0.001
8.94	2.10	111.98	1.42	158.75	34	992	0.93	0.158	0.08	18.12	0.08	0.001
8.99	2.11	108.36	1.43	154.97	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.06	2.13	101.77	1.46	148.85	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.13	2.15	95.85	1.51	144.45	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.21	2.21	86.97	1.64	142.63	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.25	2.23	83.56	1.71	142.71	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.34	2.30	76.64	1.91	146.15	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.38	2.34	72.20	2.08	150.13	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.46	2.41	64.87	2.43	157.49	0	0	0.93	0.000	0.00	0.00	0.00	0.000

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

Depth (ft)	Ic	Q_{tn}	Kc	$Q_{tn,cs}$	$N_{1,60}$ (blows)	G_{max} (tsf)	CSR	Shear, γ (%)	$e_{vol(15)}$ (%)	N_c	e_v (%)	Settle. (in)
9.53	2.41	58.50	2.45	143.24	35	760	0.93	0.601	0.30	18.12	0.28	0.004
9.59	2.40	50.70	2.36	119.87	0	0	0.93	0.000	0.00	0.00	0.00	0.000
9.65	2.48	46.55	2.84	132.34	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.72	2.58	40.92	3.57	145.88	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.80	2.64	37.59	4.09	153.83	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.87	2.67	35.56	4.38	155.90	0	0	0.92	0.000	0.00	0.00	0.00	0.000
9.91	2.88	25.58	6.88	175.96	0	0	0.92	0.000	0.00	0.00	0.00	0.000

Total estimated settlement: 1.93

Abbreviations

Q_{tn}: Equivalent clean sand normalized cone resistance
K_c: Fines correction factor
$Q_{tn,cs}$: Post-liquefaction volumentric strain
G_{max}: Small strain shear modulus
CSR: Soil cyclic stress ratio
γ: Cyclic shear strain
$e_{vol(15)}$: 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)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
10.00	156.54	2.00	0.00	0.83	0.00	10.05	161.34	2.00	0.00	0.83	0.00
10.15	164.21	2.00	0.00	0.83	0.00	10.18	165.31	2.00	0.00	0.83	0.00
10.24	160.56	2.00	0.00	0.83	0.00	10.34	153.03	2.00	0.00	0.82	0.00
10.38	151.12	2.00	0.00	0.82	0.00	10.44	147.85	2.00	0.00	0.82	0.00
10.52	146.51	0.39	1.40	0.82	0.01	10.58	149.30	0.41	1.38	0.82	0.01
10.63	153.24	2.00	0.00	0.82	0.00	10.71	159.96	2.00	0.00	0.82	0.00
10.76	162.40	2.00	0.00	0.82	0.00	10.86	162.42	2.00	0.00	0.82	0.00
10.90	161.35	2.00	0.00	0.82	0.00	10.97	157.13	2.00	0.00	0.81	0.00
11.03	149.34	2.00	0.00	0.81	0.00	11.10	141.64	2.00	0.00	0.81	0.00
11.17	133.87	2.00	0.00	0.81	0.00	11.23	124.79	2.00	0.00	0.81	0.00
11.31	118.01	2.00	0.00	0.81	0.00	11.35	115.94	2.00	0.00	0.81	0.00
11.44	115.43	0.23	1.67	0.81	0.02	11.51	118.81	2.00	0.00	0.81	0.00
11.55	124.19	2.00	0.00	0.80	0.00	11.62	133.20	2.00	0.00	0.80	0.00
11.69	142.33	2.00	0.00	0.80	0.00	11.75	147.30	0.38	1.36	0.80	0.01
11.84	151.94	0.41	1.33	0.80	0.01	11.89	153.01	2.00	0.00	0.80	0.00
11.97	128.77	2.00	0.00	0.80	0.00	12.03	112.65	2.00	0.00	0.80	0.00
12.08	112.11	2.00	0.00	0.80	0.00	12.17	111.51	2.00	0.00	0.79	0.00
12.23	110.73	0.20	1.70	0.79	0.01	12.28	109.73	0.20	1.71	0.79	0.01
12.35	108.20	0.19	1.73	0.79	0.02	12.41	108.36	2.00	0.00	0.79	0.00
12.51	114.68	2.00	0.00	0.79	0.00	12.56	120.68	2.00	0.00	0.79	0.00
12.61	129.40	2.00	0.00	0.79	0.00	12.69	140.72	2.00	0.00	0.78	0.00
12.74	144.98	0.35	1.35	0.78	0.01	12.80	148.29	2.00	0.00	0.78	0.00
12.90	146.48	2.00	0.00	0.78	0.00	12.95	143.20	2.00	0.00	0.78	0.00
13.00	140.37	2.00	0.00	0.78	0.00	13.07	136.37	2.00	0.00	0.78	0.00
13.14	132.11	0.28	1.45	0.78	0.01	13.19	128.52	0.26	1.48	0.78	0.01
13.26	126.57	0.26	1.49	0.78	0.01	13.34	130.38	0.27	1.45	0.77	0.01
13.42	137.41	0.30	1.39	0.77	0.01	13.48	142.00	0.33	1.35	0.77	0.01
13.53	142.88	0.33	1.34	0.77	0.01	13.60	142.85	0.33	1.34	0.77	0.01

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
13.65	142.80	0.33	1.34	0.77	0.01	13.72	142.20	0.33	1.34	0.77	0.01
13.81	140.91	0.32	1.35	0.77	0.01	13.86	139.67	0.31	1.36	0.77	0.01
13.92	137.87	0.30	1.37	0.76	0.01	13.99	134.32	0.28	1.40	0.76	0.01
14.05	130.33	0.27	1.43	0.76	0.01	14.11	120.77	0.23	1.52	0.76	0.01
14.20	100.53	0.16	1.77	0.76	0.02	14.26	98.51	0.16	1.79	0.76	0.01
14.31	97.85	0.15	1.80	0.76	0.01	14.39	99.65	0.16	1.77	0.76	0.02
14.45	102.85	0.17	1.72	0.76	0.01	14.51	106.03	0.18	1.68	0.75	0.01
14.59	112.41	0.19	1.60	0.75	0.01	14.66	119.93	0.22	1.51	0.75	0.01
14.72	125.47	0.24	1.46	0.75	0.01	14.77	130.54	0.26	1.41	0.75	0.01
14.83	135.48	0.28	1.36	0.75	0.01	14.93	140.36	0.31	1.32	0.75	0.02
14.97	142.62	0.32	1.30	0.75	0.01	15.03	138.27	0.29	1.33	0.75	0.01
15.12	144.18	0.32	1.29	0.74	0.01	15.17	143.74	0.32	1.29	0.74	0.01
15.24	142.21	0.31	1.30	0.74	0.01	15.30	140.51	0.30	1.31	0.74	0.01
15.37	139.28	0.30	1.32	0.74	0.01	15.46	139.11	0.30	1.32	0.74	0.01
15.51	139.82	0.30	1.31	0.74	0.01	15.55	140.96	0.30	1.30	0.74	0.01
15.65	144.29	0.32	1.27	0.73	0.02	15.70	145.70	0.33	1.26	0.73	0.01
15.78	147.66	0.34	1.24	0.73	0.01	15.84	136.48	0.28	1.32	0.73	0.01
15.89	129.25	0.25	1.38	0.73	0.01	15.95	131.50	0.26	1.36	0.73	0.01
16.01	133.48	0.27	1.34	0.73	0.01	16.09	136.46	0.28	1.32	0.73	0.01
16.15	136.17	0.28	1.32	0.73	0.01	16.22	134.75	0.27	1.33	0.73	0.01
16.28	137.66	0.28	1.30	0.72	0.01	16.36	141.03	0.30	1.27	0.72	0.01
16.41	141.83	0.30	1.27	0.72	0.01	16.48	141.56	0.30	1.27	0.72	0.01
16.56	139.52	0.29	1.28	0.72	0.01	16.62	131.08	0.25	1.34	0.72	0.01
16.67	117.48	0.20	1.47	0.72	0.01	16.74	117.42	0.20	1.47	0.72	0.01
16.82	117.30	0.20	1.47	0.71	0.01	16.87	116.93	0.20	1.47	0.71	0.01
16.96	119.26	0.21	1.44	0.71	0.02	17.00	122.23	0.22	1.41	0.71	0.01
17.07	123.25	0.22	1.40	0.71	0.01	17.13	124.98	0.23	1.38	0.71	0.01
17.20	132.12	0.25	1.32	0.71	0.01	17.27	132.81	0.26	1.31	0.71	0.01
17.34	123.87	0.22	1.38	0.71	0.01	17.39	116.41	0.19	1.45	0.71	0.01
17.47	113.45	0.19	1.48	0.70	0.01	17.52	114.14	0.19	1.47	0.70	0.01
17.61	110.87	0.18	1.51	0.70	0.02	17.66	107.86	0.17	1.54	0.70	0.01
17.72	106.10	0.16	1.56	0.70	0.01	17.80	107.28	2.00	0.00	0.70	0.00
17.86	108.86	2.00	0.00	0.70	0.00	17.92	113.92	2.00	0.00	0.70	0.00
17.99	120.35	2.00	0.00	0.70	0.00	18.05	122.47	2.00	0.00	0.69	0.00
18.12	123.03	2.00	0.00	0.69	0.00	18.20	128.57	2.00	0.00	0.69	0.00
18.26	133.67	2.00	0.00	0.69	0.00	18.32	129.89	2.00	0.00	0.69	0.00
18.38	124.68	2.00	0.00	0.69	0.00	18.45	123.58	2.00	0.00	0.69	0.00
18.51	127.02	2.00	0.00	0.69	0.00	18.58	130.59	0.24	1.29	0.69	0.01
18.64	123.67	0.22	1.34	0.68	0.01	18.70	113.05	2.00	0.00	0.68	0.00
18.79	115.78	2.00	0.00	0.68	0.00	18.85	115.86	2.00	0.00	0.68	0.00
18.90	119.03	2.00	0.00	0.68	0.00	18.98	129.74	2.00	0.00	0.68	0.00
19.04	141.18	2.00	0.00	0.68	0.00	19.13	138.93	2.00	0.00	0.68	0.00
19.18	143.18	2.00	0.00	0.67	0.00	19.23	146.69	2.00	0.00	0.67	0.00
19.31	149.67	2.00	0.00	0.67	0.00	19.36	146.60	2.00	0.00	0.67	0.00
19.42	138.32	2.00	0.00	0.67	0.00	19.50	124.24	2.00	0.00	0.67	0.00
19.57	110.83	2.00	0.00	0.67	0.00	19.63	108.32	2.00	0.00	0.67	0.00
19.70	108.58	2.00	0.00	0.67	0.00	19.76	112.58	2.00	0.00	0.67	0.00
19.82	119.92	2.00	0.00	0.66	0.00	19.91	130.32	2.00	0.00	0.66	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
19.95	134.80	2.00	0.00	0.66	0.00	20.04	143.97	0.29	1.14	0.66	0.01
20.10	148.52	0.32	1.11	0.66	0.01	20.15	146.95	0.31	1.12	0.66	0.01
20.22	138.25	0.27	1.18	0.66	0.01	20.28	130.10	0.23	1.24	0.66	0.01
20.34	122.55	0.21	1.30	0.66	0.01	20.43	112.10	0.17	1.39	0.65	0.01
20.49	117.45	0.19	1.34	0.65	0.01	20.56	129.96	0.23	1.23	0.65	0.01
20.61	135.03	0.25	1.19	0.65	0.01	20.68	137.13	0.26	1.17	0.65	0.01
20.77	138.57	0.27	1.16	0.65	0.01	20.80	140.73	0.28	1.14	0.65	0.00
20.88	144.30	0.29	1.12	0.65	0.01	20.95	140.79	0.28	1.14	0.64	0.01
21.01	143.51	0.29	1.12	0.64	0.01	21.07	156.86	0.36	1.04	0.64	0.01
21.16	161.72	0.38	1.01	0.64	0.01	21.22	164.23	0.40	1.00	0.64	0.01
21.26	164.27	0.40	0.99	0.64	0.01	21.35	167.23	0.42	0.98	0.64	0.01
21.40	168.67	0.43	0.97	0.64	0.01	21.47	179.22	0.50	0.92	0.64	0.01
21.55	198.45	0.65	0.59	0.63	0.01	21.59	197.49	0.64	0.72	0.63	0.00
21.67	238.01	2.00	0.00	0.63	0.00	21.73	246.10	2.00	0.00	0.63	0.00
21.79	244.47	2.00	0.00	0.63	0.00	21.87	257.07	2.00	0.00	0.63	0.00
21.92	270.93	2.00	0.00	0.63	0.00	21.98	283.33	2.00	0.00	0.63	0.00
22.05	300.05	2.00	0.00	0.63	0.00	22.12	308.94	2.00	0.00	0.63	0.00
22.18	316.03	2.00	0.00	0.62	0.00	22.26	333.76	2.00	0.00	0.62	0.00
22.32	335.12	2.00	0.00	0.62	0.00	22.38	348.89	2.00	0.00	0.62	0.00
22.44	332.40	2.00	0.00	0.62	0.00	22.51	352.55	2.00	0.00	0.62	0.00
22.57	353.41	2.00	0.00	0.62	0.00	22.64	380.28	2.00	0.00	0.62	0.00
22.71	387.94	2.00	0.00	0.62	0.00	22.78	399.06	2.00	0.00	0.61	0.00
22.84	412.51	2.00	0.00	0.61	0.00	22.91	426.53	2.00	0.00	0.61	0.00
22.98	433.54	2.00	0.00	0.61	0.00	23.03	444.30	2.00	0.00	0.61	0.00
23.10	461.50	2.00	0.00	0.61	0.00	23.18	427.32	2.00	0.00	0.61	0.00
23.23	423.77	2.00	0.00	0.61	0.00	23.30	423.09	2.00	0.00	0.61	0.00
23.36	417.70	2.00	0.00	0.60	0.00	23.44	412.86	2.00	0.00	0.60	0.00
23.50	406.11	2.00	0.00	0.60	0.00	23.57	404.81	2.00	0.00	0.60	0.00
23.63	384.25	2.00	0.00	0.60	0.00	23.70	395.94	2.00	0.00	0.60	0.00
23.77	393.04	2.00	0.00	0.60	0.00	23.83	386.57	2.00	0.00	0.60	0.00
23.89	380.63	2.00	0.00	0.60	0.00	23.95	382.35	2.00	0.00	0.59	0.00
24.02	370.11	2.00	0.00	0.59	0.00	24.08	366.61	2.00	0.00	0.59	0.00
24.16	364.79	2.00	0.00	0.59	0.00	24.21	361.92	2.00	0.00	0.59	0.00
24.28	362.23	2.00	0.00	0.59	0.00	24.35	360.87	2.00	0.00	0.59	0.00
24.42	360.68	2.00	0.00	0.59	0.00	24.48	361.25	2.00	0.00	0.59	0.00
24.55	364.00	2.00	0.00	0.58	0.00	24.62	365.90	2.00	0.00	0.58	0.00
24.68	370.21	2.00	0.00	0.58	0.00	24.76	373.55	2.00	0.00	0.58	0.00
24.81	376.71	2.00	0.00	0.58	0.00	24.88	374.48	2.00	0.00	0.58	0.00
24.94	374.89	2.00	0.00	0.58	0.00	25.00	378.12	2.00	0.00	0.58	0.00
25.09	379.68	2.00	0.00	0.57	0.00	25.14	383.13	2.00	0.00	0.57	0.00
25.20	385.20	2.00	0.00	0.57	0.00	25.27	391.21	2.00	0.00	0.57	0.00
25.34	392.64	2.00	0.00	0.57	0.00	25.39	378.10	2.00	0.00	0.57	0.00
25.47	365.41	2.00	0.00	0.57	0.00	25.54	367.84	2.00	0.00	0.57	0.00
25.61	373.06	2.00	0.00	0.57	0.00	25.67	370.90	2.00	0.00	0.56	0.00
25.72	369.29	2.00	0.00	0.56	0.00	25.79	364.28	2.00	0.00	0.56	0.00
25.86	359.45	2.00	0.00	0.56	0.00	25.93	353.58	2.00	0.00	0.56	0.00
26.00	346.91	2.00	0.00	0.56	0.00	26.06	342.62	2.00	0.00	0.56	0.00
26.12	338.22	2.00	0.00	0.56	0.00	26.20	336.05	2.00	0.00	0.56	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
26.25	335.34	2.00	0.00	0.56	0.00	26.31	334.69	2.00	0.00	0.55	0.00
26.39	331.77	2.00	0.00	0.55	0.00	26.46	324.02	2.00	0.00	0.55	0.00
26.53	311.61	2.00	0.00	0.55	0.00	26.57	302.33	2.00	0.00	0.55	0.00
26.64	277.28	2.00	0.00	0.55	0.00	26.71	239.29	2.00	0.00	0.55	0.00
26.78	184.32	0.51	0.77	0.55	0.01	26.84	190.09	0.55	0.75	0.55	0.01
26.91	186.45	0.52	0.76	0.54	0.01	26.98	181.70	0.49	0.78	0.54	0.01
27.04	173.09	0.43	0.81	0.54	0.01	27.10	173.53	0.43	0.80	0.54	0.01
27.17	169.74	0.41	0.82	0.54	0.01	27.24	159.41	0.35	0.86	0.54	0.01
27.30	153.52	0.32	0.88	0.54	0.01	27.37	148.11	0.29	0.91	0.54	0.01
27.45	143.33	0.27	0.93	0.53	0.01	27.50	142.81	0.27	0.93	0.53	0.00
27.56	142.76	0.27	0.93	0.53	0.01	27.63	143.09	0.27	0.93	0.53	0.01
27.70	144.56	0.27	0.92	0.53	0.01	27.76	149.69	0.30	0.89	0.53	0.01
27.83	158.45	0.34	0.85	0.53	0.01	27.91	166.18	0.38	0.81	0.53	0.01
27.96	172.53	0.42	0.79	0.53	0.00	28.04	179.05	0.46	0.76	0.52	0.01
28.10	189.92	0.54	0.72	0.52	0.01	28.15	196.96	0.60	0.59	0.52	0.00
28.23	215.69	2.00	0.00	0.52	0.00	28.28	225.08	2.00	0.00	0.52	0.00
28.35	231.00	2.00	0.00	0.52	0.00	28.44	244.91	2.00	0.00	0.52	0.00
28.48	230.26	2.00	0.00	0.52	0.00	28.55	243.52	2.00	0.00	0.52	0.00
28.61	238.06	2.00	0.00	0.52	0.00	28.70	242.00	2.00	0.00	0.51	0.00
28.75	248.75	2.00	0.00	0.51	0.00	28.81	247.04	2.00	0.00	0.51	0.00
28.89	249.29	2.00	0.00	0.51	0.00	28.95	249.01	2.00	0.00	0.51	0.00
29.01	248.26	2.00	0.00	0.51	0.00	29.10	248.35	2.00	0.00	0.51	0.00
29.14	246.97	2.00	0.00	0.51	0.00	29.21	247.90	2.00	0.00	0.50	0.00
29.27	249.29	2.00	0.00	0.50	0.00	29.33	251.54	2.00	0.00	0.50	0.00
29.42	254.58	2.00	0.00	0.50	0.00	29.47	256.96	2.00	0.00	0.50	0.00
29.53	260.37	2.00	0.00	0.50	0.00	29.61	270.07	2.00	0.00	0.50	0.00
29.67	277.96	2.00	0.00	0.50	0.00	29.73	284.71	2.00	0.00	0.50	0.00
29.81	296.29	2.00	0.00	0.49	0.00	29.88	298.91	2.00	0.00	0.49	0.00
29.93	309.12	2.00	0.00	0.49	0.00	29.99	317.34	2.00	0.00	0.49	0.00
30.07	326.17	2.00	0.00	0.49	0.00	30.12	325.97	2.00	0.00	0.49	0.00
30.18	332.47	2.00	0.00	0.49	0.00	30.25	338.30	2.00	0.00	0.49	0.00
30.32	345.10	2.00	0.00	0.49	0.00	30.39	355.49	2.00	0.00	0.48	0.00
30.45	366.85	2.00	0.00	0.48	0.00	30.52	394.87	2.00	0.00	0.48	0.00
30.58	406.15	2.00	0.00	0.48	0.00	30.65	422.91	2.00	0.00	0.48	0.00
30.71	421.69	2.00	0.00	0.48	0.00	30.78	420.53	2.00	0.00	0.48	0.00
30.84	432.55	2.00	0.00	0.48	0.00	30.91	439.99	2.00	0.00	0.48	0.00
30.97	454.41	2.00	0.00	0.48	0.00	31.04	474.22	2.00	0.00	0.47	0.00
31.11	497.11	2.00	0.00	0.47	0.00	31.17	507.81	2.00	0.00	0.47	0.00
31.24	522.22	2.00	0.00	0.47	0.00	31.30	527.09	2.00	0.00	0.47	0.00
31.37	536.80	2.00	0.00	0.47	0.00	31.43	526.19	2.00	0.00	0.47	0.00
31.51	525.85	2.00	0.00	0.47	0.00	31.57	481.21	2.00	0.00	0.46	0.00
31.64	531.79	2.00	0.00	0.46	0.00	31.70	532.56	2.00	0.00	0.46	0.00
31.77	533.25	2.00	0.00	0.46	0.00	31.83	539.20	2.00	0.00	0.46	0.00
31.90	538.31	2.00	0.00	0.46	0.00	31.96	496.75	2.00	0.00	0.46	0.00
32.04	458.03	2.00	0.00	0.46	0.00	32.09	469.68	2.00	0.00	0.46	0.00
32.16	476.34	2.00	0.00	0.45	0.00	32.22	447.36	2.00	0.00	0.45	0.00
32.29	432.38	2.00	0.00	0.45	0.00	32.35	352.94	2.00	0.00	0.45	0.00
32.42	344.64	2.00	0.00	0.45	0.00	32.48	337.92	2.00	0.00	0.45	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
32.55	330.74	2.00	0.00	0.45	0.00	32.62	326.59	2.00	0.00	0.45	0.00
32.68	329.49	2.00	0.00	0.45	0.00	32.77	326.89	2.00	0.00	0.44	0.00
32.81	328.26	2.00	0.00	0.44	0.00	32.88	332.60	2.00	0.00	0.44	0.00
32.96	335.62	2.00	0.00	0.44	0.00	33.01	336.64	2.00	0.00	0.44	0.00
33.08	335.95	2.00	0.00	0.44	0.00	33.16	330.12	2.00	0.00	0.44	0.00
33.21	324.58	2.00	0.00	0.44	0.00	33.30	325.30	2.00	0.00	0.44	0.00
33.34	324.39	2.00	0.00	0.43	0.00	33.41	330.98	2.00	0.00	0.43	0.00
33.48	347.45	2.00	0.00	0.43	0.00	33.54	369.02	2.00	0.00	0.43	0.00
33.60	368.81	2.00	0.00	0.43	0.00	33.66	287.94	2.00	0.00	0.43	0.00
33.74	287.25	2.00	0.00	0.43	0.00	33.80	282.79	2.00	0.00	0.43	0.00
33.87	276.60	2.00	0.00	0.43	0.00	33.93	265.99	2.00	0.00	0.42	0.00
34.00	257.76	2.00	0.00	0.42	0.00	34.06	247.75	2.00	0.00	0.42	0.00
34.12	239.84	2.00	0.00	0.42	0.00	34.20	226.33	2.00	0.00	0.42	0.00
34.25	207.86	2.00	0.00	0.42	0.00	34.34	187.78	0.51	0.58	0.42	0.01
34.40	172.48	0.40	0.62	0.42	0.00	34.45	167.38	0.37	0.64	0.42	0.00
34.55	168.80	0.38	0.63	0.41	0.01	34.60	163.26	0.35	0.65	0.41	0.00
34.68	142.03	0.25	0.72	0.41	0.01	34.74	143.17	0.26	0.72	0.41	0.01
34.79	147.52	0.27	0.70	0.41	0.00	34.86	135.72	0.23	0.74	0.41	0.01
34.92	130.30	0.21	0.77	0.41	0.01	34.98	132.55	0.21	0.75	0.41	0.01
35.05	132.67	0.22	0.75	0.41	0.01	35.12	133.15	0.22	0.75	0.40	0.01
35.17	134.06	0.22	0.74	0.40	0.00	35.24	129.37	0.20	0.76	0.40	0.01
35.31	130.53	0.21	0.75	0.40	0.01	35.37	131.02	0.21	0.75	0.40	0.01
35.45	131.99	0.21	0.74	0.40	0.01	35.50	132.63	0.21	0.74	0.40	0.00
35.57	135.10	0.22	0.73	0.40	0.01	35.65	137.36	0.23	0.71	0.40	0.01
35.71	136.80	0.23	0.71	0.39	0.01	35.76	134.00	0.22	0.72	0.39	0.00
35.86	128.51	0.20	0.75	0.39	0.01	35.90	128.29	0.20	0.75	0.39	0.00
35.97	127.22	0.20	0.75	0.39	0.01	36.04	130.99	0.21	0.73	0.39	0.01
36.10	135.28	0.22	0.71	0.39	0.00	36.17	136.68	0.23	0.70	0.39	0.01
36.24	133.34	0.22	0.71	0.39	0.01	36.30	127.61	0.20	0.74	0.38	0.01
36.36	120.85	0.18	0.77	0.38	0.01	36.42	117.45	0.17	0.78	0.38	0.01
36.49	115.95	0.16	0.79	0.38	0.01	36.57	115.74	0.16	0.79	0.38	0.01
36.63	111.48	0.15	0.81	0.38	0.01	36.69	114.07	0.16	0.79	0.38	0.01
36.75	112.19	0.15	0.80	0.38	0.01	36.82	111.63	0.15	0.80	0.38	0.01
36.88	112.63	0.15	0.79	0.37	0.01	36.94	111.21	0.15	0.80	0.37	0.01
37.03	110.06	0.15	0.80	0.37	0.01	37.10	112.52	0.15	0.79	0.37	0.01
37.16	116.70	0.16	0.76	0.37	0.01	37.22	120.02	0.17	0.74	0.37	0.01
37.27	123.70	0.18	0.72	0.37	0.00	37.36	128.19	0.20	0.70	0.37	0.01
37.42	130.23	0.21	0.69	0.37	0.00	37.48	132.61	0.21	0.68	0.36	0.01
37.55	133.37	0.22	0.67	0.36	0.01	37.61	133.47	0.22	0.67	0.36	0.00
37.67	132.33	0.21	0.67	0.36	0.00	37.76	130.23	0.21	0.68	0.36	0.01
37.80	129.27	0.20	0.68	0.36	0.00	37.89	128.45	0.20	0.68	0.36	0.01
37.95	127.38	0.20	0.68	0.36	0.00	38.00	126.10	0.19	0.69	0.36	0.00
38.08	125.38	0.19	0.69	0.35	0.01	38.13	125.10	0.19	0.69	0.35	0.00
38.19	125.89	0.19	0.68	0.35	0.00	38.26	121.41	0.18	0.70	0.35	0.01
38.32	117.99	0.17	0.72	0.35	0.00	38.39	120.87	0.18	0.70	0.35	0.01
38.48	115.13	0.16	0.72	0.35	0.01	38.53	119.73	0.17	0.70	0.35	0.00
38.60	129.04	0.20	0.66	0.35	0.00	38.66	134.18	0.22	0.63	0.34	0.00
38.72	133.95	0.22	0.63	0.34	0.00	38.81	125.18	0.19	0.66	0.34	0.01

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
38.87	117.48	0.17	0.70	0.34	0.00	38.92	109.05	0.14	0.74	0.34	0.00
39.00	106.41	0.14	0.75	0.34	0.01	39.05	105.23	0.14	0.76	0.34	0.00
39.14	103.83	0.13	0.76	0.34	0.01	39.17	106.61	0.14	0.75	0.34	0.00
39.25	112.02	0.15	0.71	0.33	0.01	39.32	114.61	0.16	0.70	0.33	0.01
39.39	114.91	0.16	0.69	0.33	0.01	39.44	114.83	0.16	0.69	0.33	0.00
39.52	114.67	0.16	0.69	0.33	0.01	39.59	114.31	0.16	0.69	0.33	0.01
39.63	113.22	0.16	0.69	0.33	0.00	39.73	108.34	0.14	0.71	0.33	0.01
39.78	106.09	0.14	0.73	0.33	0.00	39.83	104.96	2.00	0.00	0.32	0.00
39.91	104.96	2.00	0.00	0.32	0.00	39.98	107.55	2.00	0.00	0.32	0.00
40.05	115.11	2.00	0.00	0.32	0.00	40.11	123.61	2.00	0.00	0.32	0.00
40.17	131.13	2.00	0.00	0.32	0.00	40.25	128.06	2.00	0.00	0.32	0.00
40.30	125.43	2.00	0.00	0.32	0.00	40.36	118.78	2.00	0.00	0.32	0.00
40.45	118.07	2.00	0.00	0.31	0.00	40.51	121.61	2.00	0.00	0.31	0.00
40.55	120.23	2.00	0.00	0.31	0.00	40.63	116.96	2.00	0.00	0.31	0.00
40.70	120.70	2.00	0.00	0.31	0.00	40.75	126.33	2.00	0.00	0.31	0.00
40.82	128.26	2.00	0.00	0.31	0.00	40.89	129.10	2.00	0.00	0.31	0.00
40.95	124.53	2.00	0.00	0.31	0.00	41.04	107.65	2.00	0.00	0.30	0.00
41.09	104.46	2.00	0.00	0.30	0.00	41.15	94.64	2.00	0.00	0.30	0.00
41.22	98.15	2.00	0.00	0.30	0.00	41.28	108.79	2.00	0.00	0.30	0.00
41.35	126.00	2.00	0.00	0.30	0.00	41.43	132.26	2.00	0.00	0.30	0.00
41.48	134.27	2.00	0.00	0.30	0.00	41.54	133.73	0.22	0.54	0.30	0.00
41.62	131.93	0.21	0.55	0.29	0.01	41.67	128.43	0.20	0.56	0.29	0.00
41.77	122.90	0.18	0.58	0.29	0.01	41.81	121.22	0.18	0.58	0.29	0.00
41.87	123.51	0.19	0.57	0.29	0.00	41.95	121.17	0.18	0.58	0.29	0.01
42.01	124.56	0.19	0.56	0.29	0.00	42.07	128.95	0.20	0.54	0.29	0.00
42.14	131.39	0.21	0.53	0.29	0.00	42.21	132.71	0.22	0.53	0.28	0.00
42.27	132.68	0.22	0.53	0.28	0.00	42.33	132.72	0.22	0.52	0.28	0.00
42.39	133.12	0.22	0.52	0.28	0.00	42.45	134.93	0.22	0.51	0.28	0.00
42.54	135.52	0.23	0.51	0.28	0.01	42.59	136.41	0.23	0.50	0.28	0.00
42.69	136.09	0.23	0.50	0.28	0.01	42.74	135.29	0.23	0.50	0.28	0.00
42.78	134.49	0.22	0.50	0.27	0.00	42.86	133.17	0.22	0.51	0.27	0.00
42.92	131.47	0.21	0.51	0.27	0.00	42.98	129.88	0.21	0.51	0.27	0.00
43.07	127.19	0.20	0.52	0.27	0.01	43.13	127.68	0.20	0.51	0.27	0.00
43.19	130.11	0.21	0.50	0.27	0.00	43.25	131.53	0.21	0.50	0.27	0.00
43.31	131.47	0.21	0.50	0.27	0.00	43.39	134.04	0.22	0.49	0.26	0.00
43.44	140.38	0.25	0.47	0.26	0.00	43.51	155.44	0.31	0.43	0.26	0.00
43.59	179.14	0.45	0.38	0.26	0.00	43.65	187.38	0.51	0.36	0.26	0.00
43.70	192.29	0.54	0.35	0.26	0.00	43.79	197.26	0.58	0.29	0.26	0.00
43.85	201.67	2.00	0.00	0.26	0.00	43.93	215.16	2.00	0.00	0.26	0.00
43.97	221.53	2.00	0.00	0.25	0.00	44.04	231.75	2.00	0.00	0.25	0.00
44.10	236.40	2.00	0.00	0.25	0.00	44.18	239.99	2.00	0.00	0.25	0.00
44.24	241.18	2.00	0.00	0.25	0.00	44.30	240.74	2.00	0.00	0.25	0.00
44.37	239.36	2.00	0.00	0.25	0.00	44.44	236.98	2.00	0.00	0.25	0.00
44.51	231.40	2.00	0.00	0.25	0.00	44.58	226.36	2.00	0.00	0.24	0.00
44.63	211.77	2.00	0.00	0.24	0.00	44.70	208.80	2.00	0.00	0.24	0.00
44.76	207.86	2.00	0.00	0.24	0.00	44.83	208.10	2.00	0.00	0.24	0.00
44.90	212.22	2.00	0.00	0.24	0.00	44.96	219.32	2.00	0.00	0.24	0.00
45.02	229.73	2.00	0.00	0.24	0.00	45.10	246.78	2.00	0.00	0.24	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
45.15	259.71	2.00	0.00	0.23	0.00	45.22	271.05	2.00	0.00	0.23	0.00
45.29	287.61	2.00	0.00	0.23	0.00	45.34	295.75	2.00	0.00	0.23	0.00
45.41	301.95	2.00	0.00	0.23	0.00	45.49	304.67	2.00	0.00	0.23	0.00
45.55	302.91	2.00	0.00	0.23	0.00	45.62	296.40	2.00	0.00	0.23	0.00
45.69	284.81	2.00	0.00	0.23	0.00	45.74	287.28	2.00	0.00	0.22	0.00
45.81	285.93	2.00	0.00	0.22	0.00	45.87	278.94	2.00	0.00	0.22	0.00
45.94	272.99	2.00	0.00	0.22	0.00	46.00	260.01	2.00	0.00	0.22	0.00
46.07	248.38	2.00	0.00	0.22	0.00	46.14	239.81	2.00	0.00	0.22	0.00
46.22	232.29	2.00	0.00	0.22	0.00	46.27	228.39	2.00	0.00	0.22	0.00
46.33	234.39	2.00	0.00	0.21	0.00	46.42	249.36	2.00	0.00	0.21	0.00
46.47	264.10	2.00	0.00	0.21	0.00	46.52	274.57	2.00	0.00	0.21	0.00
46.59	265.63	2.00	0.00	0.21	0.00	46.66	284.44	2.00	0.00	0.21	0.00
46.73	287.15	2.00	0.00	0.21	0.00	46.78	282.07	2.00	0.00	0.21	0.00
46.87	279.85	2.00	0.00	0.21	0.00	46.93	280.73	2.00	0.00	0.20	0.00
46.98	283.17	2.00	0.00	0.20	0.00	47.05	284.98	2.00	0.00	0.20	0.00
47.12	291.16	2.00	0.00	0.20	0.00	47.18	296.68	2.00	0.00	0.20	0.00
47.25	301.93	2.00	0.00	0.20	0.00	47.32	305.31	2.00	0.00	0.20	0.00
47.38	302.27	2.00	0.00	0.20	0.00	47.46	296.84	2.00	0.00	0.20	0.00
47.52	294.33	2.00	0.00	0.19	0.00	47.58	290.61	2.00	0.00	0.19	0.00
47.66	288.29	2.00	0.00	0.19	0.00	47.71	288.67	2.00	0.00	0.19	0.00
47.77	287.92	2.00	0.00	0.19	0.00	47.85	285.57	2.00	0.00	0.19	0.00
47.90	280.14	2.00	0.00	0.19	0.00	47.97	268.43	2.00	0.00	0.19	0.00
48.05	258.76	2.00	0.00	0.19	0.00	48.10	250.18	2.00	0.00	0.18	0.00
48.17	238.12	2.00	0.00	0.18	0.00	48.23	230.13	2.00	0.00	0.18	0.00
48.29	220.70	2.00	0.00	0.18	0.00	48.38	207.04	2.00	0.00	0.18	0.00
48.43	201.61	2.00	0.00	0.18	0.00	48.50	197.53	2.00	0.00	0.18	0.00
48.57	180.56	2.00	0.00	0.18	0.00	48.65	156.50	2.00	0.00	0.18	0.00
48.71	142.05	2.00	0.00	0.17	0.00	48.76	137.60	2.00	0.00	0.17	0.00
48.84	142.36	2.00	0.00	0.17	0.00	48.90	147.90	2.00	0.00	0.17	0.00
48.96	153.17	2.00	0.00	0.17	0.00	49.03	151.69	2.00	0.00	0.17	0.00
49.09	139.54	2.00	0.00	0.17	0.00	49.15	133.45	2.00	0.00	0.17	0.00
49.21	123.22	2.00	0.00	0.17	0.00	49.28	127.00	2.00	0.00	0.16	0.00
49.38	121.74	2.00	0.00	0.16	0.00	49.43	115.16	2.00	0.00	0.16	0.00
49.49	111.63	2.00	0.00	0.16	0.00	49.55	110.26	2.00	0.00	0.16	0.00
49.62	111.39	2.00	0.00	0.16	0.00	49.68	110.92	2.00	0.00	0.16	0.00
49.74	110.32	2.00	0.00	0.16	0.00	49.81	108.74	2.00	0.00	0.16	0.00
49.88	107.48	0.15	0.34	0.15	0.00	49.96	104.10	0.14	0.35	0.15	0.00
50.02	87.36	2.00	0.00	0.15	0.00	50.07	82.05	2.00	0.00	0.15	0.00
50.15	91.31	2.00	0.00	0.15	0.00	50.21	97.12	2.00	0.00	0.15	0.00
50.27	102.47	2.00	0.00	0.15	0.00	50.33	105.53	2.00	0.00	0.15	0.00
50.40	109.03	2.00	0.00	0.15	0.00	50.46	109.05	2.00	0.00	0.14	0.00
50.56	107.44	2.00	0.00	0.14	0.00	50.59	106.66	2.00	0.00	0.14	0.00
50.67	104.39	2.00	0.00	0.14	0.00	50.73	101.94	2.00	0.00	0.14	0.00
50.82	99.79	2.00	0.00	0.14	0.00	50.87	100.19	2.00	0.00	0.14	0.00
50.93	100.31	2.00	0.00	0.14	0.00	51.01	103.10	2.00	0.00	0.14	0.00
51.06	106.52	2.00	0.00	0.13	0.00	51.12	111.46	2.00	0.00	0.13	0.00
51.20	116.12	2.00	0.00	0.13	0.00	51.25	118.62	2.00	0.00	0.13	0.00
51.32	120.23	2.00	0.00	0.13	0.00	51.40	116.97	2.00	0.00	0.13	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
51.44	108.95	2.00	0.00	0.13	0.00	51.54	93.48	2.00	0.00	0.13	0.00
51.59	91.01	2.00	0.00	0.13	0.00	51.64	95.34	2.00	0.00	0.12	0.00
51.72	101.35	2.00	0.00	0.12	0.00	51.79	98.01	2.00	0.00	0.12	0.00
51.84	73.62	2.00	0.00	0.12	0.00	51.93	78.08	2.00	0.00	0.12	0.00
51.98	73.56	2.00	0.00	0.12	0.00	52.04	77.35	2.00	0.00	0.12	0.00
52.11	86.82	2.00	0.00	0.12	0.00	52.19	100.17	2.00	0.00	0.12	0.00
52.23	104.31	2.00	0.00	0.11	0.00	52.31	110.01	2.00	0.00	0.11	0.00
52.38	111.73	2.00	0.00	0.11	0.00	52.44	112.57	2.00	0.00	0.11	0.00
52.51	112.25	2.00	0.00	0.11	0.00	52.57	112.21	2.00	0.00	0.11	0.00
52.66	113.23	2.00	0.00	0.11	0.00	52.71	113.08	2.00	0.00	0.11	0.00
52.76	113.78	2.00	0.00	0.11	0.00	52.84	105.46	2.00	0.00	0.10	0.00
52.91	102.77	2.00	0.00	0.10	0.00	52.95	104.18	2.00	0.00	0.10	0.00
53.05	107.84	2.00	0.00	0.10	0.00	53.10	107.60	2.00	0.00	0.10	0.00
53.15	106.01	2.00	0.00	0.10	0.00	53.23	96.91	2.00	0.00	0.10	0.00
53.29	97.37	2.00	0.00	0.10	0.00	53.35	101.17	2.00	0.00	0.10	0.00
53.41	105.22	2.00	0.00	0.09	0.00	53.49	107.03	2.00	0.00	0.09	0.00
53.58	109.48	2.00	0.00	0.09	0.00	53.63	111.37	2.00	0.00	0.09	0.00
53.69	120.51	2.00	0.00	0.09	0.00	53.75	126.56	2.00	0.00	0.09	0.00
53.82	114.95	2.00	0.00	0.09	0.00	53.88	104.04	2.00	0.00	0.09	0.00
53.97	103.01	2.00	0.00	0.09	0.00	54.02	106.15	2.00	0.00	0.08	0.00
54.08	119.30	2.00	0.00	0.08	0.00	54.15	133.61	2.00	0.00	0.08	0.00
54.22	131.88	2.00	0.00	0.08	0.00	54.27	133.25	2.00	0.00	0.08	0.00
54.34	127.92	2.00	0.00	0.08	0.00	54.41	121.93	2.00	0.00	0.08	0.00
54.48	109.84	2.00	0.00	0.08	0.00	54.54	110.51	2.00	0.00	0.08	0.00
54.60	107.14	2.00	0.00	0.07	0.00	54.67	110.46	2.00	0.00	0.07	0.00
54.73	112.70	2.00	0.00	0.07	0.00	54.83	120.53	2.00	0.00	0.07	0.00
54.88	117.39	2.00	0.00	0.07	0.00	54.92	114.88	2.00	0.00	0.07	0.00
55.01	112.22	2.00	0.00	0.07	0.00	55.08	110.99	2.00	0.00	0.07	0.00
55.13	112.60	2.00	0.00	0.07	0.00	55.19	116.50	2.00	0.00	0.06	0.00
55.27	119.34	2.00	0.00	0.06	0.00	55.32	115.44	2.00	0.00	0.06	0.00
55.38	105.83	2.00	0.00	0.06	0.00	55.45	98.53	2.00	0.00	0.06	0.00
55.51	91.19	2.00	0.00	0.06	0.00	55.59	85.71	2.00	0.00	0.06	0.00
55.65	84.51	2.00	0.00	0.06	0.00	55.72	88.31	2.00	0.00	0.06	0.00
55.78	101.15	2.00	0.00	0.05	0.00	55.85	123.94	2.00	0.00	0.05	0.00
55.92	136.63	2.00	0.00	0.05	0.00	55.98	139.48	2.00	0.00	0.05	0.00
56.05	139.37	2.00	0.00	0.05	0.00	56.12	135.56	2.00	0.00	0.05	0.00
56.17	133.64	2.00	0.00	0.05	0.00	56.24	128.41	2.00	0.00	0.05	0.00
56.33	119.69	2.00	0.00	0.05	0.00	56.38	113.50	2.00	0.00	0.04	0.00
56.43	107.09	2.00	0.00	0.04	0.00	56.50	98.77	2.00	0.00	0.04	0.00
56.56	94.97	2.00	0.00	0.04	0.00	56.63	86.31	2.00	0.00	0.04	0.00
56.70	73.32	2.00	0.00	0.04	0.00	56.77	73.76	2.00	0.00	0.04	0.00
56.85	74.45	2.00	0.00	0.04	0.00	56.91	75.47	2.00	0.00	0.04	0.00
56.97	77.51	2.00	0.00	0.03	0.00	57.03	79.18	2.00	0.00	0.03	0.00
57.09	80.17	2.00	0.00	0.03	0.00	57.16	81.49	2.00	0.00	0.03	0.00
57.26	93.37	2.00	0.00	0.03	0.00	57.31	100.99	2.00	0.00	0.03	0.00
57.35	108.82	2.00	0.00	0.03	0.00	57.44	121.53	2.00	0.00	0.03	0.00
57.50	127.18	2.00	0.00	0.03	0.00	57.55	128.16	2.00	0.00	0.02	0.00
57.65	128.56	2.00	0.00	0.02	0.00	57.69	128.32	2.00	0.00	0.02	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
57.74	127.47	2.00	0.00	0.02	0.00	57.83	125.38	2.00	0.00	0.02	0.00
57.89	122.87	2.00	0.00	0.02	0.00	57.94	119.56	2.00	0.00	0.02	0.00
58.01	113.56	2.00	0.00	0.02	0.00	58.08	105.88	2.00	0.00	0.02	0.00
58.17	96.99	2.00	0.00	0.01	0.00	58.20	97.15	2.00	0.00	0.01	0.00
58.28	103.40	2.00	0.00	0.01	0.00	58.34	112.06	2.00	0.00	0.01	0.00
58.42	123.99	2.00	0.00	0.01	0.00	58.47	131.97	2.00	0.00	0.01	0.00
58.55	138.39	2.00	0.00	0.01	0.00	58.60	140.67	2.00	0.00	0.01	0.00
58.67	139.65	2.00	0.00	0.01	0.00	58.75	133.09	2.00	0.00	0.00	0.00
58.80	127.86	2.00	0.00	0.00	0.00	58.87	119.76	2.00	0.00	0.00	0.00
58.94	112.17	2.00	0.00	0.00	0.00	58.99	108.00	2.00	0.00	0.00	0.00
59.06	102.51	2.00	0.00	0.00	0.00	59.15	97.53	2.00	0.00	0.00	0.00
59.20	96.01	2.00	0.00	0.00	0.00	59.27	93.14	2.00	0.00	0.00	0.00
59.33	90.28	2.00	0.00	0.00	0.00	59.39	88.71	2.00	0.00	0.00	0.00
59.46	88.34	2.00	0.00	0.00	0.00	59.54	88.73	2.00	0.00	0.00	0.00
59.59	90.52	2.00	0.00	0.00	0.00	59.67	99.29	2.00	0.00	0.00	0.00
59.73	111.86	2.00	0.00	0.00	0.00	59.78	114.16	2.00	0.00	0.00	0.00
59.85	98.11	2.00	0.00	0.00	0.00	59.92	87.44	2.00	0.00	0.00	0.00
59.99	92.02	2.00	0.00	0.00	0.00	60.05	116.02	2.00	0.00	0.00	0.00
60.13	134.48	2.00	0.00	0.00	0.00	60.19	143.73	2.00	0.00	0.00	0.00
60.25	148.81	2.00	0.00	0.00	0.00	60.31	155.02	2.00	0.00	0.00	0.00
60.37	162.61	2.00	0.00	0.00	0.00	60.44	168.64	2.00	0.00	0.00	0.00
60.53	174.23	2.00	0.00	0.00	0.00	60.57	173.94	2.00	0.00	0.00	0.00
60.64	171.49	2.00	0.00	0.00	0.00	60.71	167.28	2.00	0.00	0.00	0.00
60.77	164.60	2.00	0.00	0.00	0.00	60.83	161.95	2.00	0.00	0.00	0.00
60.89	159.80	2.00	0.00	0.00	0.00	60.96	157.08	2.00	0.00	0.00	0.00
61.05	155.04	2.00	0.00	0.00	0.00	61.11	153.36	2.00	0.00	0.00	0.00
61.17	150.88	2.00	0.00	0.00	0.00	61.23	145.57	2.00	0.00	0.00	0.00
61.30	140.91	2.00	0.00	0.00	0.00	61.35	137.20	2.00	0.00	0.00	0.00
61.44	137.88	2.00	0.00	0.00	0.00	61.51	140.34	2.00	0.00	0.00	0.00
61.56	145.35	2.00	0.00	0.00	0.00	61.65	116.60	2.00	0.00	0.00	0.00
61.70	113.88	2.00	0.00	0.00	0.00	61.75	112.18	2.00	0.00	0.00	0.00
61.83	106.50	2.00	0.00	0.00	0.00	61.88	99.14	2.00	0.00	0.00	0.00
61.94	98.93	2.00	0.00	0.00	0.00	62.02	107.76	2.00	0.00	0.00	0.00
62.09	115.66	2.00	0.00	0.00	0.00	62.14	131.34	2.00	0.00	0.00	0.00
62.21	142.01	2.00	0.00	0.00	0.00	62.27	145.17	2.00	0.00	0.00	0.00
62.34	147.61	2.00	0.00	0.00	0.00	62.41	146.90	2.00	0.00	0.00	0.00
62.48	139.40	2.00	0.00	0.00	0.00	62.55	124.10	2.00	0.00	0.00	0.00
62.62	112.23	2.00	0.00	0.00	0.00	62.67	106.81	2.00	0.00	0.00	0.00
62.76	106.23	2.00	0.00	0.00	0.00	62.81	107.34	2.00	0.00	0.00	0.00
62.87	107.60	2.00	0.00	0.00	0.00	62.94	105.53	2.00	0.00	0.00	0.00
63.01	103.18	2.00	0.00	0.00	0.00	63.07	102.73	2.00	0.00	0.00	0.00
63.14	102.70	2.00	0.00	0.00	0.00	63.20	104.05	2.00	0.00	0.00	0.00
63.26	106.16	2.00	0.00	0.00	0.00	63.34	108.09	2.00	0.00	0.00	0.00
63.40	109.57	2.00	0.00	0.00	0.00	63.48	111.94	2.00	0.00	0.00	0.00
63.55	113.16	2.00	0.00	0.00	0.00	63.59	113.85	2.00	0.00	0.00	0.00
63.66	114.11	2.00	0.00	0.00	0.00	63.72	113.86	2.00	0.00	0.00	0.00
63.78	114.03	2.00	0.00	0.00	0.00	63.86	114.30	2.00	0.00	0.00	0.00
63.91	114.37	2.00	0.00	0.00	0.00	63.98	114.54	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
64.07	115.29	2.00	0.00	0.00	0.00	64.13	115.19	2.00	0.00	0.00	0.00
64.18	115.24	2.00	0.00	0.00	0.00	64.26	114.71	2.00	0.00	0.00	0.00
64.31	115.02	2.00	0.00	0.00	0.00	64.39	118.20	2.00	0.00	0.00	0.00
64.44	119.98	2.00	0.00	0.00	0.00	64.53	121.61	2.00	0.00	0.00	0.00
64.57	122.98	2.00	0.00	0.00	0.00	64.64	121.58	2.00	0.00	0.00	0.00
64.70	117.68	2.00	0.00	0.00	0.00	64.77	113.41	2.00	0.00	0.00	0.00
64.86	111.79	2.00	0.00	0.00	0.00	64.92	111.11	2.00	0.00	0.00	0.00
64.97	110.16	2.00	0.00	0.00	0.00	65.03	108.48	2.00	0.00	0.00	0.00
65.11	104.15	2.00	0.00	0.00	0.00	65.16	101.48	2.00	0.00	0.00	0.00
65.24	97.97	2.00	0.00	0.00	0.00	65.30	96.99	2.00	0.00	0.00	0.00
65.39	97.33	2.00	0.00	0.00	0.00	65.42	98.32	2.00	0.00	0.00	0.00
65.50	100.33	2.00	0.00	0.00	0.00	65.55	100.88	2.00	0.00	0.00	0.00
65.63	101.22	2.00	0.00	0.00	0.00	65.69	101.82	2.00	0.00	0.00	0.00
65.79	104.48	2.00	0.00	0.00	0.00	65.84	105.28	2.00	0.00	0.00	0.00
65.89	105.05	2.00	0.00	0.00	0.00	65.97	102.89	2.00	0.00	0.00	0.00
66.03	101.29	2.00	0.00	0.00	0.00	66.08	100.97	2.00	0.00	0.00	0.00
66.16	102.07	2.00	0.00	0.00	0.00	66.22	104.01	2.00	0.00	0.00	0.00
66.28	108.25	2.00	0.00	0.00	0.00	66.36	114.72	2.00	0.00	0.00	0.00
66.41	119.06	2.00	0.00	0.00	0.00	66.47	121.24	2.00	0.00	0.00	0.00
66.56	92.90	2.00	0.00	0.00	0.00	66.61	66.77	2.00	0.00	0.00	0.00
66.70	70.63	2.00	0.00	0.00	0.00	66.73	71.73	2.00	0.00	0.00	0.00
66.81	74.74	2.00	0.00	0.00	0.00	66.89	78.83	2.00	0.00	0.00	0.00
66.94	81.83	2.00	0.00	0.00	0.00	67.01	85.45	2.00	0.00	0.00	0.00
67.07	88.39	2.00	0.00	0.00	0.00	67.13	92.25	2.00	0.00	0.00	0.00
67.22	97.11	2.00	0.00	0.00	0.00	67.26	98.54	2.00	0.00	0.00	0.00
67.33	100.40	2.00	0.00	0.00	0.00	67.41	101.63	2.00	0.00	0.00	0.00
67.47	101.51	2.00	0.00	0.00	0.00	67.54	101.50	2.00	0.00	0.00	0.00
67.61	102.38	2.00	0.00	0.00	0.00	67.66	103.89	2.00	0.00	0.00	0.00
67.73	105.63	2.00	0.00	0.00	0.00	67.79	106.70	2.00	0.00	0.00	0.00
67.86	106.57	2.00	0.00	0.00	0.00	67.94	105.07	2.00	0.00	0.00	0.00
68.00	103.89	2.00	0.00	0.00	0.00	68.05	103.71	2.00	0.00	0.00	0.00
68.14	104.23	2.00	0.00	0.00	0.00	68.18	105.72	2.00	0.00	0.00	0.00
68.24	110.74	2.00	0.00	0.00	0.00	68.33	116.04	2.00	0.00	0.00	0.00
68.39	123.53	2.00	0.00	0.00	0.00	68.44	129.98	2.00	0.00	0.00	0.00
68.50	134.41	2.00	0.00	0.00	0.00	68.57	129.95	2.00	0.00	0.00	0.00
68.67	121.38	2.00	0.00	0.00	0.00	68.73	115.69	2.00	0.00	0.00	0.00
68.78	110.40	2.00	0.00	0.00	0.00	68.85	103.17	2.00	0.00	0.00	0.00
68.91	97.53	2.00	0.00	0.00	0.00	68.97	94.24	2.00	0.00	0.00	0.00
69.07	90.96	2.00	0.00	0.00	0.00	69.12	84.19	2.00	0.00	0.00	0.00
69.17	84.21	2.00	0.00	0.00	0.00	69.25	84.55	2.00	0.00	0.00	0.00
69.31	83.70	2.00	0.00	0.00	0.00	69.36	96.03	2.00	0.00	0.00	0.00
69.44	97.51	2.00	0.00	0.00	0.00	69.49	88.91	2.00	0.00	0.00	0.00
69.59	86.03	2.00	0.00	0.00	0.00	69.63	89.89	2.00	0.00	0.00	0.00
69.69	98.88	2.00	0.00	0.00	0.00	69.75	108.59	2.00	0.00	0.00	0.00
69.84	115.24	2.00	0.00	0.00	0.00	69.88	119.33	2.00	0.00	0.00	0.00
69.95	122.07	2.00	0.00	0.00	0.00	70.03	124.71	2.00	0.00	0.00	0.00
70.08	125.72	2.00	0.00	0.00	0.00	70.16	126.00	2.00	0.00	0.00	0.00
70.21	126.03	2.00	0.00	0.00	0.00	70.28	125.80	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
70.35	125.61	2.00	0.00	0.00	0.00	70.42	125.32	2.00	0.00	0.00	0.00
70.48	124.66	2.00	0.00	0.00	0.00	70.56	123.98	2.00	0.00	0.00	0.00
70.62	122.49	2.00	0.00	0.00	0.00	70.71	116.18	2.00	0.00	0.00	0.00
70.73	114.27	2.00	0.00	0.00	0.00	70.81	120.79	2.00	0.00	0.00	0.00
70.87	132.54	2.00	0.00	0.00	0.00	70.95	141.08	2.00	0.00	0.00	0.00
71.00	145.17	2.00	0.00	0.00	0.00	71.09	143.00	2.00	0.00	0.00	0.00
71.15	139.69	2.00	0.00	0.00	0.00	71.20	141.78	2.00	0.00	0.00	0.00
71.26	141.95	2.00	0.00	0.00	0.00	71.34	137.61	2.00	0.00	0.00	0.00
71.40	135.04	2.00	0.00	0.00	0.00	71.48	133.64	2.00	0.00	0.00	0.00
71.53	139.43	2.00	0.00	0.00	0.00	71.59	145.77	2.00	0.00	0.00	0.00
71.66	146.49	2.00	0.00	0.00	0.00	71.74	140.00	2.00	0.00	0.00	0.00
71.81	133.98	2.00	0.00	0.00	0.00	71.86	134.90	2.00	0.00	0.00	0.00
71.93	140.05	2.00	0.00	0.00	0.00	72.00	138.14	2.00	0.00	0.00	0.00
72.05	132.60	2.00	0.00	0.00	0.00	72.12	125.12	2.00	0.00	0.00	0.00
72.20	101.92	2.00	0.00	0.00	0.00	72.25	97.16	2.00	0.00	0.00	0.00
72.32	104.84	2.00	0.00	0.00	0.00	72.38	111.72	2.00	0.00	0.00	0.00
72.44	115.80	2.00	0.00	0.00	0.00	72.52	121.72	2.00	0.00	0.00	0.00
72.58	122.69	2.00	0.00	0.00	0.00	72.64	124.31	2.00	0.00	0.00	0.00
72.71	126.63	2.00	0.00	0.00	0.00	72.78	128.23	2.00	0.00	0.00	0.00
72.84	128.82	2.00	0.00	0.00	0.00	72.91	128.68	2.00	0.00	0.00	0.00
72.98	127.34	2.00	0.00	0.00	0.00	73.04	124.91	2.00	0.00	0.00	0.00
73.11	124.13	2.00	0.00	0.00	0.00	73.17	124.58	2.00	0.00	0.00	0.00
73.25	127.25	2.00	0.00	0.00	0.00	73.30	129.35	2.00	0.00	0.00	0.00
73.37	130.14	2.00	0.00	0.00	0.00	73.43	128.32	2.00	0.00	0.00	0.00
73.51	116.05	2.00	0.00	0.00	0.00	73.56	105.06	2.00	0.00	0.00	0.00
73.62	99.64	2.00	0.00	0.00	0.00	73.69	79.12	2.00	0.00	0.00	0.00
73.76	89.43	2.00	0.00	0.00	0.00	73.83	85.15	2.00	0.00	0.00	0.00
73.89	80.46	2.00	0.00	0.00	0.00	73.96	81.87	2.00	0.00	0.00	0.00
74.02	82.28	2.00	0.00	0.00	0.00	74.09	85.38	2.00	0.00	0.00	0.00
74.16	88.30	2.00	0.00	0.00	0.00	74.22	91.77	2.00	0.00	0.00	0.00
74.28	97.23	2.00	0.00	0.00	0.00	74.35	104.78	2.00	0.00	0.00	0.00
74.41	111.41	2.00	0.00	0.00	0.00	74.49	121.57	2.00	0.00	0.00	0.00
74.56	132.26	2.00	0.00	0.00	0.00	74.61	140.13	2.00	0.00	0.00	0.00
74.69	145.16	2.00	0.00	0.00	0.00	74.75	143.71	2.00	0.00	0.00	0.00
74.81	141.72	2.00	0.00	0.00	0.00	74.87	137.68	2.00	0.00	0.00	0.00
74.94	134.85	2.00	0.00	0.00	0.00	75.01	133.76	2.00	0.00	0.00	0.00
75.09	129.34	2.00	0.00	0.00	0.00	75.14	122.58	2.00	0.00	0.00	0.00
75.22	114.64	2.00	0.00	0.00	0.00	75.28	112.38	2.00	0.00	0.00	0.00
75.33	112.36	2.00	0.00	0.00	0.00	75.40	112.77	2.00	0.00	0.00	0.00
75.48	113.20	2.00	0.00	0.00	0.00	75.53	113.94	2.00	0.00	0.00	0.00
75.62	104.77	2.00	0.00	0.00	0.00	75.67	101.21	2.00	0.00	0.00	0.00
75.72	103.89	2.00	0.00	0.00	0.00	75.80	108.16	2.00	0.00	0.00	0.00
75.87	112.45	2.00	0.00	0.00	0.00	75.95	120.24	2.00	0.00	0.00	0.00
75.99	125.57	2.00	0.00	0.00	0.00	76.06	132.56	2.00	0.00	0.00	0.00
76.12	136.96	2.00	0.00	0.00	0.00	76.20	140.53	2.00	0.00	0.00	0.00
76.25	142.07	2.00	0.00	0.00	0.00	76.32	142.85	2.00	0.00	0.00	0.00
76.38	141.40	2.00	0.00	0.00	0.00	76.45	140.19	2.00	0.00	0.00	0.00
76.52	137.27	2.00	0.00	0.00	0.00	76.58	134.72	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
76.65	132.37	2.00	0.00	0.00	0.00	76.71	125.15	2.00	0.00	0.00	0.00
76.77	109.25	2.00	0.00	0.00	0.00	76.85	106.23	2.00	0.00	0.00	0.00
76.92	105.12	2.00	0.00	0.00	0.00	76.97	99.76	2.00	0.00	0.00	0.00
77.04	90.50	2.00	0.00	0.00	0.00	77.11	88.06	2.00	0.00	0.00	0.00
77.17	90.25	2.00	0.00	0.00	0.00	77.24	93.23	2.00	0.00	0.00	0.00
77.30	96.71	2.00	0.00	0.00	0.00	77.36	99.63	2.00	0.00	0.00	0.00
77.44	103.23	2.00	0.00	0.00	0.00	77.50	107.29	2.00	0.00	0.00	0.00
77.58	113.24	2.00	0.00	0.00	0.00	77.63	115.82	2.00	0.00	0.00	0.00
77.69	117.14	2.00	0.00	0.00	0.00	77.78	118.52	2.00	0.00	0.00	0.00
77.83	118.81	2.00	0.00	0.00	0.00	77.89	118.88	2.00	0.00	0.00	0.00
77.96	119.96	2.00	0.00	0.00	0.00	78.04	120.45	2.00	0.00	0.00	0.00
78.09	121.95	2.00	0.00	0.00	0.00	78.15	123.27	2.00	0.00	0.00	0.00
78.23	112.71	2.00	0.00	0.00	0.00	78.28	80.30	2.00	0.00	0.00	0.00
78.35	90.17	2.00	0.00	0.00	0.00	78.43	97.91	2.00	0.00	0.00	0.00
78.49	99.91	2.00	0.00	0.00	0.00	78.57	104.03	2.00	0.00	0.00	0.00
78.62	106.52	2.00	0.00	0.00	0.00	78.68	109.18	2.00	0.00	0.00	0.00
78.74	111.16	2.00	0.00	0.00	0.00	78.81	112.39	2.00	0.00	0.00	0.00
78.88	113.68	2.00	0.00	0.00	0.00	78.95	115.95	2.00	0.00	0.00	0.00
79.01	117.51	2.00	0.00	0.00	0.00	79.08	126.13	2.00	0.00	0.00	0.00
79.15	135.80	2.00	0.00	0.00	0.00	79.20	145.00	2.00	0.00	0.00	0.00
79.27	155.46	2.00	0.00	0.00	0.00	79.36	147.18	2.00	0.00	0.00	0.00
79.41	139.57	2.00	0.00	0.00	0.00	79.48	126.20	2.00	0.00	0.00	0.00
79.53	118.38	2.00	0.00	0.00	0.00	79.60	113.74	2.00	0.00	0.00	0.00
79.67	114.21	2.00	0.00	0.00	0.00	79.73	114.44	2.00	0.00	0.00	0.00
79.80	112.22	2.00	0.00	0.00	0.00	79.86	108.76	2.00	0.00	0.00	0.00
79.94	101.43	2.00	0.00	0.00	0.00	79.99	95.24	2.00	0.00	0.00	0.00
80.09	85.42	2.00	0.00	0.00	0.00	80.12	82.40	2.00	0.00	0.00	0.00
80.19	67.40	2.00	0.00	0.00	0.00	80.27	43.84	2.00	0.00	0.00	0.00
80.33	46.35	2.00	0.00	0.00	0.00	80.38	50.75	2.00	0.00	0.00	0.00
80.47	67.53	2.00	0.00	0.00	0.00	80.52	77.38	2.00	0.00	0.00	0.00
80.58	92.26	2.00	0.00	0.00	0.00	80.67	113.14	2.00	0.00	0.00	0.00
80.72	118.58	2.00	0.00	0.00	0.00	80.79	119.74	2.00	0.00	0.00	0.00
80.85	117.63	2.00	0.00	0.00	0.00	80.91	107.58	2.00	0.00	0.00	0.00
81.00	104.42	2.00	0.00	0.00	0.00	81.06	100.84	2.00	0.00	0.00	0.00
81.10	99.69	2.00	0.00	0.00	0.00	81.18	99.18	2.00	0.00	0.00	0.00
81.24	100.16	2.00	0.00	0.00	0.00	81.30	103.07	2.00	0.00	0.00	0.00
81.37	108.02	2.00	0.00	0.00	0.00	81.43	109.10	2.00	0.00	0.00	0.00
81.51	107.54	2.00	0.00	0.00	0.00	81.57	105.48	2.00	0.00	0.00	0.00
81.64	102.80	2.00	0.00	0.00	0.00	81.71	98.94	2.00	0.00	0.00	0.00
81.77	95.96	2.00	0.00	0.00	0.00	81.83	94.17	2.00	0.00	0.00	0.00
81.91	92.72	2.00	0.00	0.00	0.00	81.98	92.15	2.00	0.00	0.00	0.00
82.03	91.79	2.00	0.00	0.00	0.00	82.10	91.99	2.00	0.00	0.00	0.00
82.17	95.20	2.00	0.00	0.00	0.00	82.22	100.04	2.00	0.00	0.00	0.00
82.31	89.28	2.00	0.00	0.00	0.00	82.36	77.84	2.00	0.00	0.00	0.00
82.42	92.19	2.00	0.00	0.00	0.00	82.48	100.37	2.00	0.00	0.00	0.00
82.56	108.43	2.00	0.00	0.00	0.00	82.64	117.61	2.00	0.00	0.00	0.00
82.69	122.09	2.00	0.00	0.00	0.00	82.75	126.64	2.00	0.00	0.00	0.00
82.82	132.57	2.00	0.00	0.00	0.00	82.90	140.27	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
82.94	140.54	2.00	0.00	0.00	0.00	83.02	134.55	2.00	0.00	0.00	0.00
83.08	130.63	2.00	0.00	0.00	0.00	83.14	128.19	2.00	0.00	0.00	0.00
83.23	124.00	2.00	0.00	0.00	0.00	83.28	119.70	2.00	0.00	0.00	0.00
83.34	111.72	2.00	0.00	0.00	0.00	83.42	107.23	2.00	0.00	0.00	0.00
83.48	105.56	2.00	0.00	0.00	0.00	83.55	104.74	2.00	0.00	0.00	0.00
83.61	103.17	2.00	0.00	0.00	0.00	83.67	100.36	2.00	0.00	0.00	0.00
83.73	99.68	2.00	0.00	0.00	0.00	83.81	101.15	2.00	0.00	0.00	0.00
83.86	98.50	2.00	0.00	0.00	0.00	83.94	104.14	2.00	0.00	0.00	0.00
84.00	109.11	2.00	0.00	0.00	0.00	84.06	112.98	2.00	0.00	0.00	0.00
84.15	116.11	2.00	0.00	0.00	0.00	84.20	114.45	2.00	0.00	0.00	0.00
84.30	74.02	2.00	0.00	0.00	0.00	84.33	73.79	2.00	0.00	0.00	0.00
84.40	81.72	2.00	0.00	0.00	0.00	84.48	94.63	2.00	0.00	0.00	0.00
84.52	98.36	2.00	0.00	0.00	0.00	84.59	104.53	2.00	0.00	0.00	0.00
84.66	106.55	2.00	0.00	0.00	0.00	84.75	109.63	2.00	0.00	0.00	0.00
84.78	107.89	2.00	0.00	0.00	0.00	84.84	105.52	2.00	0.00	0.00	0.00
84.94	99.89	2.00	0.00	0.00	0.00	85.00	96.20	2.00	0.00	0.00	0.00
85.05	92.90	2.00	0.00	0.00	0.00	85.12	90.79	2.00	0.00	0.00	0.00
85.17	91.68	2.00	0.00	0.00	0.00	85.24	94.94	2.00	0.00	0.00	0.00
85.33	100.87	2.00	0.00	0.00	0.00	85.39	107.98	2.00	0.00	0.00	0.00
85.45	116.83	2.00	0.00	0.00	0.00	85.52	123.97	2.00	0.00	0.00	0.00
85.57	126.53	2.00	0.00	0.00	0.00	85.67	125.34	2.00	0.00	0.00	0.00
85.72	124.76	2.00	0.00	0.00	0.00	85.77	124.16	2.00	0.00	0.00	0.00
85.87	128.22	2.00	0.00	0.00	0.00	85.91	129.15	2.00	0.00	0.00	0.00
85.96	129.63	2.00	0.00	0.00	0.00	86.03	129.02	2.00	0.00	0.00	0.00
86.12	122.70	2.00	0.00	0.00	0.00	86.16	116.23	2.00	0.00	0.00	0.00
86.25	94.18	2.00	0.00	0.00	0.00	86.31	91.53	2.00	0.00	0.00	0.00
86.38	88.62	2.00	0.00	0.00	0.00	86.43	89.54	2.00	0.00	0.00	0.00
86.49	92.53	2.00	0.00	0.00	0.00	86.59	94.22	2.00	0.00	0.00	0.00
86.62	93.48	2.00	0.00	0.00	0.00	86.72	92.85	2.00	0.00	0.00	0.00
86.77	92.22	2.00	0.00	0.00	0.00	86.83	92.12	2.00	0.00	0.00	0.00
86.89	92.34	2.00	0.00	0.00	0.00	86.96	93.79	2.00	0.00	0.00	0.00
87.01	94.49	2.00	0.00	0.00	0.00	87.07	94.96	2.00	0.00	0.00	0.00
87.16	94.33	2.00	0.00	0.00	0.00	87.21	93.89	2.00	0.00	0.00	0.00
87.29	93.82	2.00	0.00	0.00	0.00	87.36	93.91	2.00	0.00	0.00	0.00
87.41	94.10	2.00	0.00	0.00	0.00	87.47	94.97	2.00	0.00	0.00	0.00
87.54	96.97	2.00	0.00	0.00	0.00	87.61	98.38	2.00	0.00	0.00	0.00
87.70	100.92	2.00	0.00	0.00	0.00	87.74	102.22	2.00	0.00	0.00	0.00
87.80	103.87	2.00	0.00	0.00	0.00	87.88	104.76	2.00	0.00	0.00	0.00
87.94	104.19	2.00	0.00	0.00	0.00	87.99	103.42	2.00	0.00	0.00	0.00
88.07	89.75	2.00	0.00	0.00	0.00	88.14	79.54	2.00	0.00	0.00	0.00
88.20	82.81	2.00	0.00	0.00	0.00	88.26	86.65	2.00	0.00	0.00	0.00
88.33	90.09	2.00	0.00	0.00	0.00	88.40	93.88	2.00	0.00	0.00	0.00
88.45	101.85	2.00	0.00	0.00	0.00	88.52	101.41	2.00	0.00	0.00	0.00
88.59	87.90	2.00	0.00	0.00	0.00	88.67	81.08	2.00	0.00	0.00	0.00
88.72	86.39	2.00	0.00	0.00	0.00	88.78	92.84	2.00	0.00	0.00	0.00
88.85	95.74	2.00	0.00	0.00	0.00	88.92	96.08	2.00	0.00	0.00	0.00
88.98	98.29	2.00	0.00	0.00	0.00	89.05	95.64	2.00	0.00	0.00	0.00
89.11	93.70	2.00	0.00	0.00	0.00	89.18	92.14	2.00	0.00	0.00	0.00

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

Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
89.25	90.65	2.00	0.00	0.00	0.00	89.31	89.75	2.00	0.00	0.00	0.00
89.38	89.64	2.00	0.00	0.00	0.00	89.45	90.17	2.00	0.00	0.00	0.00
89.52	89.98	2.00	0.00	0.00	0.00	89.59	90.02	2.00	0.00	0.00	0.00
89.64	90.38	2.00	0.00	0.00	0.00	89.71	90.60	2.00	0.00	0.00	0.00
89.78	76.76	2.00	0.00	0.00	0.00	89.84	63.64	2.00	0.00	0.00	0.00
89.90	70.81	2.00	0.00	0.00	0.00	89.97	76.11	2.00	0.00	0.00	0.00
90.03	82.40	2.00	0.00	0.00	0.00	90.11	89.32	2.00	0.00	0.00	0.00
90.16	99.36	2.00	0.00	0.00	0.00	90.22	102.72	2.00	0.00	0.00	0.00
90.29	103.99	2.00	0.00	0.00	0.00	90.36	104.31	2.00	0.00	0.00	0.00
90.42	103.95	2.00	0.00	0.00	0.00	90.49	101.14	2.00	0.00	0.00	0.00
90.56	93.41	2.00	0.00	0.00	0.00	90.62	89.43	2.00	0.00	0.00	0.00
90.69	85.97	2.00	0.00	0.00	0.00	90.75	82.87	2.00	0.00	0.00	0.00
90.83	82.14	2.00	0.00	0.00	0.00	90.88	82.38	2.00	0.00	0.00	0.00
90.95	82.68	2.00	0.00	0.00	0.00	91.01	82.44	2.00	0.00	0.00	0.00
91.09	82.08	2.00	0.00	0.00	0.00	91.15	82.14	2.00	0.00	0.00	0.00
91.21	82.90	2.00	0.00	0.00	0.00	91.28	79.71	2.00	0.00	0.00	0.00
91.35	76.28	2.00	0.00	0.00	0.00	91.41	81.61	2.00	0.00	0.00	0.00
91.48	92.28	2.00	0.00	0.00	0.00	91.56	100.97	2.00	0.00	0.00	0.00
91.60	105.75	2.00	0.00	0.00	0.00	91.67	108.03	2.00	0.00	0.00	0.00
91.73	107.33	2.00	0.00	0.00	0.00	91.81	104.95	2.00	0.00	0.00	0.00
91.87	100.91	2.00	0.00	0.00	0.00	91.94	96.08	2.00	0.00	0.00	0.00
92.00	90.66	2.00	0.00	0.00	0.00	92.07	84.70	2.00	0.00	0.00	0.00
92.13	82.14	2.00	0.00	0.00	0.00	92.21	81.95	2.00	0.00	0.00	0.00
92.26	81.74	2.00	0.00	0.00	0.00	92.32	81.16	2.00	0.00	0.00	0.00
92.41	79.17	2.00	0.00	0.00	0.00	92.47	78.89	2.00	0.00	0.00	0.00
92.55	79.47	2.00	0.00	0.00	0.00	92.59	79.71	2.00	0.00	0.00	0.00
92.66	80.00	2.00	0.00	0.00	0.00	92.72	81.75	2.00	0.00	0.00	0.00
92.79	83.79	2.00	0.00	0.00	0.00	92.86	85.68	2.00	0.00	0.00	0.00
92.93	85.31	2.00	0.00	0.00	0.00	93.00	85.09	2.00	0.00	0.00	0.00
93.05	85.64	2.00	0.00	0.00	0.00	93.12	85.98	2.00	0.00	0.00	0.00
93.20	86.81	2.00	0.00	0.00	0.00	93.24	87.47	2.00	0.00	0.00	0.00
93.33	84.30	2.00	0.00	0.00	0.00	93.38	83.63	2.00	0.00	0.00	0.00
93.47	90.54	2.00	0.00	0.00	0.00	93.51	96.91	2.00	0.00	0.00	0.00
93.58	105.80	2.00	0.00	0.00	0.00	93.64	106.28	2.00	0.00	0.00	0.00
93.70	104.26	2.00	0.00	0.00	0.00	93.77	106.16	2.00	0.00	0.00	0.00
93.83	110.34	2.00	0.00	0.00	0.00	93.90	110.16	2.00	0.00	0.00	0.00
93.97	98.96	2.00	0.00	0.00	0.00	94.04	95.53	2.00	0.00	0.00	0.00
94.11	100.98	2.00	0.00	0.00	0.00	94.16	109.78	2.00	0.00	0.00	0.00
94.23	115.15	2.00	0.00	0.00	0.00	94.31	123.21	2.00	0.00	0.00	0.00
94.37	124.39	2.00	0.00	0.00	0.00	94.43	121.53	2.00	0.00	0.00	0.00
94.50	111.25	2.00	0.00	0.00	0.00	94.56	106.37	2.00	0.00	0.00	0.00
94.63	98.34	2.00	0.00	0.00	0.00	94.69	91.48	2.00	0.00	0.00	0.00
94.76	92.60	2.00	0.00	0.00	0.00	94.83	90.44	2.00	0.00	0.00	0.00
94.89	87.54	2.00	0.00	0.00	0.00	94.95	86.63	2.00	0.00	0.00	0.00
95.02	88.32	2.00	0.00	0.00	0.00	95.08	90.40	2.00	0.00	0.00	0.00
95.15	92.62	2.00	0.00	0.00	0.00	95.21	94.27	2.00	0.00	0.00	0.00
95.29	97.26	2.00	0.00	0.00	0.00	95.36	101.02	2.00	0.00	0.00	0.00
95.42	103.16	2.00	0.00	0.00	0.00	95.47	103.18	2.00	0.00	0.00	0.00

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

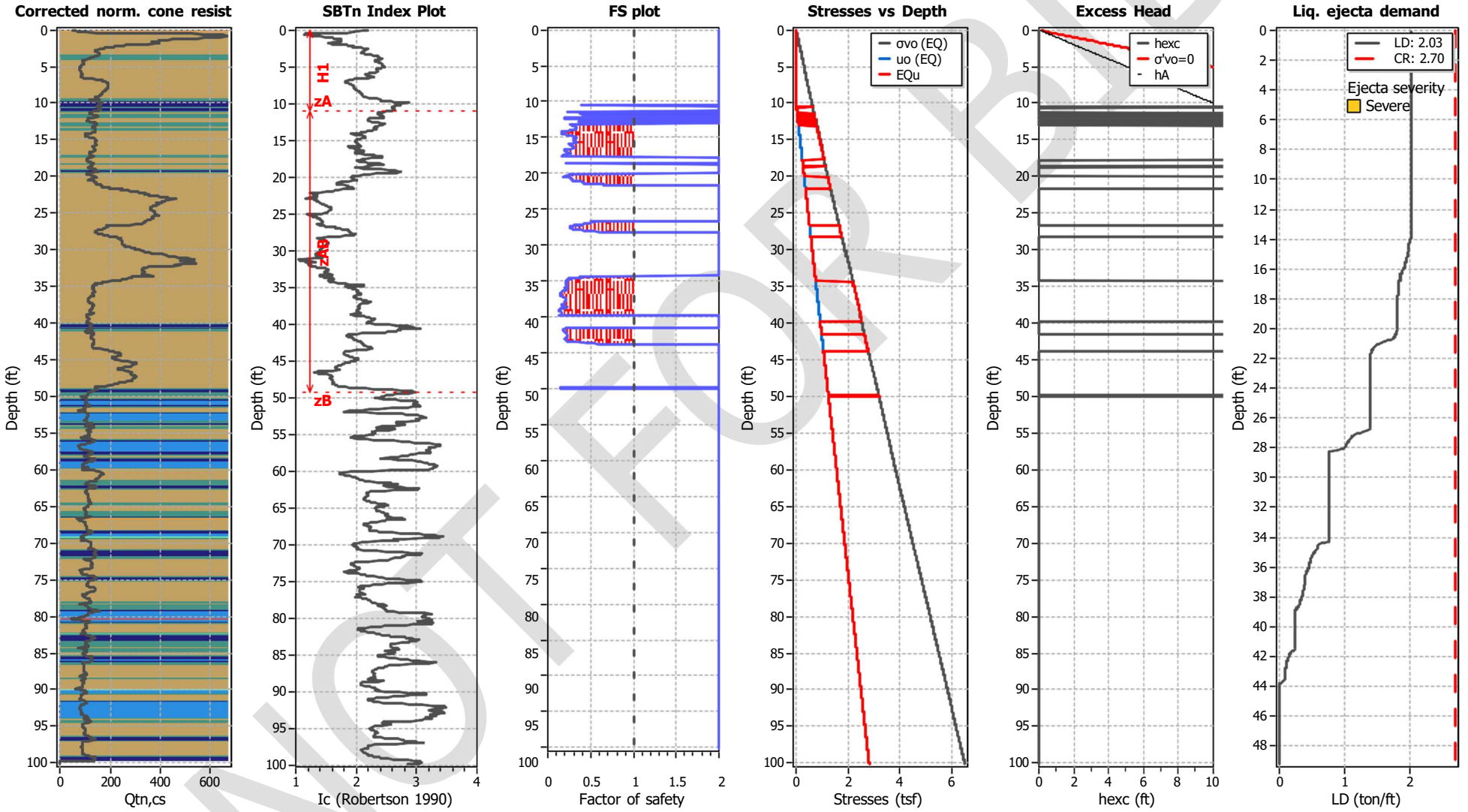
Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)	Depth (ft)	$Q_{tn,cs}$	FS	e_v (%)	DF	Settlement (in)
95.55	101.91	2.00	0.00	0.00	0.00	95.61	101.50	2.00	0.00	0.00	0.00
95.68	101.37	2.00	0.00	0.00	0.00	95.74	101.41	2.00	0.00	0.00	0.00
95.82	100.25	2.00	0.00	0.00	0.00	95.88	98.18	2.00	0.00	0.00	0.00
95.93	95.30	2.00	0.00	0.00	0.00	96.01	92.93	2.00	0.00	0.00	0.00
96.07	95.61	2.00	0.00	0.00	0.00	96.13	98.96	2.00	0.00	0.00	0.00
96.20	102.65	2.00	0.00	0.00	0.00	96.26	107.93	2.00	0.00	0.00	0.00
96.33	114.10	2.00	0.00	0.00	0.00	96.40	118.93	2.00	0.00	0.00	0.00
96.46	121.49	2.00	0.00	0.00	0.00	96.52	123.33	2.00	0.00	0.00	0.00
96.60	124.93	2.00	0.00	0.00	0.00	96.66	130.90	2.00	0.00	0.00	0.00
96.72	139.95	2.00	0.00	0.00	0.00	96.79	138.92	2.00	0.00	0.00	0.00
96.86	144.58	2.00	0.00	0.00	0.00	96.92	132.56	2.00	0.00	0.00	0.00
96.98	113.94	2.00	0.00	0.00	0.00	97.05	94.30	2.00	0.00	0.00	0.00
97.13	87.46	2.00	0.00	0.00	0.00	97.20	87.74	2.00	0.00	0.00	0.00
97.25	88.58	2.00	0.00	0.00	0.00	97.33	88.57	2.00	0.00	0.00	0.00
97.38	88.34	2.00	0.00	0.00	0.00	97.45	87.88	2.00	0.00	0.00	0.00
97.51	89.25	2.00	0.00	0.00	0.00	97.58	91.41	2.00	0.00	0.00	0.00
97.64	93.01	2.00	0.00	0.00	0.00	97.71	89.97	2.00	0.00	0.00	0.00
97.80	82.41	2.00	0.00	0.00	0.00	97.83	83.36	2.00	0.00	0.00	0.00
97.90	85.33	2.00	0.00	0.00	0.00	97.97	88.14	2.00	0.00	0.00	0.00
98.04	90.11	2.00	0.00	0.00	0.00	98.11	89.87	2.00	0.00	0.00	0.00
98.17	89.68	2.00	0.00	0.00	0.00	98.23	89.38	2.00	0.00	0.00	0.00
98.30	90.71	2.00	0.00	0.00	0.00	98.36	92.03	2.00	0.00	0.00	0.00
98.43	91.42	2.00	0.00	0.00	0.00	98.49	89.62	2.00	0.00	0.00	0.00
98.57	88.63	2.00	0.00	0.00	0.00	98.63	88.84	2.00	0.00	0.00	0.00
98.69	90.12	2.00	0.00	0.00	0.00	98.76	93.54	2.00	0.00	0.00	0.00
98.82	97.05	2.00	0.00	0.00	0.00	98.89	99.63	2.00	0.00	0.00	0.00
98.95	102.50	2.00	0.00	0.00	0.00	99.02	112.95	2.00	0.00	0.00	0.00
99.09	125.04	2.00	0.00	0.00	0.00	99.15	133.78	2.00	0.00	0.00	0.00
99.22	140.77	2.00	0.00	0.00	0.00	99.29	138.47	2.00	0.00	0.00	0.00
99.35	133.89	2.00	0.00	0.00	0.00	99.43	134.83	2.00	0.00	0.00	0.00
99.48	133.63	2.00	0.00	0.00	0.00	99.54	132.61	2.00	0.00	0.00	0.00
99.63	137.79	2.00	0.00	0.00	0.00	99.68	135.63	2.00	0.00	0.00	0.00
99.74	126.01	2.00	0.00	0.00	0.00	99.81	-1.00	2.00	0.00	0.00	0.00
99.87	-1.00	2.00	0.00	0.00	0.00	99.95	-1.00	2.00	0.00	0.00	0.00
100.00	-1.00	2.00	0.00	0.00	0.00	100.07	-1.00	2.00	0.00	0.00	0.00
100.13	-1.00	2.00	0.00	0.00	0.00						

Total estimated settlement: 1.90

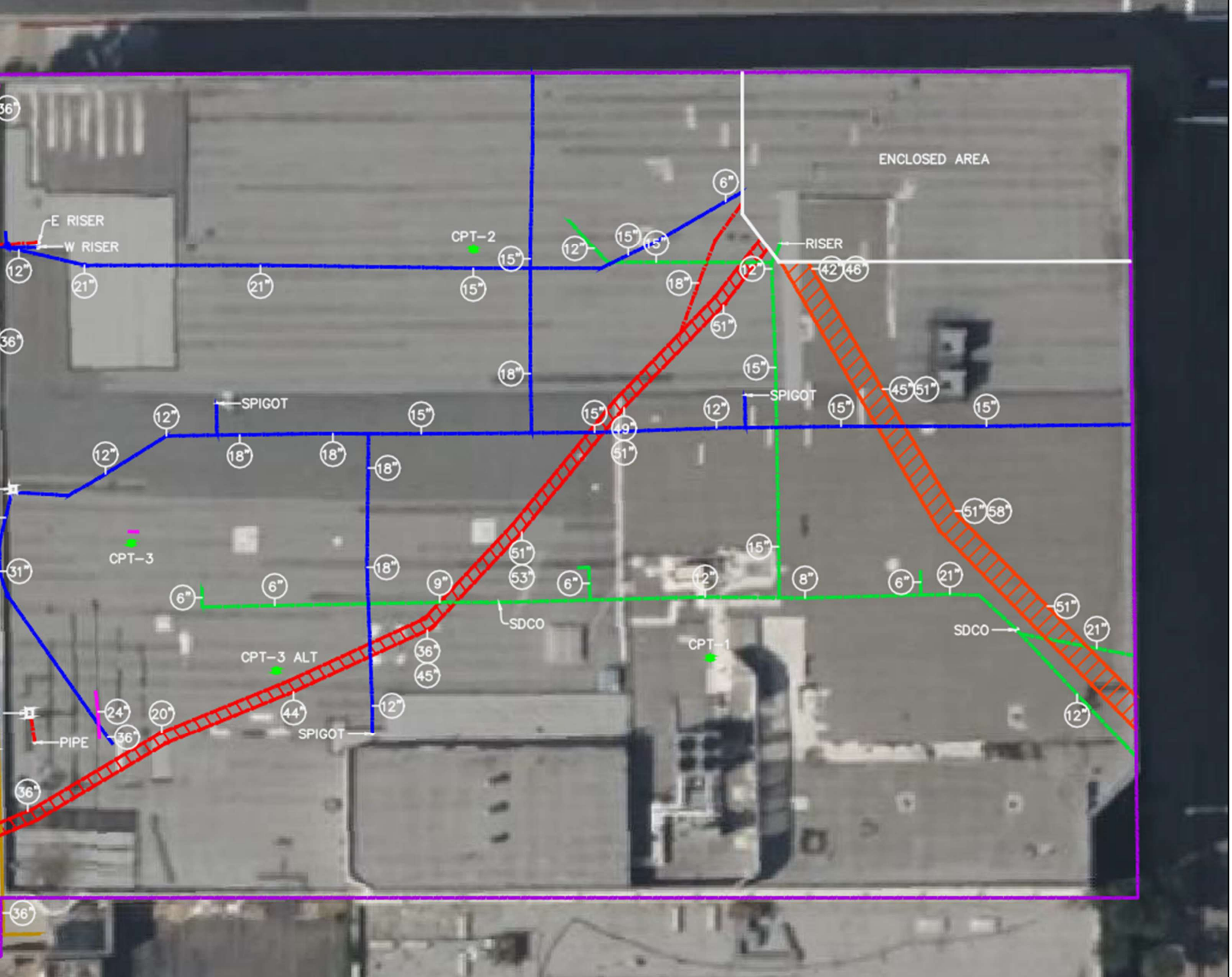
Abbreviations

$Q_{tn,cs}$: 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

Ejecta Severity Estimation

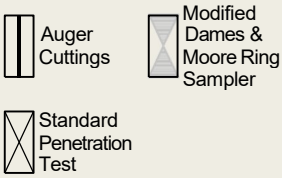


NOT FOR BID


ENCLOSED AREA
E RISER
W RISER
CPT-2
RISER
SPIGOT
SPIGOT
CPT-3
CPT-3 ALT
CPT-1
SDCO
SDCO
PIPE
SPIGOT

General Notes

Sampling



Water Level

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

Field Tests

N	Standard Penetration Test Resistance (Blows/Ft.)
(HP)	Hand Penetrometer
(T)	Torvane
(DCP)	Dynamic Cone Penetrometer
UC	Unconfined Compressive Strength
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils
(More than 50% retained on No. 200 sieve.)
Density determined by Standard Penetration Resistance

Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Ring Sampler (Blows/Ft.)
Very Loose	0 - 3	0 - 6
Loose	4 - 9	7 - 18
Medium Dense	10 - 29	19 - 58
Dense	30 - 50	59 - 98
Very Dense	> 50	> 99

Consistency of Fine-Grained Soils
(50% or more passing the No. 200 sieve.)
Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance

Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)	Ring Sampler (Blows/Ft.)
Very Soft	less than 0.25	0 - 1	< 3
Soft	0.25 to 0.50	2 - 4	3 - 4
Medium Stiff	0.50 to 1.00	4 - 8	5 - 9
Stiff	1.00 to 2.00	8 - 15	10 - 18
Very Stiff	2.00 to 4.00	15 - 30	19 - 42
Hard	> 4.00	> 30	> 42

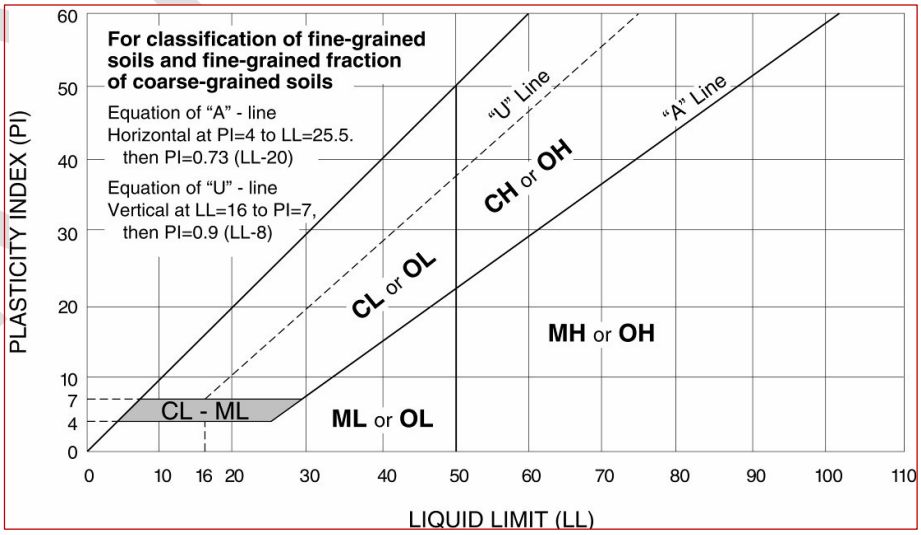
Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]				Soil Classification	
				Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu≥4 and 1≤Cc≤3 [E]	GW	Well-graded gravel [F]
			Cu<4 and/or [Cc<1 or Cc>3.0] [E]	GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH	GM	Silty gravel [F, G, H]
			Fines classify as CL or CH	GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu≥6 and 1≤Cc≤3 [E]	SW	Well-graded sand [I]
			Cu<6 and/or [Cc<1 or Cc>3.0] [E]	SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH	SM	Silty sand [G, H, I]
			Fines classify as CL or CH	SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots above "A" line [J]	CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]	ML	Silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OL	Organic clay [K, L, M, N] Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line	CH	Fat clay [K, L, M]
			PI plots below "A" line	MH	Elastic silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$	OH	Organic clay [K, L, M, P] Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
[F] If soil contains ≥ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI ≥ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.



NOT FOR