G3SoilWorks

GEOLOGY · GEOTECH · GROUNDWATER

**MEMORANDUM**

**GLC Cypress LLC**
3333 Michelson Drive, Suite 1050
Irvine, California 92612

August 25, 2023
Project No. 1-1209

Attention: Mr. Blair Dahl

Subject: Updated Earthwork Considerations
Goodman Commerce Center Cypress
Building 3, 5665 Plaza Drive
Cypress, California

Reference: G3SoilWorks, Inc., Geotechnical Investigation and Report Update, Proposed Goodman Commerce Center, 5665 and 5757 Plaza Drive, Cypress, California, dated May 4, 2022, Project No. 1-1209.

Dear Mr. Dahl,

This memorandum provides updated earthwork recommendations for planned Building 3 at the 5665 Plaza Drive site for the subject project. This update has been prepared based on modifications / additional recommendations provided as part of project evolution during the design phase for Buildings 1 and 2 at the 5757 Plaza Drive location addressed in the referenced geotechnical report.

**Deep Dynamic Compaction**

Deep Dynamic Compaction (DDC) is currently being considered to provide in-situ ground stabilization as an option to mitigate potential site soil liquefaction and provide acceptable support for the planned Building No. 3. It is anticipated that this DDC program would occur over an approximately one-month period during which time site vibration monitoring would be performed by G3SoilWorks.

**Revised Site Remedial Grading Recommendations**

The referenced geotechnical report provides general site remedial grading recommendations associated with the pavement / ancillary construction and completion of structure pads following in-situ ground improvement, with actual magnitude of remedial grading to be refined based on ground improvement considerations. Presented below are revised preliminary remedial grading

recommendations within the limits of proposed DDC and beyond the limits of planned DDC, respectively.

Areas Within the Limits of DDC

In-situ ground improvement utilizing deep dynamic compaction methods is currently planned to provide support for the planned structure for the proposed development. Within these areas, remedial grading is anticipated to be limited to the extent necessary to achieve finish pad grade elevations, including scarification / recompaction of the exposed subgrade to provide minimum 90 relative compaction in areas to receive additional fill and 95 percent relative compaction at finish pad subgrade elevations.

Areas Beyond the Limits of DDC

Recommendations were provided in the referenced geotechnical report for the over-excavation / recompaction of existing site soils to 5 feet (minimum) depth below existing or planned site grades, whichever depth is lower, for the support of planned exterior hardscape / pavement construction. In view of the shallow existing groundwater levels underlying the project site, the remedial grading recommendations for these areas were revised to a 2-foot (minimum) depth below existing or planned grades, whichever depth is lower. Exposed bottoms would be evaluated for acceptability by a representative of our office and additional over-excavation performed, where necessary. Acceptable over-excavation bottoms would then be scarified and recompacted to at least 90 percent relative compaction prior to the backfilling / placement of approved engineered compacted fill.

**Underground Stormwater Storage Chambers**

An underground stormwater chamber is planned below the truck court area along the west side of this building. This chamber tentatively will measure approximately 26 feet by 175 feet in plan area and extend approximately 12 feet in depth. Excavation for and installation of this stormwater storage chamber as currently planned would therefore necessitate the need for localized site dewatering operations.

**Limitations**

The recommendations presented herein were developed in accordance with generally accepted professional engineering principles and local practice in the field of geologic and geotechnical engineering and reflect our best professional judgment. We make no other warranty, either express or implied.

**Closure**

We trust this addendum report is adequate for your needs at this time. Should you have any questions or need additional information, please do not hesitate to contact the undersigned.

All other recommendations presented in the referenced report, except as superseded by the recommendations presented herein, remain valid and in effect for the subject project.

Sincerely,

**G3SoilWorks, Inc.**

By: _____
Daniel J. Morikawa, P.E., G.E.
Director of Engineering

REGISTERED PROFESSIONAL ENGINEER
DANIEL J. MORIKAWA
GE 2726
GEOTECHNICAL
STATE OF CALIFORNIA

By: _____
Steve E. Strickler, P.E., G.E.
CEO / Principal Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. STRICKLER
GE 2265
GEOTECHNICAL
STATE OF CALIFORNIA

Distribution: Addressee (Blair.Dahl@goodman.com)
Goodman: Attn: Mr. Matthew Davidson (Matthew.Davidson@goodman.com)
Goodman: Attn: Mr. Gonzalo D'Ambrosio (Gonzalo.dambrosio@goodman.com)
Keller: Attn: Mr. Sunil Arora (Sarora@keller-na.com)

G3SoilWorks

GEOLOGY · GEOTECH · GROUNDWATER

**Goodman**
18201 Von Karman Avenue, Suite 1170
Irvine, California 92612

May 4, 2022
Project No. 1-1209

Attention: Mr. Blair Dahl

Subject: Geotechnical Investigation and Report Update
Proposed Goodman Commerce Center
5665 and 5757 Plaza Drive
Cypress, California

References: See attached List of Selected References

Dear Mr. Dahl,

Pursuant to your request and authorization, G3SoilWorks, Inc. (G3), has prepared this geotechnical investigation report update for the proposed commercial / industrial development to be located at 5665 and 5757 Plaza Drive, in the city of Cypress, California. This report update was prepared based on our review of available documents and plans provided by your office, preliminary assessment and independent analysis of the data presented in the referenced reports by others, desktop site research and onsite reconnaissance, supplemental field subsurface exploration, laboratory testing, and engineering geologic evaluation / geotechnical engineering analysis of our field findings. A summary of our evaluation / findings and geotechnical recommendations for site development are included and presented herein.

**SITE LOCATION / DESCRIPTION**

The project site is located at the subject address (5665 and 5757 Plaza Drive) in the City of Cypress, California. As shown on Figure 1 (attached), Plaza Drive partially bounds the site to the south / southeast and is accessed via intersections with Katella Avenue and Valley View Street, south and east of the site, respectively. Currently, the site is understood to be occupied by the Cypress Technology Center which includes an existing approximately 5-story office building associated with the 5665 property address, a large commercial / industrial building and office complex associated with the 5757 property address, and associated parking areas concentrated near the northwest corner of the site and around the perimeters of the existing buildings.

The 5665 property is approximately 450 feet by 800 feet in area and occupies the westerly 8.3± acres of the site with the existing office complex occupying an “L”-shaped footprint of approximately 0.82 acres. The 5757 property is larger (approximately 750 feet by 950 feet) and comprises the easterly 16.4± acres of the site with the existing commercial / industrial building

complex occupying a rectangular area of about 7.2 acres. The topography of the site is relatively flat to very gently sloping. Site elevations in feet above the North American Vertical Datum of 1988 (NAVD88) are estimated to range from approximately Elevation (El.) 38± feet near the northeast and southeast corners of the site, El. 39± feet near the center of the site, and El. 35-36± feet near the northwest and southwest corners of the site, respectively.

## PROJECT UNDERSTANDING

Three (3) commercial / industrial buildings are currently proposed across this project site, with each building including 1st and 2nd floor office areas and a warehouse with attendant loading docks and associated paved parking and driveway areas. A Concept Grading Plan (Reference No. 1) for the easterly 5757 property shows Building 1 (199,909 square feet) and Building 2 (180,359 square feet) occupying the easterly and westerly portions of the property. Conceptual plans for the 5665 property were not available at the time of this report, but we understand that Building 3 (185,412 square feet) will be of a similar type of construction (i.e., concrete tilt-up frame construction) with similar appurtenances relative to Buildings 1 / 2.

Structural details were not available at the time of this report update. For the purposes of this report, it is assumed that the planned structures will consist of concrete tilt-up frame construction with associated truck docks. Maximum column and wall loadings not exceeding about 200 kips and 5 kips per lineal foot, respectively, have been assumed for preliminary design purposes. Should the planned design / construction loadings vary from those indicated herein, this office should be notified in order to provide comment and/or updated geotechnical recommendations for design, as appropriate.

## PROJECT BACKGROUND AND PREVIOUS STUDIES

Previous studies for the project were performed by Southern California Geotechnical (SCG), the findings of which were presented in SCG's Geotechnical Feasibility Study dated June 7, 2021 (Reference No. 2) and subsequent Geotechnical Investigation Report dated September 29, 2021 (Reference No. 3). Field subsurface investigation for both properties was performed by SCG as part of their Geotechnical Feasibility Study and included the drilling of four (4) soil borings (B-1 through B-4) and four (4) Cone Penetration Tests (CPT-1 through CPT-4) to depths of 50 feet below existing ground surface. SCG's subsequent study / Geotechnical Investigation Report included nine (9) additional borings (B-5 through B-14) and four (4) additional CPTs (CPT-4 through CPT-8) with recommendations provided for buildings located on the 5757 property (now referred to as Buildings 1 and 2, respectively, per Concept Grading Plan; Reference No. 1). Actual logs of borings B-5 through B-7 and CPT-5/-6, including associated laboratory test results, were not available for our review. The CPT data files were also not available for our review and re-evaluation.

SCG identified shallow groundwater levels at 5 to 9.5 feet below existing ground surface and potentially liquefiable soil conditions at depths between 5 and 50 feet below existing ground surface. Recommendations for remedial grading combined with or without specialized ground improvement techniques to depths of 15 feet were provided with the intent of supporting the

planned structures on shallow conventional foundations. Conventional foundation criteria were provided when considering remedial grading to 15 feet depth, with reported post-construction settlements expected to be within tolerable limits for conventional foundations. However, based on our review of the previous studies by SCG, estimated total and differential settlement potentials were not provided for design, and settlements due to potential soil liquefaction below the proposed 15-feet-depth of remedial grading did not appear to have been addressed. Additionally, the proposed remedial grading would intercept shallow groundwater, requiring extensive dewatering.

In view of the above, G3 was retained to review and evaluate the findings / recommendations of the previous geotechnical consultant (SCG), perform supplemental subsurface exploration, and develop alternative recommendations for the proposed development. G3 has completed this additional phase of study and summarized our findings / recommendations herein as the new / current Geotechnical Consultant of Record (see below).

**CHANGE OF GEOTECHNICAL CONSULTANT OF RECORD**

G3SoilWorks, Inc. (G3), has been retained and should be considered as the current Geologic / Geotechnical Consultant of Record for the subject project. As the Consultant of Record, G3 has reviewed the referenced reports prepared by Southern California Geotechnical (SCG; Reference Nos. 2-3), accepts the data, and generally concurs with their conclusions and recommendations, with the exception of those superseded herein.

**PURPOSE AND SCOPE**

The purpose of our geotechnical investigation was to re-assess and evaluate the findings / evaluation / recommendations for the deep removal / recompaction remedial grading scheme presented by the previous geotechnical consultant and provide alternative in-situ ground improvement considerations for structure support.

Our scope of work included the following tasks:

- Review of available pertinent geologic and geotechnical reports and maps specific to the project site and vicinity
- Preliminary site reconnaissance and boring layout;
- The drilling of 5 borings to depths of 25 to 51.5 feet below existing grade utilizing a truck-mounted drilling rig equipped with an eight-inch diameter hollow-stem auger, and associated soil sampling and logging by our geologist / engineer to substantiate the subsurface findings reported by the previous consultant and obtain additional subsurface information.
- A total of five (5) monitoring wells were installed to determine static water levels and provide a means of groundwater monitoring in advance of and during construction.
- Review of the liquefaction analyses performed by the previous consultant and perform two (2) additional Cone Penetrometer Tests to depths of 50 feet below grade for liquefaction evaluation;

- Laboratory testing, including moisture content and dry density of relatively undisturbed samples obtained in the field, maximum density / optimum moisture relationship, expansion index, hydrometer, classification, consolidation, direct shear, and Atterberg limits;
- Engineering geologic / geotechnical evaluation and analysis of the findings by our office and those presented in the referenced reports relative to the existing site conditions / proposed development, including geologic hazards and re-evaluation of potential site liquefaction;
- Consultation with our ground improvement design / build specialist to develop criteria for use in ground stabilization and preliminary recommendations for remedial grading / ground improvement, and foundation design criteria;
- Preparation of this written report presenting a summary of our field findings, laboratory test results, and updated recommendations for grading, preliminary criteria for ground improvement, foundation design and construction, and utility trench excavation considerations.

## GEOLOGY

### Regional Geologic Setting

The Los Angeles and Orange County coastal areas are adjacent to what is referred to as California's "Continental Borderland" geomorphic province – representing an area of transition between continental and marine environments associated with the geologic development of the Los Angeles Basin (LA Basin, Figure A). Over the past 20 million years of geologic time, tectonic reorganization of the southern California landscape along the "Big Bend" of the San Andreas Fault Zone (SAFZ) caused areas associated with the LA Basin to subside / down-drop, forming a major structural depression / sedimentary basin during early to middle Miocene time (15-20 million years ago). This depression initially formed an offshore marine environment that persisted for millions of years and filled with marine sediments sourced from the rapidly evolving highlands. Within the last 2-3 million years, tectonic uplifts that developed along the Newport-Inglewood / Rose Canyon Fault Zone (NIRCFZ) to the west and Whittier Fault Zone (WFZ) to the north caused the basin to uplift and fill with terrestrial and marine sediments, eventually becoming an evolving emergent plain. The source of the infill sediments was a combination of both marine and terrestrial sediments deposited by the ancestral Santa Ana, Los Angeles, and San Gabriel River systems. Over the last approximate 120-thousand years of geologic time, alluvial sedimentary fans have built-out / prograded southwestward toward the Pacific Ocean from the mouth of Santa Ana Canyon, forming the upland areas of the Orange County coastal plain. The Orange County coastal plain, City of Cypress, and project site are located within the southeasterly margins of the LA Basin, west of the historic Santa Ana River Channel, and are underlain by thousands of feet of Tertiary sediments and crystalline basement rocks of the Peninsular Ranges Geomorphic Province of southern California.

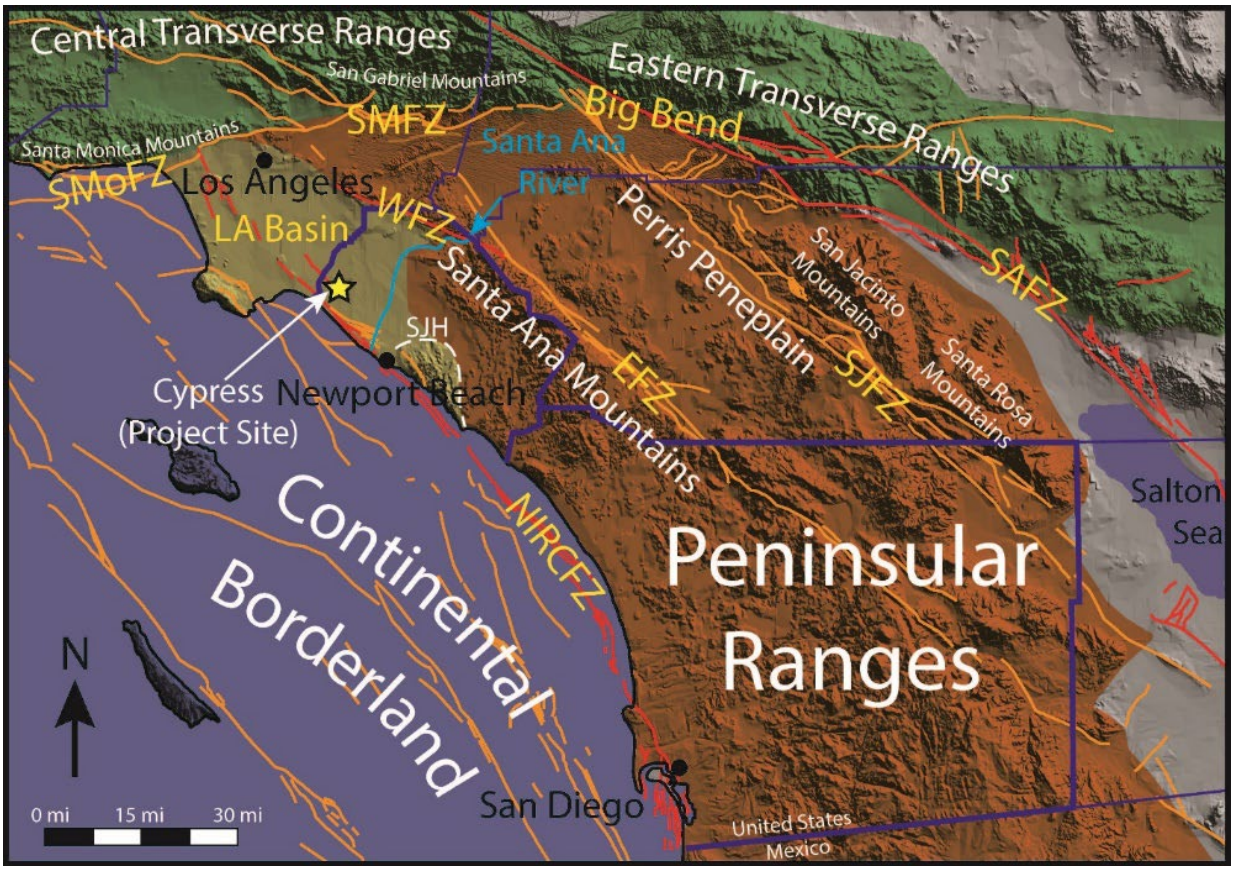



**Figure A.** Map of Local Geomorphic Provinces, Regional Fault Lines, and Related Landforms including: the Peninsular Ranges (orange), Continental Borderland (blue), and Transverse Ranges (green); the San Andreas, Newport-Inglewood / Rose Canyon, and Whittier fault zones (SAFZ, NIRCFZ, and WFZ, respectively; red lines); the San Jacinto (SJFZ), Elsinore (EFZ), Santa Monica (SMoFZ), and Sierra Madre (SMFZ) fault zones (orange lines). The project site (yellow star) is located along within the southeasterly interior margins of the Los Angeles Basin (LA Basin; yellow), a geomorphic sub-province forming the "join" between the three surrounding provinces. The San Joaquin Hills (dashed, white outline) represent the uplifted southeastern extension of the LA Basin to the southeast. County lines shown in dark blue with the project site located in Orange County. Approximate alignment of Santa Ana River is shown in light blue.

**Local Geology / Geomorphology**

Review of historic topographic maps dating back to the early 1900's (Figure B, below) indicates that the site is located near the terminus of the abandoned northern branch of the ancestral Santa Ana River and the headwaters of Anaheim Creek, which historically drained into the wetlands of Seal Beach (now known as the Seal Beach National Wildlife Refuge). Regional geologic mapping (Figure 3, attached) indicates that the site is underlain by Quaternary young alluvial deposits – Unit 2 ($Qya_2$) of late Pleistocene to Holocene age. The local alluvial deposits are described as, "*Poorly consolidated, poorly sorted, permeable flood-plain deposits consisting of soft clay, silt and loose to moderately dense sand and silty sand*". Sediments underlying the site / vicinity are understood to be fluvial in origin, having been transported by floodwaters of the

ancestral San Gabriel and Santa Ana River drainages, deposited as broad sheets and anastomosing lobes of sediment across an ancient flood plain. These relatively ancient flood-plain deposits, now at elevations of 35-40 feet above sea level, likely began accumulating in a low-lying wetland, similar to the historic wetlands of Seal Beach to the southwest. During the late Pleistocene / early Holocene climatic transition (10- to 20-thousand years ago), local relative sea level was more than 300 feet below its modern level, but rapidly rose in response to climate change and influx of glacial meltwater into Earth's oceans. This rapid sea level rise essentially drowned the coastal zone and flooded former wetland areas that would subsequently infill and be buried by terrestrial alluvium transported and deposited by the Santa Ana and San Gabriel Rivers. As these sediments continued to accumulate, they developed into broad alluvial fans that prograded / built-out from ancient stream channels, displacing and/or maintaining the Pacific Coastline to the southwest. The result of this apparently rapid depositional history is an elevated, alluvial flood-plain that buried / infilled an ancient wetland, creating the relatively flat / low-lying terrain and alluvial deposits present under the site.

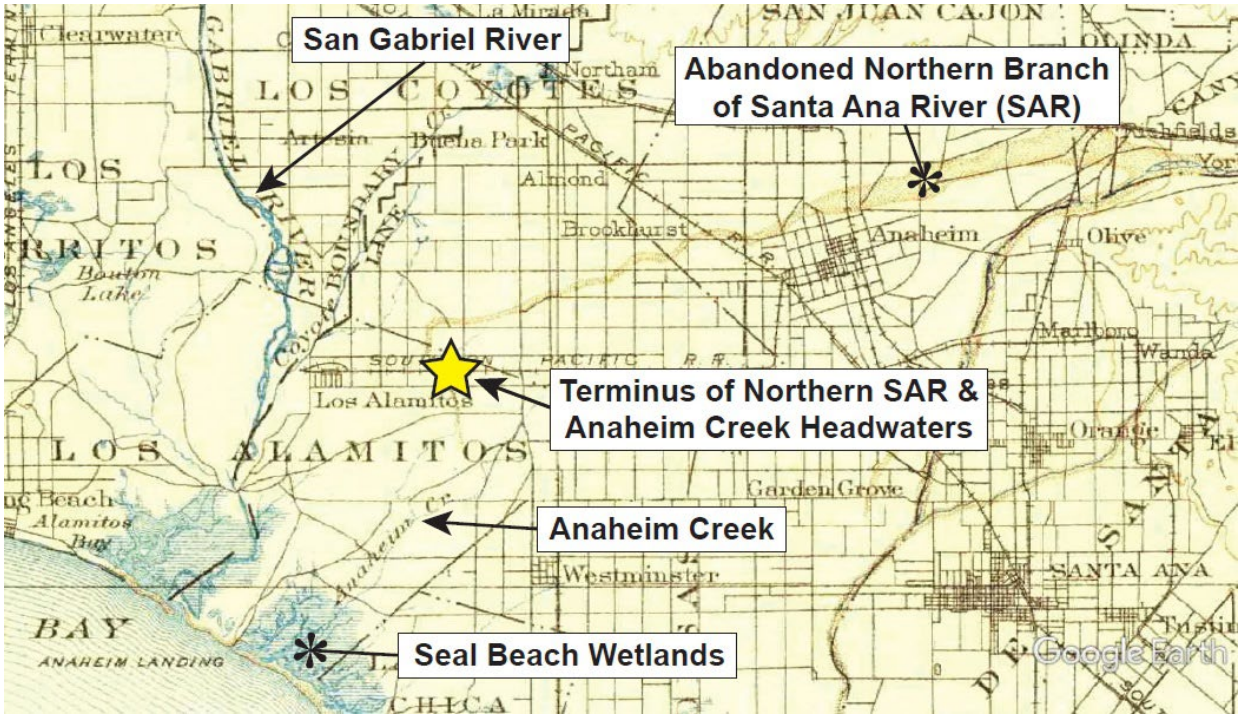



**Figure B.** Historic Topographic Map of Southern California from U.S. Geological Survey – Southern California Sheet No. 1, 1:250,000 Scale, 250-feet Contour Interval, May 15, 1910 Edition. Note that the site (yellow star) is located near the terminus of the ancestral Santa Ana River's abandoned north branch, and the headwaters of historic Anaheim Creek, which ultimately drains into wetlands of Seal Beach (Note: Not to Scale; For Illustrative Purposes Only).

### Site History

According to PropertyShark and LoopNet commercial real estate website, the existing structures that currently occupy the 5665 and 5757 properties were reportedly constructed in 1988 and 1991,

respectively. Review of vintage topographic maps and historic aerial photos dating back to the early 1900s indicates that the site originated as part of a largely undeveloped, rectangular parcel, with the majority of the local area either similarly undeveloped or agricultural. By the early 1930s, some housing and limited urbanization, including a petroleum tank farm to the northwest, is scattered throughout the greater vicinity. As of 1950 (Figure C, below), the site was part of a group of agricultural parcels proximal to the Southern Pacific Rail Line, the Los Alamitos Race Track and Army Airfield Complex, and other developments can be seen in the area. By 1960, the airfield had expanded to near its modern configuration and much of the surrounding vicinity had become urbanized. The site area remained agricultural through 1970, but much of the surrounding area was urbanized and developed by 1980. The site and immediate vicinity however remained agricultural until about 1985. In 1990, the site's configuration was apparently established similar to today.

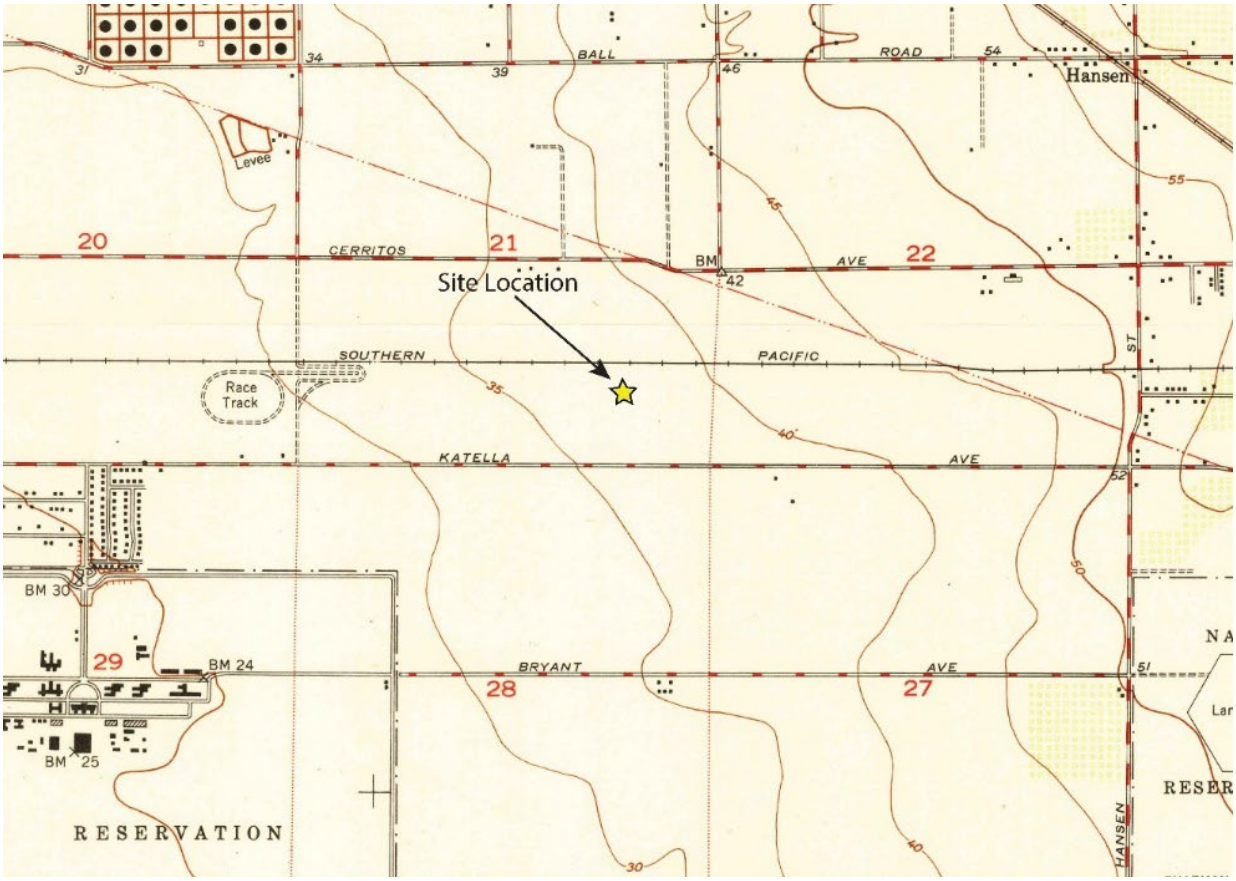



**Figure C.** Excerpt from U.S. Geological Survey 1950 topographic map of the Los Alamitos Quadrangle (1:24,000 scale; 5-foot contour interval) showing approximate location of project site at Elevation 37± feet above mean sea level (not to scale; site location is approximate; for illustrative purposes only).

With regards to the above, no buildings or other meaningful development were noted on or very near the site until the current development. The agricultural uses, based on historical review, indicate only "open ranch" replaced later by basic row crops. With respect to anthropological

development, the general area was open space that served as a mix of rural and agricultural development. This continued through the early to mid-20th century. During that time, agricultural processing and use may have influenced the upper few to possibly locally several feet of onsite soils. Since that time, the area has been subject to heavy urbanization. This has likely created minor fills and modifications to the topography. The modifications include roadways, building pads and similar in support of development. This results in local fills and cuts of a few to locally several feet. The area has been heavily urbanized. Locally, the majority of the area is built out. The existing conditions onsite are part of a larger commercial development ("Cypress Technology Center") that includes commercial buildings and associated paved parking areas.

**Flood Hazards**

The major drainages – namely the San Gabriel and Santa Ana Rivers – have been largely channelized, along with storm water controls effectively "stabilizing" the area from further fluvial activity. Review of FEMA Flood Hazard Mapping (06059C0116J) indicates that the site is outside the 100-year flood plain but within the 500-year flood plain (i.e., in a zone assigned a 0.2-percent chance of being flooded in any given year or once every 500 years on average).

**Local Faulting / Seismicity**

Our desktop research indicates that the site is not underlain by any known active faults (i.e., Holocene faults that have ruptured in last 11,700 years and are likely to rupture in the future per the Alquist-Priolo Earthquake Fault Zoning Act). According to the Cypress General Plan, the nearest zoned "active" fault includes the Newport-Inglewood Fault Zone (5.1 miles southwest of the project site). Other nearby "active" faults include the Whittier-Elsinore Fault Zone (11.6 miles northeast of the project site). Nearby Quaternary faults includes an inferred portion of the Los Alamitos fault, located 2.2 miles southwest of the site, the faults in West Coyotes Hills, 8.2 miles northeast of the site, and the El Modena fault and Peralta Hills fault, located 10.2 and 11.3 miles easterly of the site, respectively. A nearby pre-Quaternary fault is the Norwalk fault, located 5.2 miles northeast of the site. Another concealed fault line (presumed inactive) is located approximately 0.85 miles southwest of the site, parallel to trend of the Los Alamitos Fault.

The local area is seismically active and subject to being impacted by large / damaging earthquakes. Recent historic damaging earthquakes affecting the local area include the 1987 magnitude (Mw) 5.9 Whittier Narrows earthquake and 1994 Mw 6.7 Northridge earthquake, caused by blind thrust faults located in the northern Puente Hills and San Fernando Valley, respectively. These earthquakes generated moderate to strong ground shaking in the local area and slight damage to local structures (Modified Mercalli Intensity V-VI at the subject site). The 1933 magnitude ($M_w$) 6.4 Long Beach Earthquake reportedly caused severe ground shaking (Modified Mercalli Intensity VIII) and moderate to heavy damage to structures in the local area according to the California Department of Conservation, based on the work of Barrows (1970, Reference No. 4), Trifunac (2003, Reference No. 5), and others. Larger / more damaging earthquakes have the potential to affect the local area in association with seismic events on the San Andreas, San Jacinto, Elsinore, Newport-Inglewood, and other regional fault lines affecting southern California.

The Los Alamitos Quadrangle is a Seismic Hazards Zone and is discussed in SHZR 019. The SHZR notes that the vicinity of the site is susceptible to liquefaction. This is described in more detail in the Seismic Hazards section of this report.

## GEOTECHNICAL INVESTIGATION

### Field and Laboratory Investigation

On December 13th, 2021, two CPT borings (CPT-1 and CPT-2) were advanced to depths of approximately 50 feet below existing site grade. Between January 3, 2022, and January 4, 2022, five hollow-stem augured borings (B-1 through B-5) were advanced to depths of approximately 31.5 feet and 51.5 feet below existing site grades, respectively. The approximate location of these borings and CPTs by G3 are shown on the attached Boring / CPT Location and Groundwater Map (Figure 2), along with the locations of previous borings / CPTs by SCG. Soil samples were obtained at selected depths and transported to the laboratory for testing.

Geotechnical boring logs for the hollow-stem auger borings and CPT results are included in Appendix A and Appendix B, respectively. Laboratory testing was performed on representative soil samples obtained during the field exploration to determine geotechnical properties of the site's subsurface materials, and the results of this testing are included in Appendix C. Boring logs, CPT results, and related information excerpted from SCG's previous reports (Reference Nos. 2 and 3) are included in Appendix D and Appendix E, respectively.

### Subsurface Conditions

Based on the findings of our subsurface exploration, the project site is underlain, in general, by shallow fills and Quaternary alluvial deposits (Qal; synonymous with Unit $Qya_2$ of Figure 3, described in Local Geology / Geomorphology section). Artificial fill was noted within the upper 5± feet and generally consisted of dark grayish brown, moist to very moist, medium-dense, silty sands. Below about 5 feet depth, the native alluvial materials consisted primarily of very moist to wet silty sands / sandy silts with interbeds / discontinuous lenses of clayey silt / silty clay and poorly-graded sands noted between 35 and 40 feet. A distinct / apparently widespread layer of clayey silt / silty clay was noted at about 15± feet and 32.5 feet in Borings B-1 through B-5, consistent with previous borings by SCG. In general, the relative density and consistency of the alluvial materials, based on SPT / Cal-Mod blow counts, was noted to be predominantly loose to medium-dense and soft to firm. The fine-grained soils were generally low to very low / non-plastic in terms of apparent plasticity. It is likely that some of the fill materials, particularly the lower portions, are of an agricultural nature. Although we did not have opportunity to review any engineering information about the grading of the original development, based on available subsurface information, this agricultural fill may have been processed to varying degrees to accommodate the current development. No adverse organics were noted, however scattered roots and similar were reported in both our and the prior consultant SCG's work. Shallow groundwater conditions are present at the site, with first water occurring at depths of about 6-9 feet below existing surface elevations. Additional information regarding groundwater conditions is provided below.

**Groundwater**

Monitoring Well Installation / Recent Water Levels

Groundwater was initially encountered / noted in borings B-1 through B-5 between 7 feet and 8 feet below ground surface, which is generally consistent with groundwater levels of between 5 feet and 9.5 feet reported by the previous consultant (SCG; Reference Nos. 1 and 2). As part of our work, a total of five (5) monitoring wells permitted through Orange County Environmental Health Care Agency – Environmental Health Division were installed in borings B-1 through B-5 for the purposes of determining static water levels and as a means of ongoing monitoring for the project. The completed / approved well permit application and supporting documents are included in Appendix F. As-built well diagrams are referenced in the attached Geotechnical Boring Logs (Appendix A) and included as attachments in Appendix G. Estimated groundwater elevations as of January 7th and April 4th (2022) are summarized below and on the attached Figure 2.

**Table 1.** Estimated Groundwater Elevations / Depths – Wells B-1 through B-5

| Well # | Est. Surface Elev. (feet above NAVD88) | Est. GW Elev. (1/7/22) (feet above NAVD 88) | Est. GW Elev. (4/4/22) (feet above NAVD 88) | Change (feet) | Depth to Water (4/4/22) (feet below ground surface) |
|---|---|---|---|---|---|
| **B-1** | 38 | 31.4 | 31.6 | 0.2 | 6.4 |
| **B-2** | 38 | 31.4 | 31.5 | 0.1 | 6.5 |
| **B-3** | 36 | 28.9 | 28.8 | -0.1 | 7.2 |
| **B-4** | 35 | 28.4 | 28.6 | 0.2 | 6.4 |
| **B-5** | 39 | 30.3 | 30.2 | -0.1 | 8.8 |

Notes: Surface Elevations estimated from Google Earth to nearest 1-foot. Groundwater Depths / Elevations rounded to nearest 0.1 feet. See Figure 2 (attached) additional notes / information.

Hydrogeology / Structure

Groundwater associated with the site / local vicinity is not a singular body but likely comprised of multiple anastomosed zones that are inferred to be locally / partially interconnected and fed by regional and local sources of recharge, including surface infiltration, storm drain leakage, and other shallow / surficial sources. An Upper Zone of “first water” occurs in predominantly silty sands of moderate permeability, and inferred to be largely unconfined / perched on top of a relatively low permeability clay / silt layer noted at 15± feet in Borings B-1 through B-5. An Intermediate Zone, centered at approximately 20-30 feet, generally occurs in silty sands and is inferred to be semi-confined / leaky. Below about 35 feet, a Lower Zone occurring in poorly-graded sands centered at approximately 35-40 feet is inferred to be confined / semi-confined (i.e., “pressurized") based on the presence of confining layers (clayey silts / silty clays) above and below. In general, the sediments controlling groundwater flow occur as sub-horizontal, semi-continuous layers / lenses that generally conduct water horizontally and/or through vertically leakage between zones.

Groundwater Considerations

In general, groundwater associated with the site is shallow and understood to be of incidental / non-beneficial use. The ongoing regional series of droughts may influence the groundwater by tending to depress it. During periods of heavy rains and particularly “wet” rainy seasons,

groundwater may be expected to rise and may mound in areas of concentrated influx. This condition may influence the use of infiltration and other stormwater controls.

The influence of the groundwater on overlying soils is likely to complicate earthwork / excavations, as the groundwater may rise into the work zone by “pumping” effects of heavy equipment, and by capillarity. Where semi-confined groundwater bodies exist, their phreatic head may be higher than their physical occurrence. This condition can exert a pressure on excavation bottoms, creating a “quick” condition, and other adverse effects. This typically requires a zone of isolation of up to several feet between the groundwater surface and the excavation to mitigate.

Shallow groundwater conditions and dewatering should be factored accordingly as part of the design and construction of the proposed development, including its effect on utility installations and general earthwork / construction. Shallow groundwater may be expected to influence utilities and related where they are close to or intersect the water table. The potential effects include flooding / groundwater intrusion, possible bottom heave, and decreased sidewall stability should be accounted for accordingly. Spoils near or below the water table are expected to be relatively wet and may require additional processing (aeration / drying) for use as engineered fill.

Specific details regarding groundwater / dewatering approaches, if needed, are beyond the scope of this report. Once the development plans are firmed up, this office should be consulted on how to proceed with formulating dewatering plans and/or other forms of ground stabilization that may be required to accommodate the proposed development and related appurtenances.

The groundwater at the site may present another hazard that could affect the property long-term in the form of wicking and capillarity, particularly during heavy seasonal rain or transient rise in groundwater. This condition may be expected to cause potential for elevated moisture / vapor intrusion risks to interior structures. Mitigations for such hazards include a robust capillary break and high-quality engineered vapor retarder system underlying a relatively thick slab assembly made of high-strength, low water cement ratio concrete, preferably with a hydrophobic additive (i.e., Xypex / Hycrete). Providing interior ventilation, appropriate exterior drainage, eliminating planters next to / proximal to buildings, and similar can also help mitigate risks associated with moisture / vapor intrusion. This is discussed in more detail in the Recommendations section of this report.

## SEISMIC HAZARDS

### General

Seismic hazards are typically categorized into two classes: primary and secondary. Primary seismic hazards are those directly related to a seismic event and include strong ground motion and surface rupture due to regional earthquakes and related surface displacements along fault lines. Secondary seismic hazards occur as a result of the primary hazards and include responses of the local ground to seismic shaking like liquefaction, lateral spreading, earthquake-induced landslides, etc. Additional hazards associated with coastal settings and open water bodies include tsunamis and seiche. These hazards and associated risk potentials are described below.

**Surface Rupture and Strong Ground Motion**

As previously described, active faults do not appear to be present across or very near the subject property. According to the California Geological Survey's web-based application (EQ Zapp), the nearest zoned active faults include the Newport-Inglewood and Whittier fault zones located approximately 5.1 miles southwest and 11.6 miles northeast of the site, respectively. The Fault Activity Map of California (CDMG Map No. 6, 2010) also indicates that the site is not located in an Earthquake Fault Zone of Required Investigations. A small area of recent activity in the Coyote Hills (Fault 433) is present in between the Norwalk Fault and Whittier Fault about 8.25 miles northeast of the site. The local area does include the Los Alamitos Fault Zone (Fault 442) about 2.2 miles southwesterly that is of Late Quaternary age, and not considered active. The Norwalk Fault (Fault 443) is located about 5.3 miles north easterly of the site, along with splay segments of unnamed faults situated about 4.25 miles south-southeast and 3.8 miles easterly of the site. Risk of onsite fault-related ground rupture associated with activity of a known active fault is considered unlikely. However, it should be noted that incidental ground cracking and other phenomena can occur due to high seismic accelerations and regional seismic activity, including effects associated with liquefaction and lateral spread– which should be expected throughout project's design life. Risks associated with seismic shaking and strong ground motion are considered moderate but can be mitigated through appropriate geotechnical / structural design and construction practices. Seismic design parameters based on ASCE 7-16 are included in Appendix H.

**Liquefaction / Seismic Settlement**

Liquefaction is a phenomenon in which saturated, cohesionless soils lose strength during relatively severe earthquake ground motions, with potential for adversely affecting buildings and road structures. In general, during ground motion, saturated fine sands and silty sands tend to compact and decrease in volume, resulting in an increase in pore water pressure if drainage is impeded. If the pore water pressure becomes equivalent to the overburden pressure, the effective stress becomes zero and, consequently, the cohesionless soil loses its strength and is considered to be in a liquefied state. Factors known to influence the potential for liquefaction include soil type and depth, grain-size, relative density, groundwater level, degree of saturation, and both the intensity and duration of ground shaking.

According to California Geological Survey's web-based application (EQ Zapp), the site is located in Liquefaction Hazards Zone of required investigations and our subsurface exploration, as well as that of the previous consultant (SCG; Reference Nos. 2 and 3), has verified the presence of potentially liquefiable soils to depths of 50 feet. Liquefaction analyses performed by the previous consultant based on the results of their CPT test data (in their Feasibility Study; Reference No. 2) indicated potential dynamic settlements ranging from 5.08 inches to 7.62 inches under a major seismic event. In their Preliminary Geotechnical Investigation Report (Reference No. 3), repeat liquefaction analyses were performed using different analysis methods resulting in dynamic settlements ranging from 2.80 inches to 3.29 inches, including an additional liquefaction analysis of secondary CPT test data resulting in 4.56 inches of settlement.

Site liquefaction potential was evaluated utilizing the computer program LiquefyPro developed by CivilTech Software, based on the subsurface conditions encountered in our CPT-1 and CPT-2 (Appendix B). The results of this analysis indicate potential dynamic settlements on the order of 2.90 inches to 5.27 inches during a severe seismic event. This dynamic settlement is expected to occur over a large area and would result in areal subsidence, and the potential differential settlement is expected to be significantly less over any relatively small segment. However, given the nature of the proposed development, being comprised large-scale industrial warehouse facilities, differential settlements under current conditions could be significant. Remedial grading / foundation considerations and/or in-situ ground improvement measures are recommended hereinafter to help mitigate potential adverse effects due to soil liquefaction. The results of our liquefaction analysis are included in Appendix I.

**Lateral Spread**

Liquefaction induced lateral spreading is defined as the finite lateral displacement of gently sloping ground as a result of pore pressure build-up or liquefaction in a shallow underlying deposit during an earthquake. Factors known to contribute to lateral spreading include gentle surface slope, free-face conditions, shallow water table, and liquefiable cohesionless soils under a major seismic event. Lateral spreading is typically confined to the displacement of large, surficial blocks of soil in the downslope direction as a result of liquefaction in a subsurface layer.

Commonly associated with lateral spreading are slumping of embankments overlying liquefiable soils, resulting in settlements, lateral displacements, and surface cracks or scarps oriented near parallel to the top of slope. Although these slumps are the result of soil liquefaction, the slope failure can better be characterized as a rotational slide or slump. On flat terrain, lateral spread is limited by lack of topographic differential. During very high ground motion events, lateral spread may occur locally and in conjunction with other more widespread liquefaction mechanisms, and is likely to focus on weak susceptible ground adjacent to channels, excavations, and other locations with topographic discontinuities.

Given the character of the area surrounding the site, and considering the ground improvements afforded by remedial grading that will be associated with the proposed development, and based on performance in prior significant earthquakes, heavy lateral spread is considered a low risk, ground cracking and displacements and localized spread, particularly adjacent to channels, etc. is considered a moderate risk. This risk is improved by ground treatment and dewatering, as well as providing a capping of engineered fill.

**Tsunami**

Tsunamis are long-period ocean waves generated by the displacement of ocean water resulting from submarine landslides and/or fault rupture during large earthquakes. Coastal inundation / flooding as a result of tsunami can be caused by local and/or distant sources distributed throughout the Pacific Ocean. Tsunamigenic sources include local seismic sources like the Catalina Fault, Newport-Inglewood Fault and submarine landslides associated with the Palos

Verdes Peninsula. More distant sources include subduction-related faulting around the Pacific Rim near Alaska and Chile.

Topographic and regional maps indicate that the subject site is more than 6 miles inland from the coast / Pacific Ocean. The site sits at an elevation of approximately 37± feet above sea level and is not located in an area of known tsunami hazards according to Reference No. 8. Based on the above, risk of tsunami from the known sources described above is considered low.

**Seiche**

Seiche is defined as a standing wave oscillation effect generated in a closed or semi-closed body of water caused by wind, tidal current, and earthquake. Seiche potential is highest in large, deep, steep-sided reservoirs or water bodies (OFR 79-8). The nearest such bodies are the ponds located at the Los Alamitos racetrack, located 0.6 miles from the site, the El Dorado Park lakes, which are located approximately 3 miles from the site, and Carbon Creek, Coyote Creek, and San Gabriel River located as near as 0.7 miles from the site. Considering the relative distances and the various topographic obstructions, the potential for Seiche effects to the project site due to off-site reservoirs, etc., is considered nil.

It is important to note that in our experience, moderate to high ground motion occurrences can cause seiche effects in pools, spas, and ponds. If pools or other water features are planned near the residence or on the property, consideration for Seiche effects should be accounted for – as nuisance sloshing as a result of earthquake forces may cause localized flooding and related damage in their immediate vicinity.

## CONCLUSIONS AND RECOMMENDATIONS

From an engineering geologic standpoint, it is our opinion that the proposed development is feasible, provided that the recommendations provided herein and the City of Cypress grading requirements are incorporated in the design and implemented during construction.

Presented below are general guidelines and preliminary recommendations for incorporation into the project design and construction based on our findings, analyses, reviews and overall experience with similar conditions. These include grading / in-situ ground improvement, structure foundations, seismic design, structure setbacks, exterior flatwork, moisture / vapor retarder system for structures, soil expansion, corrosion considerations, retaining walls, asphaltic concrete pavements, storm water infiltration, utility trench backfills, site drainage, landscape irrigation and maintenance, and plan reviews, observations and testing.

**Geotechnical Considerations**

The major geotechnical factors that should be considered during project design include the following:

- Soil disturbance resulting from the demolition and removal of existing structures, ancillary elements, and underground utilities;
- Presence of existing fill soils to general depths of about 5 feet, locally more;

- Shallow groundwater levels at depths ranging from approximately 6 to 9 feet below existing site grades, with zones of overlying wetness that may be present;
- Static settlement due to foundation / improvement loading and dynamic settlement resulting from earthquake-induced liquefaction and shallow dry sand settlement;
- Constraints to remedial grading due to shallow groundwater levels;
- High ground accelerations / seismic shaking may be experienced at the site during its design life – therefore, the proposed structures should be designed and constructed to the prevailing standards and seismic design requirements;
- Soil exposure issues related to control of external influences on the structure – including water / moisture / vapor, vegetation (landscaping), soil chemistry (i.e. sulfate / pH issues), exposure to rain and weather.
- Typical measures to mitigate the potential adverse effects due to site liquefaction include the following, in order of decreasing effectiveness:
    - Improvement of liquefiable soils (e.g. dynamic compaction, compaction grouting, removal and replacement with approved compacted fill) would minimize the potential for dynamic settlement of the underlying soils and associated adverse effects to structures.
    - Structures supported on deep foundations (e.g. pile/grade beam system with structurally supported floor slab) would help mitigate temporary loss of foundation support due to liquefaction of the underlying site soils, although there may be some temporary loss of lateral support.
    - Structures supported on mat foundations may suffer distress in the form of differential movement due to temporary loss of foundation support during a major seismic event. However, it may be feasible to re-level mat supported structures utilizing compaction grouting / mud jacking procedures. Mat foundations typically outperform conventional footings in reducing the adverse effects associated with dynamic differential settlement.
    - Structures supported on strengthened conventional foundations (i.e., continuous and spread footings) incorporating some foundation redundancy would provide some measure of mitigation against the adverse effects due to site liquefaction. However, the structure may experience extensive distress.

Considering the type of development (i.e., warehouse / distribution center comprised of concrete tilt-up construction), shallow groundwater levels and associated constraints to remedial grading to mitigate static / dynamic structure settlements, structure sensitivity to differential settlements, and overall site area, recommendations for ground improvement to mitigate potential adverse effects due to soil liquefaction are provided herein. The in-situ ground improvement considerations recommended herein will provide some measure of mitigation and should provide

suitable levels of protection with regard to bearing failure, settlements, and limit lateral displacements, but will not eliminate the potential adverse effects to structures associated with soil liquefaction / dynamic settlement.

The following recommendations are specific to the currently proposed construction. Any deviation from the assumed loads and proposed construction is subject to review by the Project Geotechnical Engineer.

**Ground Improvement Considerations**

General Discussion

Considerations were given to in-situ ground improvement to mitigate potential site soil liquefaction to provide acceptable support of the planned structures, with limited remedial grading operations considered to provide support for planned pavement construction.

Preliminary assessment for in-situ ground improvement options were performed by Advanced Geosolutions, Inc. – design-build geotechnical contractor, utilizing the field findings available in the referenced Southern California Geotechnical reports and those findings obtained during our geotechnical exploration phase. Based on their assessment, viable ground improvement systems for the subject building include vibro-stone columns or deep soil mixing.

Ground improvement systems are installed under design-build contracts by specialty contractors. The required size, spacing, length, and strength of the ground improvement elements should be determined by the specialty contractor based on the proposed structural loads and desired level of improvement. Prior to submittal, our office will review the geotechnical aspects of the ground improvement program for concurrence with our findings and recommendations and provide comments / revisions as appropriate. The capacities of the ground improvement elements should be determined by the design-build contractor that installs the system; however, for planning purpose, it may be assumed that both ground improvement alternatives will extend to a depth ranging from 20 to 30 feet contingent upon desired structural performance. Based on the chosen ground improvement technique, the upper 12 to 18 inches or more of the working pad may need to be re-compacted after ground improvement installation, due to surface disturbance and potential ground heave. For this reason, we do not recommend preparation of the final pad or the construction of utilities prior to ground improvement.

Preliminary discussions of the two alternate approaches are presented in the following sections.

Stone Column

Stone columns would provide reinforcement within and to the surrounding soil via densification thereby increasing soil shear strengths and associated increased bearing capacities, decrease seismic deformations and associated structure settlements, resulting in reduced foundation costs. The construction process consists of utilizing pre-augered methods. The augered cavities are backfilled with aggregate that is compacted in place using static crowd pressure augmented with a high frequency, low amplitude, vibratory hammer. The impact hammer densifies aggregate vertically while the tamper foot forces aggregate laterally into cavity sidewalls resulting in stiff

stone column elements and stiffened matrix soil.

Stone columns can be installed at generally uniform spacings across the building footprint and to a lateral distance on the order of 15 feet beyond the structure footprints with a total coverage area of approximately 10 to 12 percent. Following installation, the planned structures may be supported by shallow conventional foundations with concrete floor slab.

Alternately, stone columns can be strategically placed at concentrated foundation load conditions, footing locations with input from the project Structural Engineer. For this alternative, conventional footings with structural floor slab would be used.

When considering stone columns, crushed/ processed concrete from demolition operations can be incorporated into the stone mix if the material meets certain criteria, and soil spoil materials generated from the drilling operations can be reused on-site to achieve planned grades and/ or dock height fill placements.

Deep Soil Mixing

Deep soil mixing (DSM) is a ground improvement technique through blending of hardening agent (usually cement grout) with the native soils. The process improves the strength and stiffness of the soil to increase bearing capacity, decrease settlement, and mitigate seismic issues. A revolving hollow shaft with mixing paddles and/or a section of auger (mixing tool) is advanced into the soil. As the mixing tool is advanced into the soil by a combination of rotation and crowd force, a grout slurry (comprised of cement and water) is injected through the hollow-stem and blended with the soil mix, creating a series of soilcrete columns. DSMs can also be amended to provide uplift capacity by introduction of tie-down rebar.

The DSM columns are typically separated from the bottom of the foundation using a minimum 6-inch layer of crushed rock or other similar “cushion material”. No direct structural connection between the DSM columns and the overlying structural element is allowed. Lateral resistance is provided by footing bottom friction at the “cushion” layer interface or passive resistance of the side walls. The target strengths of the DSM soils are usually between 100 to 300 psi at 28 days, depending on load demands. The strength is tested using ASTM D2166 “Standard Test Method for Unconfined Compressive Strength of Cohesive Soils”.

When considering deep soil mixing ground improvement, conventional footings with structural floor slab would be used. Excess soil spoil materials generated can be reused on-site to achieve planned grades and/ or dock height fill placements.

**Grading / In-situ Ground Improvements**

General

Presented below are recommendations to address site clearing/ preparation and remedial grading associated with the pavement/ ancillary construction and completion of structure pads. The actual design and magnitude of remedial grading and ground improvement will be refined and presented under separate reporting.

Site Clearing and Preparation

- Site preparation and grading should be made under the observation of the Project Geotechnical Engineer or Geologist, Project Engineering Geologist, and/or their field representative.
- Proper measures should be implemented during the performance of grading work to protect the work site, particularly excavated areas, from flooding, ponding and inundation due to poor or improper temporary surface drainage. During periods of impending inclement weather, temporary provisions should be made to adequately direct surface drainage, from all sources, away from and off the work site and to provide adequate pumps and sumps to handle any flow into the excavations.
- Prior to the start of the required earthwork and grading, all vegetation, surface trash, debris, and other deleterious materials should be removed from areas of planned grading and wasted away from the site. Vegetation removal should include root-balls and attendant root systems.
- Removal of existing structures should include foundations, concrete flatwork, and any remaining buried obstructions. Concrete fragments and construction debris from site demolition operations should be disposed of off-site.
- Any pipelines or conduits encountered within the zone of planned grading that are designated for abandonment should be removed from the construction area and ends cut and plugged according to the applicable Code requirements but not less than 10 feet outside the perimeter of the proposed construction area, or as property line considerations dictate. Non-reinforced concrete or clay pipes may be crushed in-place and incorporated in the fill.

Local ordinances relative to abandonment of underground utilities, if more restrictive, will supersede the above minimum requirements.

Remedial Earthwork

The following remedial grading recommendations were developed with consideration for ground improvement (Stone column or Deep Soil Improvement) to provide acceptable processing of the interface between the treatment zone and the overlying building envelop and support for the proposed structures within the development.

1. For planned building pad areas receiving new fill soils to achieve planned grades where the underlying soils were treated as described herein, remedial grading should consist, as a minimum, of an 8-inch scarification of the exposed soils and recompaction to at least 90 percent relative compaction at 2 to 3 percentage points wet of optimum moisture conditions (ASTM: D1557). Should unstable bottom conditions be experienced, additional site overexcavation and recompaction and/or bottom stabilization methods may be warranted and should be performed in accordance with our field recommendations based on the actual conditions encountered at the time of grading.

2. For planned building pad locations in areas of planned grade cuts, remedial grading should be performed, as necessary, to provide a working platform for stone column installation and deep soil mixing. During aggregate pier installation, it is anticipated that the upper approximately 12 to 18 inches of pad grade soils will become disturbed. Disturbed materials extending below proposed subgrade elevations will need to be reworked as engineered compacted fill. Additional remedial grading efforts should be performed, as necessary, based on the actual conditions exposed at the time of remedial grading efforts and to the satisfaction of the ground improvement specialist.
3. In areas extending beyond the zone of in-situ ground improvement, the existing site soils should be over-excavated to a 5 feet (minimum) depth below planned finish or existing site grades, whichever depth is greater. For ancillary foundation support, additional over-excavation should be performed, as necessary, to provide minimum of 3 feet of engineered compacted fill beneath footings, and to a lateral distance of 3 feet beyond footing edges.
4. Should undocumented fill soils outside the limits of the recommended ground improvement be exposed at depths greater than 5 feet the condition of the fills exposed should be evaluated in order to enable our office to provide additional recommendations, as appropriate.
5. As discussed in the Groundwater section of this report, the site is underlain by relatively shallow groundwater. A dewatering plan should be considered to mitigate this in construction. Even with an appropriate dewatering program, some excavation areas may experience wetness and or soft ground that may require supplemental means and methods to address, including local sumping and pumping, rock / lime / cent treatment, and top-loading.
6. Note that the groundwater at the site has likely been influenced by long-term regional drought and may be affected as a result. The effect would be expected as a sympathetic lowering. Therefore the water level may be higher in response to wet weather periods.
7. Dewatering, as may be required, should be performed in advance of the planned work, it may take considerable time to lower groundwater significantly. Note that once the ground in an excavation bottom is damaged by pumping and or turning quick, it can be difficult to regain control.
8. Dewatering may assist in ground improvement. It may be possible to integrate the dewatering with other ground improvement work planned for the site.
9. A study based dewatering program is recommended. Dewatering and disposal of developed water will likely require a permit from the State Regional Water Quality Control Board, and possibly other jurisdictions.
10. The shallow groundwater may adversely influence infiltration and other stormwater management options. An evaluation of storm drainage management and infiltration should be considered.

Excavation Procedures

Temporary excavations performed 4 feet or deeper in vertical should be shored or sloped in accordance with Cal OSHA requirements. Special construction techniques, such as slot cutting, may be utilized if excavations are greater than 4 feet vertical and site constraints preclude use of temporary slope cuts.

Excavations located along property lines and adjacent to existing structures (i.e. buildings, walls, fences, etc.) should not be permitted within two (2) feet from the existing foundations. Temporary slopes, if utilized, should be no steeper than 1.5:1 (horizontal: vertical) gradient with maximum height of slope not exceeding 20 feet. A representative of this firm should be present on-site during excavations to verify acceptability of temporary slopes. Acceptability will be dependent upon the soil conditions encountered, construction procedures and schedule.

Excavation slopes and cuts daylighting seepage, or seepage occurring at or near the base of these excavations may develop instability, raveling and piping. These should be addressed in the field by the geotechnical consultant on an actual conditions case-by-case basis.

It is imperative that grading schedules be coordinated to minimize the exposure time of these unsupported excavations. Once started, these excavations and subsequent fill operations should be maintained to completion without intervening delays imposed by avoidable circumstances. In cases where five-day workweeks comprise a normal schedule, grading should be planned to avoid exposing a grade or near-grade excavation through a non-work weekend. Where improvements may be affected by temporary instability, either on / or offsite, further restrictions such as slot cutting, extending workday-weekend schedules, and/or other requirements considered critical to serving specific circumstances may be imposed. Removal of unsuitable materials also may be affected by the above requirements.

Excavation Bottom Preparation

The acceptability of excavation bottoms should be evaluated by the Project Geotechnical Consultant prior to placing approved fill soils. Excavation bottoms should be thoroughly moisture conditioned, as necessary, to 2-3 percentage points above optimum moisture content depending on the soil type exposed, scarified to a depth of about 8 inches and compacted to minimum 90 percent of the laboratory maximum dry density (ASTM: D 1557). Should severe pumping and heaving conditions be experienced during excavation bottom preparation, it may be necessary to stabilize the bottom with a one to two feet layer of aggregate base material placed in a single lift rolled lightly with static equipment to achieve a firm and unyielding condition. The method of stabilization would be determined by a representative of our office at the time of grading and would be dependent upon the actual conditions encountered, equipment used, etc.

Fill Placement and Compaction

Fill materials should be placed in loose lifts not exceeding thickness that can be adequately and thoroughly processed and compacted by the equipment and methods utilized. These materials should be processed by blending and moisture conditioning to 2-3 percentage points above optimum moisture content, depending on the soil type, and compacted to at least 90 percent

relative compaction based on the laboratory maximum dry density assigned – to the satisfaction of the Project Geotechnical Consultant. All grading should be performed under the observation and testing of the Project Geotechnical Consultant or his representative.

Fill Materials

Fill materials should consist of clean onsite soil and imported soils and should be free of vegetation, reinforcing steel, hazardous materials, rocks greater than 6 inches in maximum dimension, and any other organic or deleterious materials.

It may be feasible to incorporate inert construction debris (concrete, brick, and asphalt) in the fill materials. The acceptability of this material for incorporation into the fill, and in particular when placed beneath the structure footprints, will be subject to the review and approval by the project environmental consultant. In general, said construction debris should be processed to 1.5" maximum sizes, and be blended with sufficient granular soils to infill void space, with resulting soil blend exhibiting less than 30 percent retained on the 3/4" sieve size. Crushed material blends should be reviewed by our office for acceptability prior to use as engineered fill.

Import soils, if required, should exhibit engineering properties similar to or better than the on-site material. The import soils should be approved by a representative of this firm, at the borrow site, at least 48 hours prior to importing.

Shrinkage and Subsidence

Based on the available field and laboratory test data obtained by the previous consultants and during the course of this geotechnical investigation, soil shrinkage factors within the upper 5 to 6 feet of existing grade are anticipated to generally vary from about 5 to 20 percent, when recompacted as structural fill. This range in soil shrinkage values most likely reflects variation in soil types relative to available maximum density test results, non-uniform fill soil conditions, and other factors. A shrinkage factor range of between 10 to 15 percent, with consideration for the upper bound limits of this range may be assumed for preliminary design purposes. Losses due to stripping of vegetation, demolition, unsuitable soil disposals, subsidence, etc. should also be accounted for in volume estimates.

Ground subsidence due to the removal / replacement of the site soils as recommended above is expected to be variable and would occur as a result of soil consolidation of the underlying natural soils due to increased loading from additional fill placements to achieve planned finish grades, as well as increased loading from excavated / recompacted soil materials. Some ground subsidence should be anticipated in areas to receive additional fills, and settlement monuments may be considered in those areas receiving new fills greater than about 4 feet above current site grades outside the limits of in-situ ground improvement.

Testing and Observations

Site preparation, grading, compaction, and backfill operations should be performed under the observation and testing of the Project Geotechnical Consultant or his representative. An adequate number of field tests should be performed to verify compliance with recommendations presented

in this report and local ordinances.

If it is determined during grading that site soils require over-excavation to greater depths for proper structural support, this additional work should be performed in accordance with the recommendations of the Project Geotechnical Consultant.

Fill materials should be compacted to the minimum 90 percent relative compaction based on the assigned laboratory maximum density determined in accordance with ASTM: D 1557. Road subbase and basecourse may require 95% relative compaction.

**Foundations**

Presented in the following are geotechnical criteria for design and construction of shallow conventional footings as well as concrete slab criteria for the proposed structures. Foundation design should consider anticipated post-construction settlements under both static loads and short-term seismic conditions, as appropriate.

Structure Foundations

Presented in the following are preliminary geotechnical criteria for design and construction of shallow continuous and spread footings for the support of structures with consideration for in-situ ground improvement support.

| | | |
|---|---|---|
| Allowable Bearing Pressure (1) | = | 2,500 psf |
| Minimum Footing Depth (2) | = | 24 inches |
| Minimum Footing Width | = | Per 2019 CBC |
| Passive Soil Pressure (3) | = | 250 psf/ft., subject to 2,500 psf maximum |
| Friction Coefficient | = | 0.4 (ultimate) |
| Minimum Footing reinforcement | = | For continuous footing, min. four No. 4 bars, two at top and two at bottom. |

(1) The above value may be increased 250 lbs./sq.ft. for each additional foot exceeding the minimum embedment depth, subject to a maximum of 3,500 psf. Allowable bearing pressures may be increased one-third for short term loading due to wind of seismic forces.

(2) Footing depth is below lowest adjacent soil grade. Footings should be deepened, as necessary, to depths equivalent to existing adjacent foundations, where applicable.

(3) Passive soil pressure value is for level soil conditions adjacent to footings.

Ancillary Construction

For ancillary construction located outside the limits of proposed in-situ ground improvement, the following design criteria may be used:

| | | |
|---|---|---|
| Allowable Bearing Pressure (1) | = | 1,500 psf |

| | | |
|---|---|---|
| Minimum Footing Depth (2) | = | 18 inches |
| Minimum Footing Width | = | Per 2019 CBC |
| Passive Soil Pressure (3) | = | 200 psf/ft., subject to a maximum of 2,000 psf |
| Friction Coefficient | = | 0.40 (ultimate) |
| Minimum Footing Reinforcement | = | For continuous footings, min. four No. 4 bars, two at top and two at bottom. |

(1) Allowable bearing pressures may be increased by one-third for short term loading due to wind or seismic forces.

(2) Footing depth is below lowest adjacent soil grade and founded on engineered compacted fill.

(3) Passive soil pressure value is for level soil conditions adjacent to footings.

General Foundation Construction Comments / Guidelines

General remarks regarding the construction of conventional footings are presented below:

Footing embedment depths should be maintained throughout the life of the structure, and not compromised via erosion softening, digging, landscaping, etc.

Where foundations encroach closer than five (5) feet horizontally from the flow line of drainage swales, the footings edges should be deepened sufficiently to maintain the required embedment depth below the adjacent flow line.

Foundation details such as concrete strength, reinforcements, thickness, etc. should be established by the Project Structural Engineer, considering the loading conditions. The recommended foundation embedment, thickness and reinforcements are minimum requirements and should be established by the Project Structural Engineer. More restrictive criteria based on structural design considerations or Code requirements shall govern.

Foundation excavations should be observed and approved by the Project Geotechnical Engineer prior to the placement of reinforcement or concrete. Forming of footing excavations may be required. Excavations should be free of slough and debris and thoroughly moisture conditioned prior to placing concrete.

Excavated material from footing and utility trenches should not be placed in slab-on-grade areas unless properly compacted and tested.

Footings should be doweled to the floor slab with No. 4 bars at 18 inches on center.

Floor slabs should be underlain by a moisture vapor retarder, as recommended hereinafter, to mitigate moisture / water vapor intrusion into the structure.

Foundation details such as concrete strength, reinforcements, etc. should be established by the Project Structural Engineer. More restrictive criteria based on structural design considerations or

Code requirements shall govern.

**Concrete Floor Slab-on-Grade**

Presented below are preliminary geotechnical criteria which may be used for concrete floor slabs on grade.

Concrete Slab Thickness = 7 inches or per structural design

Minimum Reinforcement = Per Structural Engineer

In order to minimize migration of moisture through the concrete slab from soil sub-grade and damage to floor coverings, a moisture / water vapor retarder system should be placed beneath floor slabs in areas to be tiled, carpeted, or otherwise considered moisture sensitive. Recommendations relating to the placement and location of this moisture vapor / retarder are provided in the “Moisture / Water Vapor Retarder for Concrete Slab-on-Grade” section. The use of a hydrophobic additive, such as Xypex or Hycrete, in the concrete should be considered, given the shallow groundwater conditions.

The prepared soil sub-grade should be moisture conditioned to and maintained at about 1 to 3 percentage points wet of optimum moisture contents to a depth of 12 inches and exhibit at least 95 percent relative compaction as determined by ASTM: D1557.

Interior floor slabs should be properly designed for the construction and service loading conditions, and potential differential movements. The structural details, such as slab thickness, concrete strength, reinforcing criteria, joint spacing, etc. should be established by the Project Civil / Structural Engineer.

To minimize slab curling, a low shrinkage / low slump concrete (concrete mix with a minimum 4,500 psi compressive strength and maximum water cement ratio of 0.45) should be used for the slab construction, as determined by the Project Structural Engineer. The mix design should be verified by the Project Civil / Structural Engineer, and placement of concrete should be observed and certified by the Concrete Deputy Inspector, as required.

**Settlements**

Some structure movement should be expected both during and following construction, even when supported on a zone of in-situ ground improvement, due to various factors including, but not limited to:

- Surcharge loading due to dock height fill construction;
- Sequence of foundation and slab loading during construction;
- Variation in structural loads along foundation elements;
- Variation in underlying soil types with different compressibility indices and subsurface soil profile and associated primary and long-term secondary consolidation settlements; and
- Potential dynamic settlement under a major seismic event

Total static settlements for foundations would be dependent upon the actual structural loading conditions and configuration, remedial grading performed, final grades, and final design / specifications and installation of the ground improvement program. For appropriately designed and constructed structure foundations and supporting loads typical for the concrete tilt-up construction (column and wall loads on the order of 125 kips and 5 kips/lineal foot, respectively), static settlement estimates following in-situ ground improvement are estimated to be on the order of 1-inch total. Differential settlements under static conditions are not expected to exceed ½-inch over a distance of approximately 50 feet and between similarly loaded adjacent foundations.

Under exposure to short term seismic loading during a major seismic event, the site is prone to additional settlements due to soil liquefaction. Liquefaction settlements under seismic conditions are anticipated to vary with the variance in the underlying site soil conditions. For preliminary design purposes and when considering in-situ ground improvement, average dynamic settlements on the order of 1-inch total may be considered and are expected to occur over a large area. Generally, the differential settlements at level sites are expected to be small even if the total settlements are large, and for preliminary design purposes are estimated to be on the order of ½ inch over a distance of approximately 50 feet. Potential dynamic settlements under a major seismic event should be further evaluated/ substantiated by our office and the ground improvement specialist based on review of the ground improvement program selected.

Total and differential settlement potentials for ancillary construction outside the limits of in-situ ground improvement would be dependent upon foundation loads, location relative to planned grade cuts and fill placements, etc. For preliminary design purposes, total and differential static settlements on the order of 1 inch and ¾ inch over a distance of approximately 30 feet may be considered for lightly loaded ancillary footings supported on engineered compacted fill as recommended in the Grading section. Under seismic load conditions, additional potential total and differential settlements could be on the order 2-1/2-inches and 1-1/2 inches over a distance of 50 feet respectively

The above estimated potential settlements should be substantiated by our office and the ground improvement specialist based on review of final foundation plans and proposed ground improvement measures and limits.

Additional Considerations Regarding Settlement and Improvements:

1. General fill equilibrium will develop with time but is most affected by changes in soil moisture;
2. Sequence of foundation and slab loading and variation in structural loads along foundation elements during construction can impact differential movements;
3. Variation in underlying soil types with different compressibility indices, subsurface soil profiles, and subsurface drainage systems and conditions will affect primary and long-term secondary consolidation settlements;
4. Moisture changes due to climatic and non-climatic influences following construction, and associated shrink / swell of expansive soils;

5. Soil shrinkage and expansive behavior will be separate and is considered independent of settlement as a result of fill placement and associated loading from water and structures;
6. Soil shrinkage and expansion effects that are not reconciled in the design and construction will have a direct impact to top of slope improvements and associated lateral deformation;
7. Adequate and properly designed and functioning area drainage systems combined with the proper landscape design and watering programs would significantly help reduce the potential for expansion and shrinkage and long-term slope deformation; and

It should be noted that moderate slab on grade cracking may be observed within the first week after construction that are not related to soil movement. These are related to water cement ratios exceeding specifications and inappropriate finishing techniques.

Seismic Design Considerations

The site is in a zone of high seismic activity / exposure. Strong ground motion from an earthquake generated along active faults should therefore be anticipated at this site. Based on the presence of liquefiable soils to depths down of 50 feet below the site, the site qualifies as Site Class F and the proposed development should be designed and constructed to the prevailing standards regarding seismic design. Seismic design parameters based on standard procedures for Default Site Class D (ASCE 7-16) are included in Appendix H and should be reviewed for acceptability by the Project Structural Engineer based on current and applicable CBC requirements, as appropriate.

**Moisture / Water Vapor Retarder for Concrete Slab-on-Grade**

It should be recognized that, even with site surface and sub-drainage measures, there is potential for saturation of ground beneath concrete floor slabs due to water infiltration from irrigation, rain, and run-off or flow through the soil subgrade. The upward migration of moisture in vapor phase from soil subgrade through the slab-on-grade is inevitable. It is imperative that the Contractor properly install the recommended site drainage measures, utility trench backfill, and the moisture / water vapor retarder system in accordance with the project design requirements and specifications to mitigate potential moisture / water vapor transmission into the structures.

On this project, the presence of relatively shallow groundwater is expected to exacerbate moisture-vapor intrusion issues.

In order to reduce the potential for moisture / water vapor migration up through the slab in moisture sensitive areas, and possibly affecting floor covering, wood cabinets and other objects, a moisture / vapor retarder is recommended under concrete slab-on-grade in these areas. The recommendations provided below are based on the guidelines of the American Concrete Institute:

The moisture / water vapor retarder should consist of high strength membrane and should meet or exceed the ASTM: E-1745-97 Class A material requirements for water vapor permeance, tensile strength, and puncture resistance. The vapor retarder should consist of “Stego Wrap” (Stego Industries, LLC) or “Vapor Block” VB 15 (Americover, Inc.), or approved equal.

The installation of the moisture / water vapor retarder system requires specialized knowledge and experience and should be accomplished with the technical assistance and supervision of retarder system manufacturer and/or supplier. The membrane should be properly lapped and sealed. Membranes intersecting utility pipes, sewer lines, ducts or drains must be properly wrapped around the penetrations and sealed. All punctures and rips in the membrane should be repaired prior to placement of concrete, following manufacturer's recommendations.

The vapor retarder should be installed in general accordance with the procedures outlined in ASTM: E-1643, and in conformance with the installation procedures recommended by the manufacturer.

In addition, floor coverings (e.g., wood, tile, etc.) and other built-in features should be carefully selected with vapor transmission in mind and include proper preparation and installation in accordance with the manufacturer's recommendations.

Moisture-vapor intrusion may be further reduced at the slab level by use of consistent and low water cement ratios (ie. do not allow addition of water to concrete during the pour operations), proper finishing and curing (moist or wet cure for the first several days will reduce permittivity) and consider use of a hydrophobic additive such as Xypex or Hycrete that heal microcracks and seams and improve overall water resistance.

It should be emphasized that, even with proper moisture / water vapor installation, proper control of irrigation and landscape water adjacent to the structure is very important to minimize problems caused by moisture and water vapor intrusion and is the responsibility of the Property Manager / Owner, including the maintaining of proper site drainage as recommended hereinafter.

Planters and similar open to the ground adjacent to building areas is an invitation to moisture and other problems. These should be avoided. Concrete / paved surfaces should have clear positive drainage away from the building to an approved disposal / drain. Roof drains should include hard conveyance away from the proximity of the building.

**Soil Expansion**

The near surface site soils consist predominantly of sandy soils, and these soils are expected to exhibit very low soil to low expansion. During site grading, the soil expansion potential of the exposed soil blend should be verified by additional laboratory testing.

**Soil Corrosion and Concrete Design**

Based on the laboratory test results presented in Appendix C, sulfate exposure for concrete ranges from S0 to S1. It has been our experience that post-construction factors such as near surface soil wetting and drying cycles, and other changes with time can increase the concentrations of soluble sulfate and other derogatory salts and these conditions predispose them to being highly corrosive to both concrete and buried metals. Higher strength concrete with lower water / cement ratio will improve overall slab performance, durability, and water and corrosivity resistance.

In an abundance of caution and to account for potential future conditions, we recommend

concrete in contact with soils be designed for a minimum compressive strength of 4,500 psi and maximum w:c = 0.45.

Laboratory tests to evaluate the potential soil corrosivity to metallic installations were performed as part of the Feasibility Study by SCG (Reference No. 2). Based on these preliminary results, the soils along with any transient waters flowing through them should be considered to be highly corrosive to metals in contact with them. Attention to minimizing galvanic / chemical corrosivity (i.e., protective coatings, dielectric couplings, eliminating mixing metal types in contact or in near vicinity to each other) where in contact with soil and soil moisture can minimize these effects. An experienced corrosion consultant should be retained and their recommendations incorporated into the design if special / critical corrosive issues exist or further corrosion potential study is warranted.

**Retaining Walls**

Lateral Earth Pressures

The earth pressure acting on retaining walls depends primarily on the allowable wall movement, type of backfill materials, backfill slopes, wall inclination, surcharges, and hydrostatic pressure.

The following lateral earth pressures are recommended for the design of vertical cantilevered retaining walls (active case) and restrained walls (at-rest case) with no hydrostatic pressure, level backfill conditions, and no surcharge loading.

| Wall Condition | Backfill Type | Equivalent Fluid Pressure |
|---|---|---|
| Active (Cantilever) | Sandy soils | 40 pcf |
| At Rest (Restrained) | Sandy soils | 60 pcf- |

These values are applicable for compacted sand backfill placed between the wall stem and an imaginary plane at 45 degrees from the edge of wall footing.

For design purposes, walls supporting dock height fill construction should be based on at-rest earth pressures. The surcharge effect of anticipated loads on the wall backfill (e.g. traffic, construction equipment, footings, etc.) should be included in the wall design. For walls free to deflect or restrained, 33 or 50 percent, respectively, of the maximum surcharge load located within a distance equal to the height of the wall

Backfill

Retaining wall backfill should consist of select backfill comprised of free-draining granular soils exhibiting an expansion index (EI) of 30 or less. The backfill should extend within a 45-degree plane from the wall footing.

Retaining wall backfill should be mechanically compacted to minimum 90 percent of the applicable laboratory maximum density (ASTM: D1557) and performed under the observation and testing of the Project Geotechnical Consultant.

No jetting, ponding, or flooding should be permitted. No backfill should be placed against concrete

until minimum design strengths as determined by compression tests of cylinders are attained.

Retaining Wall Backdrainage

As a minimum, subdrainage system for retaining walls (excluding walls supporting dock height fill construction) should be included as part of retaining wall construction. Sub-drains should consist of 4-inch diameter, perforated Schedule 40, PVC pipe or equivalent, embedded in approximately 3 cubic feet per lineal foot of clean, ¾-inch crushed aggregate, or approved alternate. This permeable material should be enveloped in geofabric consisting of Mirafi 140 or equivalent. The pipe and trench bottom should be sloped at a gradient of 2± percent to a suitable discharge outlet. Sub drains placed behind retaining walls should be approved by the Project Geotechnical Consultant prior to backfill placement.

Should seepage be experienced through retaining walls from nuisance water (e.g., irrigation, precipitation), staining and mineral development may result and necessitate periodic maintenance / cleaning. Note that efflorescence should not be confused with permeating water effects; some efflorescence is to be expected and is considered normal.

**Concrete Flatwork**

Exterior Flatwork

The concrete slab design and construction details should be established by the Project Design Engineer. From a geotechnical standpoint, the minimum criteria for exterior flatwork should consider low soil expansion potential and should be in accordance with the requirements of the project structural engineer and specialty contractor / consultant. Exterior hardscape / pavement construction in areas to receive substantial new fills to achieve planned grade elevations are expected to exhibit post construction total and differential movement due to surcharge fill loading on the underlying native soils and this may occur over several months or more. Depending on the magnitude / severity of post construction movement, it may be necessary to perform periodic repairs and/or relevelling / replacement of affected hardscape. Sidewalks and walkways should be 4 inches thick (minimum) and may be placed directly on the approved compacted subgrade. To control cracking, the slab should include joints at approximately 10 feet spacing (maximum). The slab design and construction details should be established by the Project Design Engineer.

Slab Sub-Grade Pre-Saturation

Prior to concrete placement, the prepared soil sub-grade should be moisture conditioned to and maintained at about 1 to 3 percentage points wet of optimum moisture contents to a depth of 12 inches and exhibit at least 90 percent relative compaction as determined by ASTM: D1557.

**Asphalt Concrete Pavement Design**

For preliminary design purposes, the following asphalt concrete pavement sections are recommended for the automobile parking lot and access drive areas. These sections were computed using Caltrans Highway Design Manual method, based on the assumed Traffic Indices shown below and an assumed R-Value of 20 for the resulting blend of site soils compacted as sub-grade.

| Pavement Utilization | Traffic Index | Asphaltic Concrete (in.) | Aggregate Base (in.) |
|---|---|---|---|
| Parking Areas | 5.0 | 4” | 6” |
| Access Drives | 8.0 | 6” | 12” |

The applicability of assumed traffic indices should be verified by the Project Civil Engineer. Aggregate base should consist of crushed base (CAB or CMB) as specified in the Standard Specifications for Public Works Construction (Green Book) and be compacted to 95 percent of the maximum laboratory density determined in accordance with ASTM: D1557.

The soil sub-grade to a depth of 5 feet should be compacted to minimum 90 percent relative compaction in accordance with the recommendations under “Site Grading”. The surface of the subgrade soil supporting basecourse should be compacted to at least 95% relative compaction and exhibit a firm and unyielding surface immediately prior to placement of base material, in addition to the recommended minimum compaction. Final compaction and testing of pavement sub-grade should be performed just prior to placement of aggregate base, so that the subgrade does not deteriorate for whatever reason in the interim..

The pavement sections shown above should be considered tentative and should be verified by R-value testing of sub-grade soils at the completion of grading. Further analysis and evaluation are necessary, if the design traffic index and the sub-grade R-value are different from those used in our analyses.

Should pavement construction be performed in stages, with the initial course section to be followed by asphalt cap layer after completion of on-site construction, it should be noted that some repairs / replacement of pavement should be anticipated, particularly in areas of concentrated construction traffic and along junctions prone to water seepage to the underlying pavement subgrade soils (e.g., pavement edges adjacent to curb / gutter construction).

**Concrete Pavement Design**

Concrete pavement design was based on review / comparison of the following methodologies with consideration for assumed truck frequencies at the subject property.

For the PCA Simplified Design Procedure, the following parameters were considered: Axle Load Category of 2 assigned to collector streets, rural and secondary roads (relatively high axle loads for this category) and arterial streets and primary roads (relatively low axle loads for this category), respective maximum single and tandem axle load distributions of 26 kips and 44 kips, low subgrade soil support, pavements with doweled joints for load transfer, supported edges (curbs, gutters or widened lane), and a concrete Modulus of Rupture (MR) of 650 psi.

For the ACI Guideline Document - “Guide for the Design and Construction of Concrete Site Paving for Industrial and Trucking Facilities” (ACI330.2R-17), considerations were given to a Modulus of Subgrade Reaction of 150 pci, a concrete Modulus of Rupture (MR) of 650 psi, supported pavement edges, dowels in construction joints, and axle load distributions representative for major arterial over-the-road truck category.

For both methods, two-axle four tire trucks are excluded, and concrete pavement section considerations assume appropriate construction/ contraction joint spacings and joint sealing, and minimum design service period of 20 years.

Concrete Pavement Section

Based on the above considerations, the following concrete pavement sections are recommended:

| Trucks Per Day (*) | Concrete Pavement Thickness (**) |
|---|---|
| 50 | 6 inches |
| 100 | 7 inches |

(*) For axle load distributions representative for over-the-road truck category major arterial per day design lane.

(**) Minimum concrete compressive strength of 4,500 psi with maximum water cement ratio of 0.45 and Concrete Modulus of rupture of 650 psi.

The Project Civil / Structural Engineer should establish structural details of the pavement, such as concrete mix design, reinforcing, longitudinal and contraction joints, load transfer devices, etc. As a minimum the longitudinal and contraction joints should be based on PCA and ACI guidelines.

The above Portland Cement Concrete pavement sections are a minimum. More restrictive criteria based on civil / structural design and jurisdictional requirements shall govern.

Pavement Subgrade

The subgrade soils beyond the limits of in-situ ground improvment should be over-excavated to a depth of at least 5 feet and recompacted to minimum 90 percent relative compaction at approximately 1-3 percentage points above optimum moisture content (ASTM: D1557). The uppermost one foot of the pavement subgrade should be compacted to at least 95 percent relative compaction and exhibit firm and unyielding condition prior to placement of base material.

Subbase Considerations

The pavement subgrade soils are expected to be comprised of a blend of the near surface soils at the completion of remedial grading operations. The use of a subbase directly beneath concrete pavement construction can improve load transfer across the joints and mitigate potential for soil erosion and pumping along the joints where the soil subgrade blend may include more than 15 percent fines passing the No. 200 sieve size. Upon request, recommendations for incorporating a subbase layer beneath concrete pavement construction can be provided.

Joint Spacings and Dowels

Longitudinal and contraction joints should be based on ACI / PCA guidelines. Concrete pavement crack control joints should be spaced at a minimum of 10 feet (5 feet preferred, and not exceeding 14 feet) on center with dowels incorporated along contraction joints or other load transfer mechanisms, or as specified by the Project Civil / Structural Engineer and should include additional joints to facilitate irregular pavement boundary conditions. From a performance

standpoint, closer spacing and strategic location of control joints at returns, corners, and other areas that focus stress should be considered.

Where movement is expected in a construction or control joint, and both sides are restrained, a combination of waterstop (where transmission of water through the joint is to be avoided) and doweling may be used. Dowels installed across construction joints may consist of 1.5-inches diameter, epoxy-coated smooth dowels, 18 inches in length, placed mid-height of slab and so the dowel is centered across the joint, and spaced at 12 inches on center where joint is new to new.The dowel should be greased to limit bonding so slip may occur. In the case where movement is expected, but joining existing to new, the dowels should be placed similarly, but embedded and epoxied accordingly into the existing work, and the unbonded end that will extend into the new work greased with commercial waterproof grease.

Waterstops for control joints accommodating movement should preferably consist of the “hard” plastic type that have a crude dumbbell or similar shape and a center bulb that can accommodate the anticipated range of motion. The details of installation are highly dependent on the nature and expectations of the joint. We would be happy to provide additional input and recommendations to address particular conditions.

Where the control joint is to be restrained, such as in concrete pavement, doweling may consist of #5 or larger bar placed at slab mid height following the above criteria (18” overall dowel length, centered over joint, spaced 12” on center. Where joining new to new, the deformations of the rebar should provide adequate “bite;” where joining existing to new, the new rebar should be placed into an appropriately sized and cleaned out hole drilled into the existing work, and the dowel half embedded in the hole by epoxy.

Where control joints in concrete pavement occur where standing water or flowlines are associated (such as where pavement section joins a gutter, intake basin or similar), a waterstop incorporated into the joint should be considered to limit influx of waters into the subgrade. Consideration to thicken the edges of the slab on either side of the joint should be given where a higher degree of performance is expected.

Alternatively, the design may be per Civil / Structural Engineer design.

Factoring Site-Specific Considerations

Site specific factors such as expansive soils, variability, mediocre drainage, and related factors need to be considered. Should anticipated truck frequency and / or maximum truck axle loading conditions be different from the above assumed considerations, our office should be contacted for further evaluation and recommendations, as appropriate.

Curb / gutters should be monolithic to the extent feasible. Pavement edges in the proximity of open ground or similar may benefit from a thickened edge.

Special Note - Finishing and Curing of Concrete

Of critical importance to the long-term / lifelong behavior and performance of concrete is how it is place, finished, and preliminarily cured. Detailed studies by the Bureau of Reclamation have

shown that low water-to-cement ratio, high strength concrete – such as is recommended herein – has inherently much lower shrinkage and much higher water tightness than the mediocre concrete originally specified when properly placed and finished. For this reason, water should not be added to the mix for any reason. If a stiff mix is an issue – fluidizer and similar admixtures should be considered – to be based on join recommendations of the Project Geotechnical and Structural engineering consultants.

The Bureau's studies also showed that both early and overall strength is greatly improved and issues with cracking, crazing, and surface abrasion resistance are also improved where properly placed and finished concrete is allowed to wet or moist cure for at least 5 to 7 days. Crack control joints should be performed at the proper time and using proper methods / materials. These recommendations are considered paramount to long-term performance. Structural Review

The above recommended concrete pavement recommendations are a minimum. The structural design (e.g., concrete mix design, reinforcing, longitudinal and contraction joints, load transfer devices, etc.) by the project Civil / Structural Engineer, where more restrictive, shall govern.

**Utility Trench Backfill**

- Bedding material should consist of sandy material exhibiting a Sand Equivalent (S.E.) value of 30 or greater and should comply with the requirements of the controlling governing jurisdiction.
- The site soils are considered suitable for trench backfill, provided they are free of organic material and rocks over 4 inches in maximum dimension.
- To reduce potential water migration into building sub-grade through the granular bedding / shading layer and trench backfill, utility trenches should be backfilled with the onsite finer grained materials or sand-cement slurry for minimum 3 feet length at their entry points.
- Backfill of all exterior and interior trenches should be placed in thin lifts not exceeding 4 inches and mechanically compacted to achieve a relative compaction of not less than 90% based on ASTM: D1557. Care should be taken not to damage utility lines.
- Utility trenches should not be located within the influence of footings. This is defined as a zone located below the footing and a line sloping at an inclination of 1:1 (horizontal to vertical) outward from the outside edge of footings. If utility lines are located within the zone of footings, the backfill should be compacted to a minimum 95 percent relative compaction or slurry backfilled (minimum 1-1/2 sack cement - sand mix).
- Trenches greater than 4 feet in depth should be shored or sloped back as required by the local regulatory agency, the State of California Division of Industrial Safety Construction Safety Orders, and Federal OSHA requirements.

As described in the Groundwater section of this report, the site includes shallow groundwater conditions. Where trench excavations come close to or intersect the water table, the groundwater may react adversely. These effects may include bottom quickening / heaving, sidewall raveling, sloughing and calving, and decrease in sidewall stability. Where trenching will be below 5-feet,

special means and methods may be required to address and stabilize the situation. This office should be consulted for specific recommendations and support where this may occur.

**Site Drainage**

Of all the post-construction maintenance items – attention to site drainage is the most important. Nuisance water is the cause of most potential problems.

The Client, Landscape Architect, and Property Manager should be aware of the potential problems that may develop when drainage is altered through construction of retaining walls, paved walkways, and patios. Conditions which will lead to ground saturation must be avoided.

- All roof and surface drainage should be directed away from structures and their appurtenances and slopes to approved drainage facilities. Ponding of water should be avoided. Per the 2019 CBC, a minimum gradient of 5 percent away from structures should be maintained for graded soil areas to a distance of 10 feet or to approved drainage swales.
- The recommended drainage patterns should be established at the time of fine grading and maintained throughout the life of the structure or, if altered, should be replaced with properly designed area drain system.
- Irrigation activities at the site should be monitored and controlled to prevent over watering. Planter and lawn areas adjacent to structures should be avoided. If utilized, these should include measures to contain irrigation water and prevent moisture migration into the walls and under foundations and slabs-on-grade.
- Plants with aggressive roots should be avoided. Trees should be planted in designated tree wells that limit lateral and promote deeper root movement.
- Planters should be well drained. Root barriers should be considered to limit invasive roots from getting out and under the surrounding pavement. The incorporation of “Bio Barrier” fabric in root barriers is specifically recommended. Bio Barrier includes a hormone chemical that keeps roots away without harming the plants.
- The selection of plant palettes should be based on that which is suitable for the area and be drought tolerant. For any planned bio-swales or bio-basins, specific plant palettes may be required to address particular conditions. Our office should be consulted to provide such guidance as may be required.
- It is imperative that all new construction maintain positive drainage to suitable discharge facilities. Adequate area drainage systems should be installed in planter areas and within flatwork areas, as required.

**Landscape, Irrigation, and Maintenance**

General guidelines for landscape, irrigation and maintenance are shown below:

- Landscape planting should consist of appropriate drought resistant vegetation as

recommended by the Landscape Architect. Landscaping of slopes should be completed as soon as possible and properly maintained;

- The property owner is responsible for proper irrigation and for maintenance and repair of installed irrigation systems. Leaks should be repaired immediately. Sprinklers should be adjusted to provide maximum coverage with a minimum of water usage and overlap. Over-watering with consequent excessive runoff and ground saturation must be avoided;
- If automatic sprinkler systems are installed, their use should be adjusted to account for natural rainfall conditions;
- All interceptor ditches, drainage terraces, down-drains, and any other drainage devices that have been installed must be maintained and cleaned;
- If rodent activity is present, the property owner should undertake a program for the elimination of burrowing animals. This should be an ongoing program in order to promote stability; and
- Water should be directed away from constructed slopes faces. This may require the construction of berms or ditches along the top of slopes, if such devices are not in place.

**Plan Review, Observations and Testing**

During the design and precise grading phases, the final Precise Grading and Foundation Plans, including the design details of planned structures (e.g., location, configuration, design loads, etc.) should be provided to the Project Geotechnical Engineer to verify the applicability of the recommendations provided above and to develop additional and/or revised recommendations, as appropriate.

Precise grading, including foundation and on-site construction should be performed under the observation, documentation, and testing by the Project Geotechnical Consultant. To document actual conditions encountered, work performed, and any in-field modifications / adjustments, an As-Graded report should be prepared upon the completion of work.

**CLOSURE**

Our evaluation and preparation of this report are based on our experience and our knowledge of the site and were obtained in accordance with currently accepted professional engineering principles and practice in the field of geologic and geotechnical engineering and reflect our best professional judgment. We make no other warranty, either express or implied. This report is subject to supplementation and revision as new information becomes available and the designs are refined. This report is also subject to the review of the controlling jurisdiction and any comments / responses become a part hereto and the project specifications.

The recommendations provided by this firm are made on the assumption that we will be retained to perform the geotechnical onsite observation, testing and support associated with the proposed work. If another geotechnical firm is used, these and any other applicable recommendations developed by this firm are considered void. G3SoilWorks is not responsible for any implementation of recommendations or grading / construction that it did not have an adequate opportunity to observe, test, comment on, and document. Similarly, should unanticipated conditions be encountered or alterations to the current design be made, this office should be given the opportunity and retainage to evaluate and provide revisions / updates as warranted.

We appreciate the opportunity of being of service to you on this project. Should you have any questions or need additional information, please contact the undersigned.

Sincerely,

**G3SoilWorks, Inc.**

By: _____
Daniel J. Morikawa, P.E., G.E.
Director of Engineering

REGISTERED PROFESSIONAL ENGINEER
DANIEL J. MORIKAWA
GE 2726
GEOTECHNICAL
STATE OF CALIFORNIA

By: _____
Steve E. Strickler, P.E., G.E.
CEO / Principal Geotechnical Engineer

REGISTERED PROFESSIONAL ENGINEER
STEVEN E. STRICKLER
GE 2265
GEOTECHNICAL
STATE OF CALIFORNIA

By: _____
Erik C. Haaker, P.G., C.E.G.
Senior Engineering Geologist

CERTIFIED ENGINEERING GEOLOGIST
ERIK C. HAAKER
No. 2708
EXP. 2/29/23
STATE OF CALIFORNIA

Attachments: List of Selected References

Figure 1 – Site Location Map
Figure 2 – Boring / CPT Location & Groundwater Map
Figure 3 – Geologic Map
Figure 4 – Fault Activity Map

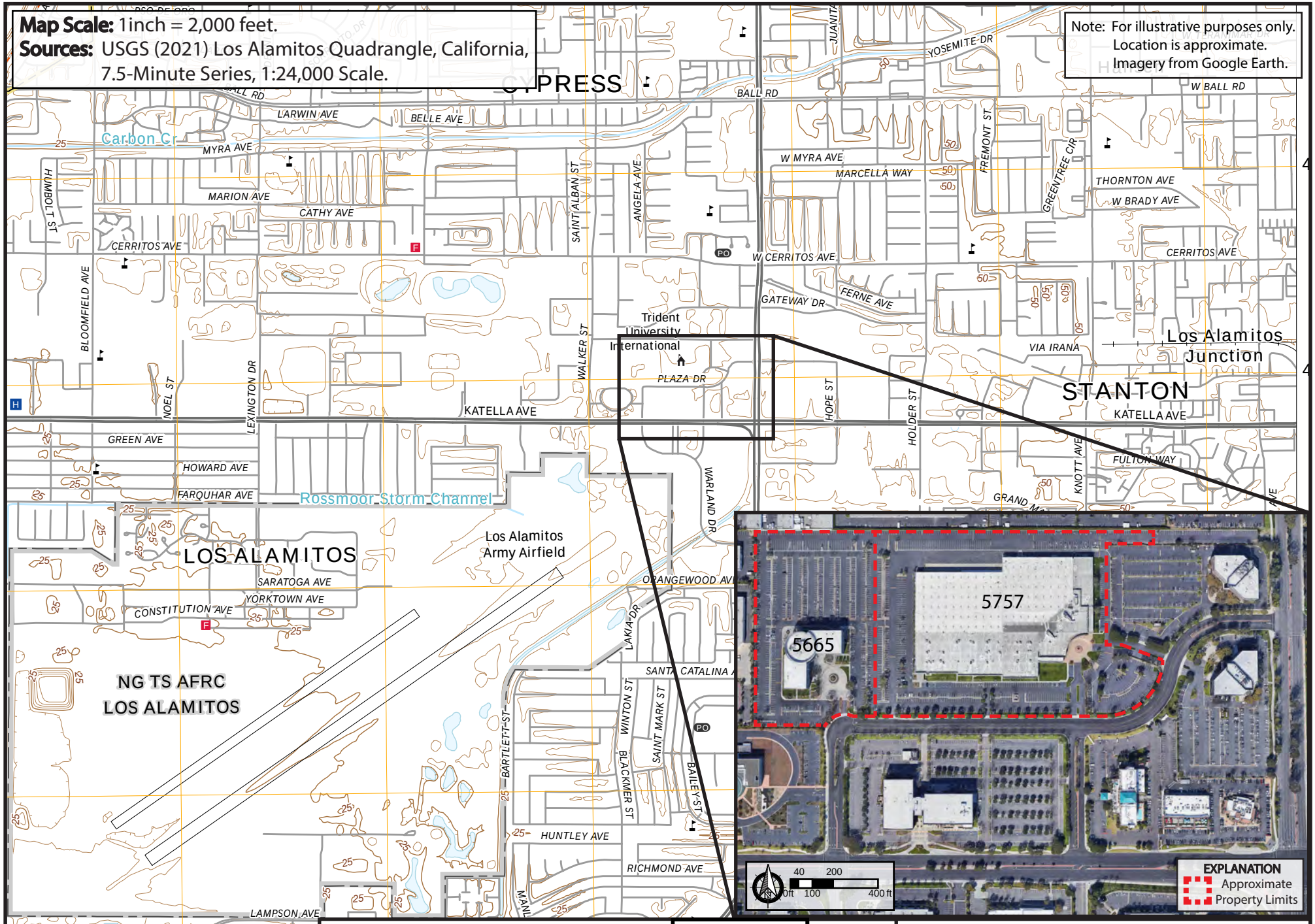
Appendix A – Geotechnical Boring Logs
Appendix B – CPT Results
Appendix C – Laboratory Test Procedures and Results
Appendix D – Reference No. 2 Excerpts
Appendix E – Reference No. 3 Excerpts
Appendix F – Well Permitting Documents
Appendix G – As-Built Well Diagrams
Appendix H – ASCE 7-16 Seismic Design Criteria
Appendix I – Liquefaction Analyses

## LIST OF SELECTED REFERENCES

1. PBLA Engineering, Inc., Concept Grading Plan – Buildings 1 & 2, Goodman Commerce Center – Cypress, WO 128-7, Sheet 1 of 2, Dated August 3, 2021.
2. Southern California Geotechnical, Geotechnical Feasibility Study, Proposed Commercial / Industrial Development, 5665 and 5757 Plaza Drive, Cypress, California for Goodman, dated June 7, 2021, Project No. 21G150-1R.
3. Southern California Geotechnical, Geotechnical Investigation, Proposed Commercial / Industrial Development, 5757 Plaza Drive, Cypress, California for Goodman, dated September 29, 2021, Project No. 21G201-2.
4. Barrows, A.G., 1970, A Review of the Geology and Earthquake History of the Newport-Inglewood Structural Zone, Southern California, California Division of Mines and Geology Special Report 114.
5. Trifunac, M.D., 2003, Nonlinear soil response as a natural passive isolation mechanism> Paper II. The 1933, Long Beach, California earthquake. Soil Dynamics and Earthquake Engineering 23, 549-562.
6. ARCADIS, “Second Quarter 2014 – Annual Status Report Submittal”, 5100 Katella Avenue, Los Alamitos, Orange County, California, dated August 12, 2014.
7. California Division of Mines and Geology, Seismic Hazard Zone Report for the Los Alamitos 7.5-minute Quadrangle, Los Angeles County and Orange County, California”, Seismic Hazard Zone Report 019, 1998.
8. California Emergency Management Agency, et al., Tsunami inundation Map for Emergency Planning, Los Alamitos Quadrangle, State of California, Orange County, dated March 15, 2009.

**Map Scale:** 1inch = 2,000 feet.
**Sources:** USGS (2021) Los Alamitos Quadrangle, California, 7.5-Minute Series, 1:24,000 Scale.

Note: For illustrative purposes only.
Location is approximate.
Imagery from Google Earth.




| | | | |
|---|---|---|---|
| Site Location Map | | Project No. 1-1209 | May 2022 |
| 5665 and 5757 Plaza Drive | Cypress, CA | | Figure 1 |


G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

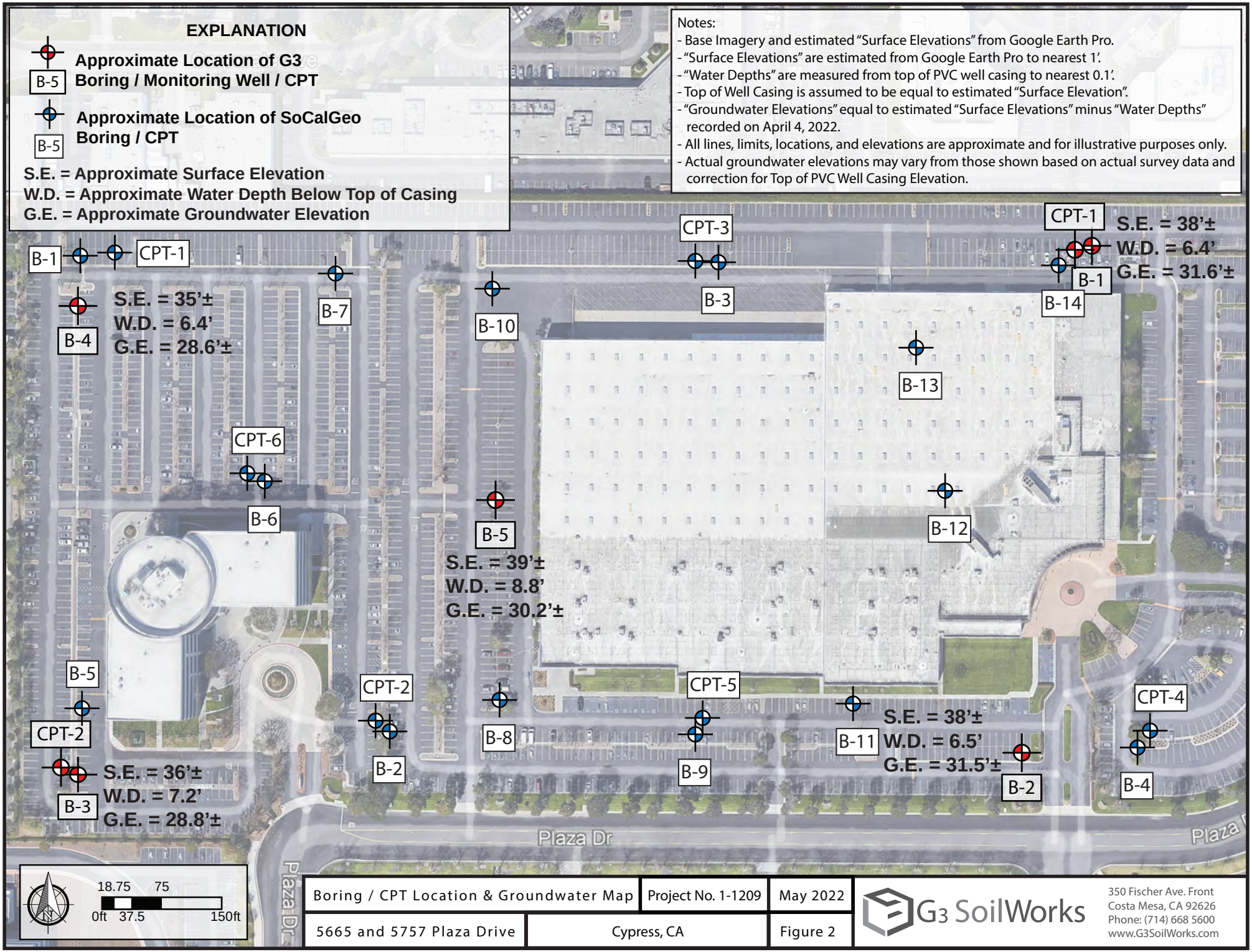

EXPLANATION
Approximate Location of G3 Boring / Monitoring Well / CPT
B-5
Approximate Location of SoCalGeo Boring / CPT
B-5
S.E. = Approximate Surface Elevation
W.D. = Approximate Water Depth Below Top of Casing
G.E. = Approximate Groundwater Elevation
Notes:
- Base Imagery and estimated "Surface Elevations" from Google Earth Pro.
- "Surface Elevations" are estimated from Google Earth Pro to nearest 1'.
- "Water Depths" are measured from top of PVC well casing to nearest 0.1'.
- Top of Well Casing is assumed to be equal to estimated "Surface Elevation".
- "Groundwater Elevations" equal to estimated "Surface Elevations" minus "Water Depths" recorded on April 4, 2022.
- All lines, limits, locations, and elevations are approximate and for illustrative purposes only.
- Actual groundwater elevations may vary from those shown based on actual survey data and correction for Top of PVC Well Casing Elevation.
B-1
CPT-1
S.E. = 35'±
W.D. = 6.4'
G.E. = 28.6'±
B-4
B-7
B-10
CPT-3
B-3
CPT-1
S.E. = 38'±
W.D. = 6.4'
G.E. = 31.6'±
B-1
B-14
B-13
CPT-6
B-6
B-5
S.E. = 39'±
W.D. = 8.8'
G.E. = 30.2'±
B-12
B-5
CPT-2
S.E. = 36'±
W.D. = 7.2'
G.E. = 28.8'±
B-3
CPT-2
B-2
B-8
CPT-5
B-9
B-11
S.E. = 38'±
W.D. = 6.5'
G.E. = 31.5'±
B-2
CPT-4
B-4
Plaza Dr
Plaza Dr
Plaza
N
18.75
75
0ft
37.5
150ft
Boring / CPT Location & Groundwater Map
Project No. 1-1209
May 2022
5665 and 5757 Plaza Drive
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Figure 2
G3 SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
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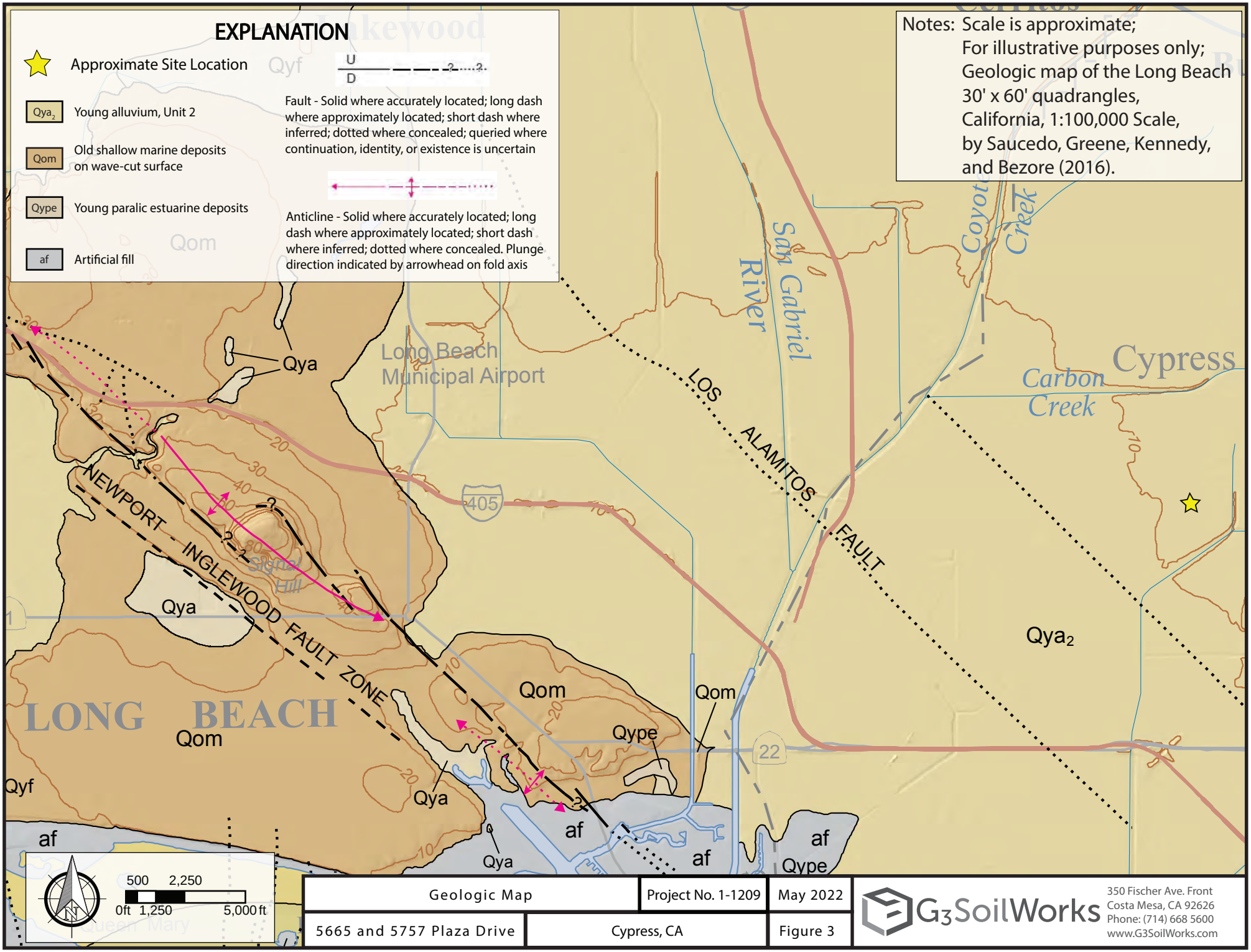
EXPLANATION
Approximate Site Location
Qya2 Young alluvium, Unit 2
Qom Old shallow marine deposits on wave-cut surface
Qype Young paralic estuarine deposits
af Artificial fill
U
D
Fault - Solid where accurately located; long dash where approximately located; short dash where inferred; dotted where concealed; queried where continuation, identity, or existence is uncertain
Anticline - Solid where accurately located; long dash where approximately located; short dash where inferred; dotted where concealed. Plunge direction indicated by arrowhead on fold axis
Notes: Scale is approximate;
For illustrative purposes only;
Geologic map of the Long Beach 30' x 60' quadrangles, California, 1:100,000 Scale, by Saucedo, Greene, Kennedy, and Bezore (2016).
San Gabriel River
Coyote Creek
Carbon Creek
Long Beach Municipal Airport
LOS ALAMITOS FAULT
NEWPORT - INGLEWOOD FAULT ZONE
Signal Hill
LONG BEACH
Cypress
Qya
Qya2
Qom
Qype
Qyf
af
405
22
0ft 1,250 500 2,250 5,000 ft
Geologic Map
Project No. 1-1209
May 2022
5665 and 5757 Plaza Drive
Cypress, CA
Figure 3
G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
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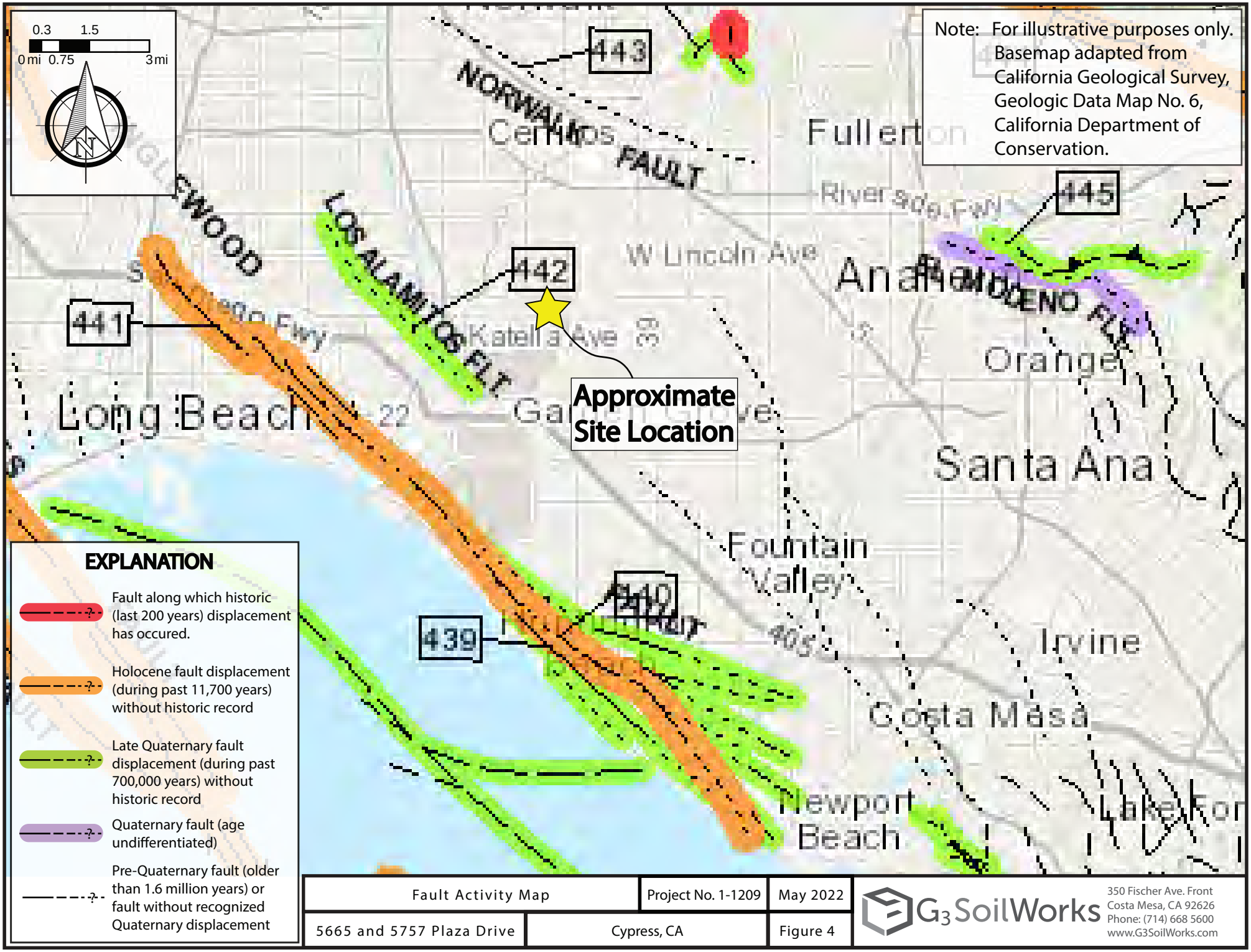


| | | | |
|---|---|---|---|
| Fault Activity Map | | Project No. 1-1209 | May 2022 |
| 5665 and 5757 Plaza Drive | Cypress, CA | | Figure 4 |

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**APPENDIX A**

GEOTECHNICAL BORING LOGS

# GEOTECHNICAL BORING LOG



| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO. | 1-1209 | PROJECT NAME | Goodman | | |
| DATE STARTED | 1/4/22 | GROUND ELEV.(FT) | 38' | BORING DESIG. | B-1 |
| DATE FINISHED | 1/4/22 | GW DEPTH (FT) | 7.0 | LOGGED BY | G3 |
| DRILLER | M&R Drilling | DRIVE WT. | 140 lb. | NOTE | |
| TYPE OF DRILL RIG | 8" hollow-stem CME-55 | DROP | 30" | | |

| DEPTH (feet) | ELEV. | SAMPLE TYPE | BLOWS/FT | GROUP SYMBOL | GEOTECHNICAL DESCRIPTION | MOISTURE CONT. (%) | DRY (pcf) DENSITY | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|
| | | | | SM/ML | @ 0-3": Asphalt Pavement<br>@3"- 5": Crush Miscellaneous Base (CMB)<br>**Artificial Fill (af)**<br>@ 6": Silty SAND / Sandy SILT, dark gray, moist, medium dense to dense, fine-grained, some mica. | | | |
| 5 | | R | 27 | SM | **Quaternary Alluvium (Qal)**<br>@5': Silty SAND, grayish brown, very moist, medium dense, fine-grained, some mica. | 24.7 | 91.1 | |
| 10 | | R | 26 | SM | @ 10': Silty SAND, dark gray to grayish brown, moist to very moist, medium dense, fine-grained, some mica. | 23.5 | 103.3 | |
| 15 | | R | 16 | CL/ML | @ 15': Silty CLAY / Clayey SILT, dark gray, very moist, stiff, low apparent plasticity, calcereous. | 30.9 | 89.0 | |
| 20 | | R | 25 | SM | @ 20': Silty SAND, light brown, very moist, medium dense, some mica. | 23.9 | 101.3 | |
| 25 | | R | 26 | SM | @ 25': Silty SAND, grayish brown, wet, medium dense. | 24.8 | | |
| 30 | | R | 16 | ML | @ 30': Clayey SILT with sand, grayish brown, moist to very moist, stiff, low apparent plasticity, contains caliche, some mica. | 27.6 | 97.1 | |
| | | | | | Notes:<br>Total Depth = 31.5';<br>Groundwater encountered at 7';<br>Installed 2" diameter PVC Monitoring Well;<br>Refer to Detail A for As-Built Well Diagram. | | | |

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE

Water Seepage
Groundwater
DS - Direct Shear
GS - Grain Size Analysis
EI - Expansion Index
CONS - Consolidation

G3SoilWorks
350 Fischer Ave. Front
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www.G3SoilWorks.com

PN: 1-1209

REPORT DATE:

# GEOTECHNICAL BORING LOG



| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO. | 1-1209 | PROJECT NAME | Goodman | | |
| DATE STARTED | 1/4/22 | GROUND ELEV.(FT) | 38' | BORING DESIG. | B-2 |
| DATE FINISHED | 1/4/22 | GW DEPTH (FT) | 8.0 | LOGGED BY | G3 |
| DRILLER | M&R Drilling | DRIVE WT. | 140 lb. | NOTE | |
| TYPE OF DRILL RIG | 8" hollow-stem CME-55 | DROP | 30" | | |

| DEPTH (feet) | ELEV. | SAMPLE TYPE | BLOWS/FT | GROUP SYMBOL | GEOTECHNICAL DESCRIPTION | MOISTURE CONT. (%) | DRY (pcf) DENSITY | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | @ 0 to 3": Asphalt Pavement<br>@ 3 to 5": Crush Miscellaneous Base (CMB) | | | |
| | | BULK | | SM | **Artificial Fill (af)**<br>@ 5"-5': Sandy SILT, dark grayish brown, moist, very low apparent plasticity, predominantly fine-grained, micaceous. | | | |
| 5 | | R | 23 | SM | **Quaternary Alluvium (Qal)**<br>@ 5': Silty SAND, grayish brown, moist, medium dense, some mica. | 23.0 | 99.4 | |
| 10 | | R | 10 | ML | @ 10': Silty SAND, dark gray, wet, loose, very fine-grained, micaceous. | 27.9 | 93.4 | |
| 15 | | R | 15 | CL | @ 15': Silty CLAY with Sand, dark grayish brown, wet, stiff, low apparent plastisity, sparse coarse sand. | 36.8 | 87.1 | |
| 20 | | R | 28 | ML | @ 20': Sandy SILT with trace clay, olive brown, wet, very stiff, low to very low apparent plasticity, micaceous. | 37.7 | 85.7 | |
| 25 | | | 20 | | @ 25': No sample recovered. | | | |
| | | R | 17 | ML | @ 27': Clayey SILT with sand, gray, wet, stiff, some mica. | 27.2 | | |
| 30 | | R | 33 | ML | @ 30': Clayey SILT with Sand, dark grayish brown, wet, very stiff, low to medium apparent plasticity, calcareous. | | | |
| | | | | | Notes:<br>Total Depth = 31.5';<br>Groundwater encountered at 7.5';<br>Installed 2" diameter PVC Monitoring Well;<br>Refer to Detail B for As-Built Well Diagram. | | | |

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE

Water Seepage
Groundwater
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PN: 1-1209

REPORT DATE:

# GEOTECHNICAL BORING LOG



| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO. | 1-1209 | PROJECT NAME | Goodman | | |
| DATE STARTED | 1/3/22 | GROUND ELEV.(FT) | 36' | BORING DESIG. | B-3 |
| DATE FINISHED | 1/3/22 | GW DEPTH (FT) | 7.5 | LOGGED BY | G3 |
| DRILLER | M&R Drilling | DRIVE WT. | 140 lb. | NOTE | |
| TYPE OF DRILL RIG | 8" hollow-stem CME-55 | DROP | 30" | | |

| DEPTH (feet) | ELEV. | SAMPLE TYPE | BLOWS/FT | GROUP SYMBOL | GEOTECHNICAL DESCRIPTION | MOISTURE CONT. (%) | DRY (pcf) DENSITY | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | @ 0 to3": Asphalt Pavement<br>@ 3 to 5": Crushed Miscellenious Base (CMB)<br>**Artificial Fill (af)** | | | |
| | | B | | SM/ML | @2.5': Silty SAND / Sandy SILT, brown, slightly moist to moist, contains some gravel. | 11.0 | | |
| 5 | | B | | SP | **Quaternary Alluvium (Qal)**<br>@5': Poorly-Graded SAND, gray, slightly moist, fine- to medium-grained. | 3.3 | | |
| | | R | 6 | SM | @ 7.5': Silty SAND, olive gray, wet, very loose to loose, fine-grained. | 26.4 | | |
| 10 | | R | 7 | SM | @10': Silty SAND, dark grayish brown, wet, medium dense. | 21.4 | 98.4 | |
| | | SPT | 4 | CL | @ 12.5': Silty CLAY, dark gray, very moist, soft to firm, sparse mica. | 26.1 | | |
| 15 | | R | 7 | ML | @15': Sandy SILT w/ Clay, dark grayish brown, moist, firm, low apparent plasticity, sparse mica. | 23.3 | 99.1 | |
| | | SPT | 2 | ML/SM | @17,5': Sandy SILT / Silty SAND with Clay, light olive brown, very moist, very loose, predominantly fine-grained, sparse mica. | 26.7 | | |
| 20 | | R | 15 | SM/ML | @ 20': Silty SAND / Sandy SILT, light olive brown, moist, loose to medium dense, fine-grained, sparse mica. | 21.2 | 102.5 | |
| | | SPT | 6 | ML | @ 22.5': Sandy SILT, olive brown, wet, firm, fine-grained, highly micaceous. | 30.2 | | |
| 25 | | R | 9 | ML | @ 25': Sandy SILT, dark gray, wet, firm, very low plasticity, highly micaceous. | 31.4 | 91.2 | |
| | | SPT | 1 | ML | @ 27.5': Clayey SILT, dark gray, very moist, very soft, low apparent plasticity, some mica. | 26.4 | | |
| 30 | | R | 9 | ML | @30': Clayey SILT, dark gray, moist, firm, low apparent plasticity.. | 24.7 | 98.6 | |
| | | SPT | 5 | CL | @32.5': Silty CLAY with sand, grayish brown, wet, soft, low apparent plasticity, trace mica. | 37.0 | | |
| 35 | | R | 24 | SP | @35': Poorly-Graded SAND, gray to light gray, wet, medium dense, fine- to medium-grained, some mica. | 17.1 | 105.2 | |
| | | SPT | 8 | SP | @ 37.5': Poorly-Graded SAND, light gray to gray, wet, loose, predominantly fine-grained with some coarse sand. | 27.6 | | |

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE

Water Seepage
Groundwater
DS - Direct Shear
GS - Grain Size Analysis
EI - Expansion Index
CONS - Consolidation

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PN: 1-1209

REPORT DATE:

# GEOTECHNICAL BORING LOG



| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO. | 1-1209 | PROJECT NAME | Goodman | | |
| DATE STARTED | 1/3/22 | GROUND ELEV.(FT) | 36' | BORING DESIG. | B-3 |
| DATE FINISHED | 1/3/22 | GW DEPTH (FT) | 7.5 | LOGGED BY | G3 |
| DRILLER | M&R Drilling | DRIVE WT. | 140 lb. | NOTE | |
| TYPE OF DRILL RIG | 8" hollow-stem CME-55 | DROP | 30" | | |

| DEPTH (feet) | ELEV. | SAMPLE TYPE | BLOWS/FT | GROUP SYMBOL | GEOTECHNICAL DESCRIPTION | MOISTURE CONT. (%) | DRY (pcf) DENSITY | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|
| | | R | 7 | | @ 40': No sample recovery. | | | |
| | | SPT | 17 | SM | @ 42.5': Silty SAND, dark grayish brown, medium dense, micaceous. | 24.2 | | |
| 45 | | R | 25 | SM/ML | @ 45': Silty SAND / Sandy SILT, dark gray, wet, medium dense, non-plastic, fine-grained, highly micaceous. | 21.5 | 102.1 | |
| | | *SPT | 15 | ML | @47.5': Sandy SILT with Clay, dark gray, wet, medium dense, low apparent plasticity. | 23.0 | | |
| 50 | | R | 23 | ML | @50': Silty SAND, dark gray, wet, medium dense, predominantly fine-grained, micaceous. | 23.8 | 99.4 | |

Notes:
Total Depth = 51.5';
Groundwater encountered at: 7.5';
Installed 2" diameter PVC Monitoring Well;
Refer to Detail C for As-Built Well Diagram.

SAMPLE TYPES:
R RING (DRIVE) SAMPLE
S SPT (SPLIT SPOON) SAMPLE
B BULK SAMPLE

Water Seepage
Groundwater
DS - Direct Shear
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PN: 1-1209 REPORT DATE:

# GEOTECHNICAL BORING LOG



| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO. | 1-1209 | PROJECT NAME | Goodman | | |
| DATE STARTED | 1/3/22 | GROUND ELEV.(FT) | 35' | BORING DESIG. | B-4 |
| DATE FINISHED | 1/3/22 | GW DEPTH (FT) | 7.0 | LOGGED BY | G3 |
| DRILLER | M&R Drilling | DRIVE WT. | 140 lb. | NOTE | |
| TYPE OF DRILL RIG | 8" hollow-stem CME-55 | DROP | 30" | | |

| DEPTH (feet) | ELEV. | SAMPLE TYPE | BLOWS/FT | GROUP SYMBOL | GEOTECHNICAL DESCRIPTION | MOISTURE CONT. (%) | DRY (pcf) DENSITY | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | @ 0 to 3": Asphalt Pavement<br>@ 3" to 5": Crush Miscellaneous Base (CMB)<br>**Artificial Fill (af)** | | | |
| | | B | | SM | @ 2.5': Silty SAND with gravel, dark grayish brown. | | | |
| 5 | | R | 11 | SM | **Quaternary Alluvium (Qal)**<br>@ 5': Silty SAND; grayish brown, moist to very moist, loose, predominantly fine-grained, some mica. | 23.5 | 95.1 | |
| 10 | | R | 24 | SM | @ 10': Silty SAND, dark gray, very moist to wet, medium dense, micaceous. | 29.0 | 96.9 | |
| 15 | | R | 10 | ML | @ 15': Clayey SILT with Sand, dark gray, moist to very moist, firm, low apparent plasticity, sparse mica. | 27.1 | 98.6 | |
| 20 | | R | 21 | SM | @20': Silty SAND, dark grayish brown, moist to very moist, medium dense, predominantly fine-grained. | 20.0 | 108.3 | |
| 25 | | R | 17 | SM | @25': Silty SAND, dark grayish brown, wet, medium dense, predominantly fine-grained. | 24.7 | 97.4 | |
| 30 | | SPT | 30 | | @ 30': No sample recovered. | | | |

Notes:
Total Depth = 31.5';
Groundwater encountered at 7';
Installed 2" diameter PVC Monitoring Well;
Refer to Detail B for As-Built Well Diagram.

SAMPLE TYPES:
R RING (DRIVE) SAMPLE
S SPT (SPLIT SPOON) SAMPLE
B BULK SAMPLE

Water Seepage
Groundwater
DS - Direct Shear
GS - Grain Size Analysis
EI - Expansion Index
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PN: 1-1209

REPORT DATE:

# GEOTECHNICAL BORING LOG



| | | | | | |
|---|---|---|---|---|---|
| PROJECT NO. | 1-1209 | PROJECT NAME | Goodman | | |
| DATE STARTED | 1/4/22 | GROUND ELEV.(FT) | 40' | BORING DESIG. | B-5 |
| DATE FINISHED | 1/4/22 | GW DEPTH (FT) | 8.0 | LOGGED BY | G3 |
| DRILLER | M&R Drilling | DRIVE WT. | 140 lb. | NOTE | |
| TYPE OF DRILL RIG | 8" hollow-stem CME-55 | DROP | 30" | | |

| DEPTH (feet) | ELEV. | SAMPLE TYPE | BLOWS/FT | GROUP SYMBOL | GEOTECHNICAL DESCRIPTION | MOISTURE CONT. (%) | DRY (pcf) DENSITY | OTHER TESTS |
|---|---|---|---|---|---|---|---|---|
| | | | | | @ 0 to 3": Asphalt Pavement<br>@ 3" to 5": Crushed Miscellaneous Base (CMB) | | | |
| | | BULK | | SM | **Artificial Fill (af)**<br>@ 0.5-5': Sandy SILT, dark grayish brown, moist, predominantly fine-grained. | | | |
| 5 | | R | 36 | ML | **Quaternary Alluvium (Qal)**<br>@ 5': Silty SAND / Sandy SILT w/ Clay, light brown, moist, medium dense / very stiff, apprently very low plasticity / non-plastic, predominantly fine-grained, micaceous. | 14.3 | 102.5 | |
| 10 | | R | 44 | SM | @ 10': Silty SAND, light grayish brown, moist, medium dense, micaceous. | 20.6 | 104.6 | |
| 15 | | R | 16 | CL | @15': Silty CLAY with Sand, dark brown, moist to very moist, stiff, some mica, calcareous. | 30.5 | 96.4 | |
| 20 | | R | 23 | SM | @20': Silty SAND, grayish brown, wet, medium dense, some mica. | 20.2 | 104.1 | |
| 25 | | R | 35 | ML | @25': Sandy SILT w/ Clay, dark gray, wet, very stiff, low apparent plasticity, micaceous. | 30.4 | 96.6 | |
| 30 | | R | 30 | CL | @30': Silty CLAY, dark gray, moist, very stiff, low apparent plasticity. | 28.9 | 97.4 | |
| | | | | | Notes:<br>Total Depth = 31.5';<br>Groundwater encountered at 8';<br>Installed 2" diameter PVC Monitoring Well;<br>Refer to Detail A for As-Built Well Diagram. | | | |

SAMPLE TYPES:
- R RING (DRIVE) SAMPLE
- S SPT (SPLIT SPOON) SAMPLE
- B BULK SAMPLE

Water Seepage
Groundwater
DS - Direct Shear
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www.G3SoilWorks.com

PN: 1-1209

REPORT DATE:

**APPENDIX B**

CPT RESULTS

# SUMMARY

# OF

# CONE PENETRATION TEST DATA

Project:

**5665 & 5757 Plaza Drive**
**Cypress, CA**
**December 13, 2021**

Prepared for:

**Ms. Dana Mariscal**
**G3SoilWorks, Inc.**
**350 Fischer Avenue, Front Unit**
**Costa Mesa, CA 92626**
**Office (714) 668-5600 / Fax (714) 754-0198**

Prepared by:


KEHOE TESTING & ENGINEERING
5415 Industrial Drive
Huntington Beach, CA 92649-1518
Office (714) 901-7270 / Fax (714) 901-7289
www.kehoetesting.com

# TABLE OF CONTENTS

# SUMMARY
# OF
# CONE PENETRATION TEST DATA

## 1. INTRODUCTION

This report presents the results of a Cone Penetration Test (CPT) program carried out for the project located at 5665 & 5757 Plaza Drive in Cypress, California. The work was performed by Kehoe Testing & Engineering (KTE) on December 13, 2021. The scope of work was performed as directed by G3SoilWorks, Inc. personnel.

## 2. SUMMARY OF FIELD WORK

The fieldwork consisted of performing CPT soundings at two locations to determine the soil lithology. A summary is provided in **TABLE 2.1**.

| LOCATION | DEPTH OF CPT (ft) | COMMENTS/NOTES: |
|---|---|---|
| **CPT-1** | 50 | |
| **CPT-2** | 50 | |
| | | |

**TABLE 2.1 - Summary of CPT Soundings**

## 3. FIELD EQUIPMENT & PROCEDURES

The CPT soundings were carried out by **KTE** using an integrated electronic cone system manufactured by Vertek. The CPT soundings were performed in accordance with ASTM standards (D5778). The cone penetrometers were pushed using a 30-ton CPT rig. The cone used during the program was a 15 cm^2 cone with a cone net area ratio of 0.83. The following parameters were recorded at approximately 2.5 cm depth intervals:

- Cone Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (u)
- Inclination
- Penetration Speed

The above parameters were recorded and viewed in real time using a laptop computer. Data is stored at the KTE office for up to 2 years for future analysis and reference. A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

## 4. CONE PENETRATION TEST DATA & INTERPRETATION

The Cone Penetration Test data is presented in graphical form in the attached Appendix. These plots were generated using the CPeT-IT program. Penetration depths are referenced to ground surface. The soil behavior type on the CPT plots is derived from the attached CPT SBT plot (Robertson, "Interpretation of Cone Penetration Test…", 2009) and presents major soil lithologic changes. The stratigraphic interpretation is based on relationships between cone resistance (qc), sleeve friction (fs), and penetration pore pressure (u). The friction ratio (Rf), which is sleeve friction divided by cone resistance, is a calculated parameter that is used along with cone resistance to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone resistance and generate excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little (or negative) excess pore water pressures.

The CPT data files have also been provided. These files can be imported in CPeT-IT (software by GeoLogismiki) and other programs to calculate various geotechnical parameters.

It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and u. In these situations, experience, judgement and an assessment of the pore pressure data should be used to infer the soil behavior type.

If you have any questions regarding this information, please do not hesitate to call our office at (714) 901-7270.

Sincerely,

KEHOE TESTING & ENGINEERING

Steven P. Kehoe
President

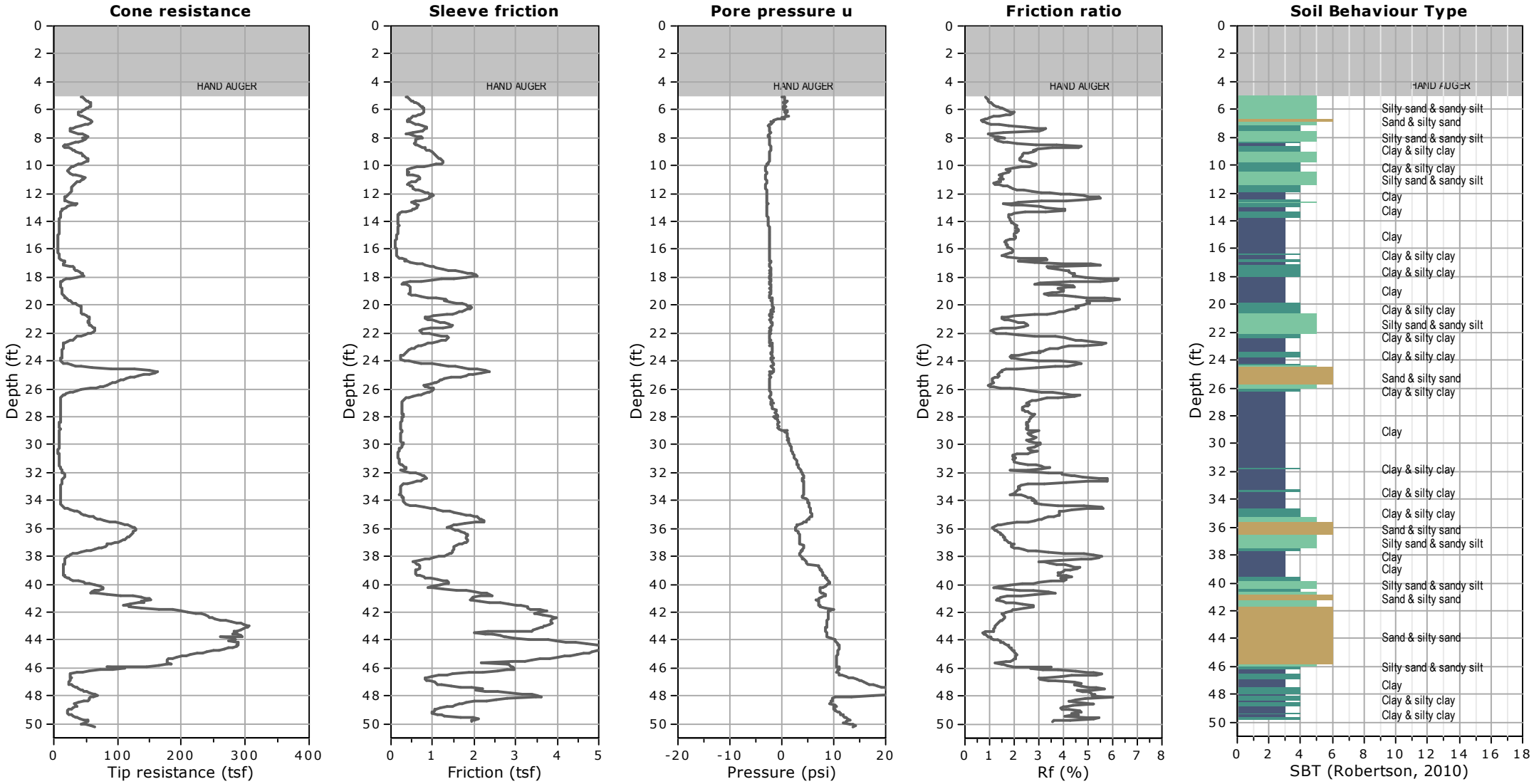
12/15/21-kk-3657

# APPENDIX

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

**Project:** G3SoilWorks
**Location:** 5665 & 5757 Plaza Dr, Cypress, CA

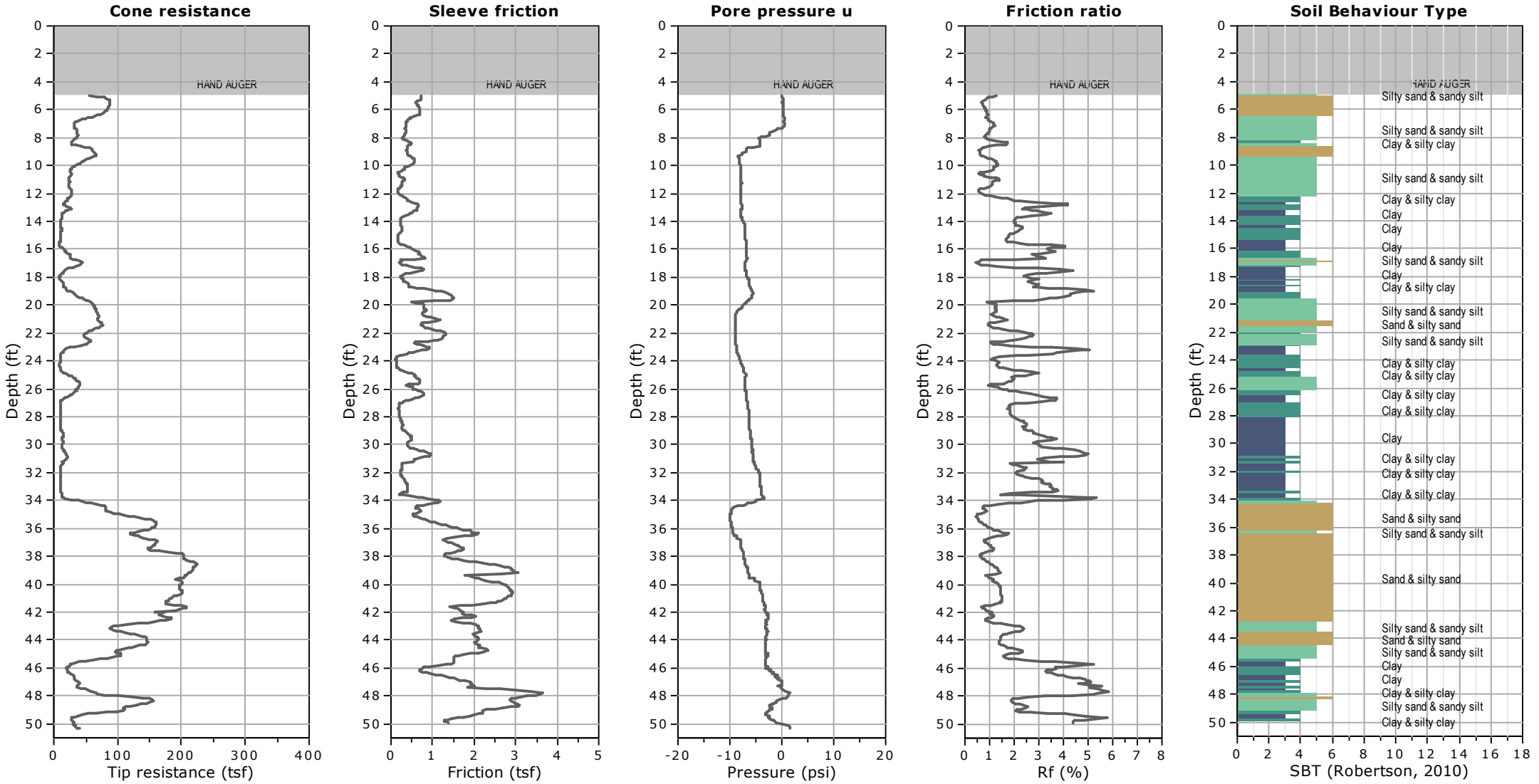
**CPT-1**
Total depth: 50.20 ft, Date: 12/13/2021



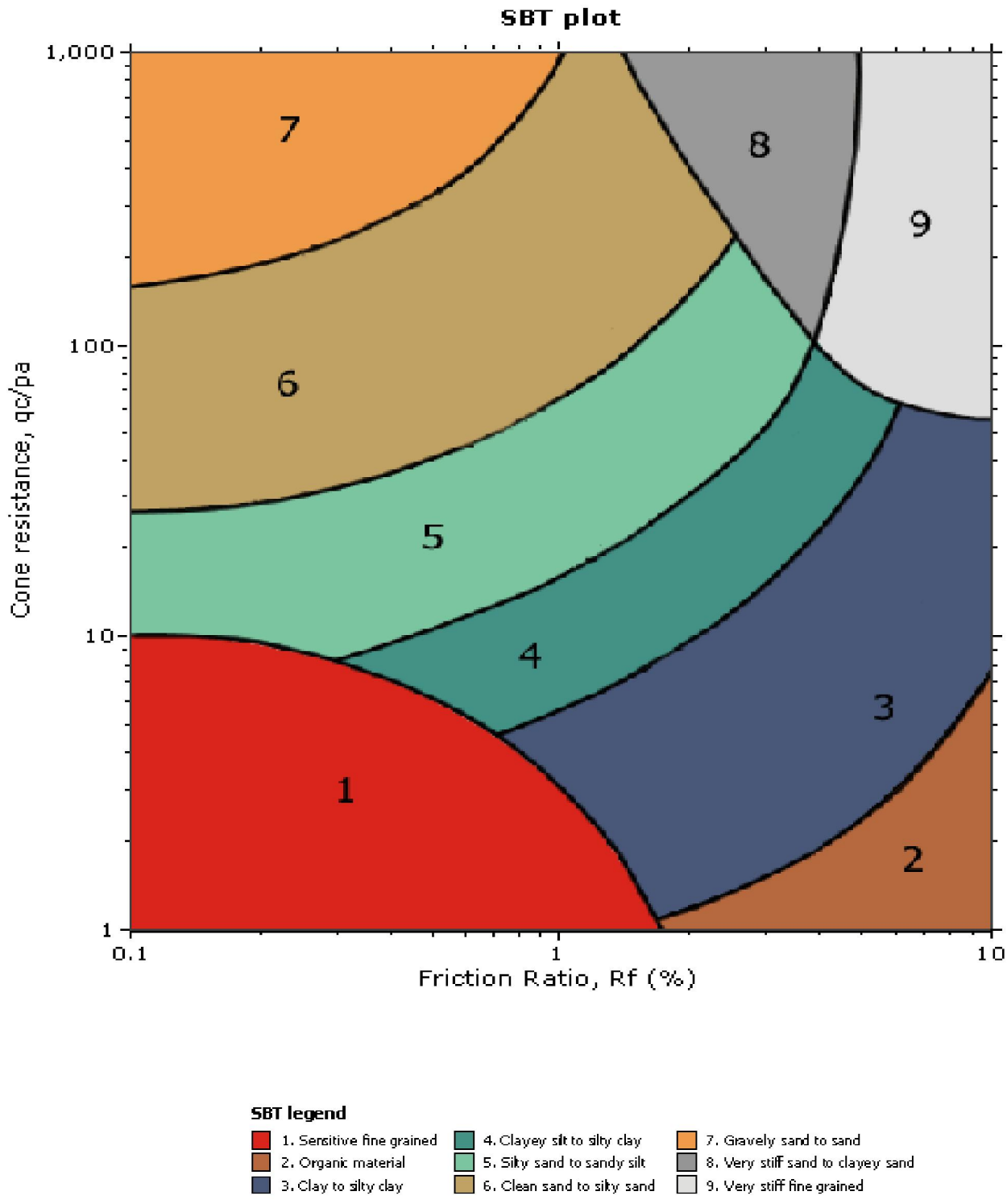
**Kehoe Testing and Engineering**
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

**Project:** **G3SoilWorks**
**Location:** **5665 & 5757 Plaza Dr, Cypress, CA**

**CPT-2**
Total depth: 50.34 ft, Date: 12/13/2021



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



**APPENDIX C**

LABORATORY TEST PROCEDURES AND RESULTS

## LABORATORY TEST PROCEDURES AND RESULTS

The samples obtained during the field investigation were transported to the laboratory for testing and analysis. The results of tests performed on selected samples and the test procedures are summarized below.

### Dry Density and Moisture Content

Field dry density and moisture contents of undisturbed soils samples retained in 2 3/8–inch inside diameter by one-inch height rings were determined, and moisture test results were obtained for the small bulk samples. Dry density and moisture content testing were performed in accordance with ASTM D2937 and ASTM D2216, respectively. The test results are posted on the Geotechnical Boring Logs in Appendix A.

### Maximum Dry Density and Optimum Moisture Content

Maximum dry density and optimum moisture content test was performed on the submitted bulk soil samples in accordance with ASTM: D 1557. The results are shown below:

| Sample Identification | Maximum Dry Density (pcf) | Optimum Moisture Content (%) |
|---|---|---|
| B-2 @ 0-5’ | 107.0 | 11.5 |
| B-5 @ 0-5’ | 118.0 | 13.0 |

### Expansion Index

Representative soil samples were tested for expansion potential following the ASTM D4829 Test Procedure. Test results are presented below.

| Sample Identification | Expansion Index | Expansion Potential (UBC 18-1-B) |
|---|---|---|
| B-2 @ 0-5’ | 0 | Very Low |
| B-5 @ 0-5’ | 14 | Very Low |

## Sulfate Content

Selected soil samples were tested for soluble sulfate content in accordance with the Hach method. The test results are shown below.

| Sample Identification | Water Soluble Sulfate in Soil (ppm) | Sulfate Exposure (ACI 318-08, Table 4.2.1) |
|---|---|---|
| B-2 @ 0-5’ | 120 | S0 |
| B-5 @ 0-5’ | 300 | S1 |

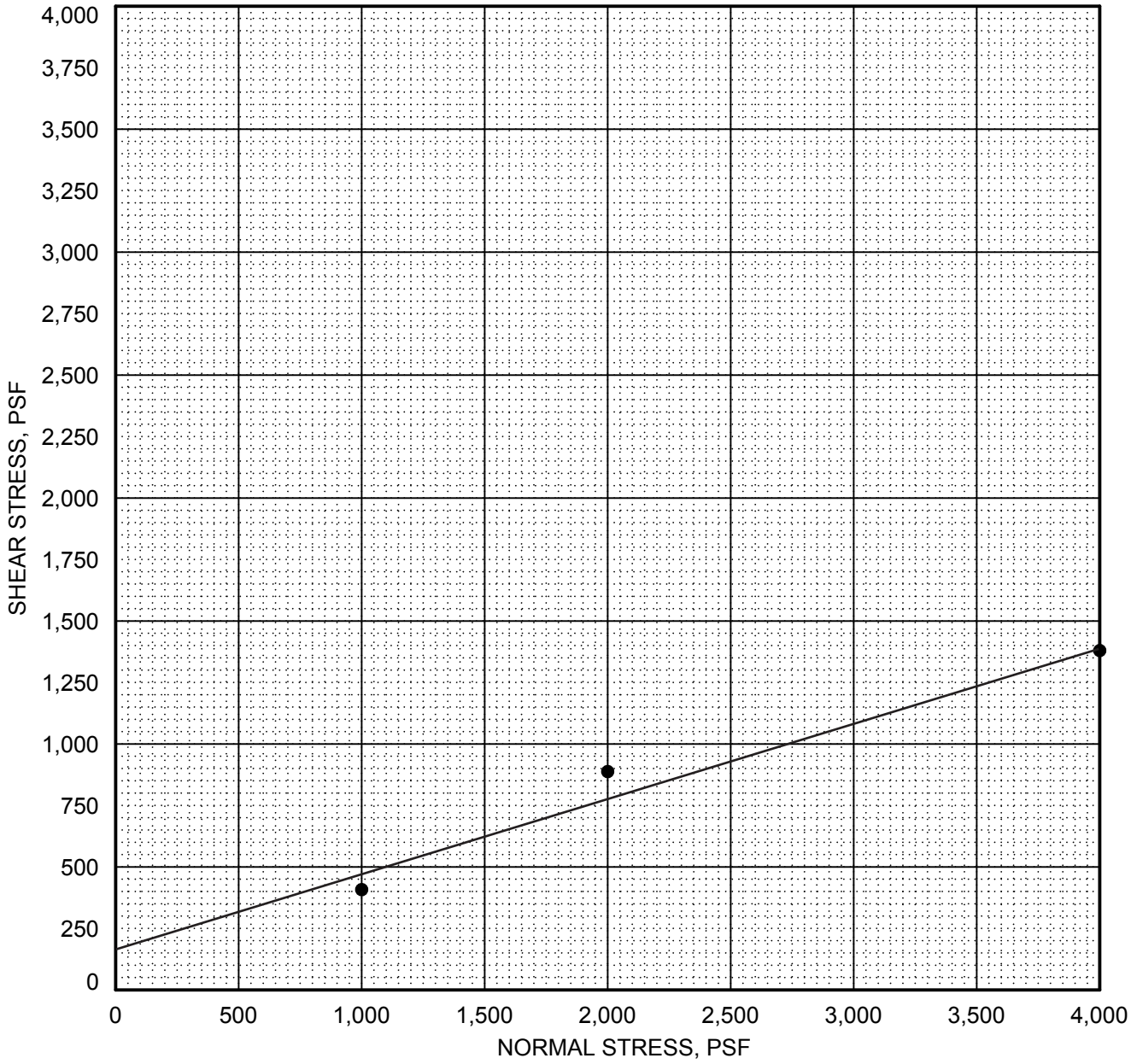
## Direct Shear

Direct shear tests were performed on representative, relatively undisturbed soil samples with a direct shear machine of the strain-controlled type in which the rate of strain is 0.01 inches per minute. The soil specimens were soaked in a confined state prior to shearing and was sheared under varied normal loads ranging from 1.0 ksf to 4.0 ksf. The test results are plotted on Figures S-1 through S-7.

## Consolidation

Consolidation tests was performed on sample identified as B-1 @ 15 feet, B-3 @ 15 feet, B-3 @ 30 feet, B-4 @ 10 feet, and B-4 @ 20 feet. The test specimen was initially loaded to 0.2 tons per square foot and soaked during the test. Progressive loading was then applied to a maximum of 3.2 tons per square foot. Loading was then reduced to determine rebound characteristics. The consolidation test is presented on Figure C-1 through C-5.

# DIRECT SHEAR TEST
## Undisturbed




| 5665 and 5757 Plaza Drive, Cypress | COHESION | 162 | psf. |
|---|---|---|---|
| | FRICTION ANGLE | 17.0 | degrees |

| symbol | boring | depth (ft.) | symbol | boring | depth (ft.) |
|---|---|---|---|---|---|
| ● | B-1 | 15.0 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

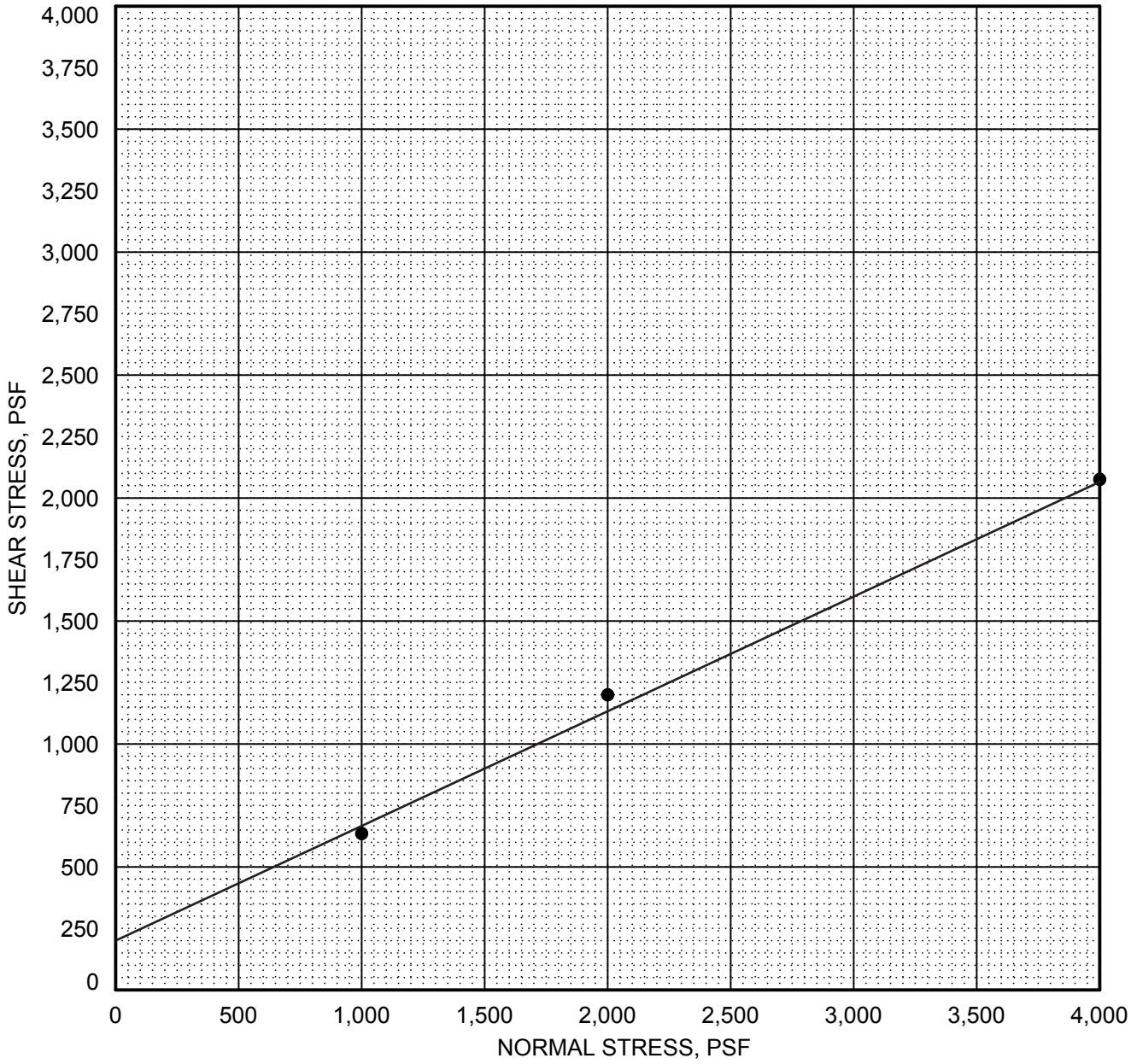
FIGURE S-1
DIRECT SHEAR TEST

PN: 1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

FIG. S-1

# DIRECT SHEAR TEST
## Undisturbed




| 5665 and 5757 Plaza Drive, Cypress | COHESION | 198 | psf. |
|---|---|---|---|
| | FRICTION ANGLE | 25.0 | degrees |

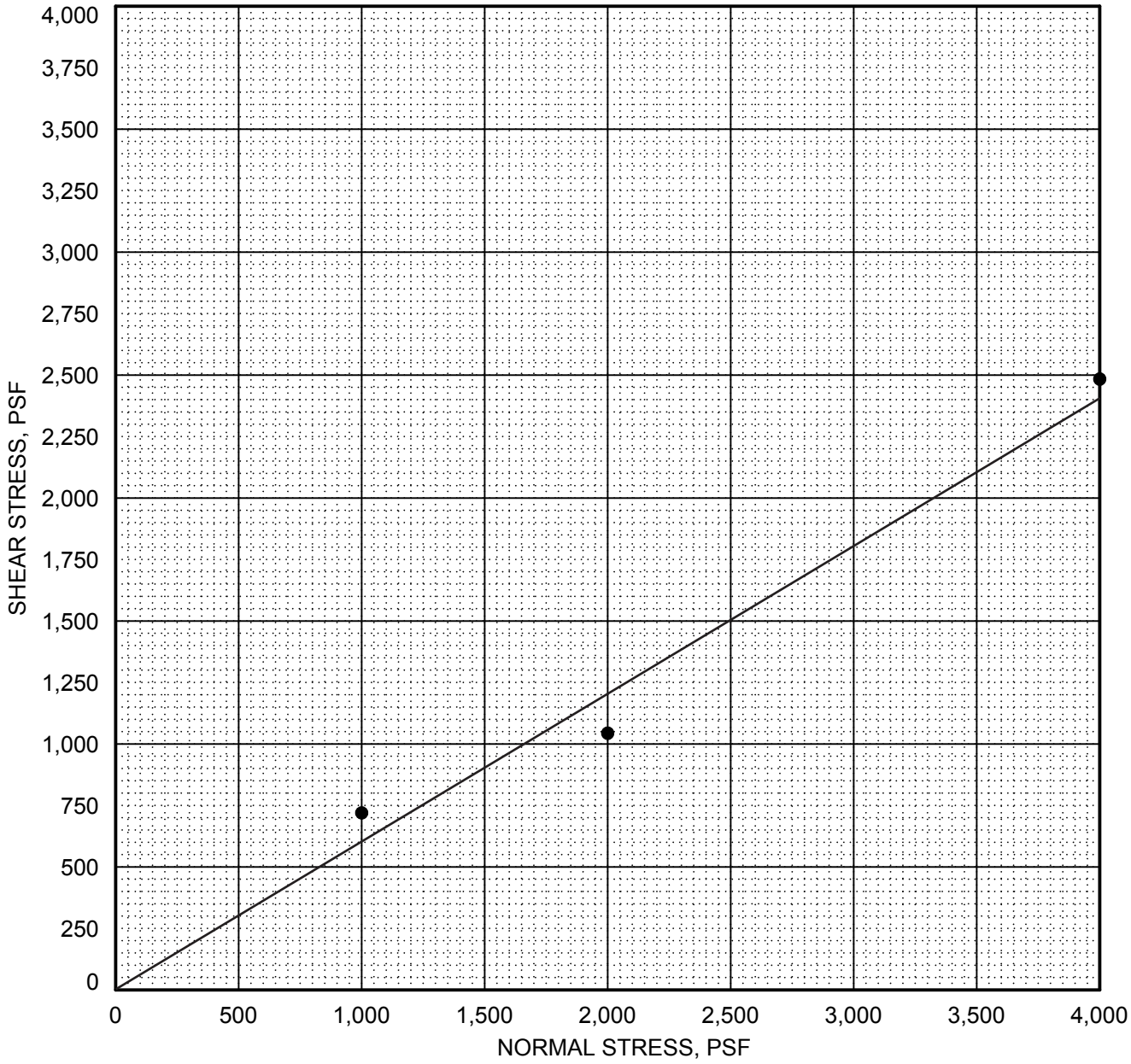
| symbol | boring | depth (ft.) | symbol | boring | depth (ft.) |
|---|---|---|---|---|---|
| ● | B-2 | 20.0 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

FIGURE S-2
DIRECT SHEAR TEST

PN: 1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

# DIRECT SHEAR TEST
## Undisturbed




| 5665 and 5757 Plaza Drive, Cypress | COHESION | 0 | psf. |
|---|---|---|---|
| | FRICTION ANGLE | 31.0 | degrees |

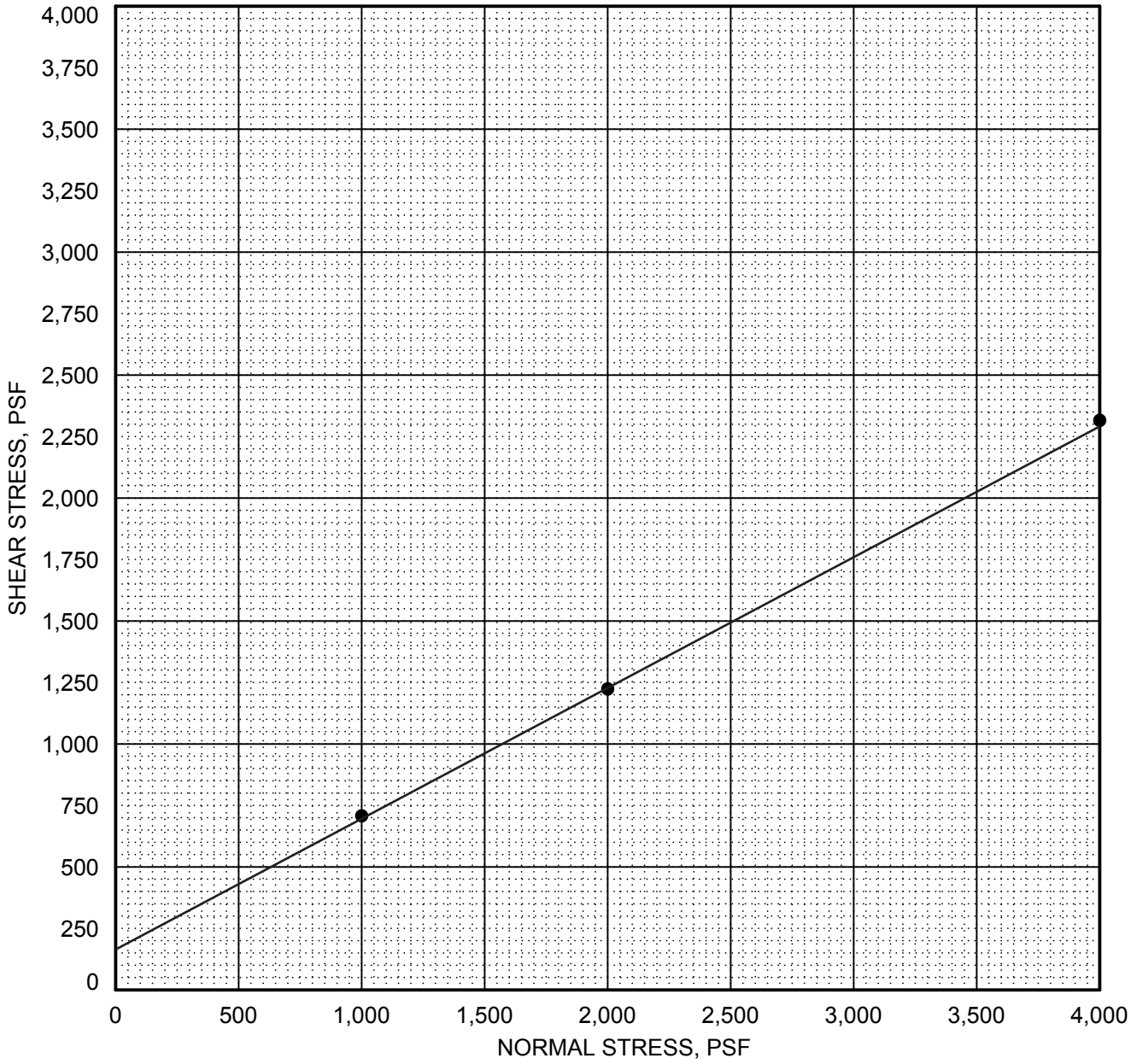
| symbol | boring | depth (ft.) | symbol | boring | depth (ft.) |
|---|---|---|---|---|---|
| ● | B-3 | 15.0 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

FIGURE S-3
DIRECT SHEAR TEST

PN: 1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

# DIRECT SHEAR TEST
## Undisturbed




| 5665 and 5757 Plaza Drive, Cypress | COHESION | 162 | psf. |
|---|---|---|---|
| | FRICTION ANGLE | 28.0 | degrees |

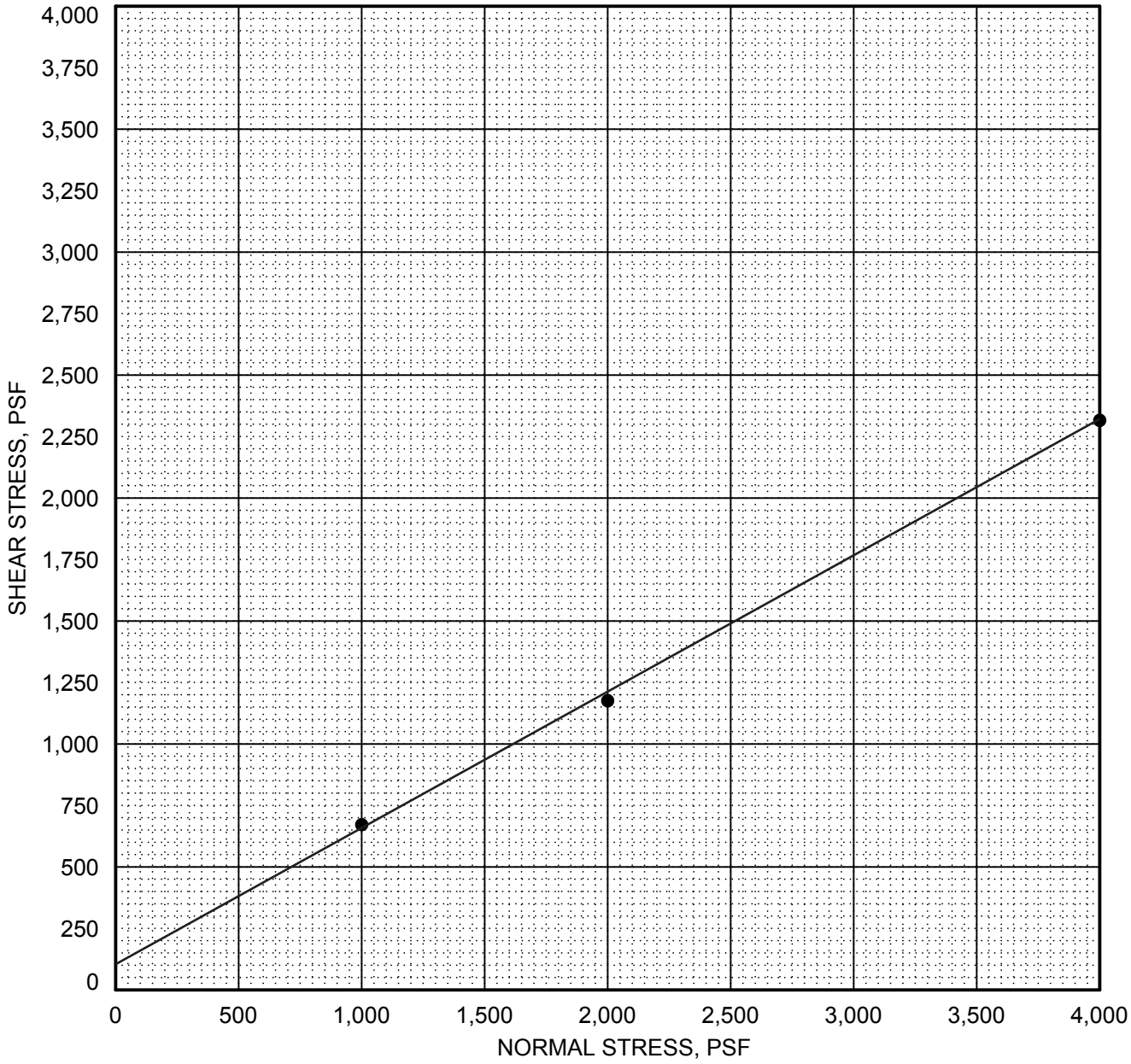
| symbol | boring | depth (ft.) | symbol | boring | depth (ft.) |
|---|---|---|---|---|---|
| ● | B-3 | 30.0 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

FIGURE S-4
DIRECT SHEAR TEST

PN: 1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

# DIRECT SHEAR TEST
## Undisturbed




| 5665 and 5757 Plaza Drive, Cypress | COHESION | 102 | psf. |
|---|---|---|---|
| | FRICTION ANGLE | 29.0 | degrees |

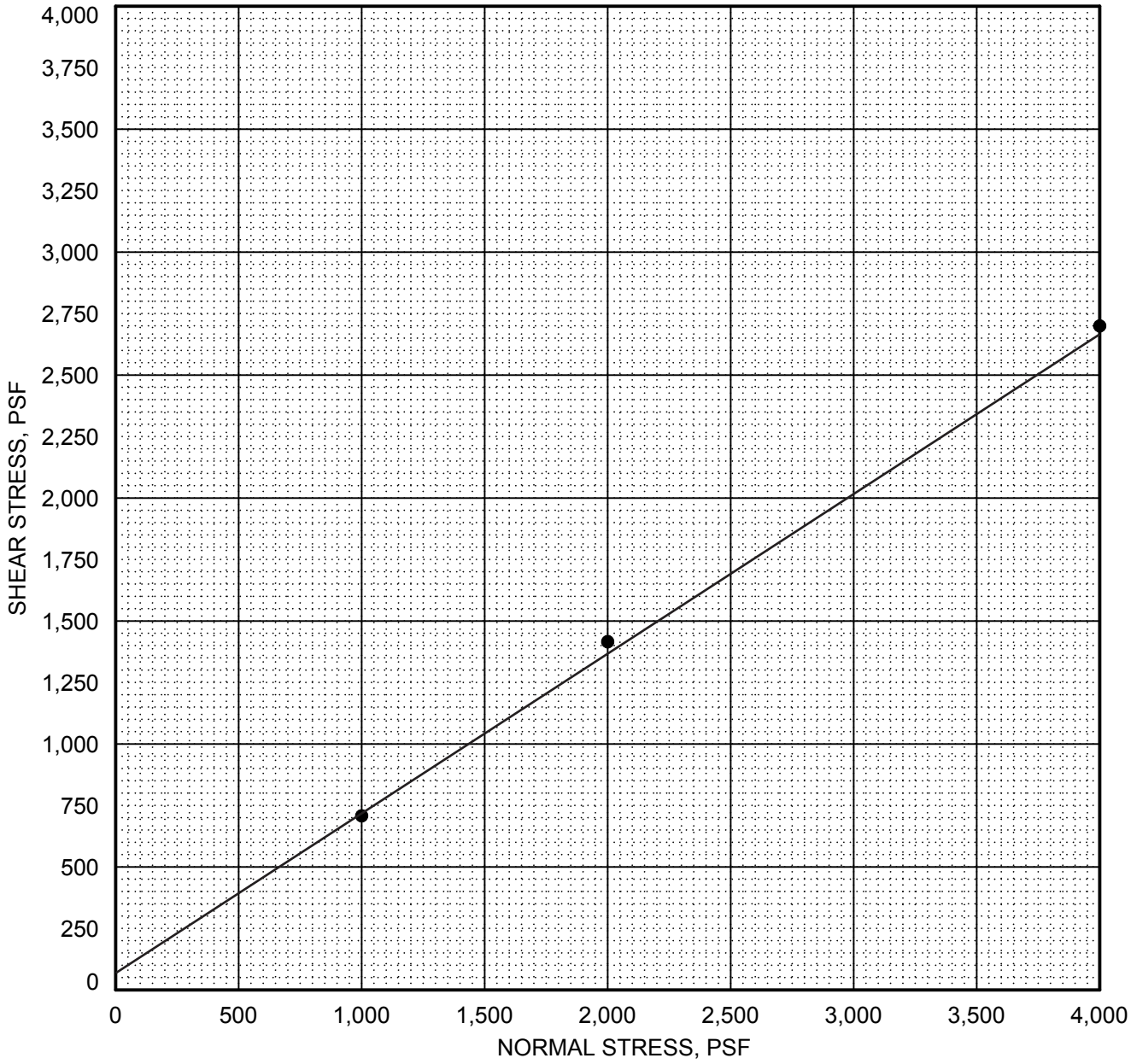
| symbol | boring | depth (ft.) | symbol | boring | depth (ft.) |
|---|---|---|---|---|---|
| ● | B-4 | 10.0 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

FIGURE S-5
DIRECT SHEAR TEST

PN: 1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

# DIRECT SHEAR TEST
## Undisturbed




| 5665 and 5757 Plaza Drive, Cypress | COHESION | 66 | psf. |
|---|---|---|---|
| | FRICTION ANGLE | 33.0 | degrees |

| symbol | boring | depth (ft.) | symbol | boring | depth (ft.) |
|---|---|---|---|---|---|
| ● | B-4 | 20.0 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

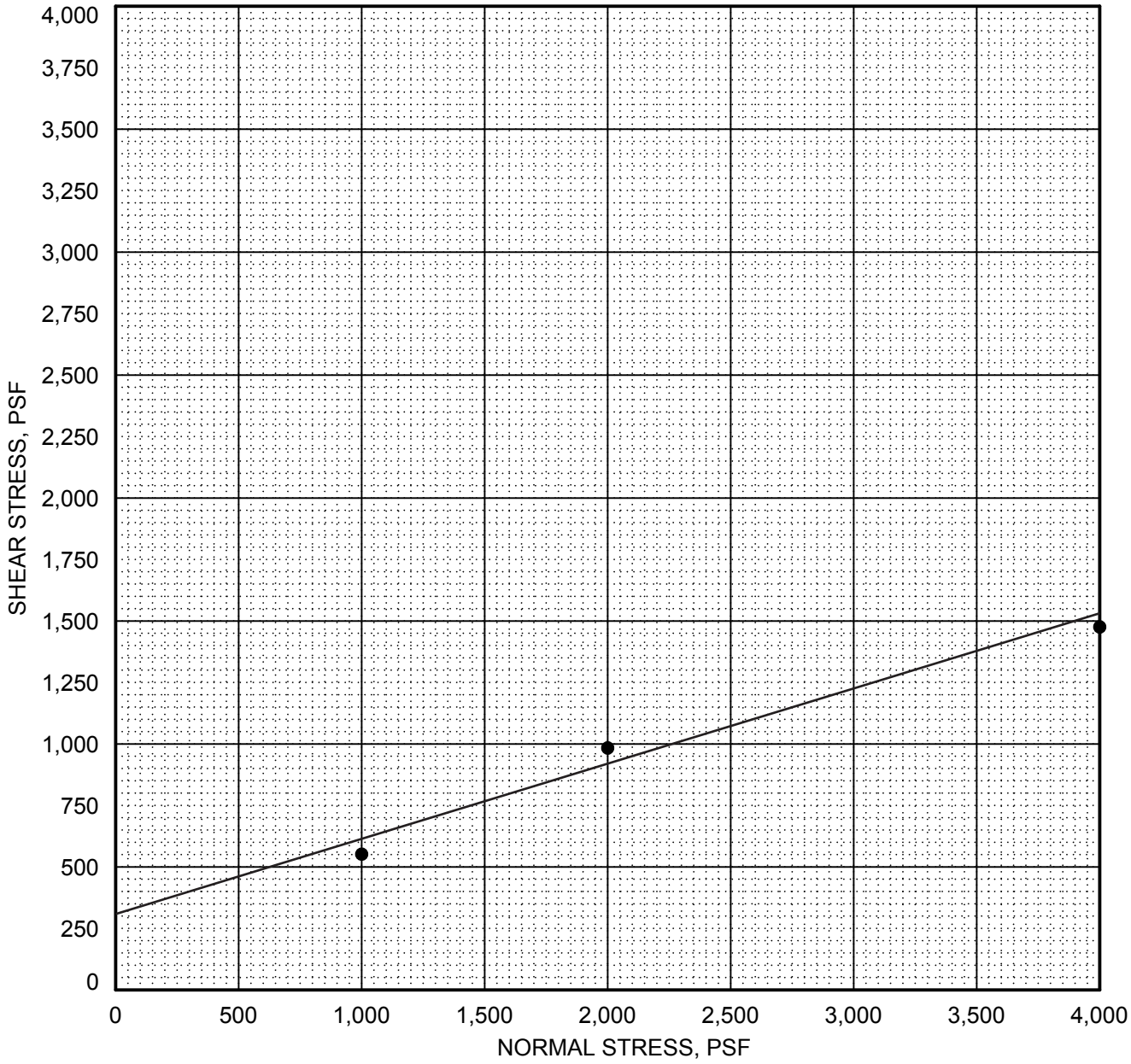
FIGURE S-6
DIRECT SHEAR TEST

PN: 1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

FIG. S-6

# DIRECT SHEAR TEST
## Undisturbed




| 5665 and 5757 Plaza Drive, Cypress | COHESION | 306 | psf. |
|---|---|---|---|
| | FRICTION ANGLE | 17.0 | degrees |

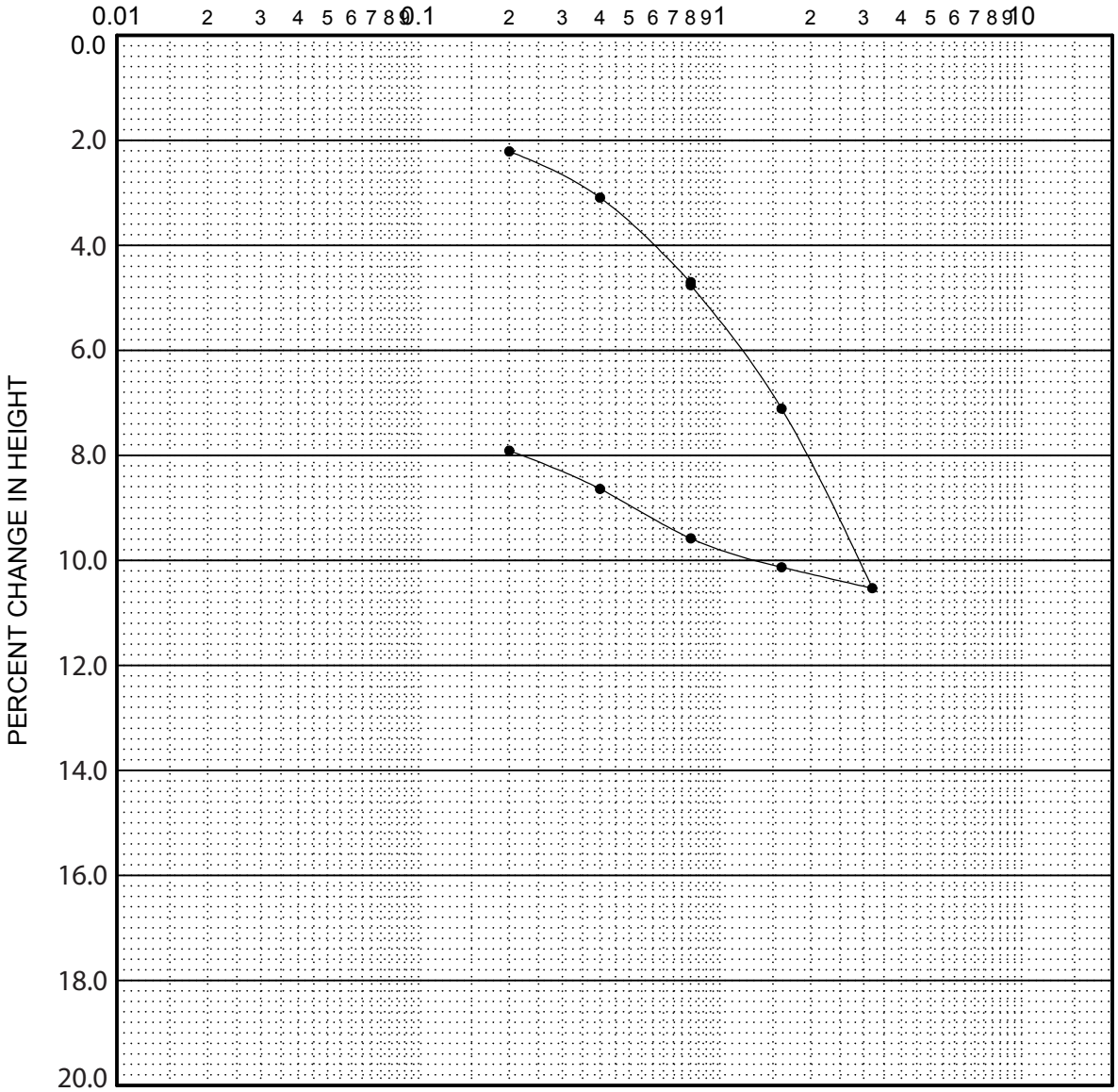
| symbol | boring | depth (ft.) | symbol | boring | depth (ft.) |
|---|---|---|---|---|---|
| ● | B-5 | 15.0 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

FIGURE S-7
DIRECT SHEAR TEST

PN: 1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

COMPRESSIVE STRESS IN TSF




| Boring | Depth(ft.) | Dry Density | in situ Moist. | -200 sieve | Group Symbol | Soil Description |
|---|---|---|---|---|---|---|
| B-1 | 15.0 | 89.0 | 30.9 | | CL/ML | |

WATER ADDED AT .8 TSF.

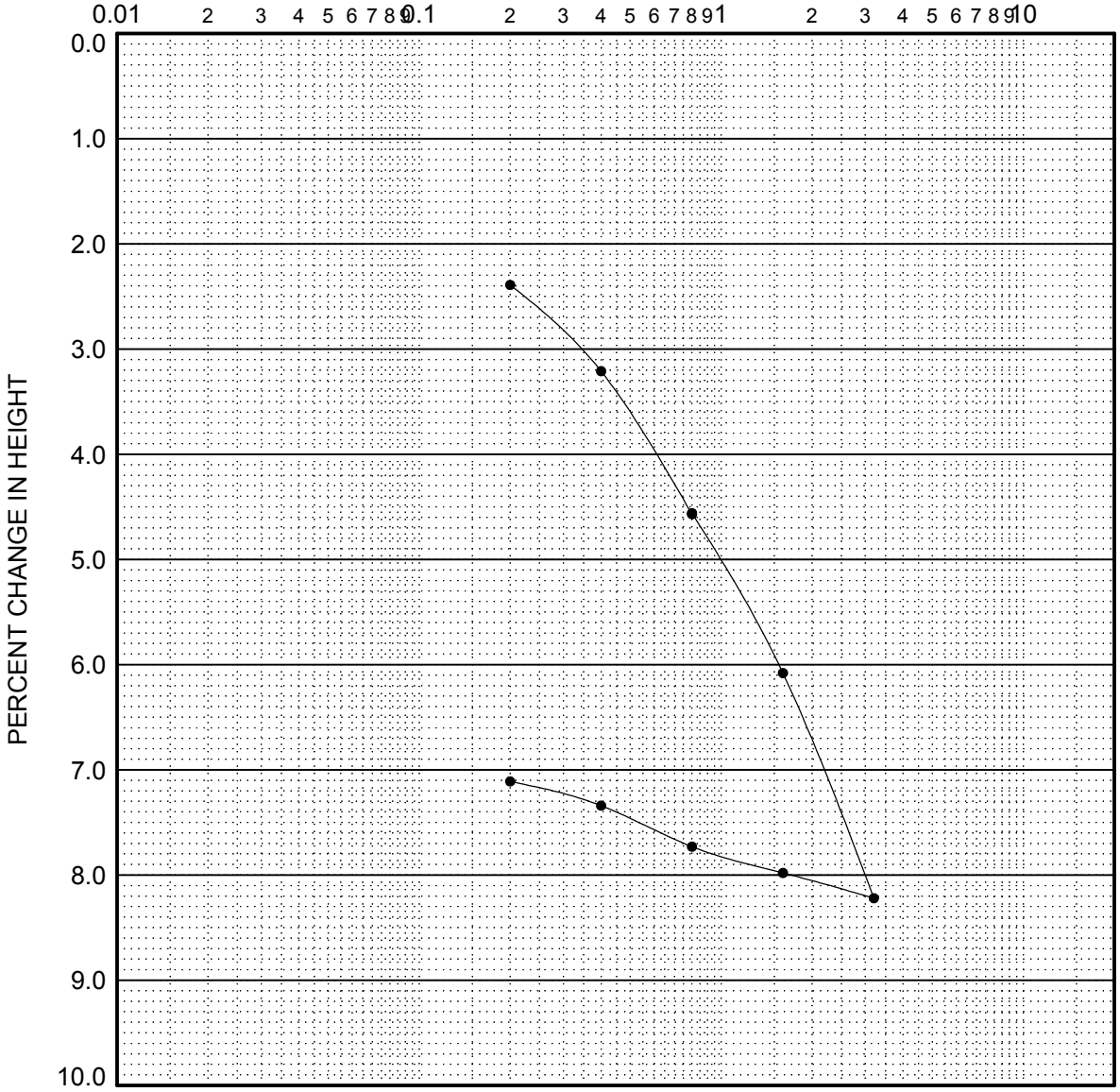
FIGURE C-1
CONSOLIDATION CURVE

PN:1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

FIG. C-1

COMPRESSIVE STRESS IN TSF




| Boring | Depth(ft.) | Dry Density | in situ Moist. | -200 sieve | Group Symbol | Soil Description |
|---|---|---|---|---|---|---|
| B-3 | 15.0 | 99.1 | 23.3 | | ML | |

WATER ADDED AT .8 TSF.

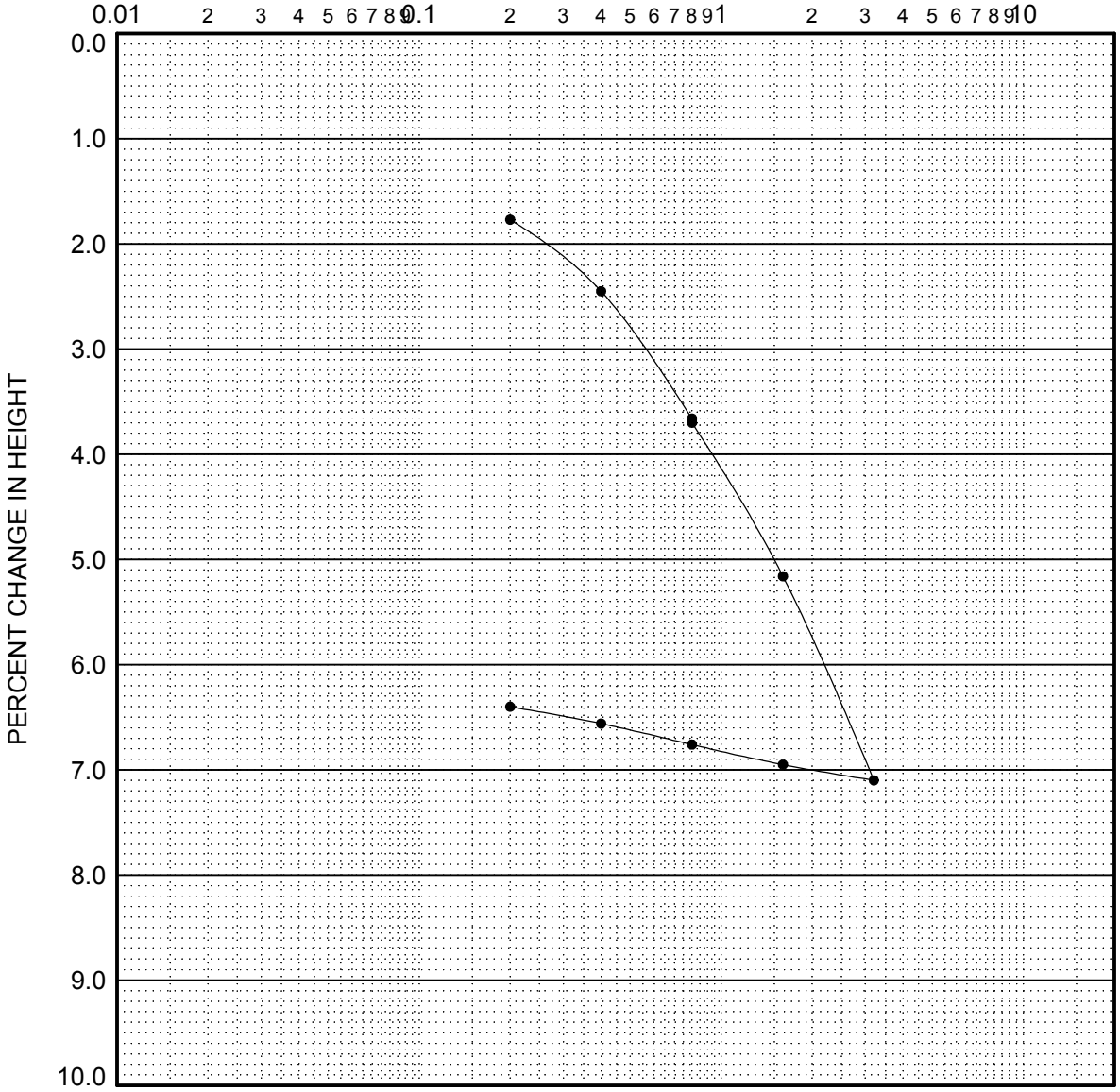
FIGURE C-2
CONSOLIDATION CURVE

PN:1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

FIG. C-2

COMPRESSIVE STRESS IN TSF




| Boring | Depth(ft.) | Dry Density | in situ Moist. | -200 sieve | Group Symbol | Soil Description |
|---|---|---|---|---|---|---|
| B-3 | 30.0 | 98.6 | 24.7 | | ML | |

WATER ADDED AT .8 TSF.

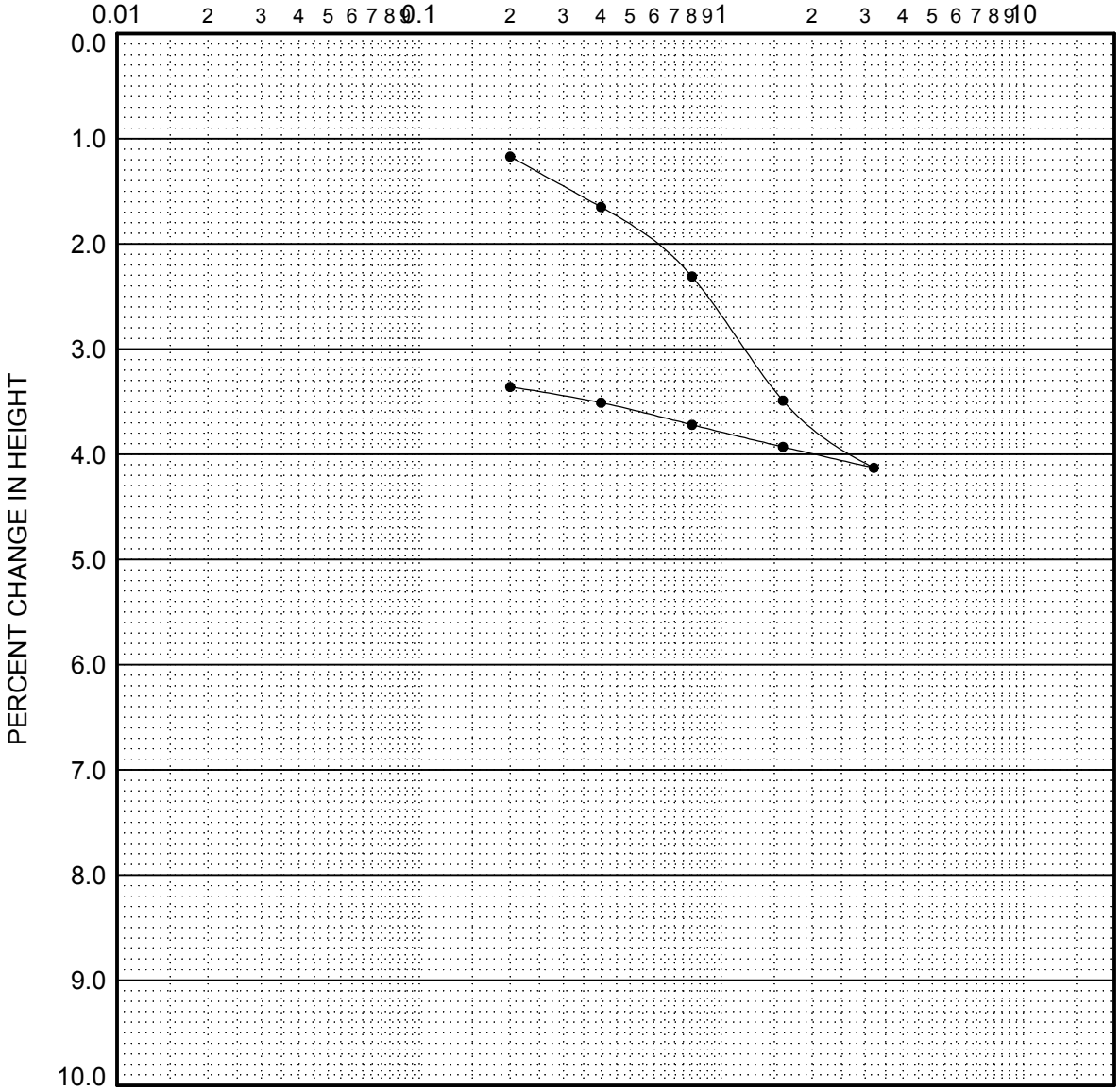
FIGURE C-3
CONSOLIDATION CURVE

PN:1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

FIG. C-3

COMPRESSIVE STRESS IN TSF




| Boring | Depth(ft.) | Dry Density | in situ Moist. | -200 sieve | Group Symbol | Soil Description |
|---|---|---|---|---|---|---|
| B-4 | 10.0 | 96.9 | 29.0 | | SM | |

WATER ADDED AT .8 TSF.

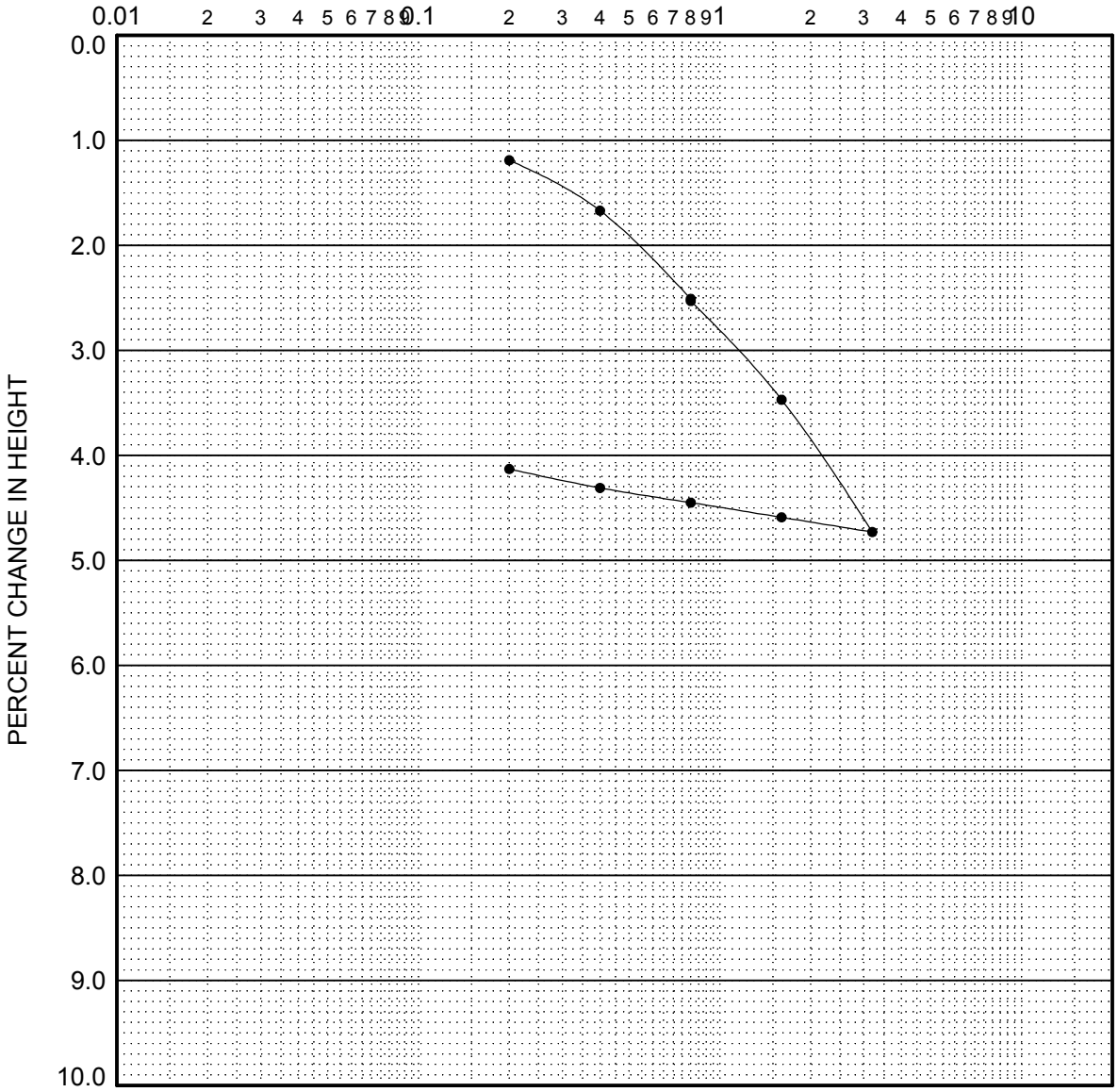
FIGURE C-4
CONSOLIDATION CURVE

PN:1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

FIG. C-4

COMPRESSIVE STRESS IN TSF




| Boring | Depth(ft.) | Dry Density | in situ Moist. | -200 sieve | Group Symbol | Soil Description |
|---|---|---|---|---|---|---|
| B-4 | 20.0 | 108.3 | 20.0 | | SM | |

WATER ADDED AT .8 TSF.

FIGURE C-5
CONSOLIDATION CURVE

PN:1-1209 REPORT DATE: 05/04/22

G3SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

FIG. C-5

**APPENDIX D**

REFERENCE NO. 2 EXCERPTS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-1

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 9.5 feet
CAVE DEPTH: 11 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 3± inches Asphaltic Concrete; 8± inches Aggregate Base | | | | | | | |
| | | 10 | | | FILL: Gray Brown Silty fine Sand, mottled, loose to medium dense-moist to very moist | | 15 | | | | | |
| | | 6 | | | | | 18 | | | | | |
| 5 | | | 2.0 | | ALLUVIUM: Gray Brown Silty Clay, trace Calcareous nodules, little Iron oxide staining, medium stiff-very moist | | 36 | 46 | 23 | | | |
| | | 10 | | | Dark Gray fine Sandy Silt, loose to medium dense-very moist to wet | | 24 | | | 56 | | |
| | | 7 | | | | | 29 | | | 62 | | |
| 10 | | | | | | | | | | | | |
| 15 | | 13 | | | @ 14 feet, trace Iron oxide staining | | 23 | | | 50 | | |
| | | | | | Gray Brown Silty fine Sand, loose to medium dense-wet | | | | | | | |
| | | 7 | | | | | 25 | | | 23 | | |
| 20 | | | | | | | | | | | | |
| 25 | | 25 | | | @ 24 feet, little Iron oxide staining | | 20 | | | 37 | | |
| | | | | | Gray Brown fine Sand, trace Silt, very loose-wet | | | | | | | |
| | | 2 | | | | | 25 | | | 4 | | |
| 30 | | | 1.0 | | Gray Brown Silty Clay, little Iron oxide staining, very soft-wet | | 37 | 50 | 28 | 93 | | |
| | | | | | Gray Brown fine Sand, medium dense-wet | | | | | | | |
| | | 19 | | | Gray Brown Silty fine Sand, trace Iron oxide staining, medium | | 22 | | | 5 | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

## TEST BORING LOG

## PLATE B-1a

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-1

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 9.5 feet
CAVE DEPTH: 11 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION (Continued) | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | dense-wet | | | | | | | |
| 40 | | 16 | | | | | 23 | | | | | |
| | | 14 | | | @ 43½ feet, trace Calcareous nodules | | 21 | | | 42 | | |
| 45 | | | | | | | | | | | | |
| | | | | | Gray fine Sandy Silt, medium dense-wet | | | | | | | |
| | | 15 | | | | | 31 | | | 80 | | |
| 50 | | | | | Boring Terminated at 50' | | | | | | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

**TEST BORING LOG**

**PLATE B-1b**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-2

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 7.5 feet
CAVE DEPTH: 8 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | DESCRIPTION | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 3± inches Asphaltic Concrete; 5± inches Aggregate Base | | | | | | | |
| | | 12 | | | FILL: Gray Brown Silty fine Sand, trace medium to coarse Sand, little fine Gravel, trace tree roots, loose-damp | 91 | 7 | | | | | |
| | | 18 | | | ALLUVIUM: Light Gray Brown fine Sand, trace medium Sand, medium dense-damp | 99 | 3 | | | | | |
| 5 | | 24 | | | | 92 | 5 | | | | | |
| | | 14 | | | Gray Silty fine Sand, loose-wet | 102 | 21 | | | 21 | | |
| | | 11 | | | Gray Brown fine Sandy Silt, loose-wet | 93 | 29 | | | 70 | | |
| 10 | | | | | | | | | | | | |
| | | 9 | 1.5 | | Gray Brown Silty Clay, little to some fine Sand, little Calcareous nodules, stiff-wet | | 27 | | | 82 | | |
| 15 | | | | | | | | | | | | |
| | | 15 | | | Gray Brown fine Sandy Silt, little Iron oxide staining, loose to medium dense-wet | 103 | 23 | | | 59 | | |
| 20 | | | | | | | | | | | | |
| | | 7 | | | | | 22 | | | 61 | | |
| 25 | | | 1.0 | | Dark Gray to Gray fine Sandy Clay, medium stiff-wet | | 23 | 29 | 17 | 58 | | |
| | | | | | Gray Brown fine Sandy Silt, little Clay, trace Iron oxide staining, medium dense-wet | | | | | | | |
| | | 18 | | | | 99 | 28 | | | | | |
| 30 | | | | | | | | | | | | |
| | | | | | Gray Brown Silty Clay, trace Calcareous nodules, little Iron oxide staining, stiff-wet | | | | | | | |
| | | 11 | | | | | 30 | | | 88 | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

## TEST BORING LOG

## PLATE B-2a

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-2

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 7.5 feet
CAVE DEPTH: 8 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION (Continued) | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | Gray Brown fine Sandy Silt, medium dense-wet | | | | | | | |
| | | 19 | | | | | 26 | | | | | |
| 40 | | | | | | | | | | | | |
| | | | | | Gray Silty fine Sand, medium dense-wet | | | | | | | |
| | | 16 | | | | | 26 | | | 33 | | |
| 45 | | | | | | | | | | | | |
| | | | | | Gray Silty Clay, little fine Sand, very stiff-wet | | | | | | | |
| | | 23 | 3.0 | | | | 20 | | | 77 | | |
| 50 | | | | | | | | | | | | |
| | | | | | Boring Terminated at 50' | | | | | | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

**TEST BORING LOG** **PLATE B-2b**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-3

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 9 feet
CAVE DEPTH: 12 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 3± inches Asphaltic Concrete; 8± inches Aggregate Base | | | | | | | |
| | | 12 | | | FILL: Gray Silty fine Sand, little Clay, loose-moist to very moist | 107 | 16 | | | | | |
| | | 8 | | | @ 3 feet, slightly mottled | 100 | 21 | | | | | |
| 5 | | 10 | | | | 107 | 19 | | | | | |
| | | 15 | 1.5 | | ALLUVIUM: Gray Silty Clay, trace Iron oxide staining, stiff-very moist | 93 | 30 | | | 83 | | |
| | | | | | Gray Brown Silty fine Sand to fine Sandy Silt, little Iron oxide staining, medium dense-wet | | | | | | | |
| | | 16 | | | | 103 | 25 | | | 45 | | |
| 10 | | | | | | | | | | | | |
| | | | | | Gray Brown Silty Clay, little fine Sand, medium stiff-wet | | | | | | | |
| | | 5 | 2.0 | | | | 31 | 38 | 21 | 69 | | |
| 15 | | | | | | | | | | | | |
| | | | | | Gray Brown fine Sandy Silt, little Iron oxide staining, micaceous, loose to medium dense-wet | | | | | | | |
| | | 12 | | | | 96 | 25 | | | 66 | | |
| 20 | | | | | | | | | | | | |
| | | 12 | | | | | 24 | | | | | |
| 25 | | | | | Gray Silty fine Sand, trace to little Clay, medium dense-wet | | 21 | 25 | 21 | 41 | | |
| | | | | | Gray Silty fine Sand to fine Sandy Silt, loose-wet | | | | | | | |
| | | 10 | | | | 98 | 25 | | | 55 | | |
| 30 | | | | | | | | | | | | |
| | | | | | Light Gray Brown fine Sandy Clay, little Iron oxide staining, trace Calcareous nodules/veining, stiff-wet | | | | | | | |
| | | 11 | 2.0 | | | | 29 | 40 | 20 | 76 | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

TEST BORING LOG

PLATE B-3a

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

**BORING NO. B-3**

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 9 feet
CAVE DEPTH: 12 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION (Continued) | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | Gray Brown Silty fine Sand, loose-wet | | | | | | | |
| 40 | | 7 | | | | | 27 | | | 40 | | |
| | | | | | Gray Brown fine Sand, little Silt, medium dense-wet | | | | | | | |
| 45 | | 16 | | | | | 24 | | | 11 | | |
| | | 18 | | | | | 22 | | | | | |
| 50 | | | | | Boring Terminated at 50' | | | | | | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

**TEST BORING LOG**

**PLATE B-3b**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

**BORING NO. B-4**

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 6 feet
CAVE DEPTH: 12 feet
READING TAKEN: 4 hrs After Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 3± inches Asphaltic Concrete; 8± inches Aggregate Base | | | | | | | |
| | | 11 | | | FILL: Gray Silty fine Sand, 2-inch fine Sandy Silt lense, medium dense-very moist to wet | | 15 | | | | | EI = 8 @ 0 to 5 feet |
| | | 6 | | | @ 3½ feet, mottled, loose | | 28 | | | | | |
| 5 | | | | | | | | | | | | |
| | | 4 | | | FILL: Brown Silty fine Sand, very loose to loose-wet | | 22 | | | 17 | | |
| | | | | | ALLUVIUM: Gray Brown Silty fine Sand, very loose to loose-wet | | 26 | | | 41 | | |
| | | 2 | | | | | 27 | | | 37 | | |
| 10 | | | | | | | | | | | | |
| | | | | | Gray Brown Silty Clay, little fine Sand, little Iron oxide staining, medium stiff-wet | | | | | | | |
| | | 11 | 2.5 | | | | 27 | 40 | 18 | 82 | | |
| 15 | | | | | | | | | | | | |
| | | | | | Gray fine Sand, trace to little Silt, loose-wet | | | | | | | |
| | | 8 | | | | | 28 | | | | | |
| 20 | | | | | | | | | | | | |
| | | 25 | | | @ 24 feet, medium dense | | 16 | | | 11 | | |
| 25 | | | | | | | | | | | | |
| | | 5 | | | | | 24 | | | 12 | | |
| | | | | | Gray Brown fine Sandy Silt, loose-wet | | 24 | | | 59 | | |
| 30 | | | | | | | | | | | | |
| | | | | | Gray Brown Silty fine Sand, medium dense-wet | | | | | | | |
| | | 35 | | | | | 19 | | | 36 | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

**TEST BORING LOG**

**PLATE B-4a**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

**BORING NO. B-4**

JOB NO.: 21G150-1
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 4/2/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 6 feet
CAVE DEPTH: 12 feet
READING TAKEN: 4 hrs After Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION (Continued) | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | Gray Brown to Gray fine Sandy Silt, little Iron oxide staining, medium dense-wet | | | | | | | |
| 40 | | 27 | | | | | 31 | | | | | |
| | | | | | Gray Brown to Gray Silty fine Sand, medium dense-wet | | | | | | | |
| | | 12 | | | | | 27 | | | 42 | | |
| 45 | | | | | Gray fine Sandy Silt, trace Clay, medium dense-wet | | 18 | | | 54 | | |
| | | 26 | | | | | 20 | | | | | |
| 50 | | | | | Boring Terminated at 50' | | | | | | | |

TBL 21G150-1.GPJ SOCALGEO.GDT 5/18/21

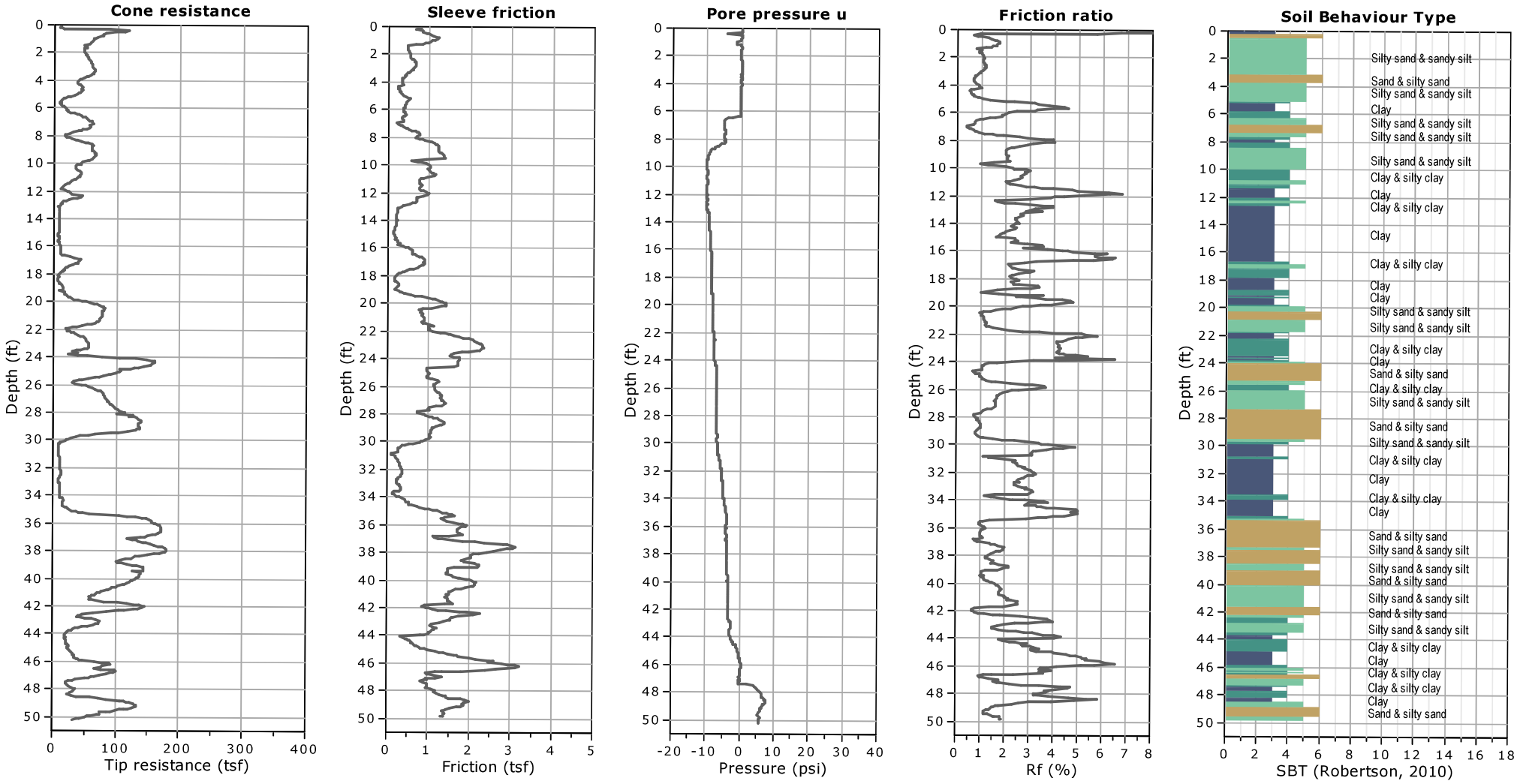
**TEST BORING LOG**

**PLATE B-4b**

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

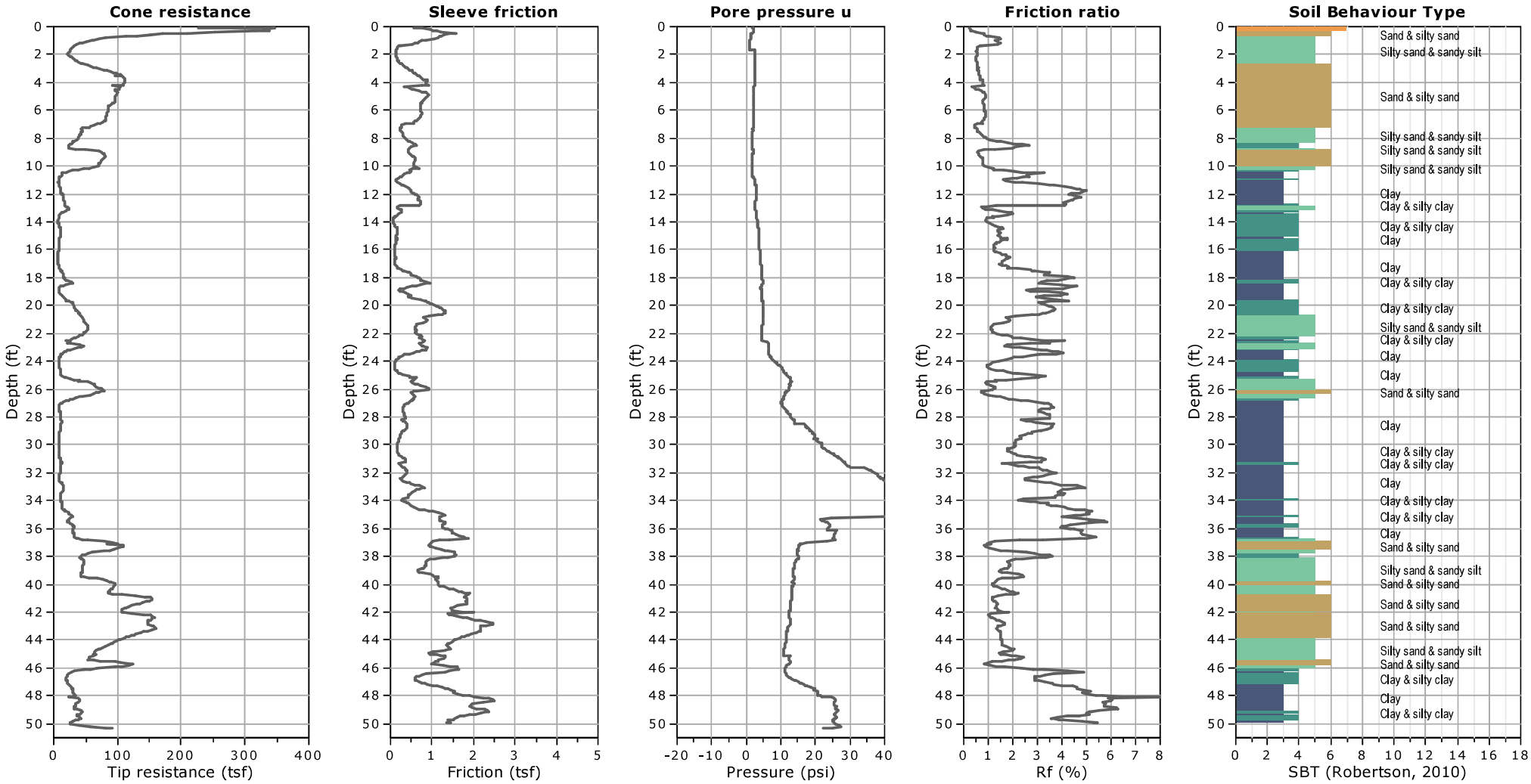
**Project:** Southern California Geotechnical
**Location:** 5665 Plaza Dr, Cypress, CA

**CPT-1**
Total depth: 50.22 ft, Date: 4/2/2021



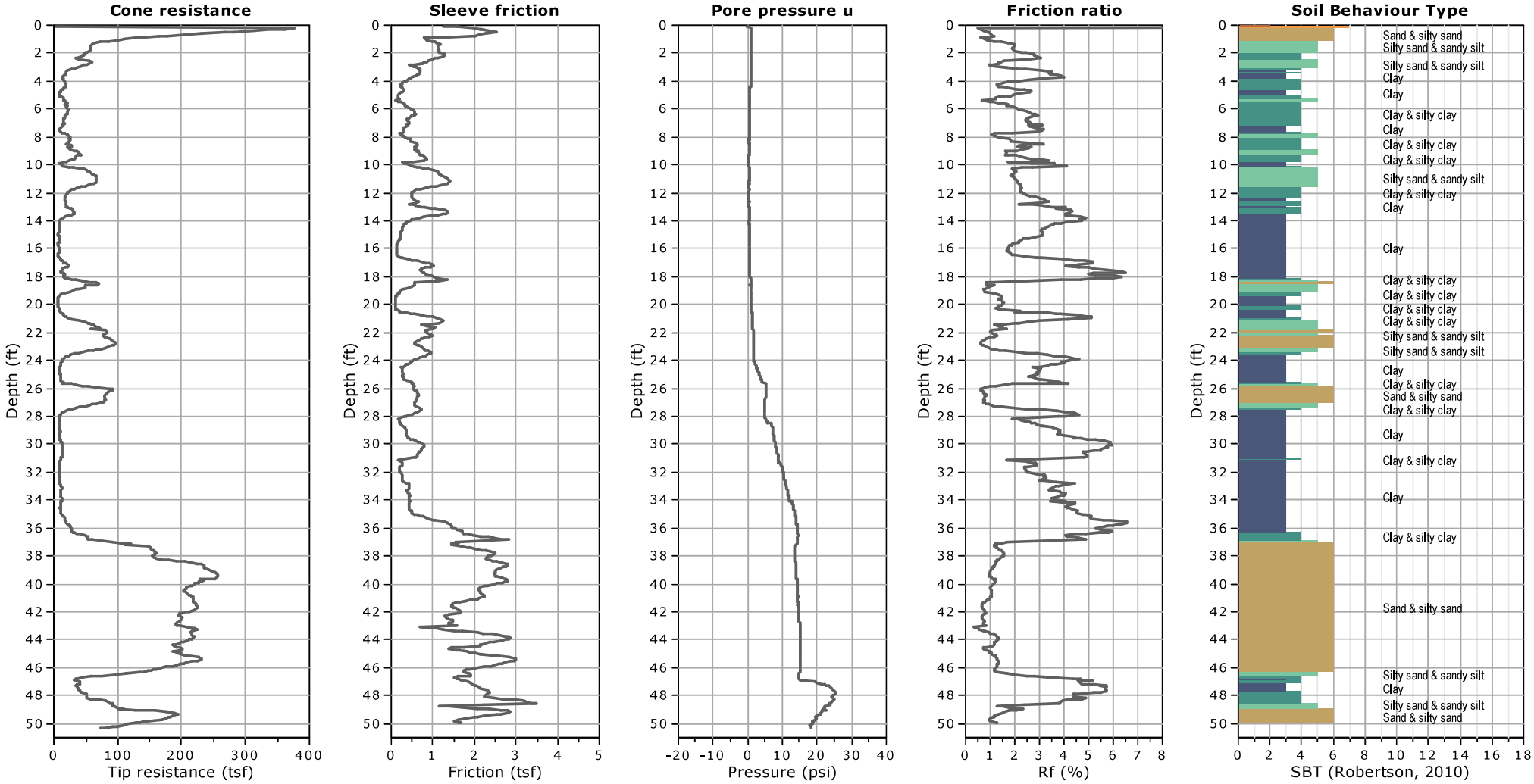
**Kehoe Testing and Engineering**
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

**Project:** **Southern California Geotechnical** **CPT-2**
**Location:** **5665 Plaza Dr, Cypress, CA** Total depth: 50.33 ft, Date: 4/2/2021



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

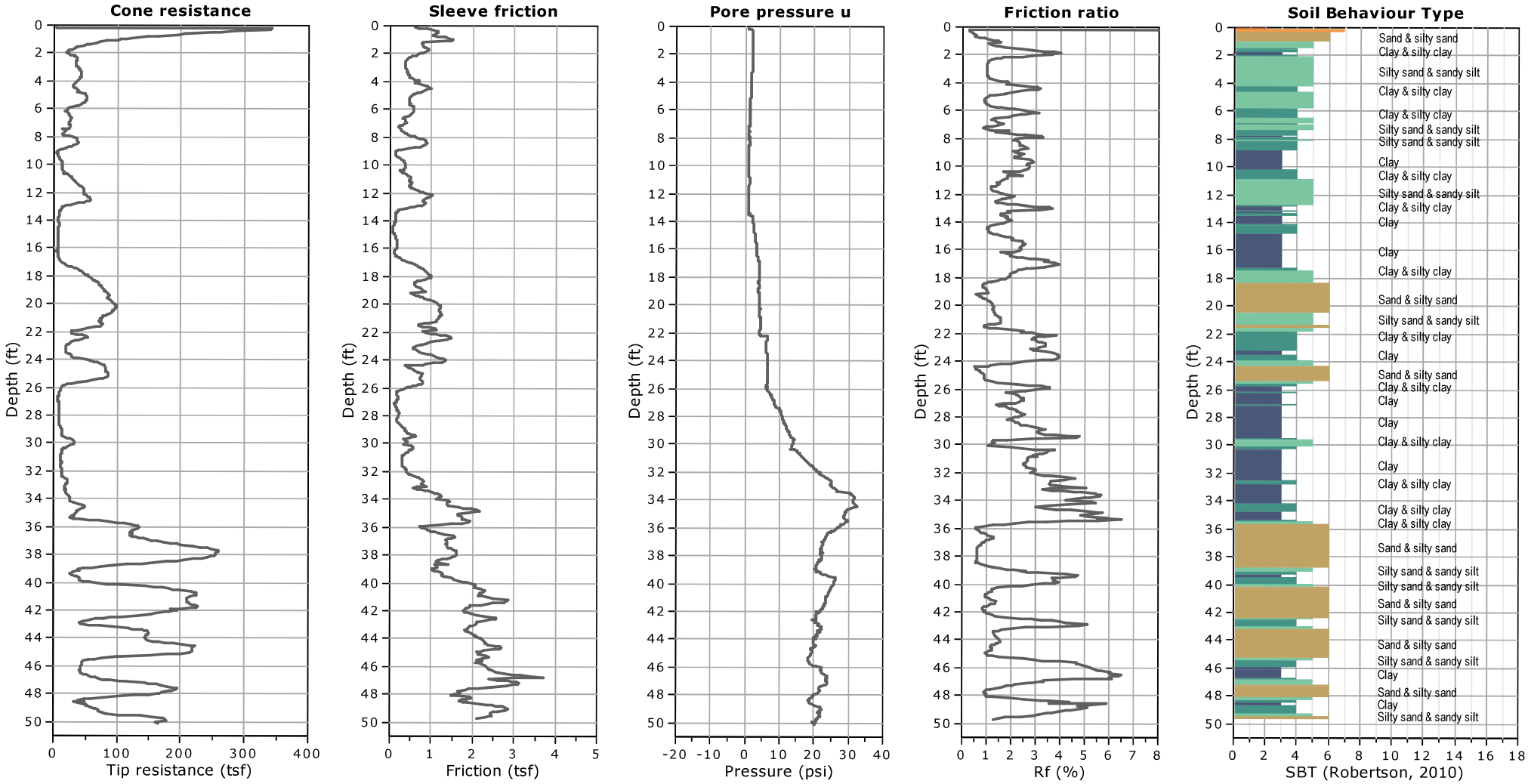
**Project:** **Southern California Geotechnical** **CPT-3**
**Location:** **5665 Plaza Dr, Cypress, CA** Total depth: 50.35 ft, Date: 4/2/2021



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

**Project:** Southern California Geotechnical
**Location:** 5665 Plaza Dr, Cypress, CA

**CPT-4**
Total depth: 50.10 ft, Date: 4/2/2021



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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.06 | 105.65 | 0.39 | 3.04 | 1.00 | 0.02 | 5.15 | 98.60 | 0.35 | 3.26 | 1.00 | 0.03 |
| 5.19 | 94.96 | 0.34 | 3.39 | 1.00 | 0.02 | 5.28 | 26.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.32 | 25.00 | 2.00 | 0.00 | 1.00 | 0.00 | 5.40 | 22.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.45 | 18.48 | 2.00 | 0.00 | 1.00 | 0.00 | 5.54 | 15.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.58 | 15.13 | 2.00 | 0.00 | 1.00 | 0.00 | 5.66 | 14.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.72 | 15.97 | 2.00 | 0.00 | 1.00 | 0.00 | 5.80 | 18.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.85 | 20.00 | 2.00 | 0.00 | 1.00 | 0.00 | 5.92 | 24.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.99 | 86.64 | 0.29 | 3.71 | 1.00 | 0.03 | 6.04 | 87.43 | 0.29 | 3.68 | 1.00 | 0.02 |
| 6.12 | 89.04 | 0.30 | 3.61 | 1.00 | 0.04 | 6.20 | 91.91 | 0.30 | 3.50 | 1.00 | 0.04 |
| 6.24 | 93.96 | 0.31 | 3.42 | 1.00 | 0.02 | 6.32 | 99.49 | 0.32 | 3.23 | 1.00 | 0.03 |
| 6.39 | 104.70 | 0.34 | 3.06 | 1.00 | 0.02 | 6.46 | 106.41 | 0.35 | 3.01 | 1.00 | 0.03 |
| 6.51 | 105.90 | 0.34 | 3.03 | 1.00 | 0.02 | 6.59 | 103.31 | 0.33 | 3.11 | 1.00 | 0.03 |
| 6.64 | 101.41 | 0.32 | 3.17 | 1.00 | 0.02 | 6.70 | 99.84 | 0.32 | 3.22 | 1.00 | 0.03 |
| 6.79 | 100.57 | 0.32 | 3.19 | 1.00 | 0.03 | 6.83 | 96.59 | 0.30 | 3.33 | 1.00 | 0.01 |
| 6.90 | 89.51 | 0.28 | 3.59 | 1.00 | 0.03 | 6.99 | 92.52 | 0.29 | 3.48 | 1.00 | 0.04 |
| 7.04 | 93.83 | 0.29 | 3.43 | 1.00 | 0.02 | 7.12 | 95.27 | 0.29 | 3.37 | 1.00 | 0.03 |
| 7.17 | 95.76 | 0.29 | 3.36 | 1.00 | 0.02 | 7.23 | 93.20 | 0.28 | 3.45 | 1.00 | 0.03 |
| 7.33 | 100.03 | 0.30 | 3.21 | 1.00 | 0.04 | 7.36 | 102.37 | 0.31 | 3.14 | 1.00 | 0.01 |
| 7.42 | 108.82 | 0.33 | 2.94 | 1.00 | 0.02 | 7.50 | 114.73 | 0.36 | 2.79 | 1.00 | 0.03 |
| 7.59 | 116.57 | 0.37 | 2.74 | 1.00 | 0.03 | 7.63 | 114.97 | 0.36 | 2.78 | 1.00 | 0.02 |
| 7.68 | 112.14 | 0.34 | 2.85 | 1.00 | 0.02 | 7.76 | 103.61 | 0.31 | 3.10 | 1.00 | 0.03 |
| 7.81 | 98.37 | 0.29 | 3.27 | 1.00 | 0.02 | 7.89 | 29.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.94 | 26.27 | 2.00 | 0.00 | 1.00 | 0.00 | 8.03 | 24.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.12 | 27.54 | 2.00 | 0.00 | 1.00 | 0.00 | 8.16 | 32.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.20 | 101.14 | 0.29 | 3.18 | 1.00 | 0.02 | 8.29 | 110.07 | 0.33 | 2.91 | 1.00 | 0.03 |
| 8.34 | 111.74 | 0.33 | 2.86 | 1.00 | 0.02 | 8.43 | 118.93 | 0.36 | 2.68 | 1.00 | 0.03 |
| 8.49 | 124.88 | 0.40 | 2.54 | 1.00 | 0.02 | 8.54 | 129.17 | 0.43 | 2.45 | 1.00 | 0.01 |
| 8.61 | 133.85 | 0.46 | 2.36 | 1.00 | 0.02 | 8.69 | 134.94 | 0.47 | 2.34 | 1.00 | 0.02 |
| 8.73 | 135.30 | 0.47 | 2.33 | 1.00 | 0.01 | 8.82 | 134.71 | 0.47 | 2.34 | 1.00 | 0.03 |
| 8.86 | 134.45 | 0.46 | 2.35 | 1.00 | 0.01 | 8.96 | 134.25 | 0.46 | 2.35 | 1.00 | 0.03 |
| 9.01 | 134.07 | 0.46 | 2.35 | 1.00 | 0.01 | 9.08 | 134.29 | 0.46 | 2.35 | 1.00 | 0.02 |
| 9.13 | 135.04 | 0.46 | 2.33 | 1.00 | 0.01 | 9.23 | 137.50 | 0.49 | 2.29 | 1.00 | 0.03 |
| 9.30 | 138.71 | 0.50 | 2.27 | 1.00 | 0.02 | 9.35 | 139.26 | 0.50 | 2.26 | 1.00 | 0.01 |
| 9.39 | 139.18 | 0.50 | 2.26 | 1.00 | 0.01 | 9.51 | 137.83 | 0.48 | 2.28 | 1.00 | 0.03 |
| 9.54 | 136.94 | 0.48 | 2.30 | 1.00 | 0.01 | 9.60 | 126.47 | 0.39 | 2.51 | 1.00 | 0.02 |
| 9.65 | 110.14 | 0.31 | 2.91 | 1.00 | 0.02 | 9.77 | 118.19 | 0.34 | 2.70 | 1.00 | 0.04 |
| 9.83 | 118.50 | 0.34 | 2.69 | 1.00 | 0.02 | 9.93 | 115.20 | 0.33 | 2.77 | 1.00 | 0.03 |
| 9.98 | 113.29 | 0.32 | 2.82 | 1.00 | 0.02 | 10.04 | 114.58 | 0.32 | 2.79 | 1.00 | 0.02 |
| 10.13 | 107.25 | 0.29 | 2.99 | 1.00 | 0.03 | 10.20 | 104.68 | 0.28 | 3.07 | 1.00 | 0.03 |
| 10.27 | 104.42 | 0.28 | 3.07 | 1.00 | 0.03 | 10.32 | 104.17 | 0.28 | 3.08 | 1.00 | 0.02 |
| 10.40 | 104.31 | 0.28 | 3.08 | 1.00 | 0.03 | 10.45 | 107.24 | 0.29 | 2.99 | 1.00 | 0.02 |
| 10.53 | 111.49 | 0.31 | 2.87 | 1.00 | 0.03 | 10.57 | 112.49 | 0.31 | 2.84 | 1.00 | 0.01 |
| 10.66 | 113.58 | 0.31 | 2.81 | 1.00 | 0.03 | 10.71 | 114.22 | 0.32 | 2.80 | 1.00 | 0.02 |
| 10.79 | 113.99 | 0.31 | 2.80 | 1.00 | 0.03 | 10.88 | 111.08 | 0.30 | 2.88 | 1.00 | 0.03 |
| 10.93 | 109.19 | 0.29 | 2.93 | 1.00 | 0.02 | 10.98 | 107.23 | 0.29 | 2.99 | 1.00 | 0.02 |
| 11.07 | 103.80 | 0.27 | 3.09 | 1.00 | 0.04 | 11.12 | 101.95 | 0.27 | 3.15 | 1.00 | 0.02 |
| 11.17 | 100.06 | 0.26 | 3.21 | 1.00 | 0.02 | 11.27 | 95.22 | 0.25 | 3.38 | 1.00 | 0.04 |
| 11.32 | 93.20 | 0.24 | 3.45 | 1.00 | 0.02 | 11.37 | 91.05 | 0.23 | 3.53 | 1.00 | 0.02 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.43 | 29.14 | 2.00 | 0.00 | 1.00 | 0.00 | 11.49 | 26.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.58 | 21.60 | 2.00 | 0.00 | 1.00 | 0.00 | 11.64 | 19.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.76 | 15.59 | 2.00 | 0.00 | 1.00 | 0.00 | 11.84 | 15.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.89 | 17.48 | 2.00 | 0.00 | 1.00 | 0.00 | 11.95 | 22.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.02 | 27.90 | 2.00 | 0.00 | 1.00 | 0.00 | 12.07 | 30.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.11 | 31.58 | 2.00 | 0.00 | 1.00 | 0.00 | 12.20 | 95.23 | 0.24 | 3.38 | 1.00 | 0.04 |
| 12.33 | 107.16 | 0.27 | 2.99 | 1.00 | 0.05 | 12.37 | 109.09 | 0.28 | 2.94 | 1.00 | 0.02 |
| 12.44 | 106.98 | 0.27 | 3.00 | 1.00 | 0.02 | 12.51 | 102.44 | 0.26 | 3.13 | 1.00 | 0.03 |
| 12.58 | 94.94 | 0.24 | 3.39 | 1.00 | 0.03 | 12.63 | 87.53 | 0.22 | 3.67 | 1.00 | 0.02 |
| 12.69 | 22.75 | 2.00 | 0.00 | 1.00 | 0.00 | 12.75 | 19.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.81 | 16.49 | 2.00 | 0.00 | 1.00 | 0.00 | 12.88 | 15.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.94 | 14.13 | 2.00 | 0.00 | 1.00 | 0.00 | 13.00 | 13.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.12 | 11.43 | 2.00 | 0.00 | 1.00 | 0.00 | 13.16 | 8.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.20 | 10.77 | 2.00 | 0.00 | 1.00 | 0.00 | 13.27 | 10.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.34 | 10.85 | 2.00 | 0.00 | 1.00 | 0.00 | 13.42 | 10.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.45 | 10.40 | 2.00 | 0.00 | 1.00 | 0.00 | 13.56 | 11.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.60 | 11.11 | 2.00 | 0.00 | 1.00 | 0.00 | 13.68 | 10.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.74 | 10.88 | 2.00 | 0.00 | 1.00 | 0.00 | 13.82 | 10.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.85 | 10.85 | 2.00 | 0.00 | 1.00 | 0.00 | 13.95 | 10.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.00 | 10.82 | 2.00 | 0.00 | 1.00 | 0.00 | 14.05 | 10.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.13 | 10.70 | 2.00 | 0.00 | 1.00 | 0.00 | 14.17 | 10.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.26 | 9.82 | 2.00 | 0.00 | 1.00 | 0.00 | 14.31 | 9.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.39 | 10.12 | 2.00 | 0.00 | 1.00 | 0.00 | 14.44 | 10.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.53 | 10.10 | 2.00 | 0.00 | 1.00 | 0.00 | 14.59 | 10.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.66 | 9.98 | 2.00 | 0.00 | 1.00 | 0.00 | 14.70 | 9.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.79 | 9.96 | 2.00 | 0.00 | 1.00 | 0.00 | 14.84 | 9.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.96 | 9.78 | 2.00 | 0.00 | 1.00 | 0.00 | 15.01 | 9.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.10 | 8.23 | 2.00 | 0.00 | 1.00 | 0.00 | 15.15 | 9.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.22 | 9.04 | 2.00 | 0.00 | 1.00 | 0.00 | 15.27 | 9.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.32 | 9.96 | 2.00 | 0.00 | 1.00 | 0.00 | 15.45 | 9.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.50 | 9.42 | 2.00 | 0.00 | 1.00 | 0.00 | 15.58 | 8.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.63 | 8.58 | 2.00 | 0.00 | 1.00 | 0.00 | 15.68 | 9.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.75 | 9.79 | 2.00 | 0.00 | 1.00 | 0.00 | 15.80 | 10.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.87 | 11.50 | 2.00 | 0.00 | 1.00 | 0.00 | 15.93 | 11.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.99 | 12.79 | 2.00 | 0.00 | 1.00 | 0.00 | 16.03 | 13.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.11 | 12.46 | 2.00 | 0.00 | 1.00 | 0.00 | 16.15 | 11.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.23 | 12.23 | 2.00 | 0.00 | 1.00 | 0.00 | 16.28 | 12.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.37 | 12.29 | 2.00 | 0.00 | 1.00 | 0.00 | 16.41 | 11.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.49 | 11.87 | 2.00 | 0.00 | 1.00 | 0.00 | 16.55 | 12.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.63 | 16.21 | 2.00 | 0.00 | 1.00 | 0.00 | 16.67 | 19.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.76 | 30.38 | 2.00 | 0.00 | 1.00 | 0.00 | 16.81 | 96.52 | 0.22 | 3.33 | 1.00 | 0.02 |
| 16.90 | 104.95 | 0.24 | 3.06 | 1.00 | 0.03 | 16.93 | 106.25 | 0.25 | 3.02 | 1.00 | 0.01 |
| 17.02 | 104.80 | 0.24 | 3.06 | 1.00 | 0.03 | 17.07 | 104.25 | 0.24 | 3.08 | 1.00 | 0.02 |
| 17.16 | 103.77 | 0.24 | 3.09 | 1.00 | 0.03 | 17.21 | 102.11 | 0.23 | 3.15 | 1.00 | 0.02 |
| 17.27 | 98.71 | 0.22 | 3.26 | 1.00 | 0.02 | 17.34 | 93.68 | 0.21 | 3.43 | 1.00 | 0.03 |
| 17.44 | 25.77 | 2.00 | 0.00 | 1.00 | 0.00 | 17.51 | 23.43 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.55 | 21.38 | 2.00 | 0.00 | 1.00 | 0.00 | 17.63 | 20.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.69 | 19.21 | 2.00 | 0.00 | 1.00 | 0.00 | 17.74 | 18.12 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.82 | 16.35 | 2.00 | 0.00 | 1.00 | 0.00 | 17.86 | 14.10 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.92 | 12.02 | 2.00 | 0.00 | 1.00 | 0.00 | 18.00 | 10.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.06 | 9.25 | 2.00 | 0.00 | 1.00 | 0.00 | 18.12 | 8.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.25 | 8.63 | 2.00 | 0.00 | 1.00 | 0.00 | 18.30 | 8.43 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.37 | 8.43 | 2.00 | 0.00 | 1.00 | 0.00 | 18.43 | 8.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.54 | 8.21 | 2.00 | 0.00 | 1.00 | 0.00 | 18.61 | 9.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.66 | 10.13 | 2.00 | 0.00 | 1.00 | 0.00 | 18.73 | 12.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.78 | 14.87 | 2.00 | 0.00 | 1.00 | 0.00 | 18.97 | 73.05 | 0.17 | 4.37 | 1.00 | 0.10 |
| 19.09 | 16.33 | 2.00 | 0.00 | 1.00 | 0.00 | 19.15 | 14.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.16 | 12.47 | 2.00 | 0.00 | 1.00 | 0.00 | 19.17 | 10.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.26 | 17.42 | 2.00 | 0.00 | 1.00 | 0.00 | 19.30 | 18.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.39 | 19.08 | 2.00 | 0.00 | 1.00 | 0.00 | 19.43 | 19.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.53 | 21.66 | 2.00 | 0.00 | 1.00 | 0.00 | 19.59 | 22.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.66 | 25.16 | 2.00 | 0.00 | 1.00 | 0.00 | 19.71 | 27.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.83 | 35.81 | 2.00 | 0.00 | 1.00 | 0.00 | 19.89 | 103.55 | 0.23 | 3.10 | 1.00 | 0.02 |
| 19.96 | 110.97 | 0.25 | 2.88 | 1.00 | 0.03 | 20.01 | 117.44 | 0.27 | 2.72 | 1.00 | 0.02 |
| 20.07 | 123.87 | 0.30 | 2.57 | 1.00 | 0.02 | 20.14 | 128.46 | 0.33 | 2.47 | 1.00 | 0.02 |
| 20.21 | 131.22 | 0.34 | 2.41 | 1.00 | 0.02 | 20.27 | 132.30 | 0.35 | 2.39 | 1.00 | 0.02 |
| 20.32 | 129.67 | 0.33 | 2.44 | 1.00 | 0.01 | 20.38 | 122.94 | 0.30 | 2.59 | 1.00 | 0.02 |
| 20.45 | 115.74 | 0.27 | 2.76 | 1.00 | 0.02 | 20.50 | 121.25 | 0.29 | 2.63 | 1.00 | 0.02 |
| 20.62 | 119.60 | 0.28 | 2.66 | 1.00 | 0.04 | 20.68 | 121.45 | 0.29 | 2.62 | 1.00 | 0.02 |
| 20.75 | 122.13 | 0.29 | 2.61 | 1.00 | 0.02 | 20.81 | 121.49 | 0.29 | 2.62 | 1.00 | 0.02 |
| 20.84 | 121.54 | 0.29 | 2.62 | 1.00 | 0.01 | 20.98 | 122.78 | 0.29 | 2.59 | 1.00 | 0.04 |
| 21.05 | 123.63 | 0.30 | 2.57 | 1.00 | 0.02 | 21.11 | 123.67 | 0.30 | 2.57 | 1.00 | 0.02 |
| 21.17 | 123.19 | 0.30 | 2.58 | 1.00 | 0.02 | 21.23 | 122.53 | 0.29 | 2.60 | 1.00 | 0.02 |
| 21.37 | 120.77 | 0.28 | 2.64 | 1.00 | 0.04 | 21.41 | 121.11 | 0.29 | 2.63 | 1.00 | 0.01 |
| 21.48 | 122.57 | 0.29 | 2.60 | 1.00 | 0.02 | 21.54 | 123.21 | 0.30 | 2.58 | 1.00 | 0.02 |
| 21.60 | 121.22 | 0.29 | 2.63 | 1.00 | 0.02 | 21.67 | 114.05 | 0.26 | 2.80 | 1.00 | 0.02 |
| 21.72 | 106.84 | 0.23 | 3.00 | 1.00 | 0.02 | 21.80 | 99.11 | 0.21 | 3.24 | 1.00 | 0.03 |
| 21.85 | 31.01 | 2.00 | 0.00 | 1.00 | 0.00 | 21.90 | 25.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.94 | 20.97 | 2.00 | 0.00 | 1.00 | 0.00 | 21.99 | 21.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.10 | 23.25 | 2.00 | 0.00 | 1.00 | 0.00 | 22.16 | 26.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.22 | 30.08 | 2.00 | 0.00 | 1.00 | 0.00 | 22.26 | 32.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.36 | 36.67 | 2.00 | 0.00 | 1.00 | 0.00 | 22.43 | 39.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.49 | 108.13 | 0.24 | 2.96 | 1.00 | 0.02 | 22.55 | 113.52 | 0.25 | 2.82 | 1.00 | 0.02 |
| 22.62 | 116.41 | 0.26 | 2.74 | 1.00 | 0.02 | 22.68 | 117.42 | 0.27 | 2.72 | 1.00 | 0.02 |
| 22.80 | 118.59 | 0.27 | 2.69 | 1.00 | 0.04 | 22.86 | 119.93 | 0.28 | 2.66 | 1.00 | 0.02 |
| 22.93 | 120.84 | 0.28 | 2.64 | 1.00 | 0.02 | 22.98 | 121.61 | 0.29 | 2.62 | 1.00 | 0.02 |
| 23.05 | 121.47 | 0.29 | 2.62 | 1.00 | 0.02 | 23.11 | 121.60 | 0.29 | 2.62 | 1.00 | 0.02 |
| 23.18 | 122.28 | 0.29 | 2.60 | 1.00 | 0.02 | 23.24 | 122.36 | 0.29 | 2.60 | 1.00 | 0.02 |
| 23.31 | 121.81 | 0.29 | 2.61 | 1.00 | 0.02 | 23.37 | 119.53 | 0.28 | 2.67 | 1.00 | 0.02 |
| 23.42 | 115.34 | 0.26 | 2.77 | 1.00 | 0.02 | 23.49 | 44.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.54 | 37.74 | 2.00 | 0.00 | 1.00 | 0.00 | 23.63 | 30.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.69 | 38.35 | 2.00 | 0.00 | 1.00 | 0.00 | 23.75 | 23.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.86 | 38.95 | 2.00 | 0.00 | 1.00 | 0.00 | 23.93 | 118.56 | 0.27 | 2.69 | 1.00 | 0.02 |
| 23.98 | 138.73 | 0.39 | 2.27 | 1.00 | 0.01 | 24.04 | 155.52 | 0.59 | 1.99 | 1.00 | 0.01 |
| 24.11 | 157.11 | 0.62 | 1.90 | 1.00 | 0.02 | 24.16 | 153.82 | 0.56 | 2.02 | 1.00 | 0.01 |
| 24.24 | 156.98 | 0.61 | 1.91 | 1.00 | 0.02 | 24.29 | 160.28 | 0.68 | 1.71 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24.36 | 160.33 | 0.68 | 1.71 | 1.00 | 0.01 | 24.42 | 158.67 | 0.64 | 1.81 | 1.00 | 0.01 |
| 24.49 | 156.47 | 0.60 | 1.95 | 1.00 | 0.02 | 24.55 | 153.21 | 0.55 | 2.03 | 1.00 | 0.02 |
| 24.67 | 141.16 | 0.41 | 2.22 | 1.00 | 0.03 | 24.73 | 134.13 | 0.35 | 2.35 | 1.00 | 0.02 |
| 24.78 | 126.94 | 0.31 | 2.50 | 1.00 | 0.01 | 24.86 | 121.09 | 0.28 | 2.63 | 1.00 | 0.03 |
| 24.88 | 122.04 | 0.29 | 2.61 | 1.00 | 0.00 | 25.00 | 122.79 | 0.29 | 2.59 | 1.00 | 0.04 |
| 25.04 | 123.87 | 0.29 | 2.57 | 1.00 | 0.01 | 25.08 | 125.31 | 0.30 | 2.53 | 1.00 | 0.01 |
| 25.16 | 126.87 | 0.31 | 2.50 | 1.00 | 0.02 | 25.23 | 126.71 | 0.31 | 2.50 | 1.00 | 0.02 |
| 25.27 | 126.07 | 0.30 | 2.52 | 1.00 | 0.01 | 25.35 | 125.48 | 0.30 | 2.53 | 1.00 | 0.02 |
| 25.44 | 124.44 | 0.30 | 2.55 | 1.00 | 0.03 | 25.48 | 122.69 | 0.29 | 2.59 | 1.00 | 0.01 |
| 25.56 | 115.35 | 0.26 | 2.77 | 1.00 | 0.03 | 25.63 | 105.55 | 0.23 | 3.04 | 1.00 | 0.02 |
| 25.68 | 100.82 | 0.22 | 3.19 | 1.00 | 0.02 | 25.76 | 32.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.80 | 30.93 | 2.00 | 0.00 | 1.00 | 0.00 | 25.88 | 30.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.93 | 33.74 | 2.00 | 0.00 | 1.00 | 0.00 | 26.01 | 105.74 | 0.23 | 3.03 | 1.00 | 0.03 |
| 26.06 | 110.60 | 0.24 | 2.89 | 1.00 | 0.02 | 26.12 | 114.47 | 0.25 | 2.79 | 1.00 | 0.02 |
| 26.19 | 119.52 | 0.27 | 2.67 | 1.00 | 0.02 | 26.29 | 123.10 | 0.29 | 2.58 | 1.00 | 0.03 |
| 26.39 | 126.01 | 0.30 | 2.52 | 1.00 | 0.03 | 26.43 | 127.74 | 0.31 | 2.48 | 1.00 | 0.01 |
| 26.47 | 129.03 | 0.32 | 2.45 | 1.00 | 0.01 | 26.57 | 131.02 | 0.33 | 2.41 | 1.00 | 0.03 |
| 26.62 | 132.04 | 0.34 | 2.39 | 1.00 | 0.01 | 26.67 | 132.73 | 0.34 | 2.38 | 1.00 | 0.01 |
| 26.72 | 133.20 | 0.34 | 2.37 | 1.00 | 0.01 | 26.81 | 133.52 | 0.35 | 2.36 | 1.00 | 0.03 |
| 26.87 | 133.75 | 0.35 | 2.36 | 1.00 | 0.02 | 26.93 | 134.23 | 0.35 | 2.35 | 1.00 | 0.02 |
| 26.99 | 134.97 | 0.36 | 2.34 | 1.00 | 0.02 | 27.06 | 135.94 | 0.36 | 2.32 | 1.00 | 0.02 |
| 27.11 | 136.68 | 0.37 | 2.30 | 1.00 | 0.01 | 27.17 | 137.52 | 0.37 | 2.29 | 1.00 | 0.02 |
| 27.24 | 138.32 | 0.38 | 2.27 | 1.00 | 0.02 | 27.37 | 137.54 | 0.37 | 2.29 | 1.00 | 0.03 |
| 27.42 | 134.39 | 0.35 | 2.35 | 1.00 | 0.02 | 27.50 | 128.51 | 0.31 | 2.47 | 1.00 | 0.02 |
| 27.60 | 126.94 | 0.31 | 2.50 | 1.00 | 0.03 | 27.68 | 126.93 | 0.31 | 2.50 | 1.00 | 0.02 |
| 27.80 | 105.48 | 0.23 | 3.04 | 1.00 | 0.04 | 27.85 | 105.18 | 0.23 | 3.05 | 1.00 | 0.02 |
| 27.98 | 111.16 | 0.24 | 2.88 | 1.00 | 0.05 | 28.03 | 113.63 | 0.25 | 2.81 | 1.00 | 0.02 |
| 28.06 | 120.44 | 0.28 | 2.64 | 1.00 | 0.01 | 28.16 | 120.10 | 0.27 | 2.65 | 1.00 | 0.03 |
| 28.21 | 122.92 | 0.29 | 2.59 | 1.00 | 0.02 | 28.25 | 126.59 | 0.30 | 2.51 | 1.00 | 0.01 |
| 28.33 | 130.46 | 0.33 | 2.43 | 1.00 | 0.02 | 28.36 | 131.40 | 0.33 | 2.41 | 1.00 | 0.01 |
| 28.45 | 134.43 | 0.35 | 2.35 | 1.00 | 0.03 | 28.56 | 137.49 | 0.37 | 2.29 | 1.00 | 0.03 |
| 28.60 | 137.93 | 0.38 | 2.28 | 1.00 | 0.01 | 28.65 | 137.62 | 0.37 | 2.29 | 1.00 | 0.01 |
| 28.68 | 136.99 | 0.37 | 2.30 | 1.00 | 0.01 | 28.78 | 134.06 | 0.35 | 2.35 | 1.00 | 0.03 |
| 28.82 | 132.23 | 0.34 | 2.39 | 1.00 | 0.01 | 28.92 | 128.67 | 0.31 | 2.46 | 1.00 | 0.03 |
| 28.97 | 127.57 | 0.31 | 2.49 | 1.00 | 0.02 | 29.02 | 127.51 | 0.31 | 2.49 | 1.00 | 0.01 |
| 29.07 | 128.51 | 0.31 | 2.47 | 1.00 | 0.02 | 29.17 | 128.09 | 0.31 | 2.47 | 1.00 | 0.03 |
| 29.22 | 125.57 | 0.30 | 2.53 | 1.00 | 0.02 | 29.27 | 122.81 | 0.29 | 2.59 | 1.00 | 0.01 |
| 29.35 | 121.90 | 0.28 | 2.61 | 1.00 | 0.03 | 29.45 | 127.06 | 0.31 | 2.50 | 1.00 | 0.03 |
| 29.50 | 127.75 | 0.31 | 2.48 | 1.00 | 0.01 | 29.59 | 119.13 | 0.27 | 2.68 | 1.00 | 0.03 |
| 29.66 | 110.71 | 0.24 | 2.89 | 1.00 | 0.02 | 29.70 | 100.79 | 0.21 | 3.19 | 1.00 | 0.02 |
| 29.75 | 33.26 | 2.00 | 0.00 | 1.00 | 0.00 | 29.84 | 25.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.91 | 22.67 | 2.00 | 0.00 | 1.00 | 0.00 | 29.96 | 20.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.01 | 16.95 | 2.00 | 0.00 | 1.00 | 0.00 | 30.12 | 12.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.17 | 10.44 | 2.00 | 0.00 | 1.00 | 0.00 | 30.23 | 9.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.28 | 8.67 | 2.00 | 0.00 | 1.00 | 0.00 | 30.34 | 8.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.45 | 7.94 | 2.00 | 0.00 | 1.00 | 0.00 | 30.49 | 7.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.53 | 7.93 | 2.00 | 0.00 | 1.00 | 0.00 | 30.60 | 7.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.66 | 7.60 | 2.00 | 0.00 | 1.00 | 0.00 | 30.71 | 7.51 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30.80 | 7.67 | 2.00 | 0.00 | 1.00 | 0.00 | 30.87 | 7.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.93 | 8.06 | 2.00 | 0.00 | 1.00 | 0.00 | 30.97 | 8.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.07 | 8.59 | 2.00 | 0.00 | 1.00 | 0.00 | 31.11 | 7.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.21 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 | 31.25 | 9.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.31 | 9.36 | 2.00 | 0.00 | 1.00 | 0.00 | 31.37 | 9.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.43 | 9.82 | 2.00 | 0.00 | 1.00 | 0.00 | 31.51 | 10.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.58 | 9.73 | 2.00 | 0.00 | 1.00 | 0.00 | 31.64 | 10.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.70 | 9.87 | 2.00 | 0.00 | 1.00 | 0.00 | 31.77 | 9.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.82 | 9.78 | 2.00 | 0.00 | 1.00 | 0.00 | 31.91 | 9.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.98 | 9.92 | 2.00 | 0.00 | 1.00 | 0.00 | 32.05 | 9.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.13 | 10.37 | 2.00 | 0.00 | 1.00 | 0.00 | 32.17 | 10.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.24 | 10.90 | 2.00 | 0.00 | 1.00 | 0.00 | 32.32 | 11.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.36 | 11.20 | 2.00 | 0.00 | 1.00 | 0.00 | 32.43 | 11.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.50 | 11.18 | 2.00 | 0.00 | 1.00 | 0.00 | 32.58 | 9.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.65 | 8.99 | 2.00 | 0.00 | 1.00 | 0.00 | 32.70 | 8.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.81 | 8.04 | 2.00 | 0.00 | 1.00 | 0.00 | 32.87 | 8.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.92 | 7.95 | 2.00 | 0.00 | 1.00 | 0.00 | 32.99 | 8.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.05 | 8.56 | 2.00 | 0.00 | 1.00 | 0.00 | 33.11 | 8.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.17 | 9.09 | 2.00 | 0.00 | 1.00 | 0.00 | 33.23 | 9.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.29 | 9.15 | 2.00 | 0.00 | 1.00 | 0.00 | 33.36 | 9.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.42 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 | 33.49 | 9.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.55 | 9.36 | 2.00 | 0.00 | 1.00 | 0.00 | 33.61 | 9.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.66 | 9.42 | 2.00 | 0.00 | 1.00 | 0.00 | 33.73 | 9.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.79 | 9.03 | 2.00 | 0.00 | 1.00 | 0.00 | 33.92 | 8.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.93 | 8.63 | 2.00 | 0.00 | 1.00 | 0.00 | 33.99 | 8.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.06 | 8.92 | 2.00 | 0.00 | 1.00 | 0.00 | 34.14 | 10.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.21 | 12.51 | 2.00 | 0.00 | 1.00 | 0.00 | 34.33 | 14.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.38 | 14.25 | 2.00 | 0.00 | 1.00 | 0.00 | 34.44 | 13.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.50 | 13.16 | 2.00 | 0.00 | 1.00 | 0.00 | 34.54 | 12.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.58 | 12.60 | 2.00 | 0.00 | 1.00 | 0.00 | 34.68 | 12.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.73 | 13.80 | 2.00 | 0.00 | 1.00 | 0.00 | 34.83 | 17.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.89 | 18.90 | 2.00 | 0.00 | 1.00 | 0.00 | 34.93 | 20.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.98 | 21.25 | 2.00 | 0.00 | 1.00 | 0.00 | 35.11 | 26.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.17 | 31.46 | 2.00 | 0.00 | 1.00 | 0.00 | 35.22 | 35.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.27 | 104.32 | 0.22 | 3.08 | 1.00 | 0.02 | 35.31 | 114.18 | 0.25 | 2.80 | 1.00 | 0.01 |
| 35.47 | 142.41 | 0.41 | 2.20 | 1.00 | 0.04 | 35.51 | 140.65 | 0.39 | 2.23 | 1.00 | 0.01 |
| 35.55 | 134.89 | 0.35 | 2.34 | 1.00 | 0.01 | 35.61 | 137.09 | 0.36 | 2.30 | 1.00 | 0.01 |
| 35.66 | 134.92 | 0.35 | 2.34 | 1.00 | 0.02 | 35.72 | 138.26 | 0.37 | 2.27 | 1.00 | 0.02 |
| 35.83 | 145.48 | 0.44 | 2.15 | 1.00 | 0.03 | 35.90 | 152.36 | 0.52 | 2.04 | 1.00 | 0.02 |
| 35.95 | 156.58 | 0.58 | 1.94 | 1.00 | 0.01 | 36.01 | 160.01 | 0.65 | 1.73 | 1.00 | 0.01 |
| 36.05 | 160.97 | 0.66 | 1.67 | 1.00 | 0.01 | 36.11 | 157.76 | 0.60 | 1.86 | 1.00 | 0.01 |
| 36.17 | 154.63 | 0.55 | 2.00 | 1.00 | 0.01 | 36.27 | 152.00 | 0.51 | 2.04 | 1.00 | 0.03 |
| 36.33 | 151.94 | 0.51 | 2.05 | 1.00 | 0.01 | 36.39 | 151.95 | 0.51 | 2.04 | 1.00 | 0.01 |
| 36.43 | 152.22 | 0.52 | 2.04 | 1.00 | 0.01 | 36.49 | 152.56 | 0.52 | 2.04 | 1.00 | 0.01 |
| 36.60 | 153.16 | 0.53 | 2.03 | 1.00 | 0.03 | 36.65 | 152.71 | 0.52 | 2.03 | 1.00 | 0.01 |
| 36.71 | 155.33 | 0.56 | 1.99 | 1.00 | 0.01 | 36.78 | 143.68 | 0.42 | 2.18 | 1.00 | 0.02 |
| 36.82 | 137.48 | 0.37 | 2.29 | 1.00 | 0.01 | 36.89 | 131.42 | 0.33 | 2.41 | 1.00 | 0.02 |
| 36.96 | 129.66 | 0.32 | 2.44 | 1.00 | 0.02 | 37.02 | 135.91 | 0.36 | 2.32 | 1.00 | 0.02 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 37.10 | 149.96 | 0.49 | 2.08 | 1.00 | 0.02 | 37.16 | 158.90 | 0.62 | 1.79 | 1.00 | 0.01 |
| 37.23 | 167.77 | 0.83 | 1.12 | 1.00 | 0.01 | 37.28 | 173.70 | 1.04 | 0.71 | 1.00 | 0.00 |
| 37.38 | 185.64 | 1.74 | 0.12 | 1.00 | 0.00 | 37.42 | 189.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.47 | 193.23 | 2.00 | 0.00 | 1.00 | 0.00 | 37.56 | 198.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.65 | 199.65 | 2.00 | 0.00 | 1.00 | 0.00 | 37.69 | 198.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.73 | 196.93 | 2.00 | 0.00 | 1.00 | 0.00 | 37.81 | 192.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.91 | 186.19 | 1.78 | 0.09 | 1.00 | 0.00 | 37.99 | 179.80 | 1.33 | 0.38 | 1.00 | 0.00 |
| 38.04 | 171.50 | 0.95 | 0.85 | 1.00 | 0.01 | 38.11 | 165.91 | 0.78 | 1.27 | 1.00 | 0.01 |
| 38.17 | 163.72 | 0.73 | 1.48 | 1.00 | 0.01 | 38.22 | 165.96 | 0.78 | 1.27 | 1.00 | 0.01 |
| 38.29 | 167.26 | 0.82 | 1.16 | 1.00 | 0.01 | 38.35 | 166.04 | 0.79 | 1.26 | 1.00 | 0.01 |
| 38.40 | 163.76 | 0.73 | 1.47 | 1.00 | 0.01 | 38.52 | 156.27 | 0.58 | 1.96 | 1.00 | 0.03 |
| 38.59 | 155.78 | 0.57 | 1.99 | 1.00 | 0.02 | 38.65 | 151.05 | 0.50 | 2.06 | 1.00 | 0.02 |
| 38.79 | 149.44 | 0.48 | 2.08 | 1.00 | 0.03 | 38.83 | 151.92 | 0.51 | 2.05 | 1.00 | 0.01 |
| 38.90 | 156.60 | 0.59 | 1.94 | 1.00 | 0.02 | 38.96 | 161.54 | 0.68 | 1.64 | 1.00 | 0.01 |
| 39.02 | 165.97 | 0.78 | 1.26 | 1.00 | 0.01 | 39.09 | 152.03 | 0.52 | 2.04 | 1.00 | 0.02 |
| 39.14 | 143.58 | 0.42 | 2.18 | 1.00 | 0.01 | 39.20 | 142.04 | 0.41 | 2.21 | 1.00 | 0.02 |
| 39.27 | 141.95 | 0.41 | 2.21 | 1.00 | 0.02 | 39.34 | 142.27 | 0.41 | 2.20 | 1.00 | 0.02 |
| 39.40 | 141.03 | 0.40 | 2.22 | 1.00 | 0.02 | 39.45 | 144.04 | 0.43 | 2.17 | 1.00 | 0.01 |
| 39.52 | 140.89 | 0.40 | 2.23 | 1.00 | 0.02 | 39.58 | 141.34 | 0.40 | 2.22 | 1.00 | 0.02 |
| 39.69 | 148.50 | 0.47 | 2.10 | 1.00 | 0.03 | 39.71 | 149.59 | 0.49 | 2.08 | 1.00 | 0.00 |
| 39.80 | 155.80 | 0.57 | 1.99 | 1.00 | 0.02 | 39.84 | 157.76 | 0.61 | 1.86 | 1.00 | 0.01 |
| 39.92 | 162.22 | 0.69 | 1.60 | 1.00 | 0.02 | 39.98 | 163.71 | 0.73 | 1.47 | 1.00 | 0.01 |
| 40.03 | 164.45 | 0.75 | 1.40 | 1.00 | 0.01 | 40.13 | 164.10 | 0.74 | 1.43 | 1.00 | 0.02 |
| 40.18 | 163.63 | 0.73 | 1.48 | 1.00 | 0.01 | 40.27 | 161.75 | 0.68 | 1.63 | 1.00 | 0.02 |
| 40.35 | 158.93 | 0.63 | 1.79 | 1.00 | 0.02 | 40.40 | 157.13 | 0.60 | 1.90 | 1.00 | 0.01 |
| 40.44 | 154.57 | 0.55 | 2.01 | 1.00 | 0.01 | 40.54 | 148.12 | 0.47 | 2.11 | 1.00 | 0.02 |
| 40.59 | 144.47 | 0.43 | 2.17 | 1.00 | 0.01 | 40.67 | 139.14 | 0.38 | 2.26 | 1.00 | 0.02 |
| 40.72 | 136.96 | 0.37 | 2.30 | 1.00 | 0.01 | 40.78 | 133.63 | 0.34 | 2.36 | 1.00 | 0.02 |
| 40.82 | 131.28 | 0.33 | 2.41 | 1.00 | 0.01 | 40.93 | 125.88 | 0.30 | 2.52 | 1.00 | 0.03 |
| 40.97 | 123.24 | 0.29 | 2.58 | 1.00 | 0.01 | 41.06 | 120.63 | 0.28 | 2.64 | 1.00 | 0.03 |
| 41.10 | 119.41 | 0.27 | 2.67 | 1.00 | 0.02 | 41.16 | 116.88 | 0.26 | 2.73 | 1.00 | 0.02 |
| 41.23 | 113.53 | 0.25 | 2.82 | 1.00 | 0.02 | 41.28 | 111.11 | 0.24 | 2.88 | 1.00 | 0.02 |
| 41.35 | 109.79 | 0.24 | 2.92 | 1.00 | 0.02 | 41.41 | 111.10 | 0.24 | 2.88 | 1.00 | 0.02 |
| 41.47 | 110.28 | 0.24 | 2.90 | 1.00 | 0.02 | 41.54 | 111.37 | 0.24 | 2.87 | 1.00 | 0.02 |
| 41.66 | 129.81 | 0.32 | 2.44 | 1.00 | 0.03 | 41.72 | 138.47 | 0.38 | 2.27 | 1.00 | 0.02 |
| 41.78 | 117.51 | 0.27 | 2.72 | 1.00 | 0.02 | 41.85 | 107.93 | 0.23 | 2.97 | 1.00 | 0.02 |
| 41.90 | 112.30 | 0.25 | 2.85 | 1.00 | 0.02 | 41.97 | 117.81 | 0.27 | 2.71 | 1.00 | 0.02 |
| 42.03 | 120.41 | 0.28 | 2.65 | 1.00 | 0.02 | 42.08 | 121.71 | 0.28 | 2.61 | 1.00 | 0.02 |
| 42.14 | 130.95 | 0.33 | 2.42 | 1.00 | 0.02 | 42.20 | 144.89 | 0.44 | 2.16 | 1.00 | 0.02 |
| 42.28 | 150.93 | 0.51 | 2.06 | 1.00 | 0.02 | 42.33 | 148.22 | 0.47 | 2.10 | 1.00 | 0.01 |
| 42.41 | 136.20 | 0.36 | 2.31 | 1.00 | 0.02 | 42.51 | 118.04 | 0.27 | 2.70 | 1.00 | 0.03 |
| 42.59 | 37.73 | 2.00 | 0.00 | 1.00 | 0.00 | 42.66 | 33.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.70 | 32.47 | 2.00 | 0.00 | 1.00 | 0.00 | 42.77 | 30.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.82 | 34.42 | 2.00 | 0.00 | 1.00 | 0.00 | 42.87 | 104.89 | 0.23 | 3.06 | 1.00 | 0.02 |
| 42.92 | 112.59 | 0.25 | 2.84 | 1.00 | 0.02 | 42.98 | 117.79 | 0.27 | 2.71 | 1.00 | 0.02 |
| 43.09 | 120.90 | 0.28 | 2.63 | 1.00 | 0.03 | 43.17 | 117.96 | 0.27 | 2.70 | 1.00 | 0.02 |
| 43.23 | 116.58 | 0.26 | 2.74 | 1.00 | 0.02 | 43.30 | 114.61 | 0.26 | 2.79 | 1.00 | 0.02 |
| 43.35 | 111.66 | 0.25 | 2.87 | 1.00 | 0.02 | 43.43 | 105.89 | 0.23 | 3.03 | 1.00 | 0.03 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43.48 | 99.45 | 0.21 | 3.23 | 1.00 | 0.02 | 43.53 | 32.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.61 | 28.12 | 2.00 | 0.00 | 1.00 | 0.00 | 43.65 | 25.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.72 | 22.99 | 2.00 | 0.00 | 1.00 | 0.00 | 43.78 | 19.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.85 | 18.25 | 2.00 | 0.00 | 1.00 | 0.00 | 43.91 | 17.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.97 | 16.16 | 2.00 | 0.00 | 1.00 | 0.00 | 44.09 | 15.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.15 | 15.78 | 2.00 | 0.00 | 1.00 | 0.00 | 44.22 | 15.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.26 | 15.43 | 2.00 | 0.00 | 1.00 | 0.00 | 44.32 | 15.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.39 | 14.73 | 2.00 | 0.00 | 1.00 | 0.00 | 44.44 | 17.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.53 | 16.82 | 2.00 | 0.00 | 1.00 | 0.00 | 44.58 | 16.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.62 | 15.96 | 2.00 | 0.00 | 1.00 | 0.00 | 44.71 | 15.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.75 | 17.75 | 2.00 | 0.00 | 1.00 | 0.00 | 44.84 | 19.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.88 | 19.09 | 2.00 | 0.00 | 1.00 | 0.00 | 44.97 | 18.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.02 | 18.87 | 2.00 | 0.00 | 1.00 | 0.00 | 45.12 | 20.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.19 | 20.89 | 2.00 | 0.00 | 1.00 | 0.00 | 45.24 | 21.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.28 | 22.45 | 2.00 | 0.00 | 1.00 | 0.00 | 45.40 | 24.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.45 | 24.75 | 2.00 | 0.00 | 1.00 | 0.00 | 45.50 | 25.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.54 | 26.11 | 2.00 | 0.00 | 1.00 | 0.00 | 45.64 | 26.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.69 | 27.39 | 2.00 | 0.00 | 1.00 | 0.00 | 45.81 | 29.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.85 | 31.72 | 2.00 | 0.00 | 1.00 | 0.00 | 45.89 | 34.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.94 | 37.54 | 2.00 | 0.00 | 1.00 | 0.00 | 46.04 | 52.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.10 | 130.69 | 0.33 | 2.42 | 1.00 | 0.02 | 46.15 | 140.42 | 0.40 | 2.24 | 1.00 | 0.01 |
| 46.20 | 144.01 | 0.43 | 2.17 | 1.00 | 0.01 | 46.29 | 131.42 | 0.34 | 2.41 | 1.00 | 0.03 |
| 46.44 | 129.03 | 0.32 | 2.45 | 1.00 | 0.04 | 46.49 | 118.43 | 0.27 | 2.69 | 1.00 | 0.01 |
| 46.55 | 124.61 | 0.30 | 2.55 | 1.00 | 0.02 | 46.60 | 128.99 | 0.32 | 2.46 | 1.00 | 0.01 |
| 46.64 | 130.09 | 0.33 | 2.43 | 1.00 | 0.01 | 46.70 | 123.63 | 0.30 | 2.57 | 1.00 | 0.02 |
| 46.75 | 123.92 | 0.30 | 2.56 | 1.00 | 0.02 | 46.80 | 125.03 | 0.30 | 2.54 | 1.00 | 0.01 |
| 46.86 | 125.22 | 0.30 | 2.54 | 1.00 | 0.02 | 46.95 | 120.00 | 0.28 | 2.66 | 1.00 | 0.03 |
| 47.05 | 111.97 | 0.25 | 2.86 | 1.00 | 0.03 | 47.11 | 107.04 | 0.24 | 3.00 | 1.00 | 0.02 |
| 47.17 | 103.98 | 0.23 | 3.09 | 1.00 | 0.02 | 47.21 | 99.27 | 0.22 | 3.24 | 1.00 | 0.02 |
| 47.30 | 28.41 | 2.00 | 0.00 | 1.00 | 0.00 | 47.36 | 24.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.39 | 19.51 | 2.00 | 0.00 | 1.00 | 0.00 | 47.47 | 16.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.51 | 15.89 | 2.00 | 0.00 | 1.00 | 0.00 | 47.61 | 16.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.66 | 17.80 | 2.00 | 0.00 | 1.00 | 0.00 | 47.76 | 19.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.81 | 19.64 | 2.00 | 0.00 | 1.00 | 0.00 | 47.85 | 21.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.95 | 26.12 | 2.00 | 0.00 | 1.00 | 0.00 | 48.01 | 26.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.06 | 26.68 | 2.00 | 0.00 | 1.00 | 0.00 | 48.11 | 25.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.16 | 24.04 | 2.00 | 0.00 | 1.00 | 0.00 | 48.25 | 20.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.31 | 18.87 | 2.00 | 0.00 | 1.00 | 0.00 | 48.39 | 18.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.46 | 22.38 | 2.00 | 0.00 | 1.00 | 0.00 | 48.52 | 29.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.60 | 110.57 | 0.25 | 2.90 | 1.00 | 0.03 | 48.65 | 120.89 | 0.29 | 2.63 | 1.00 | 0.02 |
| 48.70 | 132.13 | 0.34 | 2.39 | 1.00 | 0.02 | 48.81 | 145.24 | 0.45 | 2.15 | 1.00 | 0.03 |
| 48.87 | 148.94 | 0.49 | 2.09 | 1.00 | 0.01 | 48.91 | 151.86 | 0.53 | 2.05 | 1.00 | 0.01 |
| 48.96 | 153.32 | 0.55 | 2.02 | 1.00 | 0.01 | 49.06 | 156.49 | 0.60 | 1.94 | 1.00 | 0.02 |
| 49.12 | 155.77 | 0.58 | 1.99 | 1.00 | 0.01 | 49.17 | 152.78 | 0.54 | 2.03 | 1.00 | 0.01 |
| 49.22 | 148.24 | 0.48 | 2.10 | 1.00 | 0.01 | 49.32 | 144.43 | 0.44 | 2.17 | 1.00 | 0.02 |
| 49.39 | 141.03 | 0.41 | 2.22 | 1.00 | 0.02 | 49.43 | 138.42 | 0.39 | 2.27 | 1.00 | 0.01 |
| 49.48 | 137.14 | 0.38 | 2.30 | 1.00 | 0.01 | 49.58 | 130.21 | 0.33 | 2.43 | 1.00 | 0.03 |
| 49.64 | 126.81 | 0.31 | 2.50 | 1.00 | 0.02 | 49.68 | 118.85 | 0.28 | 2.68 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 49.78 | 119.72 | 0.28 | 2.66 | 1.00 | 0.03 | 49.83 | 114.94 | 0.26 | 2.78 | 1.00 | 0.02 |
| 49.93 | 45.58 | 2.00 | 0.00 | 1.00 | 0.00 | 49.97 | 42.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.01 | 39.54 | 2.00 | 0.00 | 1.00 | 0.00 | 50.09 | 31.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.13 | 28.63 | 2.00 | 0.00 | 1.00 | 0.00 | 50.22 | 22.95 | 2.00 | 0.00 | 1.00 | 0.00 |

**Total estimated settlement: 7.62**

**Abbreviations**

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

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.04 | 153.24 | 0.92 | 1.07 | 1.00 | 0.02 | 5.09 | 152.25 | 0.89 | 1.16 | 1.00 | 0.01 |
| 5.16 | 152.18 | 0.88 | 1.18 | 1.00 | 0.01 | 5.27 | 151.76 | 0.86 | 1.24 | 1.00 | 0.02 |
| 5.35 | 149.99 | 0.82 | 1.42 | 1.00 | 0.01 | 5.39 | 148.23 | 0.78 | 1.61 | 1.00 | 0.01 |
| 5.48 | 145.62 | 0.73 | 1.98 | 1.00 | 0.02 | 5.52 | 142.36 | 0.67 | 2.20 | 1.00 | 0.01 |
| 5.59 | 139.79 | 0.63 | 2.25 | 1.00 | 0.02 | 5.65 | 137.53 | 0.60 | 2.29 | 1.00 | 0.02 |
| 5.71 | 135.23 | 0.57 | 2.33 | 1.00 | 0.02 | 5.83 | 132.16 | 0.53 | 2.39 | 1.00 | 0.03 |
| 5.92 | 130.90 | 0.52 | 2.42 | 1.00 | 0.02 | 5.96 | 130.53 | 0.51 | 2.42 | 1.00 | 0.01 |
| 6.03 | 129.99 | 0.50 | 2.43 | 1.00 | 0.02 | 6.09 | 129.61 | 0.50 | 2.44 | 1.00 | 0.02 |
| 6.15 | 128.80 | 0.49 | 2.46 | 1.00 | 0.02 | 6.23 | 127.57 | 0.48 | 2.49 | 1.00 | 0.02 |
| 6.29 | 126.52 | 0.46 | 2.51 | 1.00 | 0.02 | 6.36 | 125.77 | 0.46 | 2.52 | 1.00 | 0.02 |
| 6.41 | 125.02 | 0.45 | 2.54 | 1.00 | 0.02 | 6.49 | 123.41 | 0.44 | 2.58 | 1.00 | 0.02 |
| 6.54 | 122.29 | 0.43 | 2.60 | 1.00 | 0.02 | 6.62 | 120.73 | 0.41 | 2.64 | 1.00 | 0.03 |
| 6.67 | 120.14 | 0.41 | 2.65 | 1.00 | 0.01 | 6.73 | 119.66 | 0.41 | 2.66 | 1.00 | 0.02 |
| 6.80 | 117.61 | 0.39 | 2.71 | 1.00 | 0.02 | 6.86 | 114.34 | 0.37 | 2.80 | 1.00 | 0.02 |
| 6.93 | 109.92 | 0.35 | 2.91 | 1.00 | 0.03 | 6.99 | 103.38 | 0.32 | 3.11 | 1.00 | 0.02 |
| 7.06 | 96.92 | 0.30 | 3.32 | 1.00 | 0.03 | 7.11 | 90.34 | 0.28 | 3.56 | 1.00 | 0.02 |
| 7.20 | 85.02 | 0.27 | 3.78 | 1.00 | 0.04 | 7.25 | 82.15 | 0.26 | 3.91 | 1.00 | 0.02 |
| 7.29 | 83.52 | 0.26 | 3.85 | 1.00 | 0.02 | 7.36 | 84.66 | 0.26 | 3.79 | 1.00 | 0.04 |
| 7.46 | 84.29 | 0.26 | 3.81 | 1.00 | 0.05 | 7.52 | 86.25 | 0.26 | 3.73 | 1.00 | 0.03 |
| 7.58 | 89.49 | 0.27 | 3.59 | 1.00 | 0.03 | 7.64 | 92.16 | 0.28 | 3.49 | 1.00 | 0.02 |
| 7.70 | 94.06 | 0.28 | 3.42 | 1.00 | 0.03 | 7.77 | 95.63 | 0.28 | 3.36 | 1.00 | 0.03 |
| 7.81 | 96.70 | 0.29 | 3.32 | 1.00 | 0.02 | 7.90 | 98.30 | 0.29 | 3.27 | 1.00 | 0.03 |
| 7.95 | 99.29 | 0.29 | 3.24 | 1.00 | 0.02 | 8.01 | 100.37 | 0.30 | 3.20 | 1.00 | 0.02 |
| 8.08 | 101.29 | 0.30 | 3.17 | 1.00 | 0.03 | 8.19 | 100.77 | 0.29 | 3.19 | 1.00 | 0.04 |
| 8.25 | 100.04 | 0.29 | 3.21 | 1.00 | 0.03 | 8.32 | 98.83 | 0.29 | 3.25 | 1.00 | 0.03 |
| 8.38 | 97.10 | 0.28 | 3.31 | 1.00 | 0.02 | 8.44 | 95.06 | 0.27 | 3.38 | 1.00 | 0.02 |
| 8.52 | 92.46 | 0.27 | 3.48 | 1.00 | 0.03 | 8.56 | 92.19 | 0.26 | 3.49 | 1.00 | 0.02 |
| 8.65 | 91.22 | 0.26 | 3.53 | 1.00 | 0.04 | 8.70 | 90.84 | 0.26 | 3.54 | 1.00 | 0.02 |
| 8.77 | 99.65 | 0.28 | 3.22 | 1.00 | 0.03 | 8.82 | 101.96 | 0.29 | 3.15 | 1.00 | 0.02 |
| 8.95 | 99.02 | 0.28 | 3.25 | 1.00 | 0.05 | 9.00 | 103.94 | 0.29 | 3.09 | 1.00 | 0.02 |
| 9.09 | 107.13 | 0.30 | 2.99 | 1.00 | 0.03 | 9.13 | 108.96 | 0.31 | 2.94 | 1.00 | 0.02 |
| 9.20 | 110.12 | 0.31 | 2.91 | 1.00 | 0.02 | 9.26 | 111.18 | 0.32 | 2.88 | 1.00 | 0.02 |
| 9.32 | 111.04 | 0.32 | 2.88 | 1.00 | 0.02 | 9.39 | 110.25 | 0.31 | 2.90 | 1.00 | 0.02 |
| 9.44 | 109.19 | 0.31 | 2.93 | 1.00 | 0.02 | 9.52 | 108.48 | 0.30 | 2.95 | 1.00 | 0.03 |
| 9.57 | 107.94 | 0.30 | 2.97 | 1.00 | 0.02 | 9.75 | 105.00 | 0.29 | 3.06 | 1.00 | 0.06 |
| 9.82 | 104.88 | 0.29 | 3.06 | 1.00 | 0.02 | 9.88 | 104.91 | 0.29 | 3.06 | 1.00 | 0.02 |
| 9.97 | 106.06 | 0.29 | 3.02 | 1.00 | 0.03 | 10.07 | 113.29 | 0.32 | 2.82 | 1.00 | 0.04 |
| 10.15 | 117.58 | 0.34 | 2.71 | 1.00 | 0.02 | 10.20 | 109.27 | 0.30 | 2.93 | 1.00 | 0.02 |
| 10.28 | 102.64 | 0.28 | 3.13 | 1.00 | 0.03 | 10.32 | 97.25 | 0.26 | 3.31 | 1.00 | 0.02 |
| 10.40 | 90.32 | 0.24 | 3.56 | 1.00 | 0.03 | 10.46 | 84.42 | 0.23 | 3.81 | 1.00 | 0.02 |
| 10.50 | 20.37 | 2.00 | 0.00 | 1.00 | 0.00 | 10.51 | 17.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.59 | 18.22 | 2.00 | 0.00 | 1.00 | 0.00 | 10.64 | 16.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.73 | 13.91 | 2.00 | 0.00 | 1.00 | 0.00 | 10.79 | 13.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.84 | 13.17 | 2.00 | 0.00 | 1.00 | 0.00 | 10.90 | 12.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.99 | 12.06 | 2.00 | 0.00 | 1.00 | 0.00 | 11.06 | 11.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.12 | 10.83 | 2.00 | 0.00 | 1.00 | 0.00 | 11.16 | 10.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.27 | 10.71 | 2.00 | 0.00 | 1.00 | 0.00 | 11.31 | 10.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.38 | 11.22 | 2.00 | 0.00 | 1.00 | 0.00 | 11.43 | 11.92 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.58 | 13.51 | 2.00 | 0.00 | 1.00 | 0.00 | 11.65 | 13.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.70 | 13.82 | 2.00 | 0.00 | 1.00 | 0.00 | 11.74 | 13.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.79 | 13.79 | 2.00 | 0.00 | 1.00 | 0.00 | 11.84 | 14.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.91 | 15.60 | 2.00 | 0.00 | 1.00 | 0.00 | 11.95 | 17.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.01 | 18.54 | 2.00 | 0.00 | 1.00 | 0.00 | 12.09 | 19.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.21 | 19.12 | 2.00 | 0.00 | 1.00 | 0.00 | 12.27 | 19.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.35 | 19.84 | 2.00 | 0.00 | 1.00 | 0.00 | 12.40 | 20.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.45 | 21.35 | 2.00 | 0.00 | 1.00 | 0.00 | 12.53 | 22.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.60 | 23.83 | 2.00 | 0.00 | 1.00 | 0.00 | 12.72 | 22.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.79 | 22.18 | 2.00 | 0.00 | 1.00 | 0.00 | 12.84 | 78.45 | 0.20 | 4.08 | 1.00 | 0.02 |
| 12.89 | 78.58 | 0.20 | 4.08 | 1.00 | 0.03 | 12.97 | 79.48 | 0.20 | 4.03 | 1.00 | 0.04 |
| 13.03 | 81.63 | 0.20 | 3.93 | 1.00 | 0.03 | 13.10 | 83.30 | 0.21 | 3.86 | 1.00 | 0.03 |
| 13.15 | 82.30 | 0.20 | 3.90 | 1.00 | 0.02 | 13.20 | 79.73 | 0.20 | 4.02 | 1.00 | 0.02 |
| 13.27 | 76.46 | 0.19 | 4.19 | 1.00 | 0.04 | 13.32 | 17.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.45 | 12.95 | 2.00 | 0.00 | 1.00 | 0.00 | 13.50 | 12.50 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.57 | 11.92 | 2.00 | 0.00 | 1.00 | 0.00 | 13.63 | 10.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.68 | 10.20 | 2.00 | 0.00 | 1.00 | 0.00 | 13.75 | 10.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.87 | 9.84 | 2.00 | 0.00 | 1.00 | 0.00 | 13.94 | 9.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.99 | 9.82 | 2.00 | 0.00 | 1.00 | 0.00 | 14.06 | 9.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.11 | 10.02 | 2.00 | 0.00 | 1.00 | 0.00 | 14.19 | 10.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.24 | 10.78 | 2.00 | 0.00 | 1.00 | 0.00 | 14.31 | 12.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.37 | 12.09 | 2.00 | 0.00 | 1.00 | 0.00 | 14.43 | 12.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.51 | 13.29 | 2.00 | 0.00 | 1.00 | 0.00 | 14.55 | 14.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.62 | 14.70 | 2.00 | 0.00 | 1.00 | 0.00 | 14.68 | 15.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.76 | 14.55 | 2.00 | 0.00 | 1.00 | 0.00 | 14.82 | 14.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.89 | 13.85 | 2.00 | 0.00 | 1.00 | 0.00 | 14.95 | 13.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.07 | 12.59 | 2.00 | 0.00 | 1.00 | 0.00 | 15.13 | 12.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.21 | 11.68 | 2.00 | 0.00 | 1.00 | 0.00 | 15.26 | 10.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.32 | 11.71 | 2.00 | 0.00 | 1.00 | 0.00 | 15.39 | 11.43 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.44 | 11.75 | 2.00 | 0.00 | 1.00 | 0.00 | 15.49 | 12.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.56 | 11.73 | 2.00 | 0.00 | 1.00 | 0.00 | 15.61 | 11.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.69 | 11.38 | 2.00 | 0.00 | 1.00 | 0.00 | 15.74 | 11.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.82 | 10.69 | 2.00 | 0.00 | 1.00 | 0.00 | 15.87 | 10.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.94 | 10.12 | 2.00 | 0.00 | 1.00 | 0.00 | 16.05 | 9.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.13 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 | 16.18 | 8.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.24 | 8.43 | 2.00 | 0.00 | 1.00 | 0.00 | 16.31 | 8.52 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.38 | 7.97 | 2.00 | 0.00 | 1.00 | 0.00 | 16.42 | 8.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.52 | 8.06 | 2.00 | 0.00 | 1.00 | 0.00 | 16.56 | 8.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.62 | 8.59 | 2.00 | 0.00 | 1.00 | 0.00 | 16.69 | 8.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.74 | 8.46 | 2.00 | 0.00 | 1.00 | 0.00 | 16.86 | 8.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.93 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 | 17.00 | 8.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.05 | 9.29 | 2.00 | 0.00 | 1.00 | 0.00 | 17.13 | 9.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.18 | 9.69 | 2.00 | 0.00 | 1.00 | 0.00 | 17.24 | 10.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.30 | 11.07 | 2.00 | 0.00 | 1.00 | 0.00 | 17.36 | 11.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.43 | 12.40 | 2.00 | 0.00 | 1.00 | 0.00 | 17.48 | 13.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.54 | 14.79 | 2.00 | 0.00 | 1.00 | 0.00 | 17.61 | 15.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.66 | 15.90 | 2.00 | 0.00 | 1.00 | 0.00 | 17.73 | 17.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.79 | 18.55 | 2.00 | 0.00 | 1.00 | 0.00 | 17.92 | 17.78 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.98 | 18.06 | 2.00 | 0.00 | 1.00 | 0.00 | 18.05 | 19.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.11 | 20.99 | 2.00 | 0.00 | 1.00 | 0.00 | 18.18 | 22.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.23 | 26.51 | 2.00 | 0.00 | 1.00 | 0.00 | 18.28 | 92.45 | 0.20 | 3.48 | 1.00 | 0.02 |
| 18.36 | 96.90 | 0.21 | 3.32 | 1.00 | 0.03 | 18.45 | 92.52 | 0.20 | 3.48 | 1.00 | 0.03 |
| 18.51 | 22.63 | 2.00 | 0.00 | 1.00 | 0.00 | 18.58 | 17.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.63 | 13.93 | 2.00 | 0.00 | 1.00 | 0.00 | 18.71 | 11.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.76 | 9.68 | 2.00 | 0.00 | 1.00 | 0.00 | 18.83 | 9.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.89 | 9.76 | 2.00 | 0.00 | 1.00 | 0.00 | 18.95 | 9.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.02 | 10.25 | 2.00 | 0.00 | 1.00 | 0.00 | 19.08 | 10.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.15 | 11.76 | 2.00 | 0.00 | 1.00 | 0.00 | 19.20 | 12.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.27 | 14.48 | 2.00 | 0.00 | 1.00 | 0.00 | 19.33 | 15.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.41 | 16.78 | 2.00 | 0.00 | 1.00 | 0.00 | 19.46 | 19.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.54 | 22.52 | 2.00 | 0.00 | 1.00 | 0.00 | 19.63 | 22.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.67 | 27.97 | 2.00 | 0.00 | 1.00 | 0.00 | 19.73 | 92.14 | 0.20 | 3.49 | 1.00 | 0.02 |
| 19.78 | 94.17 | 0.20 | 3.41 | 1.00 | 0.02 | 19.84 | 95.38 | 0.21 | 3.37 | 1.00 | 0.03 |
| 19.89 | 96.08 | 0.21 | 3.35 | 1.00 | 0.02 | 20.02 | 97.41 | 0.21 | 3.30 | 1.00 | 0.05 |
| 20.07 | 98.19 | 0.21 | 3.27 | 1.00 | 0.02 | 20.15 | 98.40 | 0.21 | 3.27 | 1.00 | 0.03 |
| 20.20 | 98.94 | 0.21 | 3.25 | 1.00 | 0.02 | 20.28 | 99.78 | 0.22 | 3.22 | 1.00 | 0.03 |
| 20.33 | 101.14 | 0.22 | 3.18 | 1.00 | 0.02 | 20.41 | 102.84 | 0.22 | 3.12 | 1.00 | 0.03 |
| 20.46 | 104.76 | 0.23 | 3.06 | 1.00 | 0.02 | 20.53 | 106.10 | 0.23 | 3.02 | 1.00 | 0.02 |
| 20.58 | 106.57 | 0.23 | 3.01 | 1.00 | 0.02 | 20.64 | 107.15 | 0.24 | 2.99 | 1.00 | 0.02 |
| 20.69 | 107.72 | 0.24 | 2.98 | 1.00 | 0.02 | 20.77 | 107.56 | 0.24 | 2.98 | 1.00 | 0.03 |
| 20.83 | 107.57 | 0.24 | 2.98 | 1.00 | 0.02 | 20.90 | 108.20 | 0.24 | 2.96 | 1.00 | 0.02 |
| 21.03 | 110.47 | 0.24 | 2.90 | 1.00 | 0.05 | 21.08 | 110.80 | 0.25 | 2.89 | 1.00 | 0.02 |
| 21.15 | 110.16 | 0.24 | 2.91 | 1.00 | 0.03 | 21.21 | 110.10 | 0.24 | 2.91 | 1.00 | 0.02 |
| 21.34 | 108.54 | 0.24 | 2.95 | 1.00 | 0.05 | 21.39 | 109.13 | 0.24 | 2.94 | 1.00 | 0.02 |
| 21.46 | 109.14 | 0.24 | 2.94 | 1.00 | 0.03 | 21.52 | 108.56 | 0.24 | 2.95 | 1.00 | 0.02 |
| 21.59 | 108.41 | 0.24 | 2.96 | 1.00 | 0.03 | 21.65 | 108.32 | 0.24 | 2.96 | 1.00 | 0.02 |
| 21.72 | 108.16 | 0.24 | 2.96 | 1.00 | 0.02 | 21.78 | 108.90 | 0.24 | 2.94 | 1.00 | 0.02 |
| 21.83 | 108.29 | 0.24 | 2.96 | 1.00 | 0.02 | 21.91 | 106.44 | 0.23 | 3.01 | 1.00 | 0.03 |
| 21.97 | 104.86 | 0.23 | 3.06 | 1.00 | 0.02 | 22.05 | 105.21 | 0.23 | 3.05 | 1.00 | 0.03 |
| 22.10 | 104.73 | 0.23 | 3.06 | 1.00 | 0.02 | 22.17 | 103.25 | 0.22 | 3.11 | 1.00 | 0.02 |
| 22.22 | 100.30 | 0.21 | 3.20 | 1.00 | 0.02 | 22.31 | 96.63 | 0.21 | 3.33 | 1.00 | 0.03 |
| 22.35 | 93.41 | 0.20 | 3.44 | 1.00 | 0.02 | 22.42 | 90.37 | 0.19 | 3.56 | 1.00 | 0.03 |
| 22.49 | 27.53 | 2.00 | 0.00 | 1.00 | 0.00 | 22.53 | 22.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.60 | 27.95 | 2.00 | 0.00 | 1.00 | 0.00 | 22.66 | 23.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.72 | 28.37 | 2.00 | 0.00 | 1.00 | 0.00 | 22.84 | 102.39 | 0.22 | 3.14 | 1.00 | 0.04 |
| 22.88 | 106.47 | 0.23 | 3.01 | 1.00 | 0.02 | 22.94 | 107.08 | 0.23 | 2.99 | 1.00 | 0.02 |
| 23.00 | 105.17 | 0.23 | 3.05 | 1.00 | 0.02 | 23.05 | 102.05 | 0.22 | 3.15 | 1.00 | 0.02 |
| 23.19 | 28.86 | 2.00 | 0.00 | 1.00 | 0.00 | 23.23 | 24.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.27 | 20.84 | 2.00 | 0.00 | 1.00 | 0.00 | 23.32 | 18.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.37 | 15.39 | 2.00 | 0.00 | 1.00 | 0.00 | 23.45 | 13.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.54 | 11.97 | 2.00 | 0.00 | 1.00 | 0.00 | 23.58 | 11.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.65 | 11.02 | 2.00 | 0.00 | 1.00 | 0.00 | 23.71 | 10.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.76 | 10.05 | 2.00 | 0.00 | 1.00 | 0.00 | 23.86 | 8.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.94 | 8.82 | 2.00 | 0.00 | 1.00 | 0.00 | 24.06 | 9.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.12 | 9.27 | 2.00 | 0.00 | 1.00 | 0.00 | 24.17 | 9.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.24 | 9.72 | 2.00 | 0.00 | 1.00 | 0.00 | 24.32 | 10.19 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24.37 | 10.36 | 2.00 | 0.00 | 1.00 | 0.00 | 24.42 | 10.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.51 | 10.44 | 2.00 | 0.00 | 1.00 | 0.00 | 24.55 | 10.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.62 | 10.60 | 2.00 | 0.00 | 1.00 | 0.00 | 24.69 | 10.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.74 | 10.68 | 2.00 | 0.00 | 1.00 | 0.00 | 24.82 | 10.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.86 | 11.12 | 2.00 | 0.00 | 1.00 | 0.00 | 24.94 | 11.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.06 | 14.11 | 2.00 | 0.00 | 1.00 | 0.00 | 25.12 | 17.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.20 | 21.58 | 2.00 | 0.00 | 1.00 | 0.00 | 25.26 | 86.03 | 0.18 | 3.74 | 1.00 | 0.03 |
| 25.32 | 92.21 | 0.19 | 3.49 | 1.00 | 0.02 | 25.39 | 97.99 | 0.20 | 3.28 | 1.00 | 0.03 |
| 25.41 | 96.43 | 0.20 | 3.33 | 1.00 | 0.01 | 25.49 | 103.03 | 0.22 | 3.12 | 1.00 | 0.03 |
| 25.55 | 104.56 | 0.22 | 3.07 | 1.00 | 0.02 | 25.63 | 108.94 | 0.23 | 2.94 | 1.00 | 0.03 |
| 25.68 | 111.28 | 0.24 | 2.88 | 1.00 | 0.02 | 25.75 | 114.10 | 0.25 | 2.80 | 1.00 | 0.02 |
| 25.85 | 119.65 | 0.27 | 2.66 | 1.00 | 0.03 | 25.90 | 122.05 | 0.28 | 2.61 | 1.00 | 0.01 |
| 25.94 | 123.88 | 0.29 | 2.57 | 1.00 | 0.01 | 25.99 | 124.14 | 0.29 | 2.56 | 1.00 | 0.02 |
| 26.11 | 108.73 | 0.23 | 2.95 | 1.00 | 0.04 | 26.16 | 102.92 | 0.22 | 3.12 | 1.00 | 0.02 |
| 26.21 | 102.04 | 0.21 | 3.15 | 1.00 | 0.02 | 26.26 | 102.60 | 0.21 | 3.13 | 1.00 | 0.02 |
| 26.32 | 104.40 | 0.22 | 3.07 | 1.00 | 0.03 | 26.38 | 105.98 | 0.22 | 3.03 | 1.00 | 0.02 |
| 26.48 | 102.26 | 0.21 | 3.14 | 1.00 | 0.04 | 26.53 | 98.67 | 0.21 | 3.26 | 1.00 | 0.02 |
| 26.65 | 92.02 | 0.19 | 3.49 | 1.00 | 0.05 | 26.69 | 89.14 | 0.19 | 3.61 | 1.00 | 0.02 |
| 26.76 | 85.70 | 0.18 | 3.75 | 1.00 | 0.03 | 26.81 | 23.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.86 | 19.48 | 2.00 | 0.00 | 1.00 | 0.00 | 26.93 | 16.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.99 | 13.57 | 2.00 | 0.00 | 1.00 | 0.00 | 27.04 | 12.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.16 | 9.71 | 2.00 | 0.00 | 1.00 | 0.00 | 27.22 | 9.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.28 | 8.53 | 2.00 | 0.00 | 1.00 | 0.00 | 27.35 | 8.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.39 | 8.61 | 2.00 | 0.00 | 1.00 | 0.00 | 27.44 | 9.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.52 | 9.74 | 2.00 | 0.00 | 1.00 | 0.00 | 27.57 | 9.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.63 | 9.99 | 2.00 | 0.00 | 1.00 | 0.00 | 27.70 | 9.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.77 | 9.97 | 2.00 | 0.00 | 1.00 | 0.00 | 27.84 | 9.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.90 | 10.04 | 2.00 | 0.00 | 1.00 | 0.00 | 27.96 | 10.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.10 | 10.72 | 2.00 | 0.00 | 1.00 | 0.00 | 28.14 | 11.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.22 | 11.76 | 2.00 | 0.00 | 1.00 | 0.00 | 28.27 | 12.10 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.34 | 12.36 | 2.00 | 0.00 | 1.00 | 0.00 | 28.40 | 12.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.45 | 11.28 | 2.00 | 0.00 | 1.00 | 0.00 | 28.51 | 10.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.57 | 10.91 | 2.00 | 0.00 | 1.00 | 0.00 | 28.65 | 10.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.70 | 10.89 | 2.00 | 0.00 | 1.00 | 0.00 | 28.74 | 10.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.82 | 10.87 | 2.00 | 0.00 | 1.00 | 0.00 | 28.88 | 10.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.97 | 10.06 | 2.00 | 0.00 | 1.00 | 0.00 | 29.00 | 9.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.09 | 9.62 | 2.00 | 0.00 | 1.00 | 0.00 | 29.17 | 9.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.22 | 9.34 | 2.00 | 0.00 | 1.00 | 0.00 | 29.27 | 9.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.34 | 9.41 | 2.00 | 0.00 | 1.00 | 0.00 | 29.44 | 9.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.52 | 8.87 | 2.00 | 0.00 | 1.00 | 0.00 | 29.57 | 8.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.70 | 8.50 | 2.00 | 0.00 | 1.00 | 0.00 | 29.76 | 8.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.83 | 8.23 | 2.00 | 0.00 | 1.00 | 0.00 | 29.88 | 8.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.97 | 8.12 | 2.00 | 0.00 | 1.00 | 0.00 | 30.01 | 8.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.10 | 8.03 | 2.00 | 0.00 | 1.00 | 0.00 | 30.14 | 8.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.21 | 8.19 | 2.00 | 0.00 | 1.00 | 0.00 | 30.27 | 8.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.41 | 8.85 | 2.00 | 0.00 | 1.00 | 0.00 | 30.45 | 8.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.54 | 8.58 | 2.00 | 0.00 | 1.00 | 0.00 | 30.59 | 8.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.66 | 8.91 | 2.00 | 0.00 | 1.00 | 0.00 | 30.72 | 9.33 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30.80 | 9.41 | 2.00 | 0.00 | 1.00 | 0.00 | 30.85 | 9.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.92 | 9.40 | 2.00 | 0.00 | 1.00 | 0.00 | 30.98 | 9.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.06 | 10.40 | 2.00 | 0.00 | 1.00 | 0.00 | 31.11 | 11.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.20 | 11.31 | 2.00 | 0.00 | 1.00 | 0.00 | 31.24 | 11.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.31 | 11.72 | 2.00 | 0.00 | 1.00 | 0.00 | 31.37 | 11.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.50 | 10.67 | 2.00 | 0.00 | 1.00 | 0.00 | 31.56 | 10.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.60 | 10.66 | 2.00 | 0.00 | 1.00 | 0.00 | 31.64 | 9.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.72 | 10.56 | 2.00 | 0.00 | 1.00 | 0.00 | 31.78 | 10.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.86 | 10.46 | 2.00 | 0.00 | 1.00 | 0.00 | 31.89 | 10.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.00 | 9.68 | 2.00 | 0.00 | 1.00 | 0.00 | 32.03 | 9.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.12 | 9.34 | 2.00 | 0.00 | 1.00 | 0.00 | 32.17 | 9.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.26 | 9.07 | 2.00 | 0.00 | 1.00 | 0.00 | 32.31 | 9.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.39 | 9.05 | 2.00 | 0.00 | 1.00 | 0.00 | 32.44 | 9.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.51 | 9.29 | 2.00 | 0.00 | 1.00 | 0.00 | 32.56 | 9.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.70 | 10.68 | 2.00 | 0.00 | 1.00 | 0.00 | 32.74 | 11.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.80 | 12.58 | 2.00 | 0.00 | 1.00 | 0.00 | 32.85 | 13.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.91 | 14.13 | 2.00 | 0.00 | 1.00 | 0.00 | 32.98 | 14.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.05 | 15.26 | 2.00 | 0.00 | 1.00 | 0.00 | 33.09 | 15.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.17 | 15.08 | 2.00 | 0.00 | 1.00 | 0.00 | 33.22 | 14.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.27 | 13.81 | 2.00 | 0.00 | 1.00 | 0.00 | 33.40 | 12.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.49 | 10.89 | 2.00 | 0.00 | 1.00 | 0.00 | 33.53 | 10.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.62 | 10.37 | 2.00 | 0.00 | 1.00 | 0.00 | 33.66 | 10.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.75 | 10.35 | 2.00 | 0.00 | 1.00 | 0.00 | 33.81 | 10.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.90 | 10.34 | 2.00 | 0.00 | 1.00 | 0.00 | 33.94 | 10.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.03 | 10.81 | 2.00 | 0.00 | 1.00 | 0.00 | 34.09 | 11.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.15 | 11.70 | 2.00 | 0.00 | 1.00 | 0.00 | 34.20 | 11.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.28 | 12.00 | 2.00 | 0.00 | 1.00 | 0.00 | 34.35 | 12.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.39 | 11.66 | 2.00 | 0.00 | 1.00 | 0.00 | 34.48 | 11.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.57 | 13.02 | 2.00 | 0.00 | 1.00 | 0.00 | 34.62 | 13.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.69 | 15.18 | 2.00 | 0.00 | 1.00 | 0.00 | 34.74 | 16.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.78 | 17.52 | 2.00 | 0.00 | 1.00 | 0.00 | 34.86 | 21.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.91 | 22.59 | 2.00 | 0.00 | 1.00 | 0.00 | 35.00 | 25.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.05 | 26.11 | 2.00 | 0.00 | 1.00 | 0.00 | 35.13 | 27.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.18 | 27.44 | 2.00 | 0.00 | 1.00 | 0.00 | 35.26 | 23.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.31 | 21.58 | 2.00 | 0.00 | 1.00 | 0.00 | 35.40 | 19.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.44 | 21.74 | 2.00 | 0.00 | 1.00 | 0.00 | 35.53 | 20.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.58 | 21.89 | 2.00 | 0.00 | 1.00 | 0.00 | 35.67 | 24.52 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.75 | 26.74 | 2.00 | 0.00 | 1.00 | 0.00 | 35.78 | 27.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.83 | 28.72 | 2.00 | 0.00 | 1.00 | 0.00 | 35.92 | 29.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.01 | 28.00 | 2.00 | 0.00 | 1.00 | 0.00 | 36.05 | 28.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.09 | 28.05 | 2.00 | 0.00 | 1.00 | 0.00 | 36.17 | 28.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.24 | 28.32 | 2.00 | 0.00 | 1.00 | 0.00 | 36.31 | 28.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.36 | 28.75 | 2.00 | 0.00 | 1.00 | 0.00 | 36.44 | 29.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.50 | 29.57 | 2.00 | 0.00 | 1.00 | 0.00 | 36.57 | 30.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.66 | 33.01 | 2.00 | 0.00 | 1.00 | 0.00 | 36.71 | 35.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.77 | 102.63 | 0.21 | 3.13 | 1.00 | 0.02 | 36.84 | 109.30 | 0.23 | 2.93 | 1.00 | 0.02 |
| 36.93 | 124.30 | 0.28 | 2.56 | 1.00 | 0.03 | 37.02 | 125.57 | 0.29 | 2.53 | 1.00 | 0.03 |
| 37.07 | 123.60 | 0.28 | 2.57 | 1.00 | 0.02 | 37.10 | 123.73 | 0.28 | 2.57 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 37.19 | 119.47 | 0.26 | 2.67 | 1.00 | 0.03 | 37.22 | 118.10 | 0.26 | 2.70 | 1.00 | 0.01 |
| 37.29 | 119.48 | 0.26 | 2.67 | 1.00 | 0.02 | 37.34 | 122.02 | 0.27 | 2.61 | 1.00 | 0.02 |
| 37.44 | 130.41 | 0.31 | 2.43 | 1.00 | 0.03 | 37.51 | 135.02 | 0.34 | 2.34 | 1.00 | 0.02 |
| 37.56 | 134.31 | 0.34 | 2.35 | 1.00 | 0.01 | 37.61 | 130.35 | 0.31 | 2.43 | 1.00 | 0.01 |
| 37.73 | 116.91 | 0.25 | 2.73 | 1.00 | 0.04 | 37.78 | 110.91 | 0.23 | 2.89 | 1.00 | 0.02 |
| 37.84 | 106.84 | 0.22 | 3.00 | 1.00 | 0.02 | 37.91 | 40.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.97 | 38.32 | 2.00 | 0.00 | 1.00 | 0.00 | 38.05 | 37.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.09 | 99.53 | 0.21 | 3.23 | 1.00 | 0.02 | 38.17 | 99.42 | 0.21 | 3.23 | 1.00 | 0.03 |
| 38.22 | 100.37 | 0.21 | 3.20 | 1.00 | 0.02 | 38.27 | 100.89 | 0.21 | 3.18 | 1.00 | 0.02 |
| 38.34 | 101.20 | 0.21 | 3.17 | 1.00 | 0.03 | 38.40 | 100.88 | 0.21 | 3.18 | 1.00 | 0.02 |
| 38.46 | 101.02 | 0.21 | 3.18 | 1.00 | 0.02 | 38.53 | 100.61 | 0.21 | 3.19 | 1.00 | 0.03 |
| 38.65 | 99.36 | 0.21 | 3.23 | 1.00 | 0.05 | 38.71 | 99.18 | 0.21 | 3.24 | 1.00 | 0.02 |
| 38.76 | 98.51 | 0.20 | 3.26 | 1.00 | 0.02 | 38.84 | 98.01 | 0.20 | 3.28 | 1.00 | 0.03 |
| 38.89 | 97.59 | 0.20 | 3.29 | 1.00 | 0.02 | 38.97 | 96.89 | 0.20 | 3.32 | 1.00 | 0.03 |
| 39.01 | 96.62 | 0.20 | 3.33 | 1.00 | 0.02 | 39.08 | 96.57 | 0.20 | 3.33 | 1.00 | 0.03 |
| 39.14 | 97.08 | 0.20 | 3.31 | 1.00 | 0.03 | 39.20 | 97.55 | 0.20 | 3.30 | 1.00 | 0.02 |
| 39.28 | 97.99 | 0.20 | 3.28 | 1.00 | 0.03 | 39.34 | 97.75 | 0.20 | 3.29 | 1.00 | 0.03 |
| 39.41 | 98.85 | 0.20 | 3.25 | 1.00 | 0.03 | 39.48 | 102.79 | 0.21 | 3.12 | 1.00 | 0.03 |
| 39.54 | 109.52 | 0.23 | 2.92 | 1.00 | 0.02 | 39.59 | 118.13 | 0.26 | 2.70 | 1.00 | 0.02 |
| 39.67 | 124.05 | 0.28 | 2.56 | 1.00 | 0.02 | 39.72 | 127.55 | 0.30 | 2.49 | 1.00 | 0.01 |
| 39.80 | 129.75 | 0.31 | 2.44 | 1.00 | 0.02 | 39.85 | 130.65 | 0.32 | 2.42 | 1.00 | 0.01 |
| 39.92 | 131.73 | 0.32 | 2.40 | 1.00 | 0.02 | 39.98 | 132.05 | 0.33 | 2.39 | 1.00 | 0.02 |
| 40.04 | 131.92 | 0.32 | 2.40 | 1.00 | 0.02 | 40.10 | 132.99 | 0.33 | 2.37 | 1.00 | 0.02 |
| 40.18 | 135.06 | 0.34 | 2.33 | 1.00 | 0.02 | 40.29 | 136.38 | 0.35 | 2.31 | 1.00 | 0.03 |
| 40.35 | 137.30 | 0.36 | 2.29 | 1.00 | 0.02 | 40.41 | 137.26 | 0.36 | 2.29 | 1.00 | 0.02 |
| 40.48 | 137.26 | 0.36 | 2.29 | 1.00 | 0.02 | 40.53 | 136.95 | 0.36 | 2.30 | 1.00 | 0.01 |
| 40.59 | 137.04 | 0.36 | 2.30 | 1.00 | 0.02 | 40.66 | 138.83 | 0.37 | 2.26 | 1.00 | 0.02 |
| 40.71 | 142.53 | 0.40 | 2.20 | 1.00 | 0.01 | 40.76 | 152.00 | 0.51 | 2.04 | 1.00 | 0.01 |
| 40.84 | 157.87 | 0.60 | 1.85 | 1.00 | 0.02 | 40.88 | 157.15 | 0.58 | 1.90 | 1.00 | 0.01 |
| 40.95 | 156.79 | 0.58 | 1.92 | 1.00 | 0.02 | 41.01 | 156.98 | 0.58 | 1.91 | 1.00 | 0.01 |
| 41.13 | 157.16 | 0.58 | 1.90 | 1.00 | 0.03 | 41.19 | 158.57 | 0.61 | 1.81 | 1.00 | 0.01 |
| 41.25 | 158.20 | 0.60 | 1.83 | 1.00 | 0.01 | 41.31 | 159.98 | 0.64 | 1.73 | 1.00 | 0.01 |
| 41.37 | 160.41 | 0.64 | 1.70 | 1.00 | 0.01 | 41.43 | 159.06 | 0.62 | 1.78 | 1.00 | 0.01 |
| 41.54 | 151.45 | 0.50 | 2.05 | 1.00 | 0.03 | 41.61 | 148.37 | 0.46 | 2.10 | 1.00 | 0.02 |
| 41.67 | 145.43 | 0.43 | 2.15 | 1.00 | 0.02 | 41.72 | 144.18 | 0.42 | 2.17 | 1.00 | 0.01 |
| 41.79 | 143.93 | 0.42 | 2.17 | 1.00 | 0.02 | 41.85 | 144.15 | 0.42 | 2.17 | 1.00 | 0.02 |
| 41.90 | 144.63 | 0.42 | 2.16 | 1.00 | 0.01 | 41.98 | 149.04 | 0.47 | 2.09 | 1.00 | 0.02 |
| 42.04 | 154.77 | 0.55 | 2.00 | 1.00 | 0.01 | 42.11 | 141.50 | 0.40 | 2.22 | 1.00 | 0.02 |
| 42.16 | 138.48 | 0.37 | 2.27 | 1.00 | 0.01 | 42.23 | 139.73 | 0.38 | 2.25 | 1.00 | 0.02 |
| 42.29 | 146.16 | 0.44 | 2.14 | 1.00 | 0.02 | 42.35 | 152.29 | 0.51 | 2.04 | 1.00 | 0.01 |
| 42.40 | 157.82 | 0.60 | 1.86 | 1.00 | 0.01 | 42.46 | 163.10 | 0.70 | 1.55 | 1.00 | 0.01 |
| 42.55 | 167.10 | 0.80 | 1.20 | 1.00 | 0.01 | 42.62 | 171.50 | 0.94 | 0.87 | 1.00 | 0.01 |
| 42.67 | 175.48 | 1.10 | 0.63 | 1.00 | 0.00 | 42.80 | 179.82 | 1.32 | 0.40 | 1.00 | 0.01 |
| 42.85 | 179.88 | 1.32 | 0.39 | 1.00 | 0.00 | 42.93 | 176.31 | 1.14 | 0.58 | 1.00 | 0.01 |
| 42.97 | 173.88 | 1.03 | 0.72 | 1.00 | 0.00 | 43.02 | 172.06 | 0.96 | 0.83 | 1.00 | 0.00 |
| 43.07 | 171.29 | 0.94 | 0.88 | 1.00 | 0.01 | 43.13 | 171.11 | 0.93 | 0.90 | 1.00 | 0.01 |
| 43.19 | 170.99 | 0.93 | 0.90 | 1.00 | 0.01 | 43.29 | 172.21 | 0.97 | 0.82 | 1.00 | 0.01 |
| 43.35 | 171.49 | 0.94 | 0.87 | 1.00 | 0.01 | 43.41 | 169.62 | 0.88 | 1.00 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43.46 | 167.15 | 0.81 | 1.19 | 1.00 | 0.01 | 43.55 | 161.81 | 0.68 | 1.62 | 1.00 | 0.02 |
| 43.62 | 158.93 | 0.62 | 1.79 | 1.00 | 0.01 | 43.67 | 156.81 | 0.58 | 1.92 | 1.00 | 0.01 |
| 43.74 | 154.00 | 0.54 | 2.01 | 1.00 | 0.02 | 43.79 | 151.14 | 0.50 | 2.06 | 1.00 | 0.01 |
| 43.85 | 148.68 | 0.47 | 2.10 | 1.00 | 0.01 | 43.94 | 144.70 | 0.43 | 2.16 | 1.00 | 0.02 |
| 44.00 | 142.47 | 0.41 | 2.20 | 1.00 | 0.01 | 44.06 | 140.45 | 0.39 | 2.24 | 1.00 | 0.02 |
| 44.16 | 136.85 | 0.36 | 2.30 | 1.00 | 0.03 | 44.23 | 135.14 | 0.35 | 2.33 | 1.00 | 0.02 |
| 44.29 | 132.98 | 0.34 | 2.37 | 1.00 | 0.02 | 44.36 | 130.96 | 0.32 | 2.42 | 1.00 | 0.02 |
| 44.48 | 127.48 | 0.31 | 2.49 | 1.00 | 0.04 | 44.56 | 125.37 | 0.30 | 2.53 | 1.00 | 0.02 |
| 44.61 | 123.02 | 0.28 | 2.59 | 1.00 | 0.02 | 44.68 | 120.06 | 0.27 | 2.65 | 1.00 | 0.02 |
| 44.74 | 116.79 | 0.26 | 2.73 | 1.00 | 0.02 | 44.82 | 112.05 | 0.24 | 2.86 | 1.00 | 0.03 |
| 44.86 | 111.82 | 0.24 | 2.86 | 1.00 | 0.02 | 44.95 | 110.44 | 0.24 | 2.90 | 1.00 | 0.03 |
| 45.00 | 110.87 | 0.24 | 2.89 | 1.00 | 0.02 | 45.06 | 114.22 | 0.25 | 2.80 | 1.00 | 0.02 |
| 45.10 | 113.17 | 0.25 | 2.83 | 1.00 | 0.01 | 45.17 | 113.59 | 0.25 | 2.81 | 1.00 | 0.03 |
| 45.26 | 107.10 | 0.23 | 2.99 | 1.00 | 0.03 | 45.29 | 106.76 | 0.23 | 3.00 | 1.00 | 0.01 |
| 45.39 | 105.93 | 0.23 | 3.03 | 1.00 | 0.03 | 45.43 | 111.25 | 0.24 | 2.88 | 1.00 | 0.01 |
| 45.48 | 118.89 | 0.27 | 2.68 | 1.00 | 0.02 | 45.57 | 128.50 | 0.31 | 2.47 | 1.00 | 0.03 |
| 45.61 | 127.37 | 0.31 | 2.49 | 1.00 | 0.01 | 45.70 | 119.41 | 0.27 | 2.67 | 1.00 | 0.03 |
| 45.74 | 119.90 | 0.27 | 2.66 | 1.00 | 0.01 | 45.84 | 137.35 | 0.37 | 2.29 | 1.00 | 0.03 |
| 45.89 | 141.76 | 0.40 | 2.21 | 1.00 | 0.01 | 45.94 | 139.22 | 0.38 | 2.26 | 1.00 | 0.01 |
| 46.03 | 120.34 | 0.27 | 2.65 | 1.00 | 0.03 | 46.09 | 110.30 | 0.24 | 2.90 | 1.00 | 0.02 |
| 46.14 | 38.70 | 2.00 | 0.00 | 1.00 | 0.00 | 46.23 | 26.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.27 | 21.83 | 2.00 | 0.00 | 1.00 | 0.00 | 46.44 | 18.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.50 | 17.88 | 2.00 | 0.00 | 1.00 | 0.00 | 46.55 | 17.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.62 | 16.93 | 2.00 | 0.00 | 1.00 | 0.00 | 46.67 | 16.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.72 | 15.86 | 2.00 | 0.00 | 1.00 | 0.00 | 46.80 | 16.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.86 | 16.12 | 2.00 | 0.00 | 1.00 | 0.00 | 46.93 | 16.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.98 | 16.66 | 2.00 | 0.00 | 1.00 | 0.00 | 47.06 | 17.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.11 | 17.70 | 2.00 | 0.00 | 1.00 | 0.00 | 47.18 | 19.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.24 | 19.99 | 2.00 | 0.00 | 1.00 | 0.00 | 47.30 | 20.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.37 | 21.44 | 2.00 | 0.00 | 1.00 | 0.00 | 47.43 | 22.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.50 | 23.66 | 2.00 | 0.00 | 1.00 | 0.00 | 47.55 | 23.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.68 | 23.48 | 2.00 | 0.00 | 1.00 | 0.00 | 47.74 | 23.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.81 | 24.64 | 2.00 | 0.00 | 1.00 | 0.00 | 47.88 | 25.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.94 | 25.46 | 2.00 | 0.00 | 1.00 | 0.00 | 48.00 | 26.43 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.05 | 24.58 | 2.00 | 0.00 | 1.00 | 0.00 | 48.05 | 18.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.14 | 29.93 | 2.00 | 0.00 | 1.00 | 0.00 | 48.18 | 30.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.28 | 32.30 | 2.00 | 0.00 | 1.00 | 0.00 | 48.32 | 33.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.36 | 33.12 | 2.00 | 0.00 | 1.00 | 0.00 | 48.47 | 31.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.59 | 27.10 | 2.00 | 0.00 | 1.00 | 0.00 | 48.66 | 26.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.71 | 26.50 | 2.00 | 0.00 | 1.00 | 0.00 | 48.77 | 25.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.85 | 24.91 | 2.00 | 0.00 | 1.00 | 0.00 | 48.90 | 25.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.98 | 28.67 | 2.00 | 0.00 | 1.00 | 0.00 | 49.02 | 33.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.10 | 35.82 | 2.00 | 0.00 | 1.00 | 0.00 | 49.15 | 35.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.20 | 33.87 | 2.00 | 0.00 | 1.00 | 0.00 | 49.29 | 31.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.33 | 29.11 | 2.00 | 0.00 | 1.00 | 0.00 | 49.39 | 29.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.46 | 30.87 | 2.00 | 0.00 | 1.00 | 0.00 | 49.51 | 32.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.59 | 34.13 | 2.00 | 0.00 | 1.00 | 0.00 | 49.64 | 32.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.69 | 30.30 | 2.00 | 0.00 | 1.00 | 0.00 | 49.77 | 26.45 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 49.84 | 22.50 | 2.00 | 0.00 | 1.00 | 0.00 | 49.90 | 20.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.96 | 19.65 | 2.00 | 0.00 | 1.00 | 0.00 | 50.03 | 20.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.16 | 31.36 | 2.00 | 0.00 | 1.00 | 0.00 | 50.21 | 46.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.29 | 65.25 | 2.00 | 0.00 | 1.00 | 0.00 | 50.33 | 75.45 | 2.00 | 0.00 | 1.00 | 0.00 |

**Total estimated settlement: 6.53**

**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

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.08 | 14.32 | 2.00 | 0.00 | 1.00 | 0.00 | 5.13 | 18.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.21 | 78.23 | 0.29 | 4.10 | 1.00 | 0.04 | 5.26 | 79.99 | 0.29 | 4.01 | 1.00 | 0.02 |
| 5.34 | 77.33 | 0.28 | 4.14 | 1.00 | 0.04 | 5.39 | 78.83 | 0.29 | 4.07 | 1.00 | 0.02 |
| 5.47 | 82.91 | 0.30 | 3.87 | 1.00 | 0.04 | 5.52 | 86.73 | 0.30 | 3.71 | 1.00 | 0.02 |
| 5.60 | 90.42 | 0.31 | 3.56 | 1.00 | 0.03 | 5.63 | 86.99 | 0.30 | 3.70 | 1.00 | 0.01 |
| 5.66 | 86.26 | 0.30 | 3.73 | 1.00 | 0.02 | 5.74 | 89.96 | 0.31 | 3.57 | 1.00 | 0.03 |
| 5.78 | 89.37 | 0.30 | 3.60 | 1.00 | 0.02 | 5.85 | 90.24 | 0.31 | 3.56 | 1.00 | 0.03 |
| 5.94 | 92.72 | 0.31 | 3.47 | 1.00 | 0.04 | 6.00 | 94.94 | 0.32 | 3.39 | 1.00 | 0.02 |
| 6.06 | 96.33 | 0.32 | 3.34 | 1.00 | 0.02 | 6.10 | 96.73 | 0.32 | 3.32 | 1.00 | 0.02 |
| 6.20 | 95.72 | 0.31 | 3.36 | 1.00 | 0.04 | 6.26 | 94.21 | 0.31 | 3.41 | 1.00 | 0.02 |
| 6.32 | 93.48 | 0.30 | 3.44 | 1.00 | 0.02 | 6.37 | 92.62 | 0.30 | 3.47 | 1.00 | 0.02 |
| 6.46 | 30.03 | 2.00 | 0.00 | 1.00 | 0.00 | 6.51 | 28.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.63 | 27.10 | 2.00 | 0.00 | 1.00 | 0.00 | 6.69 | 25.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.76 | 25.03 | 2.00 | 0.00 | 1.00 | 0.00 | 6.81 | 25.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.86 | 25.02 | 2.00 | 0.00 | 1.00 | 0.00 | 6.94 | 25.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.00 | 25.65 | 2.00 | 0.00 | 1.00 | 0.00 | 7.08 | 25.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.11 | 20.81 | 2.00 | 0.00 | 1.00 | 0.00 | 7.18 | 22.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.22 | 21.07 | 2.00 | 0.00 | 1.00 | 0.00 | 7.34 | 16.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.40 | 14.70 | 2.00 | 0.00 | 1.00 | 0.00 | 7.46 | 14.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.52 | 14.44 | 2.00 | 0.00 | 1.00 | 0.00 | 7.58 | 14.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.65 | 16.27 | 2.00 | 0.00 | 1.00 | 0.00 | 7.71 | 20.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.78 | 82.19 | 0.25 | 3.91 | 1.00 | 0.03 | 7.82 | 85.67 | 0.26 | 3.75 | 1.00 | 0.02 |
| 7.90 | 87.69 | 0.26 | 3.67 | 1.00 | 0.03 | 7.96 | 89.17 | 0.26 | 3.61 | 1.00 | 0.03 |
| 8.02 | 90.93 | 0.27 | 3.54 | 1.00 | 0.03 | 8.10 | 90.57 | 0.27 | 3.55 | 1.00 | 0.03 |
| 8.16 | 93.38 | 0.27 | 3.44 | 1.00 | 0.02 | 8.24 | 93.09 | 0.27 | 3.45 | 1.00 | 0.04 |
| 8.30 | 92.01 | 0.27 | 3.50 | 1.00 | 0.03 | 8.38 | 91.63 | 0.26 | 3.51 | 1.00 | 0.03 |
| 8.42 | 93.07 | 0.27 | 3.46 | 1.00 | 0.02 | 8.49 | 28.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.55 | 92.70 | 0.27 | 3.47 | 1.00 | 0.02 | 8.61 | 97.42 | 0.28 | 3.30 | 1.00 | 0.02 |
| 8.68 | 95.52 | 0.27 | 3.37 | 1.00 | 0.03 | 8.73 | 89.95 | 0.26 | 3.57 | 1.00 | 0.02 |
| 8.81 | 90.81 | 0.26 | 3.54 | 1.00 | 0.03 | 8.86 | 92.94 | 0.26 | 3.46 | 1.00 | 0.02 |
| 8.99 | 101.32 | 0.28 | 3.17 | 1.00 | 0.05 | 9.04 | 104.31 | 0.29 | 3.08 | 1.00 | 0.02 |
| 9.12 | 107.93 | 0.31 | 2.97 | 1.00 | 0.03 | 9.26 | 110.49 | 0.31 | 2.90 | 1.00 | 0.05 |
| 9.30 | 110.83 | 0.31 | 2.89 | 1.00 | 0.02 | 9.34 | 106.11 | 0.30 | 3.02 | 1.00 | 0.02 |
| 9.39 | 105.16 | 0.29 | 3.05 | 1.00 | 0.02 | 9.48 | 103.56 | 0.29 | 3.10 | 1.00 | 0.03 |
| 9.55 | 102.12 | 0.28 | 3.14 | 1.00 | 0.03 | 9.60 | 98.25 | 0.27 | 3.27 | 1.00 | 0.02 |
| 9.68 | 91.59 | 0.25 | 3.51 | 1.00 | 0.03 | 9.74 | 25.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.79 | 77.04 | 0.22 | 4.16 | 1.00 | 0.03 | 9.87 | 16.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.92 | 13.25 | 2.00 | 0.00 | 1.00 | 0.00 | 10.00 | 16.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.06 | 16.79 | 2.00 | 0.00 | 1.00 | 0.00 | 10.14 | 89.39 | 0.24 | 3.60 | 1.00 | 0.04 |
| 10.18 | 97.85 | 0.26 | 3.28 | 1.00 | 0.02 | 10.26 | 111.15 | 0.31 | 2.88 | 1.00 | 0.03 |
| 10.31 | 117.03 | 0.33 | 2.73 | 1.00 | 0.02 | 10.37 | 122.45 | 0.36 | 2.60 | 1.00 | 0.02 |
| 10.47 | 125.88 | 0.38 | 2.52 | 1.00 | 0.03 | 10.51 | 127.16 | 0.38 | 2.49 | 1.00 | 0.01 |
| 10.62 | 129.94 | 0.40 | 2.44 | 1.00 | 0.03 | 10.67 | 132.38 | 0.42 | 2.39 | 1.00 | 0.01 |
| 10.75 | 134.57 | 0.44 | 2.34 | 1.00 | 0.02 | 10.80 | 135.98 | 0.45 | 2.32 | 1.00 | 0.01 |
| 10.87 | 137.42 | 0.46 | 2.29 | 1.00 | 0.02 | 10.93 | 138.30 | 0.47 | 2.27 | 1.00 | 0.02 |
| 11.02 | 138.91 | 0.47 | 2.26 | 1.00 | 0.02 | 11.07 | 139.13 | 0.47 | 2.26 | 1.00 | 0.01 |
| 11.14 | 139.18 | 0.47 | 2.26 | 1.00 | 0.02 | 11.20 | 139.11 | 0.47 | 2.26 | 1.00 | 0.02 |
| 11.25 | 137.96 | 0.46 | 2.28 | 1.00 | 0.01 | 11.32 | 135.28 | 0.44 | 2.33 | 1.00 | 0.02 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.38 | 131.13 | 0.40 | 2.41 | 1.00 | 0.02 | 11.45 | 125.66 | 0.37 | 2.53 | 1.00 | 0.02 |
| 11.51 | 119.90 | 0.33 | 2.66 | 1.00 | 0.02 | 11.57 | 112.76 | 0.30 | 2.84 | 1.00 | 0.02 |
| 11.64 | 104.75 | 0.27 | 3.06 | 1.00 | 0.02 | 11.71 | 97.93 | 0.25 | 3.28 | 1.00 | 0.03 |
| 11.77 | 92.80 | 0.24 | 3.47 | 1.00 | 0.03 | 11.90 | 87.07 | 0.22 | 3.69 | 1.00 | 0.06 |
| 11.95 | 86.15 | 0.22 | 3.73 | 1.00 | 0.02 | 12.03 | 85.71 | 0.22 | 3.75 | 1.00 | 0.03 |
| 12.09 | 85.07 | 0.22 | 3.78 | 1.00 | 0.03 | 12.16 | 83.90 | 0.21 | 3.83 | 1.00 | 0.03 |
| 12.21 | 24.43 | 2.00 | 0.00 | 1.00 | 0.00 | 12.28 | 23.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.34 | 22.10 | 2.00 | 0.00 | 1.00 | 0.00 | 12.42 | 21.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.47 | 21.71 | 2.00 | 0.00 | 1.00 | 0.00 | 12.54 | 22.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.60 | 23.45 | 2.00 | 0.00 | 1.00 | 0.00 | 12.67 | 24.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.74 | 25.09 | 2.00 | 0.00 | 1.00 | 0.00 | 12.80 | 82.25 | 0.21 | 3.90 | 1.00 | 0.03 |
| 12.87 | 24.18 | 2.00 | 0.00 | 1.00 | 0.00 | 12.92 | 24.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.99 | 26.20 | 2.00 | 0.00 | 1.00 | 0.00 | 13.02 | 24.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.09 | 30.99 | 2.00 | 0.00 | 1.00 | 0.00 | 13.13 | 95.94 | 0.24 | 3.35 | 1.00 | 0.02 |
| 13.23 | 36.90 | 2.00 | 0.00 | 1.00 | 0.00 | 13.26 | 36.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.36 | 37.89 | 2.00 | 0.00 | 1.00 | 0.00 | 13.40 | 100.99 | 0.25 | 3.18 | 1.00 | 0.02 |
| 13.49 | 100.85 | 0.25 | 3.19 | 1.00 | 0.03 | 13.54 | 98.88 | 0.24 | 3.25 | 1.00 | 0.02 |
| 13.60 | 34.10 | 2.00 | 0.00 | 1.00 | 0.00 | 13.65 | 29.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.75 | 21.25 | 2.00 | 0.00 | 1.00 | 0.00 | 13.79 | 18.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.89 | 14.07 | 2.00 | 0.00 | 1.00 | 0.00 | 13.93 | 13.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.98 | 11.93 | 2.00 | 0.00 | 1.00 | 0.00 | 14.11 | 11.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.15 | 11.15 | 2.00 | 0.00 | 1.00 | 0.00 | 14.20 | 11.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.27 | 10.48 | 2.00 | 0.00 | 1.00 | 0.00 | 14.33 | 10.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.38 | 10.46 | 2.00 | 0.00 | 1.00 | 0.00 | 14.46 | 10.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.54 | 10.33 | 2.00 | 0.00 | 1.00 | 0.00 | 14.59 | 10.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.66 | 10.09 | 2.00 | 0.00 | 1.00 | 0.00 | 14.78 | 9.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.85 | 9.22 | 2.00 | 0.00 | 1.00 | 0.00 | 14.91 | 9.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.99 | 9.10 | 2.00 | 0.00 | 1.00 | 0.00 | 15.04 | 9.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.12 | 9.39 | 2.00 | 0.00 | 1.00 | 0.00 | 15.17 | 9.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.23 | 10.52 | 2.00 | 0.00 | 1.00 | 0.00 | 15.30 | 10.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.34 | 10.91 | 2.00 | 0.00 | 1.00 | 0.00 | 15.48 | 10.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.54 | 9.53 | 2.00 | 0.00 | 1.00 | 0.00 | 15.61 | 9.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.66 | 8.77 | 2.00 | 0.00 | 1.00 | 0.00 | 15.73 | 8.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.78 | 8.97 | 2.00 | 0.00 | 1.00 | 0.00 | 15.97 | 10.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.02 | 10.08 | 2.00 | 0.00 | 1.00 | 0.00 | 16.03 | 10.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.11 | 10.07 | 2.00 | 0.00 | 1.00 | 0.00 | 16.14 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.29 | 9.10 | 2.00 | 0.00 | 1.00 | 0.00 | 16.33 | 8.79 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.45 | 8.77 | 2.00 | 0.00 | 1.00 | 0.00 | 16.49 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.56 | 8.75 | 2.00 | 0.00 | 1.00 | 0.00 | 16.63 | 9.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.67 | 10.37 | 2.00 | 0.00 | 1.00 | 0.00 | 16.75 | 11.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.80 | 13.19 | 2.00 | 0.00 | 1.00 | 0.00 | 16.87 | 14.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.93 | 16.56 | 2.00 | 0.00 | 1.00 | 0.00 | 16.99 | 18.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.06 | 21.39 | 2.00 | 0.00 | 1.00 | 0.00 | 17.11 | 24.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.18 | 27.81 | 2.00 | 0.00 | 1.00 | 0.00 | 17.24 | 27.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.30 | 23.65 | 2.00 | 0.00 | 1.00 | 0.00 | 17.37 | 19.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.43 | 16.20 | 2.00 | 0.00 | 1.00 | 0.00 | 17.51 | 14.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.64 | 13.35 | 2.00 | 0.00 | 1.00 | 0.00 | 17.68 | 13.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.75 | 17.48 | 2.00 | 0.00 | 1.00 | 0.00 | 17.82 | 19.22 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.88 | 19.10 | 2.00 | 0.00 | 1.00 | 0.00 | 17.94 | 18.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.99 | 18.46 | 2.00 | 0.00 | 1.00 | 0.00 | 18.08 | 20.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.12 | 24.62 | 2.00 | 0.00 | 1.00 | 0.00 | 18.21 | 31.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.26 | 101.50 | 0.23 | 3.16 | 1.00 | 0.02 | 18.32 | 111.11 | 0.26 | 2.88 | 1.00 | 0.02 |
| 18.39 | 109.37 | 0.25 | 2.93 | 1.00 | 0.02 | 18.44 | 107.67 | 0.24 | 2.98 | 1.00 | 0.02 |
| 18.52 | 106.43 | 0.24 | 3.01 | 1.00 | 0.03 | 18.57 | 107.18 | 0.24 | 2.99 | 1.00 | 0.02 |
| 18.62 | 108.53 | 0.25 | 2.95 | 1.00 | 0.02 | 18.64 | 105.72 | 0.24 | 3.03 | 1.00 | 0.01 |
| 18.74 | 103.46 | 0.23 | 3.10 | 1.00 | 0.04 | 18.78 | 99.55 | 0.22 | 3.23 | 1.00 | 0.02 |
| 18.88 | 91.80 | 0.20 | 3.50 | 1.00 | 0.04 | 18.92 | 87.95 | 0.20 | 3.66 | 1.00 | 0.02 |
| 19.05 | 81.45 | 0.18 | 3.94 | 1.00 | 0.06 | 19.15 | 74.45 | 0.17 | 4.29 | 1.00 | 0.05 |
| 19.22 | 15.21 | 2.00 | 0.00 | 1.00 | 0.00 | 19.27 | 12.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.34 | 10.42 | 2.00 | 0.00 | 1.00 | 0.00 | 19.40 | 8.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.46 | 8.07 | 2.00 | 0.00 | 1.00 | 0.00 | 19.53 | 7.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.59 | 7.56 | 2.00 | 0.00 | 1.00 | 0.00 | 19.66 | 7.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.71 | 7.07 | 2.00 | 0.00 | 1.00 | 0.00 | 19.79 | 6.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.84 | 6.87 | 2.00 | 0.00 | 1.00 | 0.00 | 19.91 | 6.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.98 | 7.23 | 2.00 | 0.00 | 1.00 | 0.00 | 20.03 | 7.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.11 | 8.00 | 2.00 | 0.00 | 1.00 | 0.00 | 20.21 | 8.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.28 | 8.66 | 2.00 | 0.00 | 1.00 | 0.00 | 20.34 | 9.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.40 | 9.51 | 2.00 | 0.00 | 1.00 | 0.00 | 20.46 | 10.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.52 | 11.03 | 2.00 | 0.00 | 1.00 | 0.00 | 20.58 | 11.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.64 | 13.66 | 2.00 | 0.00 | 1.00 | 0.00 | 20.69 | 15.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.76 | 17.59 | 2.00 | 0.00 | 1.00 | 0.00 | 20.81 | 19.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.88 | 21.01 | 2.00 | 0.00 | 1.00 | 0.00 | 20.94 | 23.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.05 | 31.05 | 2.00 | 0.00 | 1.00 | 0.00 | 21.17 | 105.87 | 0.23 | 3.03 | 1.00 | 0.04 |
| 21.23 | 112.53 | 0.25 | 2.84 | 1.00 | 0.02 | 21.30 | 116.08 | 0.26 | 2.75 | 1.00 | 0.02 |
| 21.35 | 119.20 | 0.28 | 2.67 | 1.00 | 0.02 | 21.43 | 117.81 | 0.27 | 2.71 | 1.00 | 0.02 |
| 21.48 | 115.02 | 0.26 | 2.78 | 1.00 | 0.02 | 21.53 | 119.31 | 0.28 | 2.67 | 1.00 | 0.02 |
| 21.61 | 125.14 | 0.30 | 2.54 | 1.00 | 0.02 | 21.65 | 127.16 | 0.31 | 2.49 | 1.00 | 0.01 |
| 21.71 | 126.14 | 0.31 | 2.52 | 1.00 | 0.02 | 21.72 | 118.46 | 0.27 | 2.69 | 1.00 | 0.00 |
| 21.83 | 121.10 | 0.28 | 2.63 | 1.00 | 0.04 | 21.91 | 120.01 | 0.28 | 2.65 | 1.00 | 0.02 |
| 21.96 | 120.83 | 0.28 | 2.64 | 1.00 | 0.02 | 22.01 | 122.26 | 0.29 | 2.60 | 1.00 | 0.02 |
| 22.09 | 124.79 | 0.30 | 2.55 | 1.00 | 0.02 | 22.14 | 126.09 | 0.31 | 2.52 | 1.00 | 0.01 |
| 22.21 | 127.24 | 0.31 | 2.49 | 1.00 | 0.02 | 22.27 | 125.56 | 0.30 | 2.53 | 1.00 | 0.02 |
| 22.34 | 120.55 | 0.28 | 2.64 | 1.00 | 0.02 | 22.40 | 115.34 | 0.26 | 2.77 | 1.00 | 0.02 |
| 22.46 | 110.97 | 0.25 | 2.88 | 1.00 | 0.02 | 22.53 | 106.26 | 0.23 | 3.02 | 1.00 | 0.02 |
| 22.58 | 101.24 | 0.22 | 3.17 | 1.00 | 0.02 | 22.71 | 100.35 | 0.22 | 3.20 | 1.00 | 0.05 |
| 22.76 | 101.55 | 0.22 | 3.16 | 1.00 | 0.02 | 22.89 | 100.77 | 0.22 | 3.19 | 1.00 | 0.05 |
| 22.95 | 103.87 | 0.22 | 3.09 | 1.00 | 0.02 | 23.02 | 111.65 | 0.25 | 2.87 | 1.00 | 0.03 |
| 23.07 | 115.93 | 0.26 | 2.75 | 1.00 | 0.02 | 23.16 | 118.24 | 0.27 | 2.70 | 1.00 | 0.03 |
| 23.21 | 117.89 | 0.27 | 2.71 | 1.00 | 0.02 | 23.28 | 116.28 | 0.26 | 2.75 | 1.00 | 0.02 |
| 23.34 | 112.76 | 0.25 | 2.84 | 1.00 | 0.02 | 23.42 | 106.74 | 0.23 | 3.00 | 1.00 | 0.03 |
| 23.46 | 99.49 | 0.21 | 3.23 | 1.00 | 0.02 | 23.53 | 92.59 | 0.20 | 3.47 | 1.00 | 0.03 |
| 23.59 | 27.15 | 2.00 | 0.00 | 1.00 | 0.00 | 23.68 | 23.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.73 | 20.76 | 2.00 | 0.00 | 1.00 | 0.00 | 23.79 | 17.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.86 | 14.74 | 2.00 | 0.00 | 1.00 | 0.00 | 23.91 | 13.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.99 | 13.37 | 2.00 | 0.00 | 1.00 | 0.00 | 24.05 | 12.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.10 | 12.54 | 2.00 | 0.00 | 1.00 | 0.00 | 24.17 | 11.54 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24.24 | 10.99 | 2.00 | 0.00 | 1.00 | 0.00 | 24.30 | 10.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.36 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 | 24.44 | 9.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.51 | 9.34 | 2.00 | 0.00 | 1.00 | 0.00 | 24.56 | 8.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.62 | 8.79 | 2.00 | 0.00 | 1.00 | 0.00 | 24.69 | 8.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.74 | 9.05 | 2.00 | 0.00 | 1.00 | 0.00 | 24.82 | 9.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.87 | 9.74 | 2.00 | 0.00 | 1.00 | 0.00 | 24.95 | 9.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.01 | 9.99 | 2.00 | 0.00 | 1.00 | 0.00 | 25.08 | 10.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.14 | 10.76 | 2.00 | 0.00 | 1.00 | 0.00 | 25.20 | 10.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.27 | 10.48 | 2.00 | 0.00 | 1.00 | 0.00 | 25.32 | 10.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.40 | 10.29 | 2.00 | 0.00 | 1.00 | 0.00 | 25.45 | 10.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.53 | 12.82 | 2.00 | 0.00 | 1.00 | 0.00 | 25.58 | 14.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.60 | 12.28 | 2.00 | 0.00 | 1.00 | 0.00 | 25.67 | 85.24 | 0.18 | 3.77 | 1.00 | 0.03 |
| 25.74 | 90.68 | 0.19 | 3.55 | 1.00 | 0.03 | 25.82 | 99.34 | 0.21 | 3.23 | 1.00 | 0.03 |
| 25.87 | 104.02 | 0.22 | 3.09 | 1.00 | 0.02 | 25.94 | 104.57 | 0.22 | 3.07 | 1.00 | 0.03 |
| 26.01 | 94.24 | 0.20 | 3.41 | 1.00 | 0.03 | 26.05 | 94.80 | 0.20 | 3.39 | 1.00 | 0.02 |
| 26.12 | 96.32 | 0.20 | 3.34 | 1.00 | 0.03 | 26.18 | 97.95 | 0.21 | 3.28 | 1.00 | 0.02 |
| 26.28 | 103.31 | 0.22 | 3.11 | 1.00 | 0.03 | 26.31 | 105.45 | 0.22 | 3.04 | 1.00 | 0.01 |
| 26.40 | 109.29 | 0.23 | 2.93 | 1.00 | 0.03 | 26.48 | 109.74 | 0.24 | 2.92 | 1.00 | 0.03 |
| 26.53 | 108.64 | 0.23 | 2.95 | 1.00 | 0.02 | 26.59 | 107.68 | 0.23 | 2.98 | 1.00 | 0.02 |
| 26.66 | 106.63 | 0.23 | 3.01 | 1.00 | 0.03 | 26.78 | 104.54 | 0.22 | 3.07 | 1.00 | 0.04 |
| 26.83 | 105.30 | 0.22 | 3.05 | 1.00 | 0.02 | 26.90 | 106.02 | 0.23 | 3.03 | 1.00 | 0.03 |
| 26.98 | 104.20 | 0.22 | 3.08 | 1.00 | 0.03 | 27.03 | 105.63 | 0.22 | 3.04 | 1.00 | 0.02 |
| 27.10 | 106.68 | 0.23 | 3.01 | 1.00 | 0.02 | 27.15 | 106.19 | 0.23 | 3.02 | 1.00 | 0.02 |
| 27.22 | 104.47 | 0.22 | 3.07 | 1.00 | 0.03 | 27.28 | 102.22 | 0.22 | 3.14 | 1.00 | 0.02 |
| 27.33 | 97.79 | 0.20 | 3.29 | 1.00 | 0.02 | 27.42 | 92.98 | 0.19 | 3.46 | 1.00 | 0.03 |
| 27.46 | 27.82 | 2.00 | 0.00 | 1.00 | 0.00 | 27.55 | 22.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.60 | 18.27 | 2.00 | 0.00 | 1.00 | 0.00 | 27.67 | 15.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.73 | 13.05 | 2.00 | 0.00 | 1.00 | 0.00 | 27.85 | 10.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.91 | 9.37 | 2.00 | 0.00 | 1.00 | 0.00 | 27.99 | 8.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.04 | 8.75 | 2.00 | 0.00 | 1.00 | 0.00 | 28.10 | 8.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.17 | 8.58 | 2.00 | 0.00 | 1.00 | 0.00 | 28.24 | 8.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.30 | 7.80 | 2.00 | 0.00 | 1.00 | 0.00 | 28.37 | 7.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.43 | 7.62 | 2.00 | 0.00 | 1.00 | 0.00 | 28.45 | 7.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.50 | 7.69 | 2.00 | 0.00 | 1.00 | 0.00 | 28.55 | 7.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.63 | 8.02 | 2.00 | 0.00 | 1.00 | 0.00 | 28.68 | 8.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.78 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 | 28.84 | 8.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.89 | 9.00 | 2.00 | 0.00 | 1.00 | 0.00 | 28.94 | 9.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.03 | 9.49 | 2.00 | 0.00 | 1.00 | 0.00 | 29.10 | 9.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.14 | 9.31 | 2.00 | 0.00 | 1.00 | 0.00 | 29.20 | 9.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.30 | 8.95 | 2.00 | 0.00 | 1.00 | 0.00 | 29.40 | 8.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.46 | 8.52 | 2.00 | 0.00 | 1.00 | 0.00 | 29.52 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.56 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 | 29.61 | 8.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.67 | 9.32 | 2.00 | 0.00 | 1.00 | 0.00 | 29.73 | 9.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.83 | 10.80 | 2.00 | 0.00 | 1.00 | 0.00 | 29.88 | 11.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.01 | 12.51 | 2.00 | 0.00 | 1.00 | 0.00 | 30.05 | 12.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.09 | 12.99 | 2.00 | 0.00 | 1.00 | 0.00 | 30.14 | 13.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.21 | 12.64 | 2.00 | 0.00 | 1.00 | 0.00 | 30.27 | 12.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.36 | 12.61 | 2.00 | 0.00 | 1.00 | 0.00 | 30.42 | 12.60 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30.47 | 12.83 | 2.00 | 0.00 | 1.00 | 0.00 | 30.53 | 13.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.58 | 13.15 | 2.00 | 0.00 | 1.00 | 0.00 | 30.67 | 12.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.74 | 12.13 | 2.00 | 0.00 | 1.00 | 0.00 | 30.79 | 11.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.85 | 11.70 | 2.00 | 0.00 | 1.00 | 0.00 | 30.91 | 11.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.98 | 10.62 | 2.00 | 0.00 | 1.00 | 0.00 | 31.10 | 9.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.23 | 8.96 | 2.00 | 0.00 | 1.00 | 0.00 | 31.28 | 8.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.34 | 8.38 | 2.00 | 0.00 | 1.00 | 0.00 | 31.37 | 8.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.37 | 8.37 | 2.00 | 0.00 | 1.00 | 0.00 | 31.46 | 8.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.51 | 8.12 | 2.00 | 0.00 | 1.00 | 0.00 | 31.60 | 7.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.65 | 8.03 | 2.00 | 0.00 | 1.00 | 0.00 | 31.74 | 8.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.82 | 8.01 | 2.00 | 0.00 | 1.00 | 0.00 | 31.86 | 8.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.91 | 7.84 | 2.00 | 0.00 | 1.00 | 0.00 | 31.99 | 7.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.04 | 8.07 | 2.00 | 0.00 | 1.00 | 0.00 | 32.16 | 7.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.18 | 7.57 | 2.00 | 0.00 | 1.00 | 0.00 | 32.23 | 7.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.31 | 7.80 | 2.00 | 0.00 | 1.00 | 0.00 | 32.35 | 7.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.44 | 7.55 | 2.00 | 0.00 | 1.00 | 0.00 | 32.53 | 7.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.57 | 7.62 | 2.00 | 0.00 | 1.00 | 0.00 | 32.62 | 7.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.69 | 7.69 | 2.00 | 0.00 | 1.00 | 0.00 | 32.75 | 8.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.83 | 8.71 | 2.00 | 0.00 | 1.00 | 0.00 | 32.92 | 9.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.97 | 10.29 | 2.00 | 0.00 | 1.00 | 0.00 | 33.01 | 10.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.10 | 10.84 | 2.00 | 0.00 | 1.00 | 0.00 | 33.14 | 11.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.23 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 | 33.28 | 9.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.34 | 9.29 | 2.00 | 0.00 | 1.00 | 0.00 | 33.43 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.50 | 9.20 | 2.00 | 0.00 | 1.00 | 0.00 | 33.54 | 9.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.64 | 10.29 | 2.00 | 0.00 | 1.00 | 0.00 | 33.70 | 10.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.76 | 10.43 | 2.00 | 0.00 | 1.00 | 0.00 | 33.80 | 10.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.86 | 10.90 | 2.00 | 0.00 | 1.00 | 0.00 | 33.98 | 10.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.04 | 9.85 | 2.00 | 0.00 | 1.00 | 0.00 | 34.08 | 11.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.17 | 10.14 | 2.00 | 0.00 | 1.00 | 0.00 | 34.21 | 8.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.26 | 8.88 | 2.00 | 0.00 | 1.00 | 0.00 | 34.39 | 8.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.43 | 8.86 | 2.00 | 0.00 | 1.00 | 0.00 | 34.48 | 9.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.53 | 8.85 | 2.00 | 0.00 | 1.00 | 0.00 | 34.58 | 8.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.65 | 8.83 | 2.00 | 0.00 | 1.00 | 0.00 | 34.74 | 9.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.78 | 9.36 | 2.00 | 0.00 | 1.00 | 0.00 | 34.87 | 9.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.92 | 9.90 | 2.00 | 0.00 | 1.00 | 0.00 | 35.00 | 10.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.05 | 11.13 | 2.00 | 0.00 | 1.00 | 0.00 | 35.12 | 12.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.18 | 12.98 | 2.00 | 0.00 | 1.00 | 0.00 | 35.27 | 14.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.31 | 15.46 | 2.00 | 0.00 | 1.00 | 0.00 | 35.40 | 15.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.44 | 16.05 | 2.00 | 0.00 | 1.00 | 0.00 | 35.58 | 17.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.62 | 18.04 | 2.00 | 0.00 | 1.00 | 0.00 | 35.72 | 19.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.76 | 20.58 | 2.00 | 0.00 | 1.00 | 0.00 | 35.81 | 21.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.84 | 22.34 | 2.00 | 0.00 | 1.00 | 0.00 | 35.90 | 23.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.98 | 24.95 | 2.00 | 0.00 | 1.00 | 0.00 | 36.04 | 25.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.09 | 25.61 | 2.00 | 0.00 | 1.00 | 0.00 | 36.24 | 25.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.28 | 26.01 | 2.00 | 0.00 | 1.00 | 0.00 | 36.33 | 27.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.39 | 31.41 | 2.00 | 0.00 | 1.00 | 0.00 | 36.46 | 37.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.51 | 43.11 | 2.00 | 0.00 | 1.00 | 0.00 | 36.57 | 46.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.64 | 47.34 | 2.00 | 0.00 | 1.00 | 0.00 | 36.68 | 47.31 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 36.76 | 48.29 | 2.00 | 0.00 | 1.00 | 0.00 | 36.81 | 52.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.99 | 138.91 | 0.37 | 2.26 | 1.00 | 0.05 | 37.07 | 148.14 | 0.46 | 2.10 | 1.00 | 0.02 |
| 37.13 | 145.32 | 0.43 | 2.15 | 1.00 | 0.01 | 37.18 | 144.61 | 0.42 | 2.16 | 1.00 | 0.01 |
| 37.21 | 144.50 | 0.42 | 2.16 | 1.00 | 0.01 | 37.32 | 151.33 | 0.50 | 2.05 | 1.00 | 0.03 |
| 37.39 | 157.60 | 0.59 | 1.87 | 1.00 | 0.02 | 37.44 | 161.86 | 0.68 | 1.62 | 1.00 | 0.01 |
| 37.48 | 165.79 | 0.77 | 1.31 | 1.00 | 0.01 | 37.57 | 172.11 | 0.96 | 0.83 | 1.00 | 0.01 |
| 37.61 | 175.56 | 1.10 | 0.62 | 1.00 | 0.00 | 37.67 | 179.85 | 1.32 | 0.39 | 1.00 | 0.00 |
| 37.75 | 182.99 | 1.52 | 0.24 | 1.00 | 0.00 | 37.81 | 183.31 | 1.54 | 0.23 | 1.00 | 0.00 |
| 37.88 | 182.57 | 1.49 | 0.26 | 1.00 | 0.00 | 37.94 | 180.48 | 1.36 | 0.36 | 1.00 | 0.00 |
| 38.02 | 178.11 | 1.23 | 0.48 | 1.00 | 0.00 | 38.07 | 176.50 | 1.15 | 0.57 | 1.00 | 0.00 |
| 38.14 | 175.30 | 1.09 | 0.63 | 1.00 | 0.01 | 38.23 | 175.29 | 1.09 | 0.64 | 1.00 | 0.01 |
| 38.28 | 175.90 | 1.12 | 0.60 | 1.00 | 0.00 | 38.34 | 178.49 | 1.25 | 0.46 | 1.00 | 0.00 |
| 38.39 | 185.18 | 1.68 | 0.15 | 1.00 | 0.00 | 38.45 | 193.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.52 | 200.34 | 2.00 | 0.00 | 1.00 | 0.00 | 38.59 | 206.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.67 | 209.39 | 2.00 | 0.00 | 1.00 | 0.00 | 38.72 | 209.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.81 | 210.19 | 2.00 | 0.00 | 1.00 | 0.00 | 38.85 | 210.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.97 | 215.89 | 2.00 | 0.00 | 1.00 | 0.00 | 39.03 | 219.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.11 | 222.46 | 2.00 | 0.00 | 1.00 | 0.00 | 39.16 | 224.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.23 | 226.74 | 2.00 | 0.00 | 1.00 | 0.00 | 39.29 | 227.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.36 | 228.87 | 2.00 | 0.00 | 1.00 | 0.00 | 39.42 | 229.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.47 | 228.82 | 2.00 | 0.00 | 1.00 | 0.00 | 39.55 | 226.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.60 | 223.70 | 2.00 | 0.00 | 1.00 | 0.00 | 39.64 | 202.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.71 | 207.78 | 2.00 | 0.00 | 1.00 | 0.00 | 39.81 | 203.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.86 | 200.69 | 2.00 | 0.00 | 1.00 | 0.00 | 39.90 | 199.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.99 | 193.97 | 2.00 | 0.00 | 1.00 | 0.00 | 40.03 | 192.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.12 | 189.03 | 2.00 | 0.00 | 1.00 | 0.00 | 40.16 | 186.93 | 1.83 | 0.07 | 1.00 | 0.00 |
| 40.25 | 182.20 | 1.47 | 0.28 | 1.00 | 0.00 | 40.29 | 180.93 | 1.39 | 0.34 | 1.00 | 0.00 |
| 40.39 | 177.01 | 1.17 | 0.53 | 1.00 | 0.01 | 40.45 | 176.99 | 1.17 | 0.54 | 1.00 | 0.00 |
| 40.52 | 177.36 | 1.19 | 0.52 | 1.00 | 0.00 | 40.56 | 178.24 | 1.24 | 0.47 | 1.00 | 0.00 |
| 40.66 | 180.94 | 1.39 | 0.34 | 1.00 | 0.00 | 40.70 | 182.00 | 1.46 | 0.29 | 1.00 | 0.00 |
| 40.78 | 184.50 | 1.63 | 0.17 | 1.00 | 0.00 | 40.83 | 186.26 | 1.77 | 0.10 | 1.00 | 0.00 |
| 40.89 | 188.16 | 1.93 | 0.03 | 1.00 | 0.00 | 40.96 | 189.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.05 | 189.02 | 2.00 | 0.00 | 1.00 | 0.00 | 41.09 | 189.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.16 | 189.38 | 2.00 | 0.00 | 1.00 | 0.00 | 41.22 | 189.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.29 | 190.28 | 2.00 | 0.00 | 1.00 | 0.00 | 41.34 | 191.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.44 | 193.26 | 2.00 | 0.00 | 1.00 | 0.00 | 41.49 | 193.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.58 | 193.94 | 2.00 | 0.00 | 1.00 | 0.00 | 41.63 | 194.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.69 | 193.84 | 2.00 | 0.00 | 1.00 | 0.00 | 41.74 | 193.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.91 | 187.75 | 1.90 | 0.04 | 1.00 | 0.00 | 41.96 | 183.09 | 1.53 | 0.23 | 1.00 | 0.00 |
| 42.02 | 177.26 | 1.19 | 0.52 | 1.00 | 0.00 | 42.07 | 172.86 | 1.00 | 0.77 | 1.00 | 0.01 |
| 42.13 | 169.20 | 0.87 | 1.02 | 1.00 | 0.01 | 42.19 | 167.28 | 0.82 | 1.17 | 1.00 | 0.01 |
| 42.25 | 166.95 | 0.81 | 1.19 | 1.00 | 0.01 | 42.33 | 167.78 | 0.83 | 1.13 | 1.00 | 0.01 |
| 42.43 | 171.52 | 0.95 | 0.86 | 1.00 | 0.01 | 42.47 | 170.62 | 0.92 | 0.92 | 1.00 | 0.00 |
| 42.56 | 169.79 | 0.89 | 0.97 | 1.00 | 0.01 | 42.60 | 169.58 | 0.89 | 0.99 | 1.00 | 0.00 |
| 42.66 | 167.75 | 0.83 | 1.13 | 1.00 | 0.01 | 42.73 | 164.39 | 0.74 | 1.42 | 1.00 | 0.01 |
| 42.81 | 162.85 | 0.71 | 1.57 | 1.00 | 0.01 | 42.86 | 161.50 | 0.68 | 1.64 | 1.00 | 0.01 |
| 42.95 | 162.47 | 0.70 | 1.59 | 1.00 | 0.02 | 42.99 | 166.20 | 0.79 | 1.25 | 1.00 | 0.01 |
| 43.08 | 176.38 | 1.15 | 0.56 | 1.00 | 0.01 | 43.17 | 185.31 | 1.70 | 0.14 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43.22 | 188.75 | 1.99 | 0.00 | 1.00 | 0.00 | 43.26 | 191.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.34 | 183.52 | 1.56 | 0.21 | 1.00 | 0.00 | 43.39 | 183.72 | 1.58 | 0.20 | 1.00 | 0.00 |
| 43.48 | 182.59 | 1.50 | 0.26 | 1.00 | 0.00 | 43.51 | 183.80 | 1.58 | 0.20 | 1.00 | 0.00 |
| 43.59 | 184.53 | 1.64 | 0.17 | 1.00 | 0.00 | 43.65 | 186.58 | 1.80 | 0.08 | 1.00 | 0.00 |
| 43.72 | 190.64 | 2.00 | 0.00 | 1.00 | 0.00 | 43.79 | 192.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.88 | 193.56 | 2.00 | 0.00 | 1.00 | 0.00 | 43.91 | 192.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.00 | 189.42 | 2.00 | 0.00 | 1.00 | 0.00 | 44.04 | 186.30 | 1.78 | 0.09 | 1.00 | 0.00 |
| 44.14 | 178.42 | 1.25 | 0.45 | 1.00 | 0.01 | 44.18 | 174.96 | 1.09 | 0.64 | 1.00 | 0.00 |
| 44.23 | 171.17 | 0.94 | 0.87 | 1.00 | 0.01 | 44.32 | 167.06 | 0.81 | 1.17 | 1.00 | 0.01 |
| 44.36 | 165.94 | 0.78 | 1.27 | 1.00 | 0.01 | 44.45 | 165.80 | 0.78 | 1.28 | 1.00 | 0.01 |
| 44.52 | 161.61 | 0.68 | 1.63 | 1.00 | 0.01 | 44.58 | 165.46 | 0.77 | 1.31 | 1.00 | 0.01 |
| 44.63 | 167.51 | 0.83 | 1.14 | 1.00 | 0.01 | 44.70 | 167.40 | 0.82 | 1.15 | 1.00 | 0.01 |
| 44.76 | 166.84 | 0.81 | 1.19 | 1.00 | 0.01 | 44.85 | 155.75 | 0.57 | 1.99 | 1.00 | 0.02 |
| 44.89 | 165.88 | 0.78 | 1.27 | 1.00 | 0.00 | 44.98 | 161.82 | 0.69 | 1.62 | 1.00 | 0.02 |
| 45.03 | 167.44 | 0.83 | 1.14 | 1.00 | 0.01 | 45.11 | 177.73 | 1.22 | 0.49 | 1.00 | 0.00 |
| 45.15 | 181.93 | 1.46 | 0.28 | 1.00 | 0.00 | 45.26 | 194.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.31 | 198.06 | 2.00 | 0.00 | 1.00 | 0.00 | 45.35 | 199.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.41 | 199.81 | 2.00 | 0.00 | 1.00 | 0.00 | 45.47 | 197.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.55 | 193.21 | 2.00 | 0.00 | 1.00 | 0.00 | 45.64 | 188.68 | 1.99 | 0.00 | 1.00 | 0.00 |
| 45.68 | 187.02 | 1.85 | 0.06 | 1.00 | 0.00 | 45.74 | 184.25 | 1.62 | 0.18 | 1.00 | 0.00 |
| 45.83 | 180.04 | 1.35 | 0.37 | 1.00 | 0.00 | 45.87 | 177.14 | 1.19 | 0.52 | 1.00 | 0.00 |
| 45.95 | 172.31 | 0.99 | 0.79 | 1.00 | 0.01 | 46.08 | 158.96 | 0.63 | 1.79 | 1.00 | 0.03 |
| 46.13 | 156.38 | 0.59 | 1.95 | 1.00 | 0.01 | 46.18 | 153.87 | 0.55 | 2.02 | 1.00 | 0.01 |
| 46.22 | 154.76 | 0.56 | 2.00 | 1.00 | 0.01 | 46.27 | 155.23 | 0.57 | 2.00 | 1.00 | 0.01 |
| 46.34 | 154.98 | 0.56 | 2.00 | 1.00 | 0.02 | 46.43 | 150.76 | 0.50 | 2.06 | 1.00 | 0.02 |
| 46.52 | 140.05 | 0.39 | 2.24 | 1.00 | 0.02 | 46.57 | 124.94 | 0.30 | 2.54 | 1.00 | 0.01 |
| 46.64 | 108.85 | 0.24 | 2.94 | 1.00 | 0.03 | 46.70 | 34.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.77 | 27.98 | 2.00 | 0.00 | 1.00 | 0.00 | 46.83 | 26.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.90 | 28.09 | 2.00 | 0.00 | 1.00 | 0.00 | 46.94 | 25.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.01 | 30.90 | 2.00 | 0.00 | 1.00 | 0.00 | 47.05 | 31.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.14 | 31.70 | 2.00 | 0.00 | 1.00 | 0.00 | 47.19 | 28.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.27 | 26.81 | 2.00 | 0.00 | 1.00 | 0.00 | 47.33 | 28.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.41 | 28.29 | 2.00 | 0.00 | 1.00 | 0.00 | 47.44 | 29.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.54 | 30.53 | 2.00 | 0.00 | 1.00 | 0.00 | 47.58 | 30.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.68 | 31.61 | 2.00 | 0.00 | 1.00 | 0.00 | 47.74 | 33.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.77 | 34.84 | 2.00 | 0.00 | 1.00 | 0.00 | 47.84 | 38.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.91 | 40.66 | 2.00 | 0.00 | 1.00 | 0.00 | 47.98 | 39.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.05 | 39.43 | 2.00 | 0.00 | 1.00 | 0.00 | 48.11 | 39.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.19 | 39.21 | 2.00 | 0.00 | 1.00 | 0.00 | 48.24 | 44.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.30 | 55.76 | 2.00 | 0.00 | 1.00 | 0.00 | 48.38 | 132.59 | 0.34 | 2.38 | 1.00 | 0.02 |
| 48.46 | 136.00 | 0.37 | 2.32 | 1.00 | 0.02 | 48.52 | 139.45 | 0.39 | 2.25 | 1.00 | 0.02 |
| 48.60 | 142.96 | 0.42 | 2.19 | 1.00 | 0.02 | 48.64 | 139.33 | 0.39 | 2.26 | 1.00 | 0.01 |
| 48.71 | 126.44 | 0.31 | 2.51 | 1.00 | 0.02 | 48.77 | 132.19 | 0.34 | 2.39 | 1.00 | 0.02 |
| 48.90 | 145.04 | 0.44 | 2.16 | 1.00 | 0.03 | 48.95 | 151.22 | 0.52 | 2.06 | 1.00 | 0.01 |
| 48.96 | 146.02 | 0.45 | 2.14 | 1.00 | 0.00 | 49.02 | 168.60 | 0.87 | 1.03 | 1.00 | 0.01 |
| 49.08 | 186.58 | 1.82 | 0.08 | 1.00 | 0.00 | 49.16 | 193.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.22 | 193.20 | 2.00 | 0.00 | 1.00 | 0.00 | 49.33 | 187.00 | 1.86 | 0.06 | 1.00 | 0.00 |
| 49.36 | 182.82 | 1.53 | 0.23 | 1.00 | 0.00 | 49.46 | 170.44 | 0.93 | 0.90 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 49.51 | 164.49 | 0.76 | 1.36 | 1.00 | 0.01 | 49.55 | 160.49 | 0.67 | 1.70 | 1.00 | 0.01 |
| 49.62 | 149.94 | 0.50 | 2.08 | 1.00 | 0.02 | 49.69 | 143.36 | 0.43 | 2.18 | 1.00 | 0.02 |
| 49.81 | 143.82 | 0.43 | 2.18 | 1.00 | 0.03 | 49.86 | 146.27 | 0.46 | 2.14 | 1.00 | 0.01 |
| 49.90 | 149.89 | 0.50 | 2.08 | 1.00 | 0.01 | 49.94 | 151.07 | 0.52 | 2.06 | 1.00 | 0.01 |
| 50.01 | 93.37 | 2.00 | 0.00 | 1.00 | 0.00 | 50.08 | 87.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.17 | 78.12 | 2.00 | 0.00 | 1.00 | 0.00 | 50.21 | 72.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.30 | 63.35 | 2.00 | 0.00 | 1.00 | 0.00 | 50.35 | 56.57 | 2.00 | 0.00 | 1.00 | 0.00 |

**Total estimated settlement: 5.13**

**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 |

**:: 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.07 | 102.84 | 0.53 | 2.28 | 1.00 | 0.02 | 5.15 | 102.74 | 0.53 | 2.29 | 1.00 | 0.02 |
| 5.18 | 102.57 | 0.52 | 2.29 | 1.00 | 0.01 | 5.29 | 102.02 | 0.51 | 2.30 | 1.00 | 0.03 |
| 5.34 | 101.39 | 0.50 | 2.31 | 1.00 | 0.01 | 5.42 | 100.52 | 0.49 | 2.33 | 1.00 | 0.02 |
| 5.46 | 100.68 | 0.49 | 2.32 | 1.00 | 0.01 | 5.54 | 98.94 | 0.48 | 2.36 | 1.00 | 0.02 |
| 5.58 | 97.70 | 0.46 | 2.38 | 1.00 | 0.01 | 5.66 | 96.10 | 0.45 | 2.41 | 1.00 | 0.02 |
| 5.73 | 97.08 | 0.45 | 2.39 | 1.00 | 0.02 | 5.78 | 98.78 | 0.46 | 2.36 | 1.00 | 0.01 |
| 5.87 | 98.15 | 0.46 | 2.37 | 1.00 | 0.02 | 5.91 | 98.05 | 0.45 | 2.37 | 1.00 | 0.01 |
| 6.00 | 100.65 | 0.47 | 2.32 | 1.00 | 0.02 | 6.04 | 101.34 | 0.47 | 2.31 | 1.00 | 0.01 |
| 6.13 | 103.64 | 2.00 | 0.00 | 1.00 | 0.00 | 6.21 | 102.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.28 | 99.93 | 0.45 | 2.34 | 1.00 | 0.02 | 6.31 | 97.87 | 0.44 | 2.38 | 1.00 | 0.01 |
| 6.39 | 93.32 | 0.41 | 2.47 | 1.00 | 0.03 | 6.44 | 91.40 | 0.39 | 2.52 | 1.00 | 0.01 |
| 6.57 | 79.42 | 0.33 | 2.82 | 1.00 | 0.04 | 6.62 | 76.22 | 0.31 | 2.92 | 1.00 | 0.02 |
| 6.65 | 77.46 | 0.32 | 2.88 | 1.00 | 0.01 | 6.70 | 78.93 | 0.32 | 2.84 | 1.00 | 0.02 |
| 6.79 | 79.76 | 0.32 | 2.81 | 1.00 | 0.03 | 6.83 | 81.39 | 0.33 | 2.77 | 1.00 | 0.01 |
| 6.92 | 84.43 | 0.34 | 2.68 | 1.00 | 0.03 | 6.96 | 83.76 | 0.34 | 2.70 | 1.00 | 0.01 |
| 7.05 | 79.57 | 0.32 | 2.82 | 1.00 | 0.03 | 7.12 | 75.50 | 0.30 | 2.94 | 1.00 | 0.02 |
| 7.19 | 68.61 | 0.27 | 3.18 | 1.00 | 0.02 | 7.29 | 65.03 | 0.26 | 3.33 | 1.00 | 0.04 |
| 7.41 | 71.49 | 0.28 | 3.08 | 1.00 | 0.04 | 7.47 | 70.85 | 0.28 | 3.10 | 1.00 | 0.02 |
| 7.49 | 73.72 | 2.00 | 0.00 | 1.00 | 0.00 | 7.58 | 71.27 | 0.27 | 3.08 | 1.00 | 0.03 |
| 7.66 | 78.95 | 0.30 | 2.84 | 1.00 | 0.03 | 7.71 | 83.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.75 | 87.69 | 2.00 | 0.00 | 1.00 | 0.00 | 7.83 | 94.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.88 | 98.68 | 2.00 | 0.00 | 1.00 | 0.00 | 7.97 | 103.27 | 0.43 | 2.28 | 1.00 | 0.02 |
| 8.02 | 104.68 | 0.44 | 2.25 | 1.00 | 0.01 | 8.11 | 111.56 | 0.49 | 2.14 | 1.00 | 0.02 |
| 8.16 | 115.93 | 0.53 | 2.07 | 1.00 | 0.01 | 8.26 | 119.80 | 0.56 | 2.02 | 1.00 | 0.02 |
| 8.30 | 120.85 | 0.57 | 2.00 | 1.00 | 0.01 | 8.36 | 120.94 | 0.57 | 2.00 | 1.00 | 0.02 |
| 8.41 | 121.04 | 0.57 | 2.00 | 1.00 | 0.01 | 8.50 | 120.98 | 0.56 | 2.00 | 1.00 | 0.02 |
| 8.55 | 121.02 | 0.56 | 2.00 | 1.00 | 0.01 | 8.65 | 115.49 | 0.51 | 2.08 | 1.00 | 0.03 |
| 8.69 | 112.83 | 0.49 | 2.12 | 1.00 | 0.01 | 8.75 | 103.86 | 0.42 | 2.27 | 1.00 | 0.02 |
| 8.81 | 91.42 | 0.34 | 2.52 | 1.00 | 0.02 | 8.90 | 76.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.94 | 69.27 | 2.00 | 0.00 | 1.00 | 0.00 | 9.03 | 59.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.09 | 58.19 | 2.00 | 0.00 | 1.00 | 0.00 | 9.15 | 57.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.19 | 57.40 | 2.00 | 0.00 | 1.00 | 0.00 | 9.25 | 57.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.34 | 58.38 | 2.00 | 0.00 | 1.00 | 0.00 | 9.41 | 61.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.51 | 71.41 | 2.00 | 0.00 | 1.00 | 0.00 | 9.57 | 75.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.70 | 83.25 | 2.00 | 0.00 | 1.00 | 0.00 | 9.74 | 84.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.81 | 84.66 | 2.00 | 0.00 | 1.00 | 0.00 | 9.87 | 84.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.93 | 85.50 | 2.00 | 0.00 | 1.00 | 0.00 | 9.99 | 86.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.05 | 86.74 | 2.00 | 0.00 | 1.00 | 0.00 | 10.13 | 86.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.18 | 85.74 | 2.00 | 0.00 | 1.00 | 0.00 | 10.31 | 83.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.36 | 80.93 | 2.00 | 0.00 | 1.00 | 0.00 | 10.42 | 69.30 | 0.24 | 3.16 | 1.00 | 0.02 |
| 10.49 | 73.88 | 2.00 | 0.00 | 1.00 | 0.00 | 10.55 | 78.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.62 | 82.54 | 0.28 | 2.73 | 1.00 | 0.02 | 10.69 | 87.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.70 | 85.35 | 0.29 | 2.66 | 1.00 | 0.00 | 10.76 | 88.89 | 0.31 | 2.57 | 1.00 | 0.02 |
| 10.86 | 92.40 | 0.32 | 2.49 | 1.00 | 0.03 | 10.91 | 92.70 | 0.32 | 2.49 | 1.00 | 0.02 |
| 10.96 | 91.83 | 0.32 | 2.51 | 1.00 | 0.02 | 11.03 | 90.34 | 0.31 | 2.54 | 1.00 | 0.02 |
| 11.12 | 91.81 | 0.32 | 2.51 | 1.00 | 0.03 | 11.17 | 89.83 | 0.31 | 2.55 | 1.00 | 0.02 |
| 11.25 | 92.52 | 0.32 | 2.49 | 1.00 | 0.02 | 11.30 | 94.70 | 0.33 | 2.44 | 1.00 | 0.01 |
| 11.42 | 95.28 | 0.33 | 2.43 | 1.00 | 0.04 | 11.47 | 93.36 | 0.32 | 2.47 | 1.00 | 0.02 |

**:: 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.53 | 94.42 | 0.33 | 2.45 | 1.00 | 0.02 | 11.58 | 96.59 | 0.34 | 2.40 | 1.00 | 0.02 |
| 11.64 | 97.83 | 0.34 | 2.38 | 1.00 | 0.02 | 11.69 | 100.62 | 0.36 | 2.32 | 1.00 | 0.01 |
| 11.75 | 103.60 | 0.38 | 2.27 | 1.00 | 0.02 | 11.86 | 110.73 | 0.42 | 2.15 | 1.00 | 0.03 |
| 11.91 | 114.12 | 0.44 | 2.10 | 1.00 | 0.01 | 11.95 | 117.09 | 0.47 | 2.05 | 1.00 | 0.01 |
| 12.01 | 121.86 | 0.50 | 1.99 | 1.00 | 0.01 | 12.13 | 130.10 | 0.58 | 1.88 | 1.00 | 0.03 |
| 12.17 | 132.04 | 0.60 | 1.86 | 1.00 | 0.01 | 12.24 | 130.13 | 0.58 | 1.88 | 1.00 | 0.02 |
| 12.30 | 125.52 | 0.53 | 1.94 | 1.00 | 0.01 | 12.35 | 123.47 | 0.51 | 1.97 | 1.00 | 0.01 |
| 12.50 | 119.46 | 0.48 | 2.02 | 1.00 | 0.04 | 12.57 | 119.18 | 0.48 | 2.02 | 1.00 | 0.02 |
| 12.61 | 118.26 | 0.47 | 2.04 | 1.00 | 0.01 | 12.66 | 118.48 | 0.47 | 2.03 | 1.00 | 0.01 |
| 12.70 | 120.02 | 0.48 | 2.01 | 1.00 | 0.01 | 12.76 | 120.62 | 0.49 | 2.00 | 1.00 | 0.01 |
| 12.81 | 119.48 | 0.48 | 2.02 | 1.00 | 0.01 | 12.88 | 117.31 | 0.46 | 2.05 | 1.00 | 0.02 |
| 12.97 | 112.26 | 2.00 | 0.00 | 1.00 | 0.00 | 13.03 | 105.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.07 | 100.93 | 2.00 | 0.00 | 1.00 | 0.00 | 13.14 | 91.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.23 | 68.02 | 2.00 | 0.00 | 1.00 | 0.00 | 13.29 | 66.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.34 | 64.33 | 2.00 | 0.00 | 1.00 | 0.00 | 13.41 | 60.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.46 | 59.36 | 2.00 | 0.00 | 1.00 | 0.00 | 13.52 | 58.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.59 | 59.32 | 2.00 | 0.00 | 1.00 | 0.00 | 13.65 | 59.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.73 | 59.66 | 2.00 | 0.00 | 1.00 | 0.00 | 13.81 | 59.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.88 | 59.87 | 2.00 | 0.00 | 1.00 | 0.00 | 13.92 | 59.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.00 | 56.97 | 2.00 | 0.00 | 1.00 | 0.00 | 14.08 | 55.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.12 | 55.17 | 2.00 | 0.00 | 1.00 | 0.00 | 14.21 | 52.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.26 | 50.21 | 2.00 | 0.00 | 1.00 | 0.00 | 14.35 | 48.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.39 | 47.08 | 2.00 | 0.00 | 1.00 | 0.00 | 14.47 | 46.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.52 | 46.19 | 2.00 | 0.00 | 1.00 | 0.00 | 14.61 | 46.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.66 | 46.45 | 2.00 | 0.00 | 1.00 | 0.00 | 14.74 | 47.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.79 | 48.01 | 2.00 | 0.00 | 1.00 | 0.00 | 14.87 | 48.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.91 | 50.33 | 2.00 | 0.00 | 1.00 | 0.00 | 14.97 | 53.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.06 | 55.85 | 2.00 | 0.00 | 1.00 | 0.00 | 15.10 | 56.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.20 | 58.42 | 2.00 | 0.00 | 1.00 | 0.00 | 15.23 | 58.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.32 | 61.69 | 2.00 | 0.00 | 1.00 | 0.00 | 15.41 | 62.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.46 | 62.69 | 2.00 | 0.00 | 1.00 | 0.00 | 15.54 | 63.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.58 | 63.45 | 2.00 | 0.00 | 1.00 | 0.00 | 15.64 | 63.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.70 | 62.43 | 2.00 | 0.00 | 1.00 | 0.00 | 15.75 | 62.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.84 | 61.73 | 2.00 | 0.00 | 1.00 | 0.00 | 15.90 | 61.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.96 | 61.72 | 2.00 | 0.00 | 1.00 | 0.00 | 16.06 | 59.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.11 | 54.89 | 2.00 | 0.00 | 1.00 | 0.00 | 16.15 | 50.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.22 | 52.29 | 2.00 | 0.00 | 1.00 | 0.00 | 16.27 | 53.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.37 | 54.80 | 2.00 | 0.00 | 1.00 | 0.00 | 16.42 | 55.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.50 | 59.28 | 2.00 | 0.00 | 1.00 | 0.00 | 16.54 | 62.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.62 | 68.01 | 2.00 | 0.00 | 1.00 | 0.00 | 16.68 | 71.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.77 | 78.40 | 2.00 | 0.00 | 1.00 | 0.00 | 16.83 | 82.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.87 | 85.10 | 2.00 | 0.00 | 1.00 | 0.00 | 16.95 | 93.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.03 | 101.69 | 2.00 | 0.00 | 1.00 | 0.00 | 17.07 | 104.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.16 | 109.33 | 2.00 | 0.00 | 1.00 | 0.00 | 17.21 | 110.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.30 | 109.17 | 0.37 | 2.17 | 1.00 | 0.02 | 17.33 | 108.79 | 0.36 | 2.18 | 1.00 | 0.01 |
| 17.43 | 109.47 | 0.37 | 2.17 | 1.00 | 0.02 | 17.47 | 110.33 | 0.37 | 2.16 | 1.00 | 0.01 |
| 17.55 | 112.69 | 0.39 | 2.12 | 1.00 | 0.02 | 17.62 | 113.56 | 0.39 | 2.11 | 1.00 | 0.02 |
| 17.66 | 113.67 | 0.39 | 2.10 | 1.00 | 0.01 | 17.75 | 114.39 | 0.40 | 2.09 | 1.00 | 0.02 |

**:: 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.79 | 115.59 | 0.40 | 2.07 | 1.00 | 0.01 | 17.87 | 118.69 | 0.43 | 2.03 | 1.00 | 0.02 |
| 17.95 | 120.55 | 0.44 | 2.00 | 1.00 | 0.02 | 18.00 | 120.57 | 0.44 | 2.00 | 1.00 | 0.01 |
| 18.09 | 119.75 | 0.43 | 2.02 | 1.00 | 0.02 | 18.13 | 117.09 | 0.41 | 2.05 | 1.00 | 0.01 |
| 18.18 | 114.65 | 0.40 | 2.09 | 1.00 | 0.01 | 18.26 | 108.66 | 0.36 | 2.18 | 1.00 | 0.02 |
| 18.31 | 106.47 | 0.35 | 2.22 | 1.00 | 0.01 | 18.40 | 105.29 | 0.34 | 2.24 | 1.00 | 0.02 |
| 18.44 | 104.97 | 0.34 | 2.25 | 1.00 | 0.01 | 18.53 | 106.10 | 0.34 | 2.23 | 1.00 | 0.02 |
| 18.57 | 106.90 | 0.35 | 2.21 | 1.00 | 0.01 | 18.66 | 108.75 | 0.36 | 2.18 | 1.00 | 0.02 |
| 18.70 | 110.13 | 0.37 | 2.16 | 1.00 | 0.01 | 18.80 | 113.29 | 0.39 | 2.11 | 1.00 | 0.02 |
| 18.84 | 114.97 | 0.40 | 2.08 | 1.00 | 0.01 | 18.90 | 116.25 | 0.40 | 2.07 | 1.00 | 0.02 |
| 19.01 | 118.58 | 0.42 | 2.03 | 1.00 | 0.03 | 19.06 | 120.09 | 0.43 | 2.01 | 1.00 | 0.01 |
| 19.11 | 122.40 | 0.45 | 1.98 | 1.00 | 0.01 | 19.20 | 109.44 | 0.36 | 2.17 | 1.00 | 0.02 |
| 19.31 | 114.90 | 0.39 | 2.09 | 1.00 | 0.03 | 19.37 | 117.92 | 0.41 | 2.04 | 1.00 | 0.01 |
| 19.41 | 120.31 | 0.43 | 2.01 | 1.00 | 0.01 | 19.46 | 120.42 | 0.43 | 2.01 | 1.00 | 0.01 |
| 19.51 | 122.37 | 0.45 | 1.98 | 1.00 | 0.01 | 19.55 | 122.70 | 0.45 | 1.98 | 1.00 | 0.01 |
| 19.65 | 127.51 | 0.49 | 1.91 | 1.00 | 0.02 | 19.69 | 129.13 | 0.50 | 1.89 | 1.00 | 0.01 |
| 19.78 | 132.92 | 0.53 | 1.85 | 1.00 | 0.02 | 19.82 | 134.69 | 0.55 | 1.83 | 1.00 | 0.01 |
| 19.91 | 137.03 | 0.57 | 1.80 | 1.00 | 0.02 | 19.96 | 139.45 | 0.59 | 1.78 | 1.00 | 0.01 |
| 20.04 | 142.19 | 0.62 | 1.75 | 1.00 | 0.02 | 20.09 | 143.88 | 0.63 | 1.73 | 1.00 | 0.01 |
| 20.17 | 144.11 | 0.64 | 1.73 | 1.00 | 0.02 | 20.22 | 143.72 | 0.63 | 1.74 | 1.00 | 0.01 |
| 20.30 | 142.33 | 0.62 | 1.75 | 1.00 | 0.02 | 20.37 | 141.00 | 0.60 | 1.76 | 1.00 | 0.02 |
| 20.44 | 139.88 | 0.59 | 1.77 | 1.00 | 0.02 | 20.49 | 139.01 | 0.58 | 1.78 | 1.00 | 0.01 |
| 20.57 | 138.56 | 0.58 | 1.79 | 1.00 | 0.02 | 20.61 | 137.96 | 0.57 | 1.79 | 1.00 | 0.01 |
| 20.70 | 136.28 | 0.56 | 1.81 | 1.00 | 0.02 | 20.74 | 135.19 | 0.55 | 1.82 | 1.00 | 0.01 |
| 20.83 | 132.22 | 0.52 | 1.86 | 1.00 | 0.02 | 20.90 | 130.03 | 0.50 | 1.88 | 1.00 | 0.01 |
| 20.95 | 128.84 | 0.49 | 1.90 | 1.00 | 0.01 | 21.03 | 126.69 | 0.47 | 1.92 | 1.00 | 0.02 |
| 21.08 | 125.95 | 0.47 | 1.93 | 1.00 | 0.01 | 21.16 | 125.77 | 0.47 | 1.94 | 1.00 | 0.02 |
| 21.20 | 123.54 | 0.45 | 1.96 | 1.00 | 0.01 | 21.29 | 118.29 | 0.41 | 2.04 | 1.00 | 0.02 |
| 21.35 | 114.09 | 0.38 | 2.10 | 1.00 | 0.01 | 21.40 | 108.65 | 0.35 | 2.18 | 1.00 | 0.01 |
| 21.49 | 107.44 | 0.34 | 2.20 | 1.00 | 0.02 | 21.54 | 108.10 | 0.35 | 2.19 | 1.00 | 0.01 |
| 21.59 | 110.01 | 0.36 | 2.16 | 1.00 | 0.01 | 21.66 | 112.76 | 0.38 | 2.12 | 1.00 | 0.02 |
| 21.76 | 118.49 | 0.41 | 2.03 | 1.00 | 0.02 | 21.82 | 121.72 | 0.44 | 1.99 | 1.00 | 0.01 |
| 21.89 | 108.92 | 0.35 | 2.18 | 1.00 | 0.02 | 21.95 | 108.53 | 0.35 | 2.19 | 1.00 | 0.02 |
| 22.03 | 112.66 | 0.37 | 2.12 | 1.00 | 0.02 | 22.08 | 120.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.15 | 128.28 | 2.00 | 0.00 | 1.00 | 0.00 | 22.20 | 131.02 | 0.51 | 1.87 | 1.00 | 0.01 |
| 22.26 | 134.85 | 0.54 | 1.83 | 1.00 | 0.01 | 22.32 | 137.62 | 0.57 | 1.80 | 1.00 | 0.01 |
| 22.39 | 138.94 | 0.58 | 1.78 | 1.00 | 0.01 | 22.45 | 138.04 | 0.57 | 1.79 | 1.00 | 0.01 |
| 22.52 | 134.47 | 0.54 | 1.83 | 1.00 | 0.01 | 22.61 | 127.32 | 0.48 | 1.92 | 1.00 | 0.02 |
| 22.65 | 124.12 | 0.45 | 1.96 | 1.00 | 0.01 | 22.74 | 118.10 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.79 | 114.37 | 2.00 | 0.00 | 1.00 | 0.00 | 22.88 | 108.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.92 | 106.14 | 2.00 | 0.00 | 1.00 | 0.00 | 23.02 | 98.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.08 | 95.23 | 2.00 | 0.00 | 1.00 | 0.00 | 23.13 | 93.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.19 | 94.15 | 2.00 | 0.00 | 1.00 | 0.00 | 23.24 | 95.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.31 | 102.27 | 2.00 | 0.00 | 1.00 | 0.00 | 23.36 | 105.79 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.46 | 108.88 | 2.00 | 0.00 | 1.00 | 0.00 | 23.58 | 117.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.63 | 120.53 | 2.00 | 0.00 | 1.00 | 0.00 | 23.71 | 124.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.77 | 127.37 | 2.00 | 0.00 | 1.00 | 0.00 | 23.85 | 130.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.90 | 129.86 | 0.49 | 1.89 | 1.00 | 0.01 | 24.02 | 129.89 | 0.49 | 1.89 | 1.00 | 0.03 |
| 24.10 | 127.00 | 0.47 | 1.92 | 1.00 | 0.02 | 24.15 | 123.19 | 0.44 | 1.97 | 1.00 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24.21 | 115.68 | 0.39 | 2.07 | 1.00 | 0.02 | 24.28 | 108.11 | 0.34 | 2.19 | 1.00 | 0.02 |
| 24.35 | 107.89 | 0.34 | 2.20 | 1.00 | 0.02 | 24.42 | 85.10 | 0.24 | 2.67 | 1.00 | 0.02 |
| 24.54 | 97.67 | 0.29 | 2.38 | 1.00 | 0.04 | 24.59 | 99.49 | 0.30 | 2.35 | 1.00 | 0.02 |
| 24.66 | 101.53 | 0.31 | 2.31 | 1.00 | 0.02 | 24.70 | 102.37 | 0.31 | 2.29 | 1.00 | 0.01 |
| 24.75 | 103.51 | 0.32 | 2.27 | 1.00 | 0.01 | 24.84 | 105.69 | 0.33 | 2.23 | 1.00 | 0.02 |
| 24.88 | 107.12 | 0.34 | 2.21 | 1.00 | 0.01 | 24.97 | 109.89 | 0.35 | 2.16 | 1.00 | 0.02 |
| 25.01 | 111.32 | 0.36 | 2.14 | 1.00 | 0.01 | 25.10 | 111.52 | 0.36 | 2.14 | 1.00 | 0.02 |
| 25.15 | 111.01 | 0.36 | 2.14 | 1.00 | 0.01 | 25.21 | 109.59 | 0.35 | 2.17 | 1.00 | 0.01 |
| 25.27 | 107.68 | 0.34 | 2.20 | 1.00 | 0.02 | 25.36 | 103.82 | 0.32 | 2.27 | 1.00 | 0.03 |
| 25.40 | 101.67 | 0.31 | 2.31 | 1.00 | 0.01 | 25.49 | 98.62 | 0.29 | 2.36 | 1.00 | 0.03 |
| 25.54 | 97.84 | 0.29 | 2.38 | 1.00 | 0.01 | 25.64 | 99.92 | 0.30 | 2.34 | 1.00 | 0.03 |
| 25.70 | 100.49 | 2.00 | 0.00 | 1.00 | 0.00 | 25.76 | 100.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.81 | 96.70 | 2.00 | 0.00 | 1.00 | 0.00 | 25.87 | 92.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.94 | 88.56 | 2.00 | 0.00 | 1.00 | 0.00 | 25.99 | 84.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.11 | 69.55 | 2.00 | 0.00 | 1.00 | 0.00 | 26.14 | 66.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.21 | 60.86 | 2.00 | 0.00 | 1.00 | 0.00 | 26.26 | 57.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.37 | 57.07 | 2.00 | 0.00 | 1.00 | 0.00 | 26.42 | 57.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.47 | 57.34 | 2.00 | 0.00 | 1.00 | 0.00 | 26.55 | 57.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.60 | 58.14 | 2.00 | 0.00 | 1.00 | 0.00 | 26.67 | 58.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.73 | 58.44 | 2.00 | 0.00 | 1.00 | 0.00 | 26.80 | 57.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.86 | 57.12 | 2.00 | 0.00 | 1.00 | 0.00 | 26.91 | 56.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.99 | 55.16 | 2.00 | 0.00 | 1.00 | 0.00 | 27.04 | 51.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.12 | 47.89 | 2.00 | 0.00 | 1.00 | 0.00 | 27.17 | 49.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.25 | 52.63 | 2.00 | 0.00 | 1.00 | 0.00 | 27.30 | 53.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.36 | 53.95 | 2.00 | 0.00 | 1.00 | 0.00 | 27.44 | 55.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.55 | 56.83 | 2.00 | 0.00 | 1.00 | 0.00 | 27.58 | 57.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.64 | 57.55 | 2.00 | 0.00 | 1.00 | 0.00 | 27.73 | 60.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.78 | 62.44 | 2.00 | 0.00 | 1.00 | 0.00 | 27.82 | 62.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.97 | 61.25 | 2.00 | 0.00 | 1.00 | 0.00 | 28.01 | 59.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.06 | 58.00 | 2.00 | 0.00 | 1.00 | 0.00 | 28.15 | 54.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.20 | 54.61 | 2.00 | 0.00 | 1.00 | 0.00 | 28.29 | 55.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.35 | 55.38 | 2.00 | 0.00 | 1.00 | 0.00 | 28.41 | 56.43 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.45 | 57.51 | 2.00 | 0.00 | 1.00 | 0.00 | 28.50 | 58.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.59 | 61.91 | 2.00 | 0.00 | 1.00 | 0.00 | 28.63 | 63.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.72 | 67.40 | 2.00 | 0.00 | 1.00 | 0.00 | 28.77 | 70.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.83 | 72.78 | 2.00 | 0.00 | 1.00 | 0.00 | 28.89 | 75.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.00 | 76.32 | 2.00 | 0.00 | 1.00 | 0.00 | 29.06 | 76.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.11 | 77.01 | 2.00 | 0.00 | 1.00 | 0.00 | 29.16 | 78.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.24 | 81.02 | 2.00 | 0.00 | 1.00 | 0.00 | 29.29 | 84.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.34 | 88.69 | 2.00 | 0.00 | 1.00 | 0.00 | 29.40 | 93.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.47 | 94.01 | 2.00 | 0.00 | 1.00 | 0.00 | 29.59 | 83.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.64 | 74.95 | 2.00 | 0.00 | 1.00 | 0.00 | 29.70 | 67.10 | 0.18 | 3.24 | 1.00 | 0.02 |
| 29.74 | 68.15 | 0.19 | 3.20 | 1.00 | 0.01 | 29.82 | 71.23 | 0.19 | 3.09 | 1.00 | 0.03 |
| 29.87 | 73.13 | 0.20 | 3.02 | 1.00 | 0.02 | 29.95 | 69.82 | 0.19 | 3.14 | 1.00 | 0.03 |
| 30.05 | 65.43 | 0.18 | 3.31 | 1.00 | 0.04 | 30.18 | 81.40 | 0.22 | 2.77 | 1.00 | 0.04 |
| 30.26 | 85.23 | 2.00 | 0.00 | 1.00 | 0.00 | 30.30 | 87.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.32 | 88.23 | 2.00 | 0.00 | 1.00 | 0.00 | 30.34 | 87.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.40 | 85.98 | 2.00 | 0.00 | 1.00 | 0.00 | 30.47 | 83.22 | 2.00 | 0.00 | 1.00 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30.52 | 81.72 | 2.00 | 0.00 | 1.00 | 0.00 | 30.60 | 78.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.66 | 75.96 | 2.00 | 0.00 | 1.00 | 0.00 | 30.73 | 72.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.82 | 72.28 | 2.00 | 0.00 | 1.00 | 0.00 | 30.87 | 69.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.92 | 68.45 | 2.00 | 0.00 | 1.00 | 0.00 | 31.04 | 68.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.09 | 69.09 | 2.00 | 0.00 | 1.00 | 0.00 | 31.17 | 68.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.22 | 68.90 | 2.00 | 0.00 | 1.00 | 0.00 | 31.29 | 68.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.35 | 68.24 | 2.00 | 0.00 | 1.00 | 0.00 | 31.40 | 68.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.48 | 68.60 | 2.00 | 0.00 | 1.00 | 0.00 | 31.53 | 68.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.58 | 68.82 | 2.00 | 0.00 | 1.00 | 0.00 | 31.74 | 72.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.80 | 74.24 | 2.00 | 0.00 | 1.00 | 0.00 | 31.86 | 74.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.92 | 75.07 | 2.00 | 0.00 | 1.00 | 0.00 | 31.98 | 74.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.04 | 75.64 | 2.00 | 0.00 | 1.00 | 0.00 | 32.10 | 77.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.16 | 80.17 | 2.00 | 0.00 | 1.00 | 0.00 | 32.23 | 82.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.29 | 87.56 | 2.00 | 0.00 | 1.00 | 0.00 | 32.36 | 93.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.42 | 95.65 | 2.00 | 0.00 | 1.00 | 0.00 | 32.49 | 97.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.62 | 100.23 | 2.00 | 0.00 | 1.00 | 0.00 | 32.68 | 101.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.74 | 101.45 | 2.00 | 0.00 | 1.00 | 0.00 | 32.81 | 99.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.87 | 98.90 | 2.00 | 0.00 | 1.00 | 0.00 | 32.93 | 99.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.98 | 102.43 | 2.00 | 0.00 | 1.00 | 0.00 | 33.05 | 107.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.12 | 92.80 | 2.00 | 0.00 | 1.00 | 0.00 | 33.19 | 87.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.25 | 93.52 | 2.00 | 0.00 | 1.00 | 0.00 | 33.30 | 98.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.38 | 104.33 | 2.00 | 0.00 | 1.00 | 0.00 | 33.43 | 107.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.50 | 113.35 | 2.00 | 0.00 | 1.00 | 0.00 | 33.55 | 116.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.61 | 120.58 | 2.00 | 0.00 | 1.00 | 0.00 | 33.68 | 122.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.75 | 122.66 | 2.00 | 0.00 | 1.00 | 0.00 | 33.81 | 123.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.89 | 119.61 | 2.00 | 0.00 | 1.00 | 0.00 | 33.94 | 116.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.07 | 130.81 | 2.00 | 0.00 | 1.00 | 0.00 | 34.12 | 131.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.18 | 131.52 | 2.00 | 0.00 | 1.00 | 0.00 | 34.29 | 127.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.38 | 123.06 | 2.00 | 0.00 | 1.00 | 0.00 | 34.43 | 122.15 | 0.43 | 1.98 | 1.00 | 0.01 |
| 34.55 | 132.39 | 0.51 | 1.86 | 1.00 | 0.03 | 34.61 | 138.39 | 0.56 | 1.79 | 1.00 | 0.01 |
| 34.69 | 147.55 | 2.00 | 0.00 | 1.00 | 0.00 | 34.75 | 153.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.82 | 157.42 | 2.00 | 0.00 | 1.00 | 0.00 | 34.88 | 156.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.95 | 148.25 | 2.00 | 0.00 | 1.00 | 0.00 | 35.07 | 136.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.14 | 138.40 | 2.00 | 0.00 | 1.00 | 0.00 | 35.20 | 142.52 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.26 | 142.51 | 2.00 | 0.00 | 1.00 | 0.00 | 35.33 | 143.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.39 | 142.29 | 2.00 | 0.00 | 1.00 | 0.00 | 35.46 | 140.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.53 | 138.90 | 0.57 | 1.78 | 1.00 | 0.01 | 35.57 | 137.07 | 0.55 | 1.80 | 1.00 | 0.01 |
| 35.64 | 136.13 | 0.54 | 1.81 | 1.00 | 0.02 | 35.70 | 133.71 | 0.52 | 1.84 | 1.00 | 0.01 |
| 35.77 | 130.90 | 0.50 | 1.87 | 1.00 | 0.02 | 35.83 | 130.07 | 0.49 | 1.88 | 1.00 | 0.01 |
| 35.89 | 124.26 | 0.45 | 1.96 | 1.00 | 0.01 | 35.97 | 125.14 | 0.45 | 1.94 | 1.00 | 0.02 |
| 36.01 | 126.86 | 0.47 | 1.92 | 1.00 | 0.01 | 36.14 | 129.27 | 0.49 | 1.89 | 1.00 | 0.03 |
| 36.19 | 125.48 | 0.46 | 1.94 | 1.00 | 0.01 | 36.23 | 125.30 | 0.45 | 1.94 | 1.00 | 0.01 |
| 36.30 | 125.80 | 0.46 | 1.94 | 1.00 | 0.02 | 36.36 | 126.62 | 0.46 | 1.93 | 1.00 | 0.01 |
| 36.45 | 127.54 | 0.47 | 1.91 | 1.00 | 0.02 | 36.50 | 131.76 | 0.51 | 1.86 | 1.00 | 0.01 |
| 36.62 | 135.38 | 0.54 | 1.82 | 1.00 | 0.03 | 36.67 | 137.81 | 0.56 | 1.80 | 1.00 | 0.01 |
| 36.72 | 139.74 | 0.58 | 1.78 | 1.00 | 0.01 | 36.80 | 141.29 | 0.59 | 1.76 | 1.00 | 0.02 |
| 36.84 | 143.84 | 0.62 | 1.73 | 1.00 | 0.01 | 36.91 | 146.47 | 0.64 | 1.71 | 1.00 | 0.01 |
| 36.97 | 151.14 | 0.69 | 1.37 | 1.00 | 0.01 | 37.02 | 156.93 | 0.76 | 1.05 | 1.00 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 37.10 | 163.26 | 0.84 | 0.99 | 1.00 | 0.01 | 37.15 | 168.09 | 0.90 | 0.73 | 1.00 | 0.00 |
| 37.24 | 175.16 | 1.00 | 0.52 | 1.00 | 0.01 | 37.29 | 180.48 | 1.08 | 0.38 | 1.00 | 0.00 |
| 37.39 | 197.94 | 1.39 | 0.00 | 1.00 | 0.00 | 37.46 | 208.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.51 | 217.35 | 2.00 | 0.00 | 1.00 | 0.00 | 37.55 | 223.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.65 | 230.55 | 2.00 | 0.00 | 1.00 | 0.00 | 37.68 | 232.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.76 | 231.90 | 2.00 | 0.00 | 1.00 | 0.00 | 37.81 | 231.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.90 | 228.15 | 2.00 | 0.00 | 1.00 | 0.00 | 37.95 | 227.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.03 | 226.41 | 2.00 | 0.00 | 1.00 | 0.00 | 38.10 | 222.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.17 | 215.61 | 2.00 | 0.00 | 1.00 | 0.00 | 38.24 | 207.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.30 | 195.94 | 1.35 | 0.00 | 1.00 | 0.00 | 38.38 | 183.31 | 1.13 | 0.37 | 1.00 | 0.00 |
| 38.43 | 170.43 | 0.94 | 0.71 | 1.00 | 0.00 | 38.52 | 157.15 | 0.76 | 1.05 | 1.00 | 0.01 |
| 38.57 | 148.25 | 0.66 | 1.41 | 1.00 | 0.01 | 38.66 | 139.23 | 0.57 | 1.78 | 1.00 | 0.02 |
| 38.71 | 119.35 | 0.41 | 2.02 | 1.00 | 0.01 | 38.78 | 109.55 | 0.35 | 2.17 | 1.00 | 0.02 |
| 38.85 | 104.71 | 0.32 | 2.25 | 1.00 | 0.02 | 38.92 | 100.73 | 0.30 | 2.32 | 1.00 | 0.02 |
| 39.01 | 98.41 | 0.29 | 2.37 | 1.00 | 0.03 | 39.02 | 100.28 | 0.30 | 2.33 | 1.00 | 0.01 |
| 39.04 | 99.19 | 0.30 | 2.35 | 1.00 | 0.01 | 39.13 | 103.22 | 0.32 | 2.28 | 1.00 | 0.02 |
| 39.18 | 108.43 | 2.00 | 0.00 | 1.00 | 0.00 | 39.28 | 115.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.34 | 116.38 | 2.00 | 0.00 | 1.00 | 0.00 | 39.39 | 116.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.45 | 115.54 | 2.00 | 0.00 | 1.00 | 0.00 | 39.54 | 116.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.59 | 117.58 | 2.00 | 0.00 | 1.00 | 0.00 | 39.66 | 122.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.71 | 123.99 | 2.00 | 0.00 | 1.00 | 0.00 | 39.81 | 127.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.92 | 130.39 | 2.00 | 0.00 | 1.00 | 0.00 | 39.97 | 130.76 | 0.50 | 1.88 | 1.00 | 0.01 |
| 40.02 | 132.74 | 0.52 | 1.85 | 1.00 | 0.01 | 40.10 | 134.92 | 0.54 | 1.83 | 1.00 | 0.02 |
| 40.15 | 136.72 | 0.55 | 1.81 | 1.00 | 0.01 | 40.25 | 152.31 | 0.71 | 1.35 | 1.00 | 0.02 |
| 40.32 | 159.47 | 0.80 | 1.03 | 1.00 | 0.01 | 40.37 | 167.88 | 0.91 | 0.73 | 1.00 | 0.00 |
| 40.44 | 175.13 | 1.01 | 0.52 | 1.00 | 0.00 | 40.50 | 180.18 | 1.09 | 0.38 | 1.00 | 0.00 |
| 40.54 | 185.50 | 1.18 | 0.26 | 1.00 | 0.00 | 40.67 | 195.94 | 1.36 | 0.00 | 1.00 | 0.00 |
| 40.72 | 198.33 | 1.41 | 0.00 | 1.00 | 0.00 | 40.77 | 199.85 | 1.44 | 0.00 | 1.00 | 0.00 |
| 40.90 | 198.33 | 1.41 | 0.00 | 1.00 | 0.00 | 40.94 | 198.18 | 1.40 | 0.00 | 1.00 | 0.00 |
| 41.01 | 196.46 | 1.37 | 0.00 | 1.00 | 0.00 | 41.07 | 194.54 | 1.34 | 0.18 | 1.00 | 0.00 |
| 41.25 | 199.18 | 1.43 | 0.00 | 1.00 | 0.00 | 41.38 | 197.41 | 1.39 | 0.00 | 1.00 | 0.00 |
| 41.45 | 195.32 | 1.35 | 0.00 | 1.00 | 0.00 | 41.52 | 195.27 | 1.35 | 0.00 | 1.00 | 0.00 |
| 41.57 | 194.55 | 1.34 | 0.18 | 1.00 | 0.00 | 41.64 | 192.42 | 1.30 | 0.18 | 1.00 | 0.00 |
| 41.70 | 193.64 | 1.32 | 0.18 | 1.00 | 0.00 | 41.77 | 191.63 | 1.29 | 0.18 | 1.00 | 0.00 |
| 41.83 | 187.91 | 1.22 | 0.26 | 1.00 | 0.00 | 41.88 | 177.84 | 1.06 | 0.38 | 1.00 | 0.00 |
| 41.89 | 167.91 | 0.91 | 0.73 | 1.00 | 0.00 | 41.95 | 173.38 | 0.99 | 0.53 | 1.00 | 0.00 |
| 42.00 | 170.68 | 0.95 | 0.54 | 1.00 | 0.00 | 42.09 | 166.07 | 0.89 | 0.74 | 1.00 | 0.01 |
| 42.13 | 163.52 | 0.86 | 0.76 | 1.00 | 0.00 | 42.21 | 155.61 | 0.76 | 1.07 | 1.00 | 0.01 |
| 42.26 | 152.40 | 0.72 | 1.35 | 1.00 | 0.01 | 42.35 | 147.38 | 0.66 | 1.42 | 1.00 | 0.02 |
| 42.46 | 145.87 | 0.65 | 1.71 | 1.00 | 0.02 | 42.52 | 147.34 | 0.66 | 1.42 | 1.00 | 0.01 |
| 42.57 | 147.55 | 0.67 | 1.42 | 1.00 | 0.01 | 42.61 | 146.53 | 0.66 | 1.43 | 1.00 | 0.01 |
| 42.66 | 144.13 | 0.63 | 1.73 | 1.00 | 0.01 | 42.75 | 140.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.80 | 139.72 | 2.00 | 0.00 | 1.00 | 0.00 | 42.90 | 140.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.01 | 139.22 | 2.00 | 0.00 | 1.00 | 0.00 | 43.06 | 133.01 | 0.53 | 1.85 | 1.00 | 0.01 |
| 43.10 | 127.16 | 0.48 | 1.92 | 1.00 | 0.01 | 43.15 | 126.62 | 0.47 | 1.93 | 1.00 | 0.01 |
| 43.25 | 131.88 | 0.52 | 1.86 | 1.00 | 0.02 | 43.32 | 134.01 | 0.54 | 1.84 | 1.00 | 0.01 |
| 43.36 | 136.61 | 0.56 | 1.81 | 1.00 | 0.01 | 43.41 | 139.13 | 0.58 | 1.78 | 1.00 | 0.01 |
| 43.47 | 142.44 | 0.62 | 1.75 | 1.00 | 0.01 | 43.51 | 144.68 | 0.64 | 1.73 | 1.00 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43.68 | 147.78 | 0.67 | 1.41 | 1.00 | 0.03 | 43.72 | 147.47 | 0.67 | 1.42 | 1.00 | 0.01 |
| 43.78 | 147.16 | 0.67 | 1.42 | 1.00 | 0.01 | 43.81 | 146.71 | 0.66 | 1.43 | 1.00 | 0.01 |
| 43.89 | 147.07 | 0.67 | 1.42 | 1.00 | 0.01 | 43.94 | 147.69 | 0.67 | 1.41 | 1.00 | 0.01 |
| 43.98 | 148.20 | 0.68 | 1.41 | 1.00 | 0.01 | 44.04 | 149.27 | 0.69 | 1.39 | 1.00 | 0.01 |
| 44.11 | 151.06 | 0.71 | 1.37 | 1.00 | 0.01 | 44.20 | 155.87 | 0.77 | 1.06 | 1.00 | 0.01 |
| 44.25 | 160.06 | 0.82 | 1.02 | 1.00 | 0.01 | 44.31 | 165.37 | 0.89 | 0.74 | 1.00 | 0.00 |
| 44.38 | 173.27 | 1.00 | 0.53 | 1.00 | 0.00 | 44.43 | 182.60 | 1.15 | 0.37 | 1.00 | 0.00 |
| 44.51 | 192.18 | 1.32 | 0.18 | 1.00 | 0.00 | 44.56 | 196.62 | 1.40 | 0.00 | 1.00 | 0.00 |
| 44.64 | 194.42 | 1.36 | 0.00 | 1.00 | 0.00 | 44.69 | 194.39 | 1.36 | 0.00 | 1.00 | 0.00 |
| 44.77 | 192.48 | 1.33 | 0.18 | 1.00 | 0.00 | 44.86 | 188.80 | 1.26 | 0.18 | 1.00 | 0.00 |
| 44.90 | 187.32 | 1.23 | 0.26 | 1.00 | 0.00 | 44.95 | 186.08 | 1.21 | 0.26 | 1.00 | 0.00 |
| 45.03 | 183.01 | 1.16 | 0.27 | 1.00 | 0.00 | 45.12 | 174.32 | 1.02 | 0.53 | 1.00 | 0.01 |
| 45.17 | 163.01 | 0.86 | 0.76 | 1.00 | 0.00 | 45.23 | 152.05 | 0.73 | 1.36 | 1.00 | 0.01 |
| 45.35 | 138.86 | 0.59 | 1.79 | 1.00 | 0.02 | 45.43 | 134.08 | 0.54 | 1.84 | 1.00 | 0.02 |
| 45.49 | 131.61 | 0.52 | 1.87 | 1.00 | 0.01 | 45.56 | 137.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.61 | 140.07 | 2.00 | 0.00 | 1.00 | 0.00 | 45.69 | 135.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.74 | 137.30 | 2.00 | 0.00 | 1.00 | 0.00 | 45.87 | 142.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.93 | 142.53 | 2.00 | 0.00 | 1.00 | 0.00 | 46.05 | 143.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.18 | 145.67 | 2.00 | 0.00 | 1.00 | 0.00 | 46.23 | 146.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.31 | 148.60 | 2.00 | 0.00 | 1.00 | 0.00 | 46.37 | 150.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.49 | 156.18 | 2.00 | 0.00 | 1.00 | 0.00 | 46.58 | 162.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.62 | 166.29 | 2.00 | 0.00 | 1.00 | 0.00 | 46.68 | 170.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.76 | 179.42 | 2.00 | 0.00 | 1.00 | 0.00 | 46.81 | 159.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.89 | 138.18 | 0.59 | 1.79 | 1.00 | 0.02 | 46.94 | 143.37 | 0.64 | 1.74 | 1.00 | 0.01 |
| 47.02 | 148.52 | 0.70 | 1.40 | 1.00 | 0.01 | 47.08 | 151.79 | 0.73 | 1.36 | 1.00 | 0.01 |
| 47.12 | 153.96 | 0.76 | 1.08 | 1.00 | 0.00 | 47.21 | 161.21 | 0.85 | 0.77 | 1.00 | 0.01 |
| 47.25 | 162.90 | 0.87 | 0.76 | 1.00 | 0.00 | 47.32 | 164.79 | 0.90 | 0.75 | 1.00 | 0.01 |
| 47.39 | 164.72 | 0.90 | 0.75 | 1.00 | 0.01 | 47.46 | 164.02 | 0.89 | 0.75 | 1.00 | 0.01 |
| 47.53 | 165.05 | 0.91 | 0.75 | 1.00 | 0.01 | 47.61 | 164.34 | 0.90 | 0.75 | 1.00 | 0.01 |
| 47.66 | 162.95 | 0.88 | 0.76 | 1.00 | 0.00 | 47.75 | 156.22 | 0.79 | 1.06 | 1.00 | 0.01 |
| 47.78 | 153.15 | 0.75 | 1.09 | 1.00 | 0.00 | 47.88 | 148.06 | 0.70 | 1.41 | 1.00 | 0.02 |
| 47.92 | 145.36 | 0.67 | 1.45 | 1.00 | 0.01 | 47.97 | 140.65 | 0.62 | 1.77 | 1.00 | 0.01 |
| 48.05 | 133.32 | 0.55 | 1.85 | 1.00 | 0.02 | 48.11 | 122.41 | 0.46 | 1.98 | 1.00 | 0.01 |
| 48.19 | 122.84 | 0.46 | 1.97 | 1.00 | 0.02 | 48.24 | 122.75 | 0.46 | 1.98 | 1.00 | 0.01 |
| 48.32 | 120.87 | 0.45 | 2.00 | 1.00 | 0.02 | 48.36 | 119.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.45 | 119.83 | 2.00 | 0.00 | 1.00 | 0.00 | 48.53 | 120.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.58 | 126.64 | 2.00 | 0.00 | 1.00 | 0.00 | 48.71 | 139.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.76 | 142.56 | 2.00 | 0.00 | 1.00 | 0.00 | 48.80 | 145.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.85 | 147.84 | 2.00 | 0.00 | 1.00 | 0.00 | 48.89 | 149.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.96 | 150.80 | 2.00 | 0.00 | 1.00 | 0.00 | 49.05 | 151.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.08 | 150.69 | 2.00 | 0.00 | 1.00 | 0.00 | 49.16 | 147.72 | 0.70 | 1.41 | 1.00 | 0.01 |
| 49.24 | 141.61 | 0.63 | 1.76 | 1.00 | 0.02 | 49.28 | 138.75 | 0.61 | 1.79 | 1.00 | 0.01 |
| 49.38 | 135.50 | 0.57 | 1.82 | 1.00 | 0.02 | 49.42 | 135.08 | 0.57 | 1.83 | 1.00 | 0.01 |
| 49.49 | 135.78 | 0.58 | 1.82 | 1.00 | 0.02 | 49.57 | 141.25 | 0.63 | 1.76 | 1.00 | 0.02 |
| 49.62 | 144.41 | 0.67 | 1.46 | 1.00 | 0.01 | 49.69 | 150.21 | 0.73 | 1.38 | 1.00 | 0.01 |
| 49.77 | -1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 49.82 | -1.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.90 | -1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 49.95 | -1.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.00 | -1.00 | 2.00 | 0.00 | 1.00 | 0.00 | 50.10 | -1.00 | 2.00 | 0.00 | 1.00 | 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Total estimated settlement: 5.08**

**Abbreviations**

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

**APPENDIX E**

REFERENCE NO. 3 EXCERPTS

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

**BORING NO. B-8**

JOB NO.: 21G201-2
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 8/3/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 7 feet
CAVE DEPTH: 9 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 3± inches Asphaltic concrete; 4± inches Aggregate base | | | | | | | |
| | | 11 | | | FILL: Gray Brown Silty fine Sand, mottled, loose-damp to moist | 109 | 10 | | | | | |
| | | 23 | | | | 112 | 7 | | | | | |
| 5 | | 13 | | | ALLUVIUM: Light Gray fine Sand, trace medium to coarse Sand, loose to medium dense-damp | 99 | 2 | | | | | |
| | | 26 | | | | 92 | 9 | | | | | |
| | | 16 | | | | 96 | 25 | | | | | |
| 10 | | | | | Gray Silty Clay, stiff-wet | | | | | | | |
| | | | | | Gray Brown Silty fine Sand, loose-wet | | | | | | | |
| | | 8 | | | | 97 | 24 | | | | | |
| 15 | | | | | Dark Gray Brown Silty Clay, trace Iron oxide staining, medium stiff-wet | | | | | | | |
| | | | | | Gray Brown fine Sandy Silt, trace Clay, little Iron oxide staining, medium dense-wet | | | | | | | |
| | | 17 | 1.5 | | | 98 | 29 | | | | | |
| 20 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | 12 | 2.5 | | | 100 | 24 | | | | | |
| 25 | | | | | | | | | | | | |
| | | | | | Gray fine Sandy Silt, little to some Clay, loose-wet | | | | | | | |
| | | 6 | 1.5 | | | 103 | 22 | | | | | |
| 30 | | | | | Boring Terminated @ 30' | | | | | | | |

TBL 21G201-2.GPJ SOCALGEO.GDT 10/5/21

**TEST BORING LOG**

**PLATE B-4**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-9

JOB NO.: 21G201-2
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 8/3/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 7 feet
CAVE DEPTH: 9 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 4± inches Asphaltic concrete; 5± inches Aggregate base | | | | | | | |
| | | 7 | | | FILL: Gray Brown Silty fine Sand, loose-moist | | 9 | | | | | |
| | | 12 | | | FILL: Gray Brown to Light Gray Brown fine Sand, mottled, medium dense-damp | | 4 | | | | | |
| 5 | | 7 | | | ALLUVIUM: Light Gray fine Sand, trace medium Sand, loose-wet | | 30 | | | | | |
| | | 9 | 1.0 | | Gray Brown fine Sandy Silt, little to some Clay, trace Calcareous nodules, loose-wet | | 32 | | | | | |
| 10 | | | | | | | | | | | | |
| | | 4 | 1.5 | | Gray Brown Silty Clay, little Calcareous nodules, trace Iron oxide staining, soft to medium stiff-wet | | 36 | | | | | |
| 15 | | | | | | | | | | | | |
| | | 15 | | | Gray Brown Silty fine Sand, trace medium to coarse Sand, medium dense-wet | | 27 | | | | | |
| 20 | | | | | Boring Terminated @ 20' | | | | | | | |

TBL 21G201-2.GPJ SOCALGEO.GDT 10/5/21

TEST BORING LOG

PLATE B-5

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-10

JOB NO.: 21G201-2
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 8/3/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 8.5 feet
CAVE DEPTH: 26 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 3± inches Asphaltic concrete; 5± inches Aggregate base | | | | | | | |
| | | 7 | | | FILL: Gray Brown Silty fine Sand, mottled, loose-moist | | 18 | | | | | |
| | | | 4.0 | | FILL: Dark Gray Clayey fine Sand, mottled, loose-moist | | 14 | | | | | |
| | | 6 | | | FILL: Gray Brown Silty fine Sand, slightly mottled, loose-damp | | 9 | | | | | |
| 5 | | | | | | | | | | | | |
| | | 18 | | | ALLUVIUM: Gray Brown fine Sand, trace Silt, 2-inch fine Sand lense, medium dense-damp | | 7 | | | | | |
| | | 11 | | | Gray Brown Silty fine Sand, trace Iron oxide staining, medium dense-wet | | 25 | | | | | |
| 10 | | | | | | | | | | | | |
| | | | | | Gray fine Sand, little Silt, very loose to loose-wet | | | | | | | |
| | | 4 | | | | | 26 | | | | | |
| 15 | | | | | | | | | | | | |
| | | | | | Gray Brown fine Sandy Silt, little Clay, loose-wet | | | | | | | |
| | | 8 | 2.0 | | | | 27 | | | | | |
| 20 | | | | | | | | | | | | |
| | | | | | Gray to Gray Brown Interbedded fine Sand and Silty fine Sand, loose-wet | | | | | | | |
| | | 8 | | | | | 27 | | | | | |
| 25 | | | | | | | | | | | | |
| | | | | | Dark Gray Silty Clay, trace Calcareous nodules, stiff-wet | | | | | | | |
| | | 10 | 2.0 | | | | 26 | | | | | |
| 30 | | | | | | | | | | | | |
| | | | | | Boring Terminated @ 30' | | | | | | | |

TBL 21G201-2.GPJ SOCALGEO.GDT 10/5/21

TEST BORING LOG

PLATE B-6

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-11

JOB NO.: 21G201-2
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 8/3/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 7 feet
CAVE DEPTH: 14 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 4± inches Asphaltic concrete; 5± inches Aggregate base | | | | | | | |
| | | 22 | | | FILL: Gray Brown Silty fine Sand, mottled, medium dense-moist | 116 | 12 | | | | | |
| | | 22 | | | | 108 | 13 | | | | | |
| 5 | | 28 | | | ALLUVIUM: Light Gray fine Sand, medium dense-damp | 95 | 4 | | | | | |
| | | 7 | | | Gray Brown fine Sandy Silt, little Iron oxide staining, loose-very moist to wet | 92 | 32 | | | | | |
| | | 13 | | | Gray Brown fine Sand, trace Silt, loose-wet | 103 | 23 | | | | | |
| 10 | | | | | | | | | | | | |
| | | | | | Gray Brown Silty Clay, trace Calcareous nodules, loose-wet | | | | | | | |
| | | 8 | 2.5 | | | 98 | 27 | | | | | |
| 15 | | | | | | | | | | | | |
| | | | | | Gray Brown Silty fine Sand, little Iron oxide staining, medium dense-wet | | | | | | | |
| | | 18 | | | | 109 | 20 | | | | | |
| 20 | | | | | | | | | | | | |
| | | | | | Boring Terminated @ 20' | | | | | | | |

TBL 21G201-2.GPJ SOCALGEO.GDT 10/5/21

# TEST BORING LOG

# PLATE B-7

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-12

JOB NO.: 21G201-2
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 8/4/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 9 feet
CAVE DEPTH: 16 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 5½± inches Portland cement concrete | | | | | | | |
| | | 29 | 4.5 | | FILL: Gray Brown to Gray Silty fine Sand, trace Clay nodules, slightly mottled, medium dense-moist | 112 | 14 | | | | | |
| | | 19 | 4.5 | | | 113 | 12 | | | | | |
| 5 | | 23 | 1.5 | | | 101 | 10 | | | | | |
| | | 25 | | | ALLUVIUM: Light Gray fine Sand, medium dense-moist | 98 | 5 | | | | | |
| | | 9 | | | Gray Brown Silty fine Sand, loose-wet | 100 | 23 | | | | | |
| 10 | | | | | | | | | | | | |
| | | | | | Gray Brown Silty Clay, little fine Sand, little Iron oxide staining, medium stiff-wet | | | | | | | |
| | | 11 | | | | 96 | 25 | | | | | |
| 15 | | | | | | | | | | | | |
| | | 9 | 1.0 | | | 96 | 29 | | | | | |
| 20 | | | | | Boring Terminated @ 20' | | | | | | | |

TBL 21G201-2.GPJ SOCALGEO.GDT 10/5/21

**TEST BORING LOG** **PLATE B-8**

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

# BORING NO. B-13

JOB NO.: 21G201-2
PROJECT: Proposed C/I Development
LOCATION: Cypress, California

DRILLING DATE: 8/4/21
DRILLING METHOD: Hollow Stem Auger
LOGGED BY: Jamie Hayward

WATER DEPTH: 8.5 feet
CAVE DEPTH: 17 feet
READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 6± inches Portland cement concrete | | | | | | | |
| | | 15 | 3.0 | | FILL: Gray Brown Silty fine Sand, trace medium Sand, trace fine Gravel, 2-inch fine Sand lense, medium dense-moist | | 14 | | | | | |
| | | 13 | 2.0 | | | | 11 | | | | | |
| 5 | | | | | | | | | | | | |
| | | 17 | 3.0 | | FILL: Gray Brown Silty Clay, trace fine Sand, mottled, very stiff-very moist | | 29 | | | | | |
| | | 16 | | | ALLUVIUM: Gray Silty fine Sand, medium dense-wet | | 22 | | | | | |
| 10 | | | | | | | | | | | | |
| | | 5 | | | Gray fine Sandy Silt, loose-wet | | 30 | | | | | |
| 15 | | | | | | | | | | | | |
| | | 7 | 1.5 | | Gray Silty Clay, little Calcareous nodules, trace Iron oxide staining, medium stiff-wet | | 36 | | | | | |
| 20 | | | | | | | | | | | | |
| | | | | | Boring Terminated @ 20' | | | | | | | |

TBL 21G201-2.GPJ SOCALGEO.GDT 10/5/21

TEST BORING LOG

PLATE B-9

SOUTHERN CALIFORNIA GEOTECHNICAL
A California Corporation

**BORING NO. B-14**

JOB NO.: 21G201-2 | DRILLING DATE: 8/3/21 | WATER DEPTH: 5 feet
PROJECT: Proposed C/I Development | DRILLING METHOD: Hollow Stem Auger | CAVE DEPTH: 14 feet
LOCATION: Cypress, California | LOGGED BY: Jamie Hayward | READING TAKEN: At Completion

| FIELD RESULTS | | | | | | LABORATORY RESULTS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEPTH (FEET) | SAMPLE | BLOW COUNT | POCKET PEN. (TSF) | GRAPHIC LOG | DESCRIPTION<br>SURFACE ELEVATION: --- MSL | DRY DENSITY (PCF) | MOISTURE CONTENT (%) | LIQUID LIMIT | PLASTIC LIMIT | PASSING #200 SIEVE (%) | ORGANIC CONTENT (%) | COMMENTS |
| | | | | | 3± inches Asphaltic concrete; 5± inches Aggregate base | | | | | | | |
| | | 24 | 4.5 | | FILL: Gray Brown fine Sandy Clay, little Silt, medium dense-moist | 104 | 19 | | | | | |
| | | 12 | | | ALLUVIUM: Gray Brown Silty fine Sand, loose-moist | 102 | 21 | | | | | |
| 5 | | 11 | | | | 95 | 28 | | | | | |
| | | 8 | | | | 100 | 23 | | | | | |
| | | 13 | | | @ 9 feet, wet | 97 | 23 | | | | | |
| 10 | | | | | | | | | | | | |
| | | 11 | | | | 95 | 23 | | | | | |
| 15 | | | | | | | | | | | | |
| | | 18 | 3.0 | | @ 19 feet, little Clay | 97 | 27 | | | | | |
| 20 | | | | | | | | | | | | |
| | | | | | Gray Brown fine Sand, little Silt, little Iron oxide staining, medium dense-wet | | | | | | | |
| | | 26 | | | | 108 | 19 | | | | | |
| 25 | | | | | | | | | | | | |
| | | | | | Gray Silty Clay, trace Iron oxide staining, medium stiff to stiff-wet | | | | | | | |
| | | 12 | 1.5 | | | 99 | 25 | | | | | |
| 30 | | | | | | | | | | | | |
| | | | | | Boring Terminated @ 30' | | | | | | | |

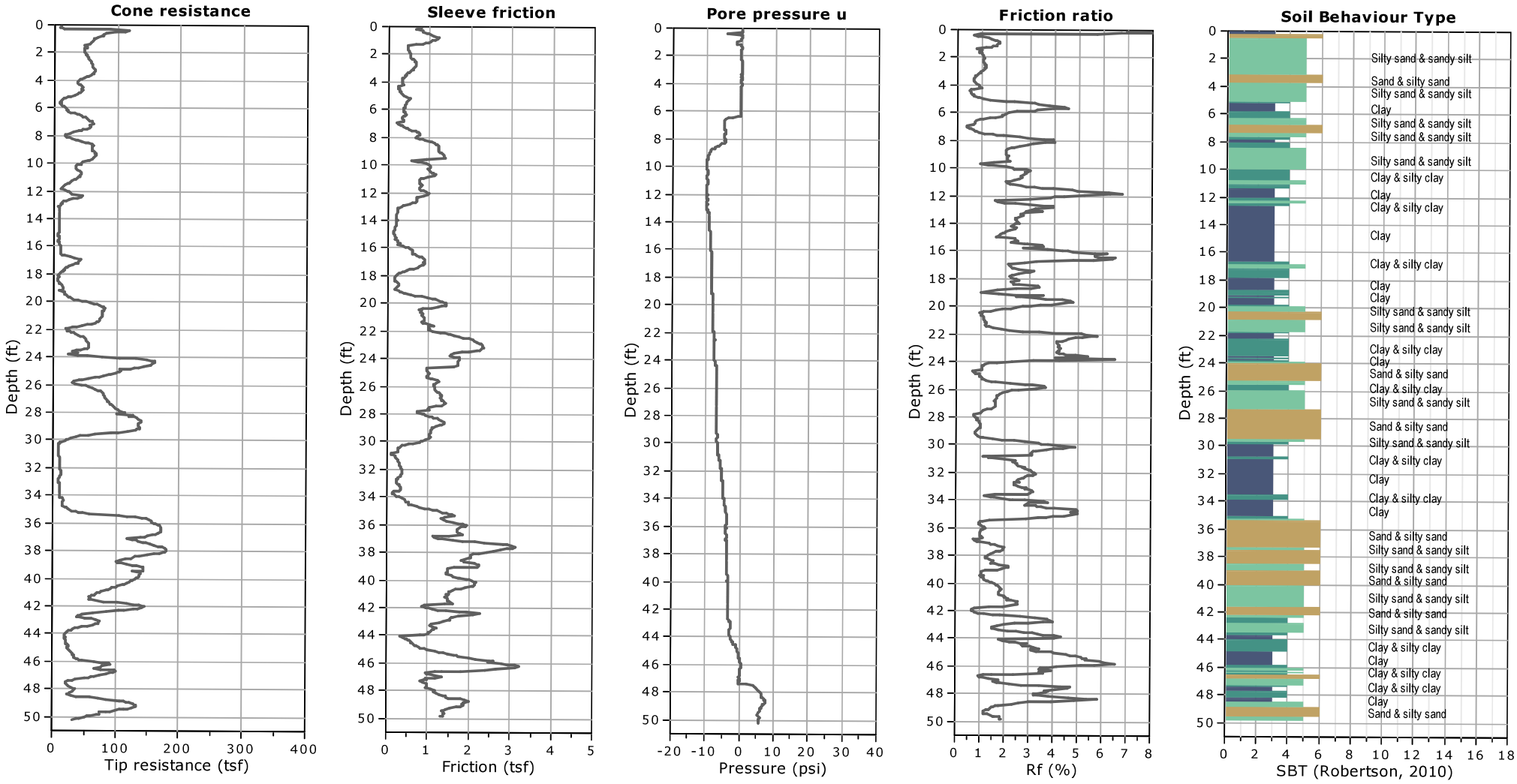
TBL 21G201-2.GPJ SOCALGEO.GDT 10/5/21

**TEST BORING LOG** **PLATE B-10**

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

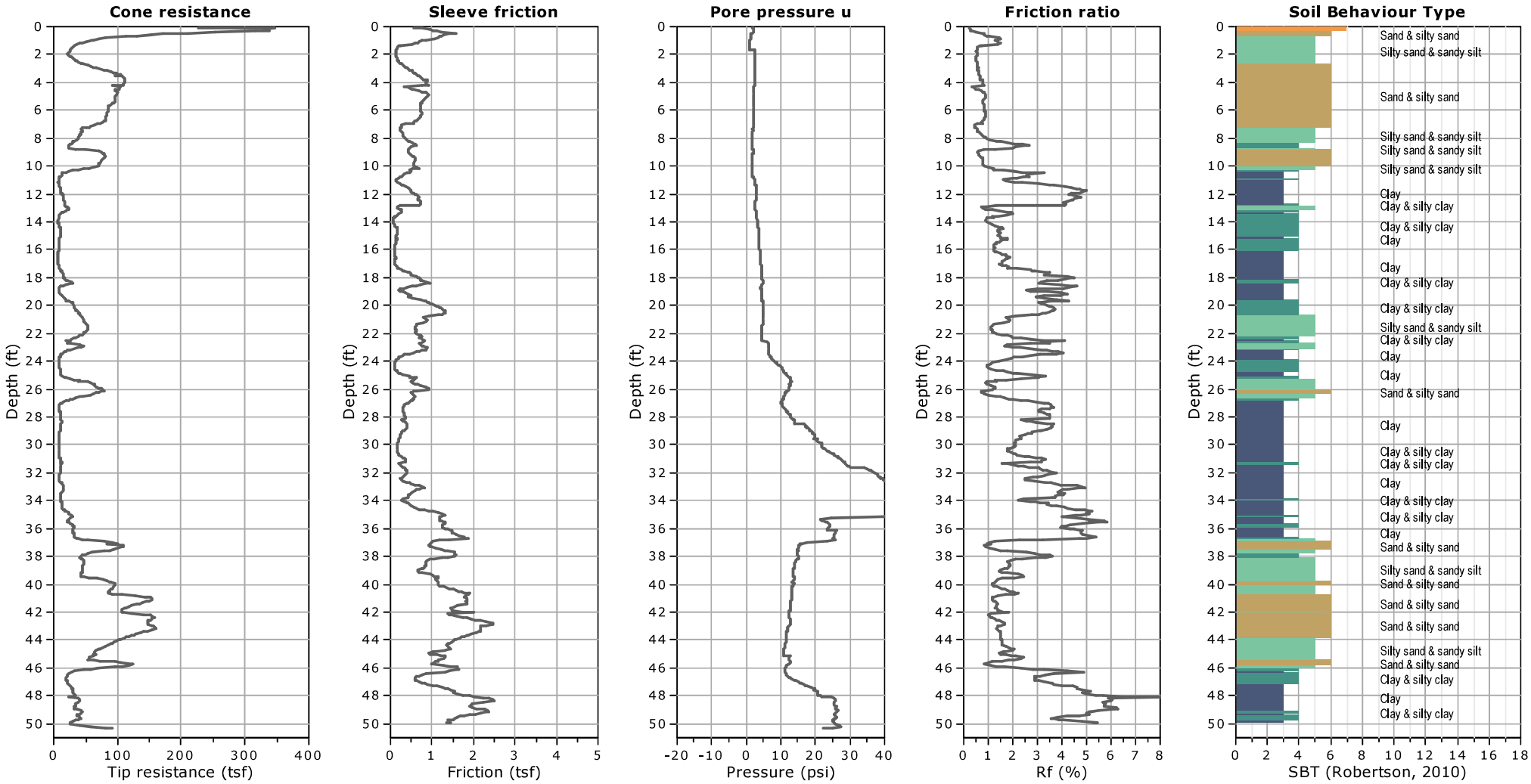
**Project:** Southern California Geotechnical
**Location:** 5665 Plaza Dr, Cypress, CA

**CPT-1**
Total depth: 50.22 ft, Date: 4/2/2021



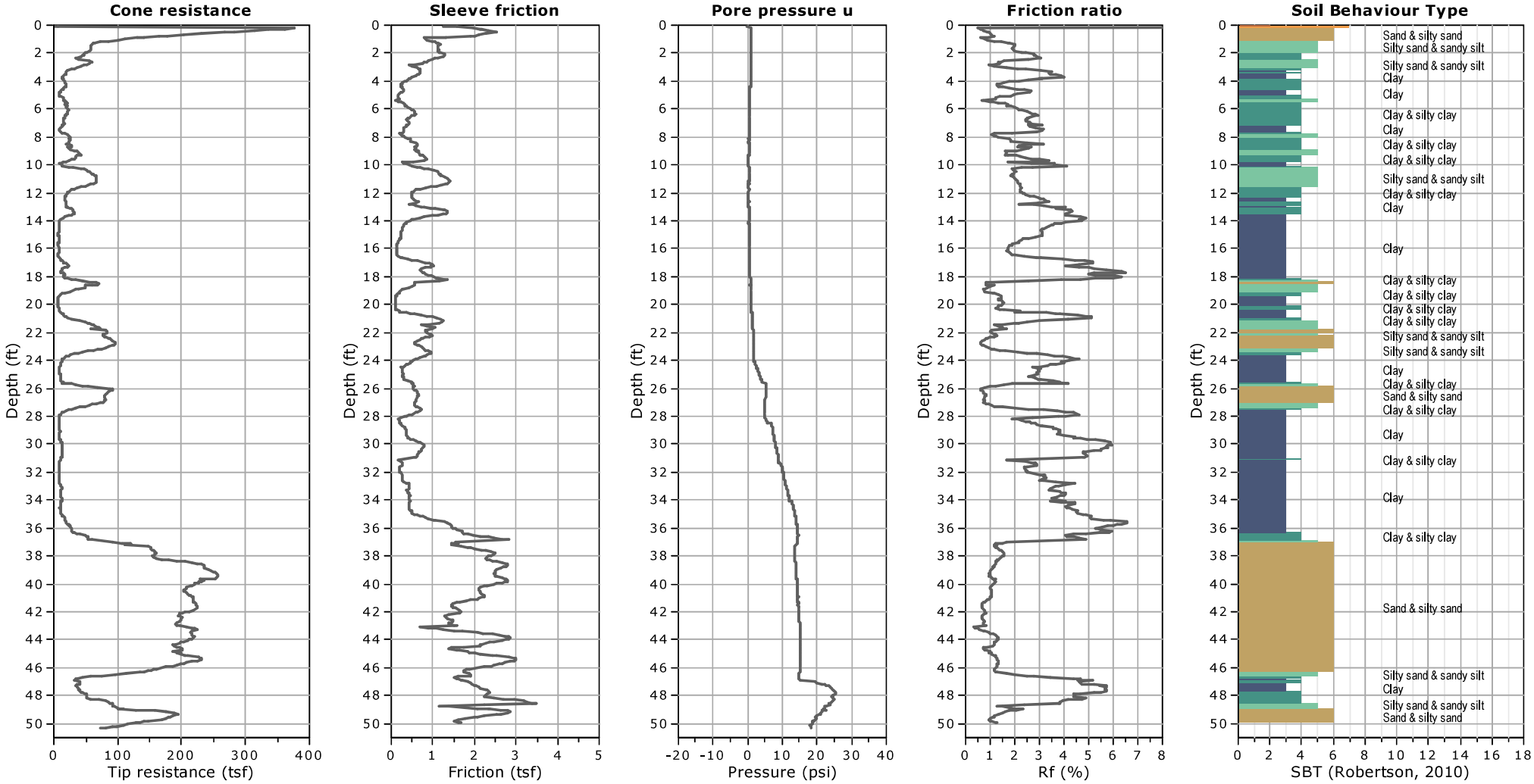
**Kehoe Testing and Engineering**
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

**Project:** **Southern California Geotechnical** **CPT-2**
**Location:** **5665 Plaza Dr, Cypress, CA** Total depth: 50.33 ft, Date: 4/2/2021



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

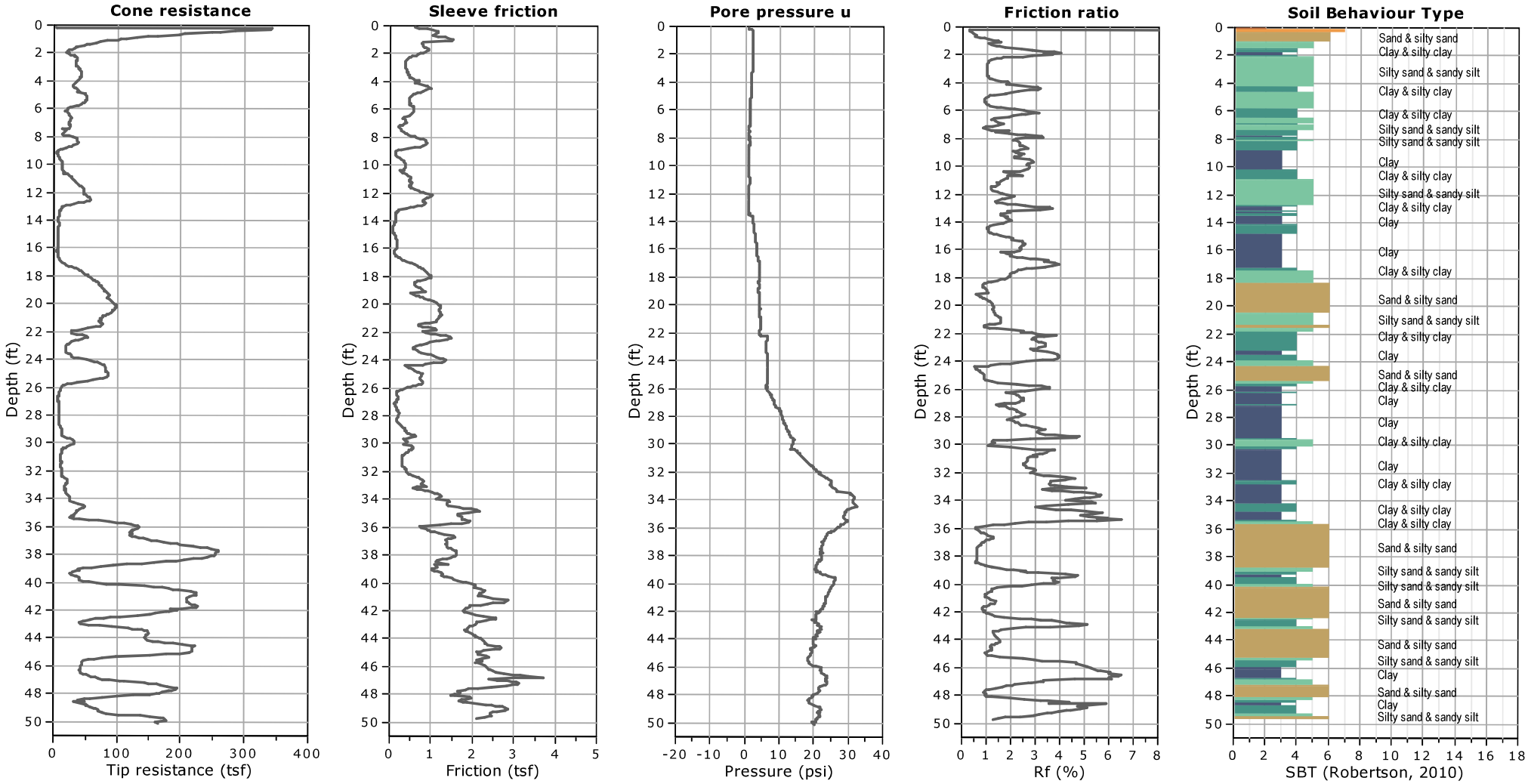
**Project:** **Southern California Geotechnical** **CPT-3**
**Location:** **5665 Plaza Dr, Cypress, CA** Total depth: 50.35 ft, Date: 4/2/2021



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

**Project:** Southern California Geotechnical
**Location:** 5665 Plaza Dr, Cypress, CA

**CPT-4**
Total depth: 50.10 ft, Date: 4/2/2021



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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.08 | 14.32 | 2.00 | 0.00 | 1.00 | 0.00 | 5.13 | 18.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.21 | 78.23 | 2.00 | 0.00 | 1.00 | 0.00 | 5.26 | 79.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.34 | 77.33 | 2.00 | 0.00 | 1.00 | 0.00 | 5.39 | 78.83 | 0.29 | 4.07 | 1.00 | 0.02 |
| 5.47 | 82.91 | 0.30 | 3.87 | 1.00 | 0.04 | 5.52 | 86.73 | 0.30 | 3.71 | 1.00 | 0.02 |
| 5.60 | 90.42 | 0.31 | 3.56 | 1.00 | 0.03 | 5.63 | 86.99 | 0.30 | 3.70 | 1.00 | 0.01 |
| 5.66 | 86.26 | 0.30 | 3.73 | 1.00 | 0.02 | 5.74 | 89.96 | 0.31 | 3.57 | 1.00 | 0.03 |
| 5.78 | 89.37 | 0.30 | 3.60 | 1.00 | 0.02 | 5.85 | 90.24 | 0.31 | 3.56 | 1.00 | 0.03 |
| 5.94 | 92.72 | 0.31 | 3.47 | 1.00 | 0.04 | 6.00 | 94.94 | 0.32 | 3.39 | 1.00 | 0.02 |
| 6.06 | 96.33 | 0.32 | 3.34 | 1.00 | 0.02 | 6.10 | 96.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.20 | 95.72 | 2.00 | 0.00 | 1.00 | 0.00 | 6.26 | 94.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.32 | 93.48 | 2.00 | 0.00 | 1.00 | 0.00 | 6.37 | 92.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.46 | 30.03 | 2.00 | 0.00 | 1.00 | 0.00 | 6.51 | 28.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.63 | 27.10 | 2.00 | 0.00 | 1.00 | 0.00 | 6.69 | 25.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.76 | 25.03 | 2.00 | 0.00 | 1.00 | 0.00 | 6.81 | 25.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.86 | 25.02 | 2.00 | 0.00 | 1.00 | 0.00 | 6.94 | 25.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.00 | 25.65 | 2.00 | 0.00 | 1.00 | 0.00 | 7.08 | 25.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.11 | 20.81 | 2.00 | 0.00 | 1.00 | 0.00 | 7.18 | 22.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.22 | 21.07 | 2.00 | 0.00 | 1.00 | 0.00 | 7.34 | 16.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.40 | 14.70 | 2.00 | 0.00 | 1.00 | 0.00 | 7.46 | 14.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.52 | 14.44 | 2.00 | 0.00 | 1.00 | 0.00 | 7.58 | 14.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.65 | 16.27 | 2.00 | 0.00 | 1.00 | 0.00 | 7.71 | 20.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.78 | 82.19 | 2.00 | 0.00 | 1.00 | 0.00 | 7.82 | 85.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.90 | 87.69 | 0.26 | 3.67 | 1.00 | 0.03 | 7.96 | 89.17 | 0.26 | 3.61 | 1.00 | 0.03 |
| 8.02 | 90.93 | 0.27 | 3.54 | 1.00 | 0.03 | 8.10 | 90.57 | 0.27 | 3.55 | 1.00 | 0.03 |
| 8.16 | 93.38 | 0.27 | 3.44 | 1.00 | 0.02 | 8.24 | 93.09 | 0.27 | 3.45 | 1.00 | 0.04 |
| 8.30 | 92.01 | 0.27 | 3.50 | 1.00 | 0.03 | 8.38 | 91.63 | 0.26 | 3.51 | 1.00 | 0.03 |
| 8.42 | 93.07 | 0.27 | 3.46 | 1.00 | 0.02 | 8.49 | 28.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.55 | 92.70 | 0.27 | 3.47 | 1.00 | 0.02 | 8.61 | 97.42 | 0.28 | 3.30 | 1.00 | 0.02 |
| 8.68 | 95.52 | 0.27 | 3.37 | 1.00 | 0.03 | 8.73 | 89.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.81 | 90.81 | 2.00 | 0.00 | 1.00 | 0.00 | 8.86 | 92.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.99 | 101.32 | 2.00 | 0.00 | 1.00 | 0.00 | 9.04 | 104.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.12 | 107.93 | 0.31 | 2.97 | 1.00 | 0.03 | 9.26 | 110.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.30 | 110.83 | 2.00 | 0.00 | 1.00 | 0.00 | 9.34 | 106.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.39 | 105.16 | 2.00 | 0.00 | 1.00 | 0.00 | 9.48 | 103.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.55 | 102.12 | 2.00 | 0.00 | 1.00 | 0.00 | 9.60 | 98.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.68 | 91.59 | 2.00 | 0.00 | 1.00 | 0.00 | 9.74 | 25.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.79 | 77.04 | 0.22 | 4.16 | 1.00 | 0.03 | 9.87 | 16.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.92 | 13.25 | 2.00 | 0.00 | 1.00 | 0.00 | 10.00 | 16.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.06 | 16.79 | 2.00 | 0.00 | 1.00 | 0.00 | 10.14 | 89.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.18 | 97.85 | 2.00 | 0.00 | 1.00 | 0.00 | 10.26 | 111.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.31 | 117.03 | 2.00 | 0.00 | 1.00 | 0.00 | 10.37 | 122.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.47 | 125.88 | 0.38 | 2.52 | 1.00 | 0.03 | 10.51 | 127.16 | 0.38 | 2.49 | 1.00 | 0.01 |
| 10.62 | 129.94 | 0.40 | 2.44 | 1.00 | 0.03 | 10.67 | 132.38 | 0.42 | 2.39 | 1.00 | 0.01 |
| 10.75 | 134.57 | 0.44 | 2.34 | 1.00 | 0.02 | 10.80 | 135.98 | 0.45 | 2.32 | 1.00 | 0.01 |
| 10.87 | 137.42 | 0.46 | 2.29 | 1.00 | 0.02 | 10.93 | 138.30 | 0.47 | 2.27 | 1.00 | 0.02 |
| 11.02 | 138.91 | 0.47 | 2.26 | 1.00 | 0.02 | 11.07 | 139.13 | 0.47 | 2.26 | 1.00 | 0.01 |
| 11.14 | 139.18 | 0.47 | 2.26 | 1.00 | 0.02 | 11.20 | 139.11 | 0.47 | 2.26 | 1.00 | 0.02 |
| 11.25 | 137.96 | 0.46 | 2.28 | 1.00 | 0.01 | 11.32 | 135.28 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.38 | 131.13 | 2.00 | 0.00 | 1.00 | 0.00 | 11.45 | 125.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.51 | 119.90 | 2.00 | 0.00 | 1.00 | 0.00 | 11.57 | 112.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.64 | 104.75 | 2.00 | 0.00 | 1.00 | 0.00 | 11.71 | 97.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.77 | 92.80 | 2.00 | 0.00 | 1.00 | 0.00 | 11.90 | 87.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.95 | 86.15 | 2.00 | 0.00 | 1.00 | 0.00 | 12.03 | 85.71 | 0.22 | 3.75 | 1.00 | 0.03 |
| 12.09 | 85.07 | 0.22 | 3.78 | 1.00 | 0.03 | 12.16 | 83.90 | 0.21 | 3.83 | 1.00 | 0.03 |
| 12.21 | 24.43 | 2.00 | 0.00 | 1.00 | 0.00 | 12.28 | 23.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.34 | 22.10 | 2.00 | 0.00 | 1.00 | 0.00 | 12.42 | 21.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.47 | 21.71 | 2.00 | 0.00 | 1.00 | 0.00 | 12.54 | 22.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.60 | 23.45 | 2.00 | 0.00 | 1.00 | 0.00 | 12.67 | 24.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.74 | 25.09 | 2.00 | 0.00 | 1.00 | 0.00 | 12.80 | 82.25 | 0.21 | 3.90 | 1.00 | 0.03 |
| 12.87 | 24.18 | 2.00 | 0.00 | 1.00 | 0.00 | 12.92 | 24.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.99 | 26.20 | 2.00 | 0.00 | 1.00 | 0.00 | 13.02 | 24.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.09 | 30.99 | 2.00 | 0.00 | 1.00 | 0.00 | 13.13 | 95.94 | 0.24 | 3.35 | 1.00 | 0.02 |
| 13.23 | 36.90 | 2.00 | 0.00 | 1.00 | 0.00 | 13.26 | 36.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.36 | 37.89 | 2.00 | 0.00 | 1.00 | 0.00 | 13.40 | 100.99 | 0.25 | 3.18 | 1.00 | 0.02 |
| 13.49 | 100.85 | 0.25 | 3.19 | 1.00 | 0.03 | 13.54 | 98.88 | 0.24 | 3.25 | 1.00 | 0.02 |
| 13.60 | 34.10 | 2.00 | 0.00 | 1.00 | 0.00 | 13.65 | 29.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.75 | 21.25 | 2.00 | 0.00 | 1.00 | 0.00 | 13.79 | 18.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.89 | 14.07 | 2.00 | 0.00 | 1.00 | 0.00 | 13.93 | 13.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.98 | 11.93 | 2.00 | 0.00 | 1.00 | 0.00 | 14.11 | 11.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.15 | 11.15 | 2.00 | 0.00 | 1.00 | 0.00 | 14.20 | 11.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.27 | 10.48 | 2.00 | 0.00 | 1.00 | 0.00 | 14.33 | 10.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.38 | 10.46 | 2.00 | 0.00 | 1.00 | 0.00 | 14.46 | 10.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.54 | 10.33 | 2.00 | 0.00 | 1.00 | 0.00 | 14.59 | 10.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.66 | 10.09 | 2.00 | 0.00 | 1.00 | 0.00 | 14.78 | 9.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.85 | 9.22 | 2.00 | 0.00 | 1.00 | 0.00 | 14.91 | 9.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.99 | 9.10 | 2.00 | 0.00 | 1.00 | 0.00 | 15.04 | 9.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.12 | 9.39 | 2.00 | 0.00 | 1.00 | 0.00 | 15.17 | 9.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.23 | 10.52 | 2.00 | 0.00 | 1.00 | 0.00 | 15.30 | 10.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.34 | 10.91 | 2.00 | 0.00 | 1.00 | 0.00 | 15.48 | 10.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.54 | 9.53 | 2.00 | 0.00 | 1.00 | 0.00 | 15.61 | 9.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.66 | 8.77 | 2.00 | 0.00 | 1.00 | 0.00 | 15.73 | 8.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.78 | 8.97 | 2.00 | 0.00 | 1.00 | 0.00 | 15.97 | 10.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.02 | 10.08 | 2.00 | 0.00 | 1.00 | 0.00 | 16.03 | 10.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.11 | 10.07 | 2.00 | 0.00 | 1.00 | 0.00 | 16.14 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.29 | 9.10 | 2.00 | 0.00 | 1.00 | 0.00 | 16.33 | 8.79 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.45 | 8.77 | 2.00 | 0.00 | 1.00 | 0.00 | 16.49 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.56 | 8.75 | 2.00 | 0.00 | 1.00 | 0.00 | 16.63 | 9.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.67 | 10.37 | 2.00 | 0.00 | 1.00 | 0.00 | 16.75 | 11.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.80 | 13.19 | 2.00 | 0.00 | 1.00 | 0.00 | 16.87 | 14.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.93 | 16.56 | 2.00 | 0.00 | 1.00 | 0.00 | 16.99 | 18.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.06 | 21.39 | 2.00 | 0.00 | 1.00 | 0.00 | 17.11 | 24.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.18 | 27.81 | 2.00 | 0.00 | 1.00 | 0.00 | 17.24 | 27.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.30 | 23.65 | 2.00 | 0.00 | 1.00 | 0.00 | 17.37 | 19.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.43 | 16.20 | 2.00 | 0.00 | 1.00 | 0.00 | 17.51 | 14.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.64 | 13.35 | 2.00 | 0.00 | 1.00 | 0.00 | 17.68 | 13.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.75 | 17.48 | 2.00 | 0.00 | 1.00 | 0.00 | 17.82 | 19.22 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.88 | 19.10 | 2.00 | 0.00 | 1.00 | 0.00 | 17.94 | 18.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.99 | 18.46 | 2.00 | 0.00 | 1.00 | 0.00 | 18.08 | 20.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.12 | 24.62 | 2.00 | 0.00 | 1.00 | 0.00 | 18.21 | 31.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.26 | 101.50 | 2.00 | 0.00 | 1.00 | 0.00 | 18.32 | 111.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.39 | 109.37 | 2.00 | 0.00 | 1.00 | 0.00 | 18.44 | 107.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.52 | 106.43 | 2.00 | 0.00 | 1.00 | 0.00 | 18.57 | 107.18 | 0.24 | 2.99 | 1.00 | 0.02 |
| 18.62 | 108.53 | 0.25 | 2.95 | 1.00 | 0.02 | 18.64 | 105.72 | 0.24 | 3.03 | 1.00 | 0.01 |
| 18.74 | 103.46 | 0.23 | 3.10 | 1.00 | 0.04 | 18.78 | 99.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.88 | 91.80 | 2.00 | 0.00 | 1.00 | 0.00 | 18.92 | 87.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.05 | 81.45 | 2.00 | 0.00 | 1.00 | 0.00 | 19.15 | 74.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.22 | 15.21 | 2.00 | 0.00 | 1.00 | 0.00 | 19.27 | 12.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.34 | 10.42 | 2.00 | 0.00 | 1.00 | 0.00 | 19.40 | 8.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.46 | 8.07 | 2.00 | 0.00 | 1.00 | 0.00 | 19.53 | 7.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.59 | 7.56 | 2.00 | 0.00 | 1.00 | 0.00 | 19.66 | 7.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.71 | 7.07 | 2.00 | 0.00 | 1.00 | 0.00 | 19.79 | 6.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.84 | 6.87 | 2.00 | 0.00 | 1.00 | 0.00 | 19.91 | 6.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 19.98 | 7.23 | 2.00 | 0.00 | 1.00 | 0.00 | 20.03 | 7.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.11 | 8.00 | 2.00 | 0.00 | 1.00 | 0.00 | 20.21 | 8.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.28 | 8.66 | 2.00 | 0.00 | 1.00 | 0.00 | 20.34 | 9.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.40 | 9.51 | 2.00 | 0.00 | 1.00 | 0.00 | 20.46 | 10.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.52 | 11.03 | 2.00 | 0.00 | 1.00 | 0.00 | 20.58 | 11.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.64 | 13.66 | 2.00 | 0.00 | 1.00 | 0.00 | 20.69 | 15.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.76 | 17.59 | 2.00 | 0.00 | 1.00 | 0.00 | 20.81 | 19.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 20.88 | 21.01 | 2.00 | 0.00 | 1.00 | 0.00 | 20.94 | 23.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.05 | 31.05 | 2.00 | 0.00 | 1.00 | 0.00 | 21.17 | 105.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.23 | 112.53 | 2.00 | 0.00 | 1.00 | 0.00 | 21.30 | 116.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.35 | 119.20 | 2.00 | 0.00 | 1.00 | 0.00 | 21.43 | 117.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.48 | 115.02 | 2.00 | 0.00 | 1.00 | 0.00 | 21.53 | 119.31 | 0.28 | 2.67 | 1.00 | 0.02 |
| 21.61 | 125.14 | 0.30 | 2.54 | 1.00 | 0.02 | 21.65 | 127.16 | 0.31 | 2.49 | 1.00 | 0.01 |
| 21.71 | 126.14 | 0.31 | 2.52 | 1.00 | 0.02 | 21.72 | 118.46 | 0.27 | 2.69 | 1.00 | 0.00 |
| 21.83 | 121.10 | 0.28 | 2.63 | 1.00 | 0.04 | 21.91 | 120.01 | 0.28 | 2.65 | 1.00 | 0.02 |
| 21.96 | 120.83 | 0.28 | 2.64 | 1.00 | 0.02 | 22.01 | 122.26 | 0.29 | 2.60 | 1.00 | 0.02 |
| 22.09 | 124.79 | 0.30 | 2.55 | 1.00 | 0.02 | 22.14 | 126.09 | 0.31 | 2.52 | 1.00 | 0.01 |
| 22.21 | 127.24 | 0.31 | 2.49 | 1.00 | 0.02 | 22.27 | 125.56 | 0.30 | 2.53 | 1.00 | 0.02 |
| 22.34 | 120.55 | 0.28 | 2.64 | 1.00 | 0.02 | 22.40 | 115.34 | 0.26 | 2.77 | 1.00 | 0.02 |
| 22.46 | 110.97 | 0.25 | 2.88 | 1.00 | 0.02 | 22.53 | 106.26 | 0.23 | 3.02 | 1.00 | 0.02 |
| 22.58 | 101.24 | 0.22 | 3.17 | 1.00 | 0.02 | 22.71 | 100.35 | 0.22 | 3.20 | 1.00 | 0.05 |
| 22.76 | 101.55 | 0.22 | 3.16 | 1.00 | 0.02 | 22.89 | 100.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.95 | 103.87 | 2.00 | 0.00 | 1.00 | 0.00 | 23.02 | 111.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.07 | 115.93 | 2.00 | 0.00 | 1.00 | 0.00 | 23.16 | 118.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.21 | 117.89 | 2.00 | 0.00 | 1.00 | 0.00 | 23.28 | 116.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.34 | 112.76 | 2.00 | 0.00 | 1.00 | 0.00 | 23.42 | 106.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.46 | 99.49 | 2.00 | 0.00 | 1.00 | 0.00 | 23.53 | 92.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.59 | 27.15 | 2.00 | 0.00 | 1.00 | 0.00 | 23.68 | 23.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.73 | 20.76 | 2.00 | 0.00 | 1.00 | 0.00 | 23.79 | 17.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.86 | 14.74 | 2.00 | 0.00 | 1.00 | 0.00 | 23.91 | 13.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.99 | 13.37 | 2.00 | 0.00 | 1.00 | 0.00 | 24.05 | 12.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.10 | 12.54 | 2.00 | 0.00 | 1.00 | 0.00 | 24.17 | 11.54 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24.24 | 10.99 | 2.00 | 0.00 | 1.00 | 0.00 | 24.30 | 10.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.36 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 | 24.44 | 9.89 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.51 | 9.34 | 2.00 | 0.00 | 1.00 | 0.00 | 24.56 | 8.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.62 | 8.79 | 2.00 | 0.00 | 1.00 | 0.00 | 24.69 | 8.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.74 | 9.05 | 2.00 | 0.00 | 1.00 | 0.00 | 24.82 | 9.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.87 | 9.74 | 2.00 | 0.00 | 1.00 | 0.00 | 24.95 | 9.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.01 | 9.99 | 2.00 | 0.00 | 1.00 | 0.00 | 25.08 | 10.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.14 | 10.76 | 2.00 | 0.00 | 1.00 | 0.00 | 25.20 | 10.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.27 | 10.48 | 2.00 | 0.00 | 1.00 | 0.00 | 25.32 | 10.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.40 | 10.29 | 2.00 | 0.00 | 1.00 | 0.00 | 25.45 | 10.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.53 | 12.82 | 2.00 | 0.00 | 1.00 | 0.00 | 25.58 | 14.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.60 | 12.28 | 2.00 | 0.00 | 1.00 | 0.00 | 25.67 | 85.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.74 | 90.68 | 2.00 | 0.00 | 1.00 | 0.00 | 25.82 | 99.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.87 | 104.02 | 2.00 | 0.00 | 1.00 | 0.00 | 25.94 | 104.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.01 | 94.24 | 2.00 | 0.00 | 1.00 | 0.00 | 26.05 | 94.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.12 | 96.32 | 0.20 | 3.34 | 1.00 | 0.03 | 26.18 | 97.95 | 0.21 | 3.28 | 1.00 | 0.02 |
| 26.28 | 103.31 | 0.22 | 3.11 | 1.00 | 0.03 | 26.31 | 105.45 | 0.22 | 3.04 | 1.00 | 0.01 |
| 26.40 | 109.29 | 0.23 | 2.93 | 1.00 | 0.03 | 26.48 | 109.74 | 0.24 | 2.92 | 1.00 | 0.03 |
| 26.53 | 108.64 | 0.23 | 2.95 | 1.00 | 0.02 | 26.59 | 107.68 | 0.23 | 2.98 | 1.00 | 0.02 |
| 26.66 | 106.63 | 0.23 | 3.01 | 1.00 | 0.03 | 26.78 | 104.54 | 0.22 | 3.07 | 1.00 | 0.04 |
| 26.83 | 105.30 | 0.22 | 3.05 | 1.00 | 0.02 | 26.90 | 106.02 | 0.23 | 3.03 | 1.00 | 0.03 |
| 26.98 | 104.20 | 2.00 | 0.00 | 1.00 | 0.00 | 27.03 | 105.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.10 | 106.68 | 2.00 | 0.00 | 1.00 | 0.00 | 27.15 | 106.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.22 | 104.47 | 2.00 | 0.00 | 1.00 | 0.00 | 27.28 | 102.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.33 | 97.79 | 2.00 | 0.00 | 1.00 | 0.00 | 27.42 | 92.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.46 | 27.82 | 2.00 | 0.00 | 1.00 | 0.00 | 27.55 | 22.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.60 | 18.27 | 2.00 | 0.00 | 1.00 | 0.00 | 27.67 | 15.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.73 | 13.05 | 2.00 | 0.00 | 1.00 | 0.00 | 27.85 | 10.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.91 | 9.37 | 2.00 | 0.00 | 1.00 | 0.00 | 27.99 | 8.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.04 | 8.75 | 2.00 | 0.00 | 1.00 | 0.00 | 28.10 | 8.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.17 | 8.58 | 2.00 | 0.00 | 1.00 | 0.00 | 28.24 | 8.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.30 | 7.80 | 2.00 | 0.00 | 1.00 | 0.00 | 28.37 | 7.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.43 | 7.62 | 2.00 | 0.00 | 1.00 | 0.00 | 28.45 | 7.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.50 | 7.69 | 2.00 | 0.00 | 1.00 | 0.00 | 28.55 | 7.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.63 | 8.02 | 2.00 | 0.00 | 1.00 | 0.00 | 28.68 | 8.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.78 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 | 28.84 | 8.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.89 | 9.00 | 2.00 | 0.00 | 1.00 | 0.00 | 28.94 | 9.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.03 | 9.49 | 2.00 | 0.00 | 1.00 | 0.00 | 29.10 | 9.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.14 | 9.31 | 2.00 | 0.00 | 1.00 | 0.00 | 29.20 | 9.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.30 | 8.95 | 2.00 | 0.00 | 1.00 | 0.00 | 29.40 | 8.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.46 | 8.52 | 2.00 | 0.00 | 1.00 | 0.00 | 29.52 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.56 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 | 29.61 | 8.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.67 | 9.32 | 2.00 | 0.00 | 1.00 | 0.00 | 29.73 | 9.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.83 | 10.80 | 2.00 | 0.00 | 1.00 | 0.00 | 29.88 | 11.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.01 | 12.51 | 2.00 | 0.00 | 1.00 | 0.00 | 30.05 | 12.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.09 | 12.99 | 2.00 | 0.00 | 1.00 | 0.00 | 30.14 | 13.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.21 | 12.64 | 2.00 | 0.00 | 1.00 | 0.00 | 30.27 | 12.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.36 | 12.61 | 2.00 | 0.00 | 1.00 | 0.00 | 30.42 | 12.60 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30.47 | 12.83 | 2.00 | 0.00 | 1.00 | 0.00 | 30.53 | 13.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.58 | 13.15 | 2.00 | 0.00 | 1.00 | 0.00 | 30.67 | 12.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.74 | 12.13 | 2.00 | 0.00 | 1.00 | 0.00 | 30.79 | 11.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.85 | 11.70 | 2.00 | 0.00 | 1.00 | 0.00 | 30.91 | 11.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.98 | 10.62 | 2.00 | 0.00 | 1.00 | 0.00 | 31.10 | 9.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.23 | 8.96 | 2.00 | 0.00 | 1.00 | 0.00 | 31.28 | 8.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.34 | 8.38 | 2.00 | 0.00 | 1.00 | 0.00 | 31.37 | 8.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.37 | 8.37 | 2.00 | 0.00 | 1.00 | 0.00 | 31.46 | 8.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.51 | 8.12 | 2.00 | 0.00 | 1.00 | 0.00 | 31.60 | 7.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.65 | 8.03 | 2.00 | 0.00 | 1.00 | 0.00 | 31.74 | 8.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.82 | 8.01 | 2.00 | 0.00 | 1.00 | 0.00 | 31.86 | 8.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.91 | 7.84 | 2.00 | 0.00 | 1.00 | 0.00 | 31.99 | 7.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.04 | 8.07 | 2.00 | 0.00 | 1.00 | 0.00 | 32.16 | 7.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.18 | 7.57 | 2.00 | 0.00 | 1.00 | 0.00 | 32.23 | 7.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.31 | 7.80 | 2.00 | 0.00 | 1.00 | 0.00 | 32.35 | 7.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.44 | 7.55 | 2.00 | 0.00 | 1.00 | 0.00 | 32.53 | 7.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.57 | 7.62 | 2.00 | 0.00 | 1.00 | 0.00 | 32.62 | 7.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.69 | 7.69 | 2.00 | 0.00 | 1.00 | 0.00 | 32.75 | 8.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.83 | 8.71 | 2.00 | 0.00 | 1.00 | 0.00 | 32.92 | 9.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.97 | 10.29 | 2.00 | 0.00 | 1.00 | 0.00 | 33.01 | 10.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.10 | 10.84 | 2.00 | 0.00 | 1.00 | 0.00 | 33.14 | 11.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.23 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 | 33.28 | 9.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.34 | 9.29 | 2.00 | 0.00 | 1.00 | 0.00 | 33.43 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.50 | 9.20 | 2.00 | 0.00 | 1.00 | 0.00 | 33.54 | 9.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.64 | 10.29 | 2.00 | 0.00 | 1.00 | 0.00 | 33.70 | 10.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.76 | 10.43 | 2.00 | 0.00 | 1.00 | 0.00 | 33.80 | 10.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.86 | 10.90 | 2.00 | 0.00 | 1.00 | 0.00 | 33.98 | 10.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.04 | 9.85 | 2.00 | 0.00 | 1.00 | 0.00 | 34.08 | 11.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.17 | 10.14 | 2.00 | 0.00 | 1.00 | 0.00 | 34.21 | 8.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.26 | 8.88 | 2.00 | 0.00 | 1.00 | 0.00 | 34.39 | 8.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.43 | 8.86 | 2.00 | 0.00 | 1.00 | 0.00 | 34.48 | 9.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.53 | 8.85 | 2.00 | 0.00 | 1.00 | 0.00 | 34.58 | 8.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.65 | 8.83 | 2.00 | 0.00 | 1.00 | 0.00 | 34.74 | 9.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.78 | 9.36 | 2.00 | 0.00 | 1.00 | 0.00 | 34.87 | 9.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.92 | 9.90 | 2.00 | 0.00 | 1.00 | 0.00 | 35.00 | 10.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.05 | 11.13 | 2.00 | 0.00 | 1.00 | 0.00 | 35.12 | 12.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.18 | 12.98 | 2.00 | 0.00 | 1.00 | 0.00 | 35.27 | 14.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.31 | 15.46 | 2.00 | 0.00 | 1.00 | 0.00 | 35.40 | 15.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.44 | 16.05 | 2.00 | 0.00 | 1.00 | 0.00 | 35.58 | 17.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.62 | 18.04 | 2.00 | 0.00 | 1.00 | 0.00 | 35.72 | 19.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.76 | 20.58 | 2.00 | 0.00 | 1.00 | 0.00 | 35.81 | 21.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.84 | 22.34 | 2.00 | 0.00 | 1.00 | 0.00 | 35.90 | 23.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.98 | 24.95 | 2.00 | 0.00 | 1.00 | 0.00 | 36.04 | 25.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.09 | 25.61 | 2.00 | 0.00 | 1.00 | 0.00 | 36.24 | 25.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.28 | 26.01 | 2.00 | 0.00 | 1.00 | 0.00 | 36.33 | 27.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.39 | 31.41 | 2.00 | 0.00 | 1.00 | 0.00 | 36.46 | 37.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.51 | 43.11 | 2.00 | 0.00 | 1.00 | 0.00 | 36.57 | 46.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.64 | 47.34 | 2.00 | 0.00 | 1.00 | 0.00 | 36.68 | 47.31 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 36.76 | 48.29 | 2.00 | 0.00 | 1.00 | 0.00 | 36.81 | 52.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.99 | 138.91 | 2.00 | 0.00 | 1.00 | 0.00 | 37.07 | 148.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.13 | 145.32 | 2.00 | 0.00 | 1.00 | 0.00 | 37.18 | 144.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.21 | 144.50 | 0.42 | 2.16 | 1.00 | 0.01 | 37.32 | 151.33 | 0.50 | 2.05 | 1.00 | 0.03 |
| 37.39 | 157.60 | 0.59 | 1.87 | 1.00 | 0.02 | 37.44 | 161.86 | 0.68 | 1.62 | 1.00 | 0.01 |
| 37.48 | 165.79 | 0.77 | 1.31 | 1.00 | 0.01 | 37.57 | 172.11 | 0.96 | 0.83 | 1.00 | 0.01 |
| 37.61 | 175.56 | 1.10 | 0.62 | 1.00 | 0.00 | 37.67 | 179.85 | 1.32 | 0.39 | 1.00 | 0.00 |
| 37.75 | 182.99 | 1.52 | 0.24 | 1.00 | 0.00 | 37.81 | 183.31 | 1.54 | 0.23 | 1.00 | 0.00 |
| 37.88 | 182.57 | 1.49 | 0.26 | 1.00 | 0.00 | 37.94 | 180.48 | 1.36 | 0.36 | 1.00 | 0.00 |
| 38.02 | 178.11 | 1.23 | 0.48 | 1.00 | 0.00 | 38.07 | 176.50 | 1.15 | 0.57 | 1.00 | 0.00 |
| 38.14 | 175.30 | 1.09 | 0.63 | 1.00 | 0.01 | 38.23 | 175.29 | 1.09 | 0.64 | 1.00 | 0.01 |
| 38.28 | 175.90 | 1.12 | 0.60 | 1.00 | 0.00 | 38.34 | 178.49 | 1.25 | 0.46 | 1.00 | 0.00 |
| 38.39 | 185.18 | 1.68 | 0.15 | 1.00 | 0.00 | 38.45 | 193.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.52 | 200.34 | 2.00 | 0.00 | 1.00 | 0.00 | 38.59 | 206.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.67 | 209.39 | 2.00 | 0.00 | 1.00 | 0.00 | 38.72 | 209.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.81 | 210.19 | 2.00 | 0.00 | 1.00 | 0.00 | 38.85 | 210.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.97 | 215.89 | 2.00 | 0.00 | 1.00 | 0.00 | 39.03 | 219.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.11 | 222.46 | 2.00 | 0.00 | 1.00 | 0.00 | 39.16 | 224.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.23 | 226.74 | 2.00 | 0.00 | 1.00 | 0.00 | 39.29 | 227.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.36 | 228.87 | 2.00 | 0.00 | 1.00 | 0.00 | 39.42 | 229.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.47 | 228.82 | 2.00 | 0.00 | 1.00 | 0.00 | 39.55 | 226.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.60 | 223.70 | 2.00 | 0.00 | 1.00 | 0.00 | 39.64 | 202.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.71 | 207.78 | 2.00 | 0.00 | 1.00 | 0.00 | 39.81 | 203.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.86 | 200.69 | 2.00 | 0.00 | 1.00 | 0.00 | 39.90 | 199.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.99 | 193.97 | 2.00 | 0.00 | 1.00 | 0.00 | 40.03 | 192.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.12 | 189.03 | 2.00 | 0.00 | 1.00 | 0.00 | 40.16 | 186.93 | 1.83 | 0.07 | 1.00 | 0.00 |
| 40.25 | 182.20 | 1.47 | 0.28 | 1.00 | 0.00 | 40.29 | 180.93 | 1.39 | 0.34 | 1.00 | 0.00 |
| 40.39 | 177.01 | 1.17 | 0.53 | 1.00 | 0.01 | 40.45 | 176.99 | 1.17 | 0.54 | 1.00 | 0.00 |
| 40.52 | 177.36 | 1.19 | 0.52 | 1.00 | 0.00 | 40.56 | 178.24 | 1.24 | 0.47 | 1.00 | 0.00 |
| 40.66 | 180.94 | 1.39 | 0.34 | 1.00 | 0.00 | 40.70 | 182.00 | 1.46 | 0.29 | 1.00 | 0.00 |
| 40.78 | 184.50 | 1.63 | 0.17 | 1.00 | 0.00 | 40.83 | 186.26 | 1.77 | 0.10 | 1.00 | 0.00 |
| 40.89 | 188.16 | 1.93 | 0.03 | 1.00 | 0.00 | 40.96 | 189.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.05 | 189.02 | 2.00 | 0.00 | 1.00 | 0.00 | 41.09 | 189.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.16 | 189.38 | 2.00 | 0.00 | 1.00 | 0.00 | 41.22 | 189.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.29 | 190.28 | 2.00 | 0.00 | 1.00 | 0.00 | 41.34 | 191.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.44 | 193.26 | 2.00 | 0.00 | 1.00 | 0.00 | 41.49 | 193.82 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.58 | 193.94 | 2.00 | 0.00 | 1.00 | 0.00 | 41.63 | 194.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.69 | 193.84 | 2.00 | 0.00 | 1.00 | 0.00 | 41.74 | 193.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.91 | 187.75 | 1.90 | 0.04 | 1.00 | 0.00 | 41.96 | 183.09 | 1.53 | 0.23 | 1.00 | 0.00 |
| 42.02 | 177.26 | 1.19 | 0.52 | 1.00 | 0.00 | 42.07 | 172.86 | 1.00 | 0.77 | 1.00 | 0.01 |
| 42.13 | 169.20 | 0.87 | 1.02 | 1.00 | 0.01 | 42.19 | 167.28 | 0.82 | 1.17 | 1.00 | 0.01 |
| 42.25 | 166.95 | 0.81 | 1.19 | 1.00 | 0.01 | 42.33 | 167.78 | 0.83 | 1.13 | 1.00 | 0.01 |
| 42.43 | 171.52 | 0.95 | 0.86 | 1.00 | 0.01 | 42.47 | 170.62 | 0.92 | 0.92 | 1.00 | 0.00 |
| 42.56 | 169.79 | 0.89 | 0.97 | 1.00 | 0.01 | 42.60 | 169.58 | 0.89 | 0.99 | 1.00 | 0.00 |
| 42.66 | 167.75 | 0.83 | 1.13 | 1.00 | 0.01 | 42.73 | 164.39 | 0.74 | 1.42 | 1.00 | 0.01 |
| 42.81 | 162.85 | 0.71 | 1.57 | 1.00 | 0.01 | 42.86 | 161.50 | 0.68 | 1.64 | 1.00 | 0.01 |
| 42.95 | 162.47 | 0.70 | 1.59 | 1.00 | 0.02 | 42.99 | 166.20 | 0.79 | 1.25 | 1.00 | 0.01 |
| 43.08 | 176.38 | 1.15 | 0.56 | 1.00 | 0.01 | 43.17 | 185.31 | 1.70 | 0.14 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43.22 | 188.75 | 1.99 | 0.00 | 1.00 | 0.00 | 43.26 | 191.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.34 | 183.52 | 1.56 | 0.21 | 1.00 | 0.00 | 43.39 | 183.72 | 1.58 | 0.20 | 1.00 | 0.00 |
| 43.48 | 182.59 | 1.50 | 0.26 | 1.00 | 0.00 | 43.51 | 183.80 | 1.58 | 0.20 | 1.00 | 0.00 |
| 43.59 | 184.53 | 1.64 | 0.17 | 1.00 | 0.00 | 43.65 | 186.58 | 1.80 | 0.08 | 1.00 | 0.00 |
| 43.72 | 190.64 | 2.00 | 0.00 | 1.00 | 0.00 | 43.79 | 192.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.88 | 193.56 | 2.00 | 0.00 | 1.00 | 0.00 | 43.91 | 192.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.00 | 189.42 | 2.00 | 0.00 | 1.00 | 0.00 | 44.04 | 186.30 | 1.78 | 0.09 | 1.00 | 0.00 |
| 44.14 | 178.42 | 1.25 | 0.45 | 1.00 | 0.01 | 44.18 | 174.96 | 1.09 | 0.64 | 1.00 | 0.00 |
| 44.23 | 171.17 | 0.94 | 0.87 | 1.00 | 0.01 | 44.32 | 167.06 | 0.81 | 1.17 | 1.00 | 0.01 |
| 44.36 | 165.94 | 0.78 | 1.27 | 1.00 | 0.01 | 44.45 | 165.80 | 0.78 | 1.28 | 1.00 | 0.01 |
| 44.52 | 161.61 | 0.68 | 1.63 | 1.00 | 0.01 | 44.58 | 165.46 | 0.77 | 1.31 | 1.00 | 0.01 |
| 44.63 | 167.51 | 0.83 | 1.14 | 1.00 | 0.01 | 44.70 | 167.40 | 0.82 | 1.15 | 1.00 | 0.01 |
| 44.76 | 166.84 | 0.81 | 1.19 | 1.00 | 0.01 | 44.85 | 155.75 | 0.57 | 1.99 | 1.00 | 0.02 |
| 44.89 | 165.88 | 0.78 | 1.27 | 1.00 | 0.00 | 44.98 | 161.82 | 0.69 | 1.62 | 1.00 | 0.02 |
| 45.03 | 167.44 | 0.83 | 1.14 | 1.00 | 0.01 | 45.11 | 177.73 | 1.22 | 0.49 | 1.00 | 0.00 |
| 45.15 | 181.93 | 1.46 | 0.28 | 1.00 | 0.00 | 45.26 | 194.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.31 | 198.06 | 2.00 | 0.00 | 1.00 | 0.00 | 45.35 | 199.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.41 | 199.81 | 2.00 | 0.00 | 1.00 | 0.00 | 45.47 | 197.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.55 | 193.21 | 2.00 | 0.00 | 1.00 | 0.00 | 45.64 | 188.68 | 1.99 | 0.00 | 1.00 | 0.00 |
| 45.68 | 187.02 | 1.85 | 0.06 | 1.00 | 0.00 | 45.74 | 184.25 | 1.62 | 0.18 | 1.00 | 0.00 |
| 45.83 | 180.04 | 1.35 | 0.37 | 1.00 | 0.00 | 45.87 | 177.14 | 1.19 | 0.52 | 1.00 | 0.00 |
| 45.95 | 172.31 | 0.99 | 0.79 | 1.00 | 0.01 | 46.08 | 158.96 | 0.63 | 1.79 | 1.00 | 0.03 |
| 46.13 | 156.38 | 0.59 | 1.95 | 1.00 | 0.01 | 46.18 | 153.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.22 | 154.76 | 2.00 | 0.00 | 1.00 | 0.00 | 46.27 | 155.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.34 | 154.98 | 2.00 | 0.00 | 1.00 | 0.00 | 46.43 | 150.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.52 | 140.05 | 2.00 | 0.00 | 1.00 | 0.00 | 46.57 | 124.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.64 | 108.85 | 2.00 | 0.00 | 1.00 | 0.00 | 46.70 | 34.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.77 | 27.98 | 2.00 | 0.00 | 1.00 | 0.00 | 46.83 | 26.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.90 | 28.09 | 2.00 | 0.00 | 1.00 | 0.00 | 46.94 | 25.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.01 | 30.90 | 2.00 | 0.00 | 1.00 | 0.00 | 47.05 | 31.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.14 | 31.70 | 2.00 | 0.00 | 1.00 | 0.00 | 47.19 | 28.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.27 | 26.81 | 2.00 | 0.00 | 1.00 | 0.00 | 47.33 | 28.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.41 | 28.29 | 2.00 | 0.00 | 1.00 | 0.00 | 47.44 | 29.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.54 | 30.53 | 2.00 | 0.00 | 1.00 | 0.00 | 47.58 | 30.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.68 | 31.61 | 2.00 | 0.00 | 1.00 | 0.00 | 47.74 | 33.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.77 | 34.84 | 2.00 | 0.00 | 1.00 | 0.00 | 47.84 | 38.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.91 | 40.66 | 2.00 | 0.00 | 1.00 | 0.00 | 47.98 | 39.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.05 | 39.43 | 2.00 | 0.00 | 1.00 | 0.00 | 48.11 | 39.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.19 | 39.21 | 2.00 | 0.00 | 1.00 | 0.00 | 48.24 | 44.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.30 | 55.76 | 2.00 | 0.00 | 1.00 | 0.00 | 48.38 | 132.59 | 0.34 | 2.38 | 1.00 | 0.02 |
| 48.46 | 136.00 | 0.37 | 2.32 | 1.00 | 0.02 | 48.52 | 139.45 | 0.39 | 2.25 | 1.00 | 0.02 |
| 48.60 | 142.96 | 0.42 | 2.19 | 1.00 | 0.02 | 48.64 | 139.33 | 0.39 | 2.26 | 1.00 | 0.01 |
| 48.71 | 126.44 | 0.31 | 2.51 | 1.00 | 0.02 | 48.77 | 132.19 | 0.34 | 2.39 | 1.00 | 0.02 |
| 48.90 | 145.04 | 0.44 | 2.16 | 1.00 | 0.03 | 48.95 | 151.22 | 0.52 | 2.06 | 1.00 | 0.01 |
| 48.96 | 146.02 | 0.45 | 2.14 | 1.00 | 0.00 | 49.02 | 168.60 | 0.87 | 1.03 | 1.00 | 0.01 |
| 49.08 | 186.58 | 1.82 | 0.08 | 1.00 | 0.00 | 49.16 | 193.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.22 | 193.20 | 2.00 | 0.00 | 1.00 | 0.00 | 49.33 | 187.00 | 1.86 | 0.06 | 1.00 | 0.00 |
| 49.36 | 182.82 | 1.53 | 0.23 | 1.00 | 0.00 | 49.46 | 170.44 | 0.93 | 0.90 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 49.51 | 164.49 | 0.76 | 1.36 | 1.00 | 0.01 | 49.55 | 160.49 | 0.67 | 1.70 | 1.00 | 0.01 |
| 49.62 | 149.94 | 0.50 | 2.08 | 1.00 | 0.02 | 49.69 | 143.36 | 0.43 | 2.18 | 1.00 | 0.02 |
| 49.81 | 143.82 | 0.43 | 2.18 | 1.00 | 0.03 | 49.86 | 146.27 | 0.46 | 2.14 | 1.00 | 0.01 |
| 49.90 | 149.89 | 0.50 | 2.08 | 1.00 | 0.01 | 49.94 | 151.07 | 0.52 | 2.06 | 1.00 | 0.01 |
| 50.01 | 93.37 | 2.00 | 0.00 | 1.00 | 0.00 | 50.08 | 87.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.17 | 78.12 | 2.00 | 0.00 | 1.00 | 0.00 | 50.21 | 72.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.30 | 63.35 | 2.00 | 0.00 | 1.00 | 0.00 | 50.35 | 56.57 | 2.00 | 0.00 | 1.00 | 0.00 |

**Total estimated settlement: 2.80**

**Abbreviations**

| | |
|---|---|
| $Q_{tn,cs}$: | Equivalent dean 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 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.07 | 117.97 | 0.45 | 2.70 | 1.00 | 0.03 | 5.15 | 115.74 | 0.44 | 2.76 | 1.00 | 0.02 |
| 5.18 | 114.95 | 0.43 | 2.78 | 1.00 | 0.01 | 5.29 | 114.43 | 0.42 | 2.79 | 1.00 | 0.04 |
| 5.34 | 114.80 | 0.42 | 2.78 | 1.00 | 0.02 | 5.42 | 116.08 | 0.43 | 2.75 | 1.00 | 0.03 |
| 5.46 | 116.83 | 0.43 | 2.73 | 1.00 | 0.01 | 5.54 | 117.51 | 0.43 | 2.72 | 1.00 | 0.03 |
| 5.58 | 116.89 | 2.00 | 0.00 | 1.00 | 0.00 | 5.66 | 116.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.73 | 115.80 | 2.00 | 0.00 | 1.00 | 0.00 | 5.78 | 113.79 | 2.00 | 0.00 | 1.00 | 0.00 |
| 5.87 | 104.57 | 2.00 | 0.00 | 1.00 | 0.00 | 5.91 | 100.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.00 | 95.30 | 2.00 | 0.00 | 1.00 | 0.00 | 6.04 | 92.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.13 | 28.92 | 2.00 | 0.00 | 1.00 | 0.00 | 6.21 | 30.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.28 | 93.56 | 2.00 | 0.00 | 1.00 | 0.00 | 6.31 | 94.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.39 | 96.75 | 2.00 | 0.00 | 1.00 | 0.00 | 6.44 | 97.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.57 | 97.94 | 2.00 | 0.00 | 1.00 | 0.00 | 6.62 | 97.43 | 2.00 | 0.00 | 1.00 | 0.00 |
| 6.65 | 97.99 | 0.31 | 3.28 | 1.00 | 0.01 | 6.70 | 98.25 | 0.31 | 3.27 | 1.00 | 0.02 |
| 6.79 | 96.98 | 0.31 | 3.31 | 1.00 | 0.04 | 6.83 | 96.55 | 0.30 | 3.33 | 1.00 | 0.01 |
| 6.92 | 95.24 | 0.30 | 3.38 | 1.00 | 0.04 | 6.96 | 94.65 | 0.29 | 3.40 | 1.00 | 0.02 |
| 7.05 | 94.78 | 0.29 | 3.39 | 1.00 | 0.04 | 7.12 | 94.40 | 0.29 | 3.41 | 1.00 | 0.03 |
| 7.19 | 92.57 | 0.28 | 3.47 | 1.00 | 0.03 | 7.29 | 90.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.41 | 91.53 | 2.00 | 0.00 | 1.00 | 0.00 | 7.47 | 89.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.49 | 21.96 | 2.00 | 0.00 | 1.00 | 0.00 | 7.58 | 87.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.66 | 84.89 | 2.00 | 0.00 | 1.00 | 0.00 | 7.71 | 25.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.75 | 23.91 | 2.00 | 0.00 | 1.00 | 0.00 | 7.83 | 22.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 7.88 | 23.49 | 2.00 | 0.00 | 1.00 | 0.00 | 7.97 | 95.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.02 | 103.58 | 2.00 | 0.00 | 1.00 | 0.00 | 8.11 | 112.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.16 | 114.44 | 0.35 | 2.79 | 1.00 | 0.02 | 8.26 | 115.26 | 0.35 | 2.77 | 1.00 | 0.03 |
| 8.30 | 115.25 | 0.35 | 2.77 | 1.00 | 0.01 | 8.36 | 115.44 | 0.35 | 2.77 | 1.00 | 0.02 |
| 8.41 | 115.76 | 0.35 | 2.76 | 1.00 | 0.02 | 8.50 | 114.79 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.55 | 113.18 | 2.00 | 0.00 | 1.00 | 0.00 | 8.65 | 106.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.69 | 100.80 | 2.00 | 0.00 | 1.00 | 0.00 | 8.75 | 94.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.81 | 87.73 | 2.00 | 0.00 | 1.00 | 0.00 | 8.90 | 19.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 8.94 | 16.07 | 2.00 | 0.00 | 1.00 | 0.00 | 9.03 | 10.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.09 | 8.48 | 2.00 | 0.00 | 1.00 | 0.00 | 9.15 | 9.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.19 | 8.48 | 2.00 | 0.00 | 1.00 | 0.00 | 9.25 | 8.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.34 | 9.96 | 2.00 | 0.00 | 1.00 | 0.00 | 9.41 | 11.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.51 | 12.56 | 2.00 | 0.00 | 1.00 | 0.00 | 9.57 | 14.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.70 | 17.17 | 2.00 | 0.00 | 1.00 | 0.00 | 9.74 | 18.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.81 | 19.78 | 2.00 | 0.00 | 1.00 | 0.00 | 9.87 | 20.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 9.93 | 20.22 | 2.00 | 0.00 | 1.00 | 0.00 | 9.99 | 20.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.05 | 20.16 | 2.00 | 0.00 | 1.00 | 0.00 | 10.13 | 20.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.18 | 20.09 | 2.00 | 0.00 | 1.00 | 0.00 | 10.31 | 20.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.36 | 20.38 | 2.00 | 0.00 | 1.00 | 0.00 | 10.42 | 77.28 | 0.21 | 4.14 | 1.00 | 0.03 |
| 10.49 | 21.09 | 2.00 | 0.00 | 1.00 | 0.00 | 10.55 | 22.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.62 | 82.04 | 0.22 | 3.91 | 1.00 | 0.03 | 10.69 | 23.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.70 | 88.44 | 2.00 | 0.00 | 1.00 | 0.00 | 10.76 | 91.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.86 | 95.20 | 2.00 | 0.00 | 1.00 | 0.00 | 10.91 | 96.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.96 | 97.25 | 2.00 | 0.00 | 1.00 | 0.00 | 11.03 | 98.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.12 | 99.98 | 2.00 | 0.00 | 1.00 | 0.00 | 11.17 | 100.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.25 | 101.48 | 0.26 | 3.17 | 1.00 | 0.03 | 11.30 | 102.88 | 0.27 | 3.12 | 1.00 | 0.02 |
| 11.42 | 104.71 | 0.27 | 3.06 | 1.00 | 0.05 | 11.47 | 104.27 | 0.27 | 3.08 | 1.00 | 0.02 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 11.53 | 104.92 | 0.27 | 3.06 | 1.00 | 0.02 | 11.58 | 106.48 | 0.28 | 3.01 | 1.00 | 0.02 |
| 11.64 | 107.43 | 0.28 | 2.98 | 1.00 | 0.02 | 11.69 | 109.32 | 0.29 | 2.93 | 1.00 | 0.02 |
| 11.75 | 111.25 | 0.29 | 2.88 | 1.00 | 0.02 | 11.86 | 114.97 | 0.31 | 2.78 | 1.00 | 0.04 |
| 11.91 | 116.46 | 0.31 | 2.74 | 1.00 | 0.02 | 11.95 | 117.72 | 0.32 | 2.71 | 1.00 | 0.01 |
| 12.01 | 119.40 | 0.33 | 2.67 | 1.00 | 0.02 | 12.13 | 121.46 | 0.33 | 2.62 | 1.00 | 0.04 |
| 12.17 | 122.54 | 0.34 | 2.60 | 1.00 | 0.01 | 12.24 | 123.31 | 0.34 | 2.58 | 1.00 | 0.02 |
| 12.30 | 123.89 | 0.35 | 2.57 | 1.00 | 0.02 | 12.35 | 123.95 | 0.35 | 2.56 | 1.00 | 0.02 |
| 12.50 | 122.58 | 0.34 | 2.59 | 1.00 | 0.05 | 12.57 | 122.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.61 | 121.70 | 2.00 | 0.00 | 1.00 | 0.00 | 12.66 | 120.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.70 | 117.27 | 2.00 | 0.00 | 1.00 | 0.00 | 12.76 | 111.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.81 | 103.19 | 2.00 | 0.00 | 1.00 | 0.00 | 12.88 | 95.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.97 | 25.33 | 2.00 | 0.00 | 1.00 | 0.00 | 13.03 | 21.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.07 | 18.95 | 2.00 | 0.00 | 1.00 | 0.00 | 13.14 | 17.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.23 | 15.55 | 2.00 | 0.00 | 1.00 | 0.00 | 13.29 | 13.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.34 | 12.80 | 2.00 | 0.00 | 1.00 | 0.00 | 13.41 | 12.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.46 | 12.65 | 2.00 | 0.00 | 1.00 | 0.00 | 13.52 | 12.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.59 | 10.60 | 2.00 | 0.00 | 1.00 | 0.00 | 13.65 | 11.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.73 | 10.92 | 2.00 | 0.00 | 1.00 | 0.00 | 13.81 | 10.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.88 | 9.94 | 2.00 | 0.00 | 1.00 | 0.00 | 13.92 | 9.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.00 | 9.80 | 2.00 | 0.00 | 1.00 | 0.00 | 14.08 | 9.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.12 | 9.78 | 2.00 | 0.00 | 1.00 | 0.00 | 14.21 | 10.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.26 | 11.06 | 2.00 | 0.00 | 1.00 | 0.00 | 14.35 | 10.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.39 | 10.69 | 2.00 | 0.00 | 1.00 | 0.00 | 14.47 | 9.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.52 | 9.24 | 2.00 | 0.00 | 1.00 | 0.00 | 14.61 | 9.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.66 | 9.22 | 2.00 | 0.00 | 1.00 | 0.00 | 14.74 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.79 | 9.20 | 2.00 | 0.00 | 1.00 | 0.00 | 14.87 | 8.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.91 | 8.71 | 2.00 | 0.00 | 1.00 | 0.00 | 14.97 | 9.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.06 | 8.91 | 2.00 | 0.00 | 1.00 | 0.00 | 15.10 | 8.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.20 | 8.76 | 2.00 | 0.00 | 1.00 | 0.00 | 15.23 | 9.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.32 | 8.74 | 2.00 | 0.00 | 1.00 | 0.00 | 15.41 | 8.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.46 | 8.67 | 2.00 | 0.00 | 1.00 | 0.00 | 15.54 | 8.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.58 | 8.59 | 2.00 | 0.00 | 1.00 | 0.00 | 15.64 | 8.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.70 | 8.68 | 2.00 | 0.00 | 1.00 | 0.00 | 15.75 | 8.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.84 | 8.65 | 2.00 | 0.00 | 1.00 | 0.00 | 15.90 | 8.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.96 | 8.53 | 2.00 | 0.00 | 1.00 | 0.00 | 16.06 | 8.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.11 | 7.13 | 2.00 | 0.00 | 1.00 | 0.00 | 16.15 | 7.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.22 | 7.12 | 2.00 | 0.00 | 1.00 | 0.00 | 16.27 | 7.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.37 | 7.44 | 2.00 | 0.00 | 1.00 | 0.00 | 16.42 | 7.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.50 | 8.21 | 2.00 | 0.00 | 1.00 | 0.00 | 16.54 | 8.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.62 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 | 16.68 | 9.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.77 | 10.19 | 2.00 | 0.00 | 1.00 | 0.00 | 16.83 | 11.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.87 | 12.51 | 2.00 | 0.00 | 1.00 | 0.00 | 16.95 | 14.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.03 | 16.31 | 2.00 | 0.00 | 1.00 | 0.00 | 17.07 | 17.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.16 | 21.25 | 2.00 | 0.00 | 1.00 | 0.00 | 17.21 | 24.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.30 | 89.60 | 2.00 | 0.00 | 1.00 | 0.00 | 17.33 | 92.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.43 | 98.61 | 2.00 | 0.00 | 1.00 | 0.00 | 17.47 | 100.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.55 | 105.65 | 2.00 | 0.00 | 1.00 | 0.00 | 17.62 | 108.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.66 | 110.22 | 2.00 | 0.00 | 1.00 | 0.00 | 17.75 | 112.86 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17.79 | 114.76 | 2.00 | 0.00 | 1.00 | 0.00 | 17.87 | 116.96 | 0.28 | 2.73 | 1.00 | 0.03 |
| 17.95 | 120.28 | 0.29 | 2.65 | 1.00 | 0.03 | 18.00 | 121.31 | 0.30 | 2.62 | 1.00 | 0.01 |
| 18.09 | 123.15 | 0.30 | 2.58 | 1.00 | 0.03 | 18.13 | 122.96 | 0.30 | 2.59 | 1.00 | 0.01 |
| 18.18 | 122.35 | 0.30 | 2.60 | 1.00 | 0.01 | 18.26 | 118.42 | 0.28 | 2.69 | 1.00 | 0.03 |
| 18.31 | 115.62 | 0.27 | 2.76 | 1.00 | 0.02 | 18.40 | 111.76 | 0.26 | 2.86 | 1.00 | 0.03 |
| 18.44 | 109.52 | 0.25 | 2.92 | 1.00 | 0.01 | 18.53 | 108.31 | 0.24 | 2.96 | 1.00 | 0.03 |
| 18.57 | 108.34 | 0.24 | 2.96 | 1.00 | 0.02 | 18.66 | 109.16 | 0.25 | 2.93 | 1.00 | 0.03 |
| 18.70 | 110.33 | 0.25 | 2.90 | 1.00 | 0.02 | 18.80 | 114.38 | 0.26 | 2.79 | 1.00 | 0.03 |
| 18.84 | 116.48 | 0.27 | 2.74 | 1.00 | 0.01 | 18.90 | 117.79 | 0.28 | 2.71 | 1.00 | 0.02 |
| 19.01 | 119.93 | 0.29 | 2.66 | 1.00 | 0.04 | 19.06 | 121.17 | 0.29 | 2.63 | 1.00 | 0.01 |
| 19.11 | 123.30 | 0.30 | 2.58 | 1.00 | 0.01 | 19.20 | 100.05 | 0.22 | 3.21 | 1.00 | 0.04 |
| 19.31 | 103.23 | 0.23 | 3.11 | 1.00 | 0.04 | 19.37 | 105.62 | 0.23 | 3.04 | 1.00 | 0.02 |
| 19.41 | 108.06 | 0.24 | 2.97 | 1.00 | 0.02 | 19.46 | 112.06 | 0.25 | 2.86 | 1.00 | 0.02 |
| 19.51 | 115.41 | 0.27 | 2.77 | 1.00 | 0.01 | 19.55 | 119.76 | 0.28 | 2.66 | 1.00 | 0.01 |
| 19.65 | 125.23 | 0.31 | 2.54 | 1.00 | 0.03 | 19.69 | 127.49 | 0.32 | 2.49 | 1.00 | 0.01 |
| 19.78 | 132.21 | 0.35 | 2.39 | 1.00 | 0.03 | 19.82 | 133.27 | 0.36 | 2.37 | 1.00 | 0.01 |
| 19.91 | 135.61 | 0.37 | 2.32 | 1.00 | 0.03 | 19.96 | 137.04 | 0.38 | 2.30 | 1.00 | 0.01 |
| 20.04 | 139.24 | 0.40 | 2.26 | 1.00 | 0.02 | 20.09 | 140.35 | 0.41 | 2.24 | 1.00 | 0.01 |
| 20.17 | 140.26 | 0.41 | 2.24 | 1.00 | 0.02 | 20.22 | 139.93 | 0.41 | 2.24 | 1.00 | 0.01 |
| 20.30 | 138.98 | 0.40 | 2.26 | 1.00 | 0.02 | 20.37 | 139.06 | 0.40 | 2.26 | 1.00 | 0.02 |
| 20.44 | 139.37 | 0.40 | 2.25 | 1.00 | 0.02 | 20.49 | 139.26 | 0.40 | 2.26 | 1.00 | 0.01 |
| 20.57 | 140.15 | 0.41 | 2.24 | 1.00 | 0.02 | 20.61 | 140.43 | 0.41 | 2.24 | 1.00 | 0.01 |
| 20.70 | 140.51 | 0.41 | 2.23 | 1.00 | 0.02 | 20.74 | 139.96 | 0.41 | 2.24 | 1.00 | 0.01 |
| 20.83 | 138.04 | 0.39 | 2.28 | 1.00 | 0.02 | 20.90 | 136.39 | 0.38 | 2.31 | 1.00 | 0.02 |
| 20.95 | 135.46 | 0.37 | 2.33 | 1.00 | 0.02 | 21.03 | 133.77 | 0.36 | 2.36 | 1.00 | 0.02 |
| 21.08 | 133.13 | 0.35 | 2.37 | 1.00 | 0.01 | 21.16 | 133.24 | 0.35 | 2.37 | 1.00 | 0.02 |
| 21.20 | 131.39 | 0.34 | 2.41 | 1.00 | 0.01 | 21.29 | 127.97 | 0.32 | 2.48 | 1.00 | 0.03 |
| 21.35 | 123.11 | 0.29 | 2.58 | 1.00 | 0.02 | 21.40 | 114.01 | 0.26 | 2.80 | 1.00 | 0.02 |
| 21.49 | 112.57 | 2.00 | 0.00 | 1.00 | 0.00 | 21.54 | 116.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.59 | 120.87 | 2.00 | 0.00 | 1.00 | 0.00 | 21.66 | 124.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.76 | 118.32 | 2.00 | 0.00 | 1.00 | 0.00 | 21.82 | 111.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 21.89 | 100.63 | 2.00 | 0.00 | 1.00 | 0.00 | 21.95 | 92.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.03 | 92.41 | 0.20 | 3.48 | 1.00 | 0.03 | 22.08 | 32.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.15 | 32.41 | 2.00 | 0.00 | 1.00 | 0.00 | 22.20 | 102.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.26 | 111.63 | 2.00 | 0.00 | 1.00 | 0.00 | 22.32 | 118.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.39 | 120.61 | 2.00 | 0.00 | 1.00 | 0.00 | 22.45 | 116.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.52 | 112.52 | 2.00 | 0.00 | 1.00 | 0.00 | 22.61 | 103.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.65 | 99.33 | 2.00 | 0.00 | 1.00 | 0.00 | 22.74 | 31.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.79 | 28.82 | 2.00 | 0.00 | 1.00 | 0.00 | 22.88 | 25.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.92 | 24.11 | 2.00 | 0.00 | 1.00 | 0.00 | 23.02 | 21.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.08 | 20.92 | 2.00 | 0.00 | 1.00 | 0.00 | 23.13 | 21.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.19 | 21.54 | 2.00 | 0.00 | 1.00 | 0.00 | 23.24 | 21.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.31 | 21.30 | 2.00 | 0.00 | 1.00 | 0.00 | 23.36 | 20.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.46 | 21.52 | 2.00 | 0.00 | 1.00 | 0.00 | 23.58 | 25.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.63 | 27.83 | 2.00 | 0.00 | 1.00 | 0.00 | 23.71 | 29.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.77 | 31.47 | 2.00 | 0.00 | 1.00 | 0.00 | 23.85 | 35.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.90 | 103.74 | 2.00 | 0.00 | 1.00 | 0.00 | 24.02 | 117.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.10 | 123.32 | 2.00 | 0.00 | 1.00 | 0.00 | 24.15 | 126.86 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 24.21 | 126.93 | 2.00 | 0.00 | 1.00 | 0.00 | 24.28 | 121.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.35 | 120.10 | 2.00 | 0.00 | 1.00 | 0.00 | 24.42 | 86.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.54 | 90.36 | 0.19 | 3.56 | 1.00 | 0.05 | 24.59 | 93.44 | 0.20 | 3.44 | 1.00 | 0.02 |
| 24.66 | 98.14 | 0.21 | 3.28 | 1.00 | 0.03 | 24.70 | 100.48 | 0.21 | 3.20 | 1.00 | 0.01 |
| 24.75 | 103.69 | 0.22 | 3.10 | 1.00 | 0.02 | 24.84 | 109.54 | 0.24 | 2.92 | 1.00 | 0.03 |
| 24.88 | 111.19 | 0.24 | 2.88 | 1.00 | 0.01 | 24.97 | 114.55 | 0.25 | 2.79 | 1.00 | 0.03 |
| 25.01 | 116.30 | 0.26 | 2.75 | 1.00 | 0.01 | 25.10 | 115.54 | 0.26 | 2.76 | 1.00 | 0.03 |
| 25.15 | 115.21 | 0.26 | 2.77 | 1.00 | 0.02 | 25.21 | 114.31 | 0.25 | 2.80 | 1.00 | 0.02 |
| 25.27 | 113.43 | 2.00 | 0.00 | 1.00 | 0.00 | 25.36 | 115.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.40 | 115.86 | 2.00 | 0.00 | 1.00 | 0.00 | 25.49 | 115.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.54 | 111.65 | 2.00 | 0.00 | 1.00 | 0.00 | 25.64 | 96.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.70 | 29.29 | 2.00 | 0.00 | 1.00 | 0.00 | 25.76 | 23.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.81 | 19.14 | 2.00 | 0.00 | 1.00 | 0.00 | 25.87 | 16.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.94 | 14.72 | 2.00 | 0.00 | 1.00 | 0.00 | 25.99 | 13.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.11 | 11.66 | 2.00 | 0.00 | 1.00 | 0.00 | 26.14 | 11.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.21 | 10.91 | 2.00 | 0.00 | 1.00 | 0.00 | 26.26 | 10.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.37 | 8.50 | 2.00 | 0.00 | 1.00 | 0.00 | 26.42 | 8.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.47 | 8.22 | 2.00 | 0.00 | 1.00 | 0.00 | 26.55 | 8.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.60 | 8.02 | 2.00 | 0.00 | 1.00 | 0.00 | 26.67 | 7.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.73 | 7.91 | 2.00 | 0.00 | 1.00 | 0.00 | 26.80 | 7.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.86 | 7.72 | 2.00 | 0.00 | 1.00 | 0.00 | 26.91 | 7.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.99 | 7.80 | 2.00 | 0.00 | 1.00 | 0.00 | 27.04 | 8.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.12 | 8.24 | 2.00 | 0.00 | 1.00 | 0.00 | 27.17 | 8.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.25 | 8.23 | 2.00 | 0.00 | 1.00 | 0.00 | 27.30 | 8.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.36 | 8.17 | 2.00 | 0.00 | 1.00 | 0.00 | 27.44 | 8.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.55 | 8.19 | 2.00 | 0.00 | 1.00 | 0.00 | 27.58 | 8.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.64 | 8.27 | 2.00 | 0.00 | 1.00 | 0.00 | 27.73 | 8.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.78 | 9.16 | 2.00 | 0.00 | 1.00 | 0.00 | 27.82 | 9.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.97 | 9.67 | 2.00 | 0.00 | 1.00 | 0.00 | 28.01 | 9.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.06 | 9.49 | 2.00 | 0.00 | 1.00 | 0.00 | 28.15 | 8.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.20 | 8.47 | 2.00 | 0.00 | 1.00 | 0.00 | 28.29 | 8.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.35 | 8.01 | 2.00 | 0.00 | 1.00 | 0.00 | 28.41 | 8.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.45 | 8.18 | 2.00 | 0.00 | 1.00 | 0.00 | 28.50 | 8.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.59 | 9.42 | 2.00 | 0.00 | 1.00 | 0.00 | 28.63 | 9.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.72 | 9.85 | 2.00 | 0.00 | 1.00 | 0.00 | 28.77 | 10.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.83 | 10.36 | 2.00 | 0.00 | 1.00 | 0.00 | 28.89 | 10.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.00 | 12.11 | 2.00 | 0.00 | 1.00 | 0.00 | 29.06 | 12.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.11 | 12.79 | 2.00 | 0.00 | 1.00 | 0.00 | 29.16 | 12.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.24 | 12.86 | 2.00 | 0.00 | 1.00 | 0.00 | 29.29 | 12.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.34 | 12.40 | 2.00 | 0.00 | 1.00 | 0.00 | 29.40 | 12.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.47 | 13.25 | 2.00 | 0.00 | 1.00 | 0.00 | 29.59 | 17.52 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.64 | 22.14 | 2.00 | 0.00 | 1.00 | 0.00 | 29.70 | 83.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.74 | 85.77 | 2.00 | 0.00 | 1.00 | 0.00 | 29.82 | 87.67 | 0.18 | 3.67 | 1.00 | 0.04 |
| 29.87 | 88.65 | 0.19 | 3.63 | 1.00 | 0.02 | 29.95 | 88.14 | 0.18 | 3.65 | 1.00 | 0.03 |
| 30.05 | 86.44 | 2.00 | 0.00 | 1.00 | 0.00 | 30.18 | 84.50 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.26 | 22.46 | 2.00 | 0.00 | 1.00 | 0.00 | 30.30 | 18.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.32 | 14.29 | 2.00 | 0.00 | 1.00 | 0.00 | 30.34 | 14.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.40 | 14.54 | 2.00 | 0.00 | 1.00 | 0.00 | 30.47 | 13.57 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30.52 | 13.21 | 2.00 | 0.00 | 1.00 | 0.00 | 30.60 | 12.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.66 | 12.07 | 2.00 | 0.00 | 1.00 | 0.00 | 30.73 | 11.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.82 | 11.17 | 2.00 | 0.00 | 1.00 | 0.00 | 30.87 | 11.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.92 | 11.08 | 2.00 | 0.00 | 1.00 | 0.00 | 31.04 | 11.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.09 | 11.31 | 2.00 | 0.00 | 1.00 | 0.00 | 31.17 | 11.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.22 | 11.46 | 2.00 | 0.00 | 1.00 | 0.00 | 31.29 | 11.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.35 | 11.79 | 2.00 | 0.00 | 1.00 | 0.00 | 31.40 | 11.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.48 | 11.59 | 2.00 | 0.00 | 1.00 | 0.00 | 31.53 | 11.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.58 | 11.57 | 2.00 | 0.00 | 1.00 | 0.00 | 31.74 | 11.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.80 | 12.14 | 2.00 | 0.00 | 1.00 | 0.00 | 31.86 | 12.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.92 | 13.05 | 2.00 | 0.00 | 1.00 | 0.00 | 31.98 | 13.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.04 | 13.20 | 2.00 | 0.00 | 1.00 | 0.00 | 32.10 | 13.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.16 | 13.10 | 2.00 | 0.00 | 1.00 | 0.00 | 32.23 | 13.34 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.29 | 12.64 | 2.00 | 0.00 | 1.00 | 0.00 | 32.36 | 13.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.42 | 14.74 | 2.00 | 0.00 | 1.00 | 0.00 | 32.49 | 16.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.62 | 20.83 | 2.00 | 0.00 | 1.00 | 0.00 | 32.68 | 21.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.74 | 21.47 | 2.00 | 0.00 | 1.00 | 0.00 | 32.81 | 20.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.87 | 20.17 | 2.00 | 0.00 | 1.00 | 0.00 | 32.93 | 19.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.98 | 18.12 | 2.00 | 0.00 | 1.00 | 0.00 | 33.05 | 16.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.12 | 16.33 | 2.00 | 0.00 | 1.00 | 0.00 | 33.19 | 16.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.25 | 17.23 | 2.00 | 0.00 | 1.00 | 0.00 | 33.30 | 17.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.38 | 17.52 | 2.00 | 0.00 | 1.00 | 0.00 | 33.43 | 17.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.50 | 17.58 | 2.00 | 0.00 | 1.00 | 0.00 | 33.55 | 18.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.61 | 19.37 | 2.00 | 0.00 | 1.00 | 0.00 | 33.68 | 20.43 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.75 | 22.07 | 2.00 | 0.00 | 1.00 | 0.00 | 33.81 | 23.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.89 | 24.17 | 2.00 | 0.00 | 1.00 | 0.00 | 33.94 | 24.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.07 | 25.26 | 2.00 | 0.00 | 1.00 | 0.00 | 34.12 | 24.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.18 | 24.81 | 2.00 | 0.00 | 1.00 | 0.00 | 34.29 | 30.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.38 | 37.54 | 2.00 | 0.00 | 1.00 | 0.00 | 34.43 | 106.29 | 0.22 | 3.02 | 1.00 | 0.02 |
| 34.55 | 109.03 | 0.23 | 2.94 | 1.00 | 0.04 | 34.61 | 107.30 | 0.23 | 2.99 | 1.00 | 0.02 |
| 34.69 | 41.54 | 2.00 | 0.00 | 1.00 | 0.00 | 34.75 | 38.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.82 | 35.99 | 2.00 | 0.00 | 1.00 | 0.00 | 34.88 | 34.50 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.95 | 33.56 | 2.00 | 0.00 | 1.00 | 0.00 | 35.07 | 31.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.14 | 29.65 | 2.00 | 0.00 | 1.00 | 0.00 | 35.20 | 27.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.26 | 29.67 | 2.00 | 0.00 | 1.00 | 0.00 | 35.33 | 24.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.39 | 29.70 | 2.00 | 0.00 | 1.00 | 0.00 | 35.46 | 38.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.53 | 115.38 | 2.00 | 0.00 | 1.00 | 0.00 | 35.57 | 130.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.64 | 143.73 | 2.00 | 0.00 | 1.00 | 0.00 | 35.70 | 150.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.77 | 146.33 | 2.00 | 0.00 | 1.00 | 0.00 | 35.83 | 133.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.89 | 119.21 | 2.00 | 0.00 | 1.00 | 0.00 | 35.97 | 123.01 | 0.28 | 2.59 | 1.00 | 0.02 |
| 36.01 | 124.40 | 0.29 | 2.55 | 1.00 | 0.01 | 36.14 | 123.48 | 0.28 | 2.57 | 1.00 | 0.04 |
| 36.19 | 117.24 | 0.26 | 2.72 | 1.00 | 0.01 | 36.23 | 116.87 | 0.26 | 2.73 | 1.00 | 0.01 |
| 36.30 | 118.25 | 0.26 | 2.70 | 1.00 | 0.02 | 36.36 | 122.44 | 0.28 | 2.60 | 1.00 | 0.02 |
| 36.45 | 131.08 | 0.32 | 2.41 | 1.00 | 0.03 | 36.50 | 136.91 | 0.36 | 2.30 | 1.00 | 0.01 |
| 36.62 | 148.93 | 0.47 | 2.09 | 1.00 | 0.03 | 36.67 | 150.54 | 0.49 | 2.07 | 1.00 | 0.01 |
| 36.72 | 149.70 | 0.48 | 2.08 | 1.00 | 0.01 | 36.80 | 144.07 | 0.42 | 2.17 | 1.00 | 0.02 |
| 36.84 | 139.00 | 0.37 | 2.26 | 1.00 | 0.01 | 36.91 | 136.99 | 0.36 | 2.30 | 1.00 | 0.02 |
| 36.97 | 142.24 | 0.40 | 2.20 | 1.00 | 0.02 | 37.02 | 150.55 | 0.49 | 2.07 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 37.10 | 160.47 | 0.65 | 1.70 | 1.00 | 0.02 | 37.15 | 168.81 | 0.86 | 1.06 | 1.00 | 0.01 |
| 37.24 | 178.62 | 1.26 | 0.45 | 1.00 | 0.00 | 37.29 | 184.15 | 1.60 | 0.19 | 1.00 | 0.00 |
| 37.39 | 202.26 | 2.00 | 0.00 | 1.00 | 0.00 | 37.46 | 212.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.51 | 222.51 | 2.00 | 0.00 | 1.00 | 0.00 | 37.55 | 229.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.65 | 236.44 | 2.00 | 0.00 | 1.00 | 0.00 | 37.68 | 238.10 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.76 | 238.02 | 2.00 | 0.00 | 1.00 | 0.00 | 37.81 | 237.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.90 | 234.32 | 2.00 | 0.00 | 1.00 | 0.00 | 37.95 | 233.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.03 | 232.68 | 2.00 | 0.00 | 1.00 | 0.00 | 38.10 | 228.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.17 | 221.56 | 2.00 | 0.00 | 1.00 | 0.00 | 38.24 | 212.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.30 | 201.12 | 2.00 | 0.00 | 1.00 | 0.00 | 38.38 | 187.98 | 1.92 | 0.03 | 1.00 | 0.00 |
| 38.43 | 174.61 | 1.07 | 0.67 | 1.00 | 0.00 | 38.52 | 161.38 | 0.67 | 1.65 | 1.00 | 0.02 |
| 38.57 | 143.90 | 2.00 | 0.00 | 1.00 | 0.00 | 38.66 | 138.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.71 | 126.90 | 2.00 | 0.00 | 1.00 | 0.00 | 38.78 | 131.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.85 | 124.28 | 2.00 | 0.00 | 1.00 | 0.00 | 38.92 | 113.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.01 | 103.07 | 2.00 | 0.00 | 1.00 | 0.00 | 39.02 | 94.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.04 | 97.34 | 0.20 | 3.30 | 1.00 | 0.01 | 39.13 | 96.19 | 0.20 | 3.34 | 1.00 | 0.03 |
| 39.18 | 32.78 | 2.00 | 0.00 | 1.00 | 0.00 | 39.28 | 26.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.34 | 24.22 | 2.00 | 0.00 | 1.00 | 0.00 | 39.39 | 23.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.45 | 23.89 | 2.00 | 0.00 | 1.00 | 0.00 | 39.54 | 29.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.59 | 33.01 | 2.00 | 0.00 | 1.00 | 0.00 | 39.66 | 35.30 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.71 | 36.83 | 2.00 | 0.00 | 1.00 | 0.00 | 39.81 | 36.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 39.92 | 40.98 | 2.00 | 0.00 | 1.00 | 0.00 | 39.97 | 112.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.02 | 125.63 | 2.00 | 0.00 | 1.00 | 0.00 | 40.10 | 139.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.15 | 153.03 | 2.00 | 0.00 | 1.00 | 0.00 | 40.25 | 168.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.32 | 166.43 | 2.00 | 0.00 | 1.00 | 0.00 | 40.37 | 165.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.44 | 169.31 | 0.87 | 1.02 | 1.00 | 0.01 | 40.50 | 172.68 | 0.99 | 0.79 | 1.00 | 0.01 |
| 40.54 | 176.90 | 1.17 | 0.54 | 1.00 | 0.00 | 40.67 | 192.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.72 | 198.52 | 2.00 | 0.00 | 1.00 | 0.00 | 40.77 | 201.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.90 | 200.14 | 2.00 | 0.00 | 1.00 | 0.00 | 40.94 | 197.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.01 | 191.68 | 2.00 | 0.00 | 1.00 | 0.00 | 41.07 | 186.68 | 1.81 | 0.08 | 1.00 | 0.00 |
| 41.25 | 194.05 | 2.00 | 0.00 | 1.00 | 0.00 | 41.38 | 191.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.45 | 188.28 | 1.95 | 0.02 | 1.00 | 0.00 | 41.52 | 190.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.57 | 193.96 | 2.00 | 0.00 | 1.00 | 0.00 | 41.64 | 197.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.70 | 200.59 | 2.00 | 0.00 | 1.00 | 0.00 | 41.77 | 198.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.83 | 193.18 | 2.00 | 0.00 | 1.00 | 0.00 | 41.88 | 177.71 | 1.21 | 0.49 | 1.00 | 0.00 |
| 41.89 | 162.37 | 0.69 | 1.59 | 1.00 | 0.00 | 41.95 | 171.75 | 0.96 | 0.84 | 1.00 | 0.01 |
| 42.00 | 167.73 | 2.00 | 0.00 | 1.00 | 0.00 | 42.09 | 159.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.13 | 156.95 | 2.00 | 0.00 | 1.00 | 0.00 | 42.21 | 162.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.26 | 167.92 | 2.00 | 0.00 | 1.00 | 0.00 | 42.35 | 170.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.46 | 157.10 | 2.00 | 0.00 | 1.00 | 0.00 | 42.52 | 145.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.57 | 134.73 | 2.00 | 0.00 | 1.00 | 0.00 | 42.61 | 123.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.66 | 114.72 | 2.00 | 0.00 | 1.00 | 0.00 | 42.75 | 42.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.80 | 40.92 | 2.00 | 0.00 | 1.00 | 0.00 | 42.90 | 34.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.01 | 36.62 | 2.00 | 0.00 | 1.00 | 0.00 | 43.06 | 111.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.10 | 126.95 | 2.00 | 0.00 | 1.00 | 0.00 | 43.15 | 141.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.25 | 156.07 | 2.00 | 0.00 | 1.00 | 0.00 | 43.32 | 158.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.36 | 158.77 | 2.00 | 0.00 | 1.00 | 0.00 | 43.41 | 158.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.47 | 159.84 | 2.00 | 0.00 | 1.00 | 0.00 | 43.51 | 160.68 | 0.66 | 1.69 | 1.00 | 0.01 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43.68 | 165.85 | 0.78 | 1.28 | 1.00 | 0.03 | 43.72 | 166.89 | 0.81 | 1.19 | 1.00 | 0.01 |
| 43.78 | 167.75 | 0.83 | 1.12 | 1.00 | 0.01 | 43.81 | 167.95 | 0.84 | 1.10 | 1.00 | 0.00 |
| 43.89 | 169.28 | 0.88 | 1.00 | 1.00 | 0.01 | 43.94 | 170.60 | 0.92 | 0.91 | 1.00 | 0.01 |
| 43.98 | 171.46 | 0.95 | 0.85 | 1.00 | 0.00 | 44.04 | 172.78 | 1.00 | 0.77 | 1.00 | 0.01 |
| 44.11 | 174.15 | 1.06 | 0.69 | 1.00 | 0.01 | 44.20 | 176.41 | 1.15 | 0.56 | 1.00 | 0.01 |
| 44.25 | 176.71 | 1.17 | 0.54 | 1.00 | 0.00 | 44.31 | 175.68 | 1.12 | 0.60 | 1.00 | 0.00 |
| 44.38 | 173.80 | 1.04 | 0.71 | 1.00 | 0.01 | 44.43 | 178.04 | 1.24 | 0.47 | 1.00 | 0.00 |
| 44.51 | 187.89 | 1.92 | 0.03 | 1.00 | 0.00 | 44.56 | 192.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.64 | 190.47 | 2.00 | 0.00 | 1.00 | 0.00 | 44.69 | 190.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 44.77 | 188.76 | 2.00 | 0.00 | 1.00 | 0.00 | 44.86 | 188.59 | 1.98 | 0.01 | 1.00 | 0.00 |
| 44.90 | 188.12 | 1.94 | 0.02 | 1.00 | 0.00 | 44.95 | 188.04 | 1.93 | 0.03 | 1.00 | 0.00 |
| 45.03 | 182.90 | 2.00 | 0.00 | 1.00 | 0.00 | 45.12 | 170.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.17 | 168.20 | 2.00 | 0.00 | 1.00 | 0.00 | 45.23 | 176.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.35 | 148.00 | 2.00 | 0.00 | 1.00 | 0.00 | 45.43 | 129.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.49 | 117.34 | 2.00 | 0.00 | 1.00 | 0.00 | 45.56 | 45.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.61 | 39.12 | 2.00 | 0.00 | 1.00 | 0.00 | 45.69 | 36.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.74 | 36.80 | 2.00 | 0.00 | 1.00 | 0.00 | 45.87 | 36.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.93 | 36.80 | 2.00 | 0.00 | 1.00 | 0.00 | 46.05 | 35.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.18 | 35.11 | 2.00 | 0.00 | 1.00 | 0.00 | 46.23 | 34.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.31 | 33.32 | 2.00 | 0.00 | 1.00 | 0.00 | 46.37 | 34.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.49 | 34.13 | 2.00 | 0.00 | 1.00 | 0.00 | 46.58 | 38.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.62 | 41.98 | 2.00 | 0.00 | 1.00 | 0.00 | 46.68 | 45.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.76 | 49.60 | 2.00 | 0.00 | 1.00 | 0.00 | 46.81 | 53.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.89 | 124.26 | 2.00 | 0.00 | 1.00 | 0.00 | 46.94 | 130.50 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.02 | 140.59 | 2.00 | 0.00 | 1.00 | 0.00 | 47.08 | 155.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.12 | 161.46 | 2.00 | 0.00 | 1.00 | 0.00 | 47.21 | 185.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.25 | 189.78 | 2.00 | 0.00 | 1.00 | 0.00 | 47.32 | 193.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.39 | 192.23 | 2.00 | 0.00 | 1.00 | 0.00 | 47.46 | 181.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.53 | 165.19 | 2.00 | 0.00 | 1.00 | 0.00 | 47.61 | 162.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.66 | 161.05 | 0.68 | 1.67 | 1.00 | 0.01 | 47.75 | 154.36 | 0.56 | 2.01 | 1.00 | 0.02 |
| 47.78 | 150.19 | 0.50 | 2.07 | 1.00 | 0.01 | 47.88 | 148.30 | 0.48 | 2.10 | 1.00 | 0.02 |
| 47.92 | 146.29 | 0.46 | 2.14 | 1.00 | 0.01 | 47.97 | 142.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.05 | 141.06 | 2.00 | 0.00 | 1.00 | 0.00 | 48.11 | 149.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.19 | 144.40 | 2.00 | 0.00 | 1.00 | 0.00 | 48.24 | 126.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.32 | 109.23 | 2.00 | 0.00 | 1.00 | 0.00 | 48.36 | 39.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.45 | 30.30 | 2.00 | 0.00 | 1.00 | 0.00 | 48.53 | 39.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.58 | 25.01 | 2.00 | 0.00 | 1.00 | 0.00 | 48.71 | 38.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.76 | 40.90 | 2.00 | 0.00 | 1.00 | 0.00 | 48.80 | 41.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.85 | 41.66 | 2.00 | 0.00 | 1.00 | 0.00 | 48.89 | 42.36 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.96 | 45.83 | 2.00 | 0.00 | 1.00 | 0.00 | 49.05 | 51.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.08 | 53.48 | 2.00 | 0.00 | 1.00 | 0.00 | 49.16 | 123.80 | 0.30 | 2.57 | 1.00 | 0.02 |
| 49.24 | 123.20 | 2.00 | 0.00 | 1.00 | 0.00 | 49.28 | 123.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.38 | 127.94 | 2.00 | 0.00 | 1.00 | 0.00 | 49.42 | 133.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.49 | 150.02 | 2.00 | 0.00 | 1.00 | 0.00 | 49.57 | 170.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.62 | 174.02 | 2.00 | 0.00 | 1.00 | 0.00 | 49.69 | 168.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.77 | 148.66 | 2.00 | 0.00 | 1.00 | 0.00 | 49.82 | 149.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.90 | 151.03 | 2.00 | 0.00 | 1.00 | 0.00 | 49.95 | 150.53 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.00 | 135.68 | 2.00 | 0.00 | 1.00 | 0.00 | 50.10 | 139.63 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Total estimated settlement: 3.29**

**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 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5.05 | 166.78 | 1.39 | 0.35 | 1.00 | 0.00 | 5.11 | 167.53 | 1.42 | 0.33 | 1.00 | 0.00 |
| 5.18 | 168.23 | 1.44 | 0.31 | 1.00 | 0.00 | 5.24 | 168.43 | 1.45 | 0.30 | 1.00 | 0.00 |
| 5.32 | 167.57 | 1.39 | 0.35 | 1.00 | 0.00 | 5.46 | 166.26 | 1.31 | 0.42 | 1.00 | 0.01 |
| 5.52 | 167.06 | 1.34 | 0.39 | 1.00 | 0.00 | 5.59 | 168.15 | 1.39 | 0.35 | 1.00 | 0.00 |
| 5.65 | 168.91 | 1.42 | 0.33 | 1.00 | 0.00 | 5.73 | 168.89 | 1.41 | 0.33 | 1.00 | 0.00 |
| 5.79 | 166.00 | 1.27 | 0.47 | 1.00 | 0.00 | 5.86 | 164.57 | 1.20 | 0.54 | 1.00 | 0.00 |
| 5.93 | 164.88 | 1.21 | 0.53 | 1.00 | 0.00 | 6.00 | 163.98 | 1.16 | 0.58 | 1.00 | 0.00 |
| 6.13 | 161.48 | 1.06 | 0.73 | 1.00 | 0.01 | 6.21 | 159.75 | 1.00 | 0.84 | 1.00 | 0.01 |
| 6.26 | 157.76 | 0.94 | 0.98 | 1.00 | 0.01 | 6.35 | 156.18 | 0.89 | 1.10 | 1.00 | 0.01 |
| 6.40 | 154.70 | 0.85 | 1.23 | 1.00 | 0.01 | 6.54 | 148.25 | 0.71 | 1.95 | 1.00 | 0.03 |
| 6.62 | 143.35 | 0.63 | 2.18 | 1.00 | 0.02 | 6.68 | 138.91 | 0.57 | 2.26 | 1.00 | 0.02 |
| 6.75 | 134.17 | 0.52 | 2.35 | 1.00 | 0.02 | 6.79 | 129.70 | 0.48 | 2.44 | 1.00 | 0.01 |
| 6.88 | 123.09 | 0.42 | 2.58 | 1.00 | 0.03 | 6.99 | 107.78 | 0.34 | 2.97 | 1.00 | 0.04 |
| 7.11 | 90.84 | 0.28 | 3.54 | 1.00 | 0.05 | 7.14 | 95.03 | 0.29 | 3.38 | 1.00 | 0.01 |
| 7.17 | 99.71 | 0.31 | 3.22 | 1.00 | 0.01 | 7.24 | 100.53 | 0.31 | 3.20 | 1.00 | 0.03 |
| 7.29 | 102.18 | 0.31 | 3.14 | 1.00 | 0.02 | 7.37 | 104.11 | 0.32 | 3.08 | 1.00 | 0.03 |
| 7.44 | 105.03 | 0.32 | 3.05 | 1.00 | 0.03 | 7.51 | 105.64 | 0.32 | 3.04 | 1.00 | 0.02 |
| 7.55 | 106.03 | 0.32 | 3.03 | 1.00 | 0.02 | 7.64 | 107.96 | 0.33 | 2.97 | 1.00 | 0.03 |
| 7.68 | 108.47 | 0.33 | 2.95 | 1.00 | 0.01 | 7.92 | 109.94 | 0.33 | 2.91 | 1.00 | 0.08 |
| 7.99 | 111.40 | 0.34 | 2.87 | 1.00 | 0.02 | 8.05 | 112.48 | 0.34 | 2.84 | 1.00 | 0.02 |
| 8.19 | 116.23 | 0.36 | 2.75 | 1.00 | 0.05 | 8.25 | 117.23 | 0.36 | 2.72 | 1.00 | 0.02 |
| 8.32 | 117.99 | 0.36 | 2.70 | 1.00 | 0.02 | 8.52 | 113.84 | 0.34 | 2.81 | 1.00 | 0.07 |
| 8.66 | 109.33 | 0.32 | 2.93 | 1.00 | 0.05 | 8.72 | 107.16 | 0.31 | 2.99 | 1.00 | 0.02 |
| 8.79 | 105.37 | 0.30 | 3.04 | 1.00 | 0.02 | 8.92 | 105.32 | 0.30 | 3.05 | 1.00 | 0.05 |
| 8.98 | 106.56 | 0.30 | 3.01 | 1.00 | 0.02 | 9.05 | 107.71 | 0.31 | 2.98 | 1.00 | 0.02 |
| 9.14 | 109.27 | 0.31 | 2.93 | 1.00 | 0.03 | 9.19 | 109.79 | 0.31 | 2.92 | 1.00 | 0.02 |
| 9.27 | 109.53 | 0.31 | 2.92 | 1.00 | 0.03 | 9.34 | 108.83 | 0.31 | 2.94 | 1.00 | 0.02 |
| 9.41 | 106.92 | 0.30 | 3.00 | 1.00 | 0.03 | 9.46 | 104.04 | 0.29 | 3.09 | 1.00 | 0.02 |
| 9.54 | 102.85 | 0.29 | 3.12 | 1.00 | 0.03 | 9.60 | 104.48 | 0.29 | 3.07 | 1.00 | 0.02 |
| 9.67 | 91.59 | 0.25 | 3.51 | 1.00 | 0.03 | 9.76 | 93.00 | 0.25 | 3.46 | 1.00 | 0.04 |
| 9.81 | 93.70 | 0.26 | 3.43 | 1.00 | 0.02 | 9.89 | 94.09 | 0.26 | 3.42 | 1.00 | 0.03 |
| 9.95 | 89.99 | 0.24 | 3.57 | 1.00 | 0.02 | 9.96 | 90.24 | 0.25 | 3.56 | 1.00 | 0.01 |
| 9.99 | 90.13 | 0.24 | 3.57 | 1.00 | 0.01 | 10.08 | 90.22 | 0.24 | 3.56 | 1.00 | 0.04 |
| 10.14 | 88.74 | 2.00 | 0.00 | 1.00 | 0.00 | 10.18 | 88.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.27 | 101.45 | 2.00 | 0.00 | 1.00 | 0.00 | 10.33 | 105.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.38 | 107.43 | 2.00 | 0.00 | 1.00 | 0.00 | 10.47 | 102.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.55 | 96.24 | 2.00 | 0.00 | 1.00 | 0.00 | 10.61 | 90.10 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.69 | 25.80 | 2.00 | 0.00 | 1.00 | 0.00 | 10.75 | 21.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.82 | 18.12 | 2.00 | 0.00 | 1.00 | 0.00 | 10.87 | 15.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 10.96 | 12.76 | 2.00 | 0.00 | 1.00 | 0.00 | 11.09 | 11.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.16 | 11.28 | 2.00 | 0.00 | 1.00 | 0.00 | 11.23 | 11.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.29 | 10.59 | 2.00 | 0.00 | 1.00 | 0.00 | 11.36 | 10.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.44 | 9.77 | 2.00 | 0.00 | 1.00 | 0.00 | 11.57 | 9.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.64 | 9.08 | 2.00 | 0.00 | 1.00 | 0.00 | 11.71 | 8.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.78 | 9.31 | 2.00 | 0.00 | 1.00 | 0.00 | 11.84 | 11.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 11.91 | 13.91 | 2.00 | 0.00 | 1.00 | 0.00 | 11.98 | 15.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.06 | 15.77 | 2.00 | 0.00 | 1.00 | 0.00 | 12.12 | 14.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.20 | 14.70 | 2.00 | 0.00 | 1.00 | 0.00 | 12.33 | 14.66 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12.39 | 14.51 | 2.00 | 0.00 | 1.00 | 0.00 | 12.46 | 17.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.55 | 19.43 | 2.00 | 0.00 | 1.00 | 0.00 | 12.57 | 17.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.60 | 17.54 | 2.00 | 0.00 | 1.00 | 0.00 | 12.72 | 26.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 12.77 | 29.55 | 2.00 | 0.00 | 1.00 | 0.00 | 12.85 | 90.10 | 0.22 | 3.57 | 1.00 | 0.03 |
| 12.91 | 29.34 | 2.00 | 0.00 | 1.00 | 0.00 | 12.99 | 27.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.04 | 27.82 | 2.00 | 0.00 | 1.00 | 0.00 | 13.12 | 27.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.19 | 27.75 | 2.00 | 0.00 | 1.00 | 0.00 | 13.25 | 90.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.30 | 96.07 | 2.00 | 0.00 | 1.00 | 0.00 | 13.39 | 101.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.45 | 101.41 | 2.00 | 0.00 | 1.00 | 0.00 | 13.52 | 101.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.58 | 96.67 | 2.00 | 0.00 | 1.00 | 0.00 | 13.65 | 89.92 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.74 | 25.29 | 2.00 | 0.00 | 1.00 | 0.00 | 13.79 | 21.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 13.87 | 19.17 | 2.00 | 0.00 | 1.00 | 0.00 | 13.92 | 16.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.01 | 16.00 | 2.00 | 0.00 | 1.00 | 0.00 | 14.05 | 15.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.14 | 15.62 | 2.00 | 0.00 | 1.00 | 0.00 | 14.22 | 15.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.28 | 14.26 | 2.00 | 0.00 | 1.00 | 0.00 | 14.40 | 13.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.49 | 13.23 | 2.00 | 0.00 | 1.00 | 0.00 | 14.55 | 13.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.63 | 13.44 | 2.00 | 0.00 | 1.00 | 0.00 | 14.69 | 13.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.82 | 13.88 | 2.00 | 0.00 | 1.00 | 0.00 | 14.89 | 14.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 14.95 | 14.67 | 2.00 | 0.00 | 1.00 | 0.00 | 15.03 | 16.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.12 | 17.46 | 2.00 | 0.00 | 1.00 | 0.00 | 15.19 | 18.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.25 | 17.99 | 2.00 | 0.00 | 1.00 | 0.00 | 15.33 | 17.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.38 | 17.35 | 2.00 | 0.00 | 1.00 | 0.00 | 15.47 | 17.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.52 | 17.43 | 2.00 | 0.00 | 1.00 | 0.00 | 15.60 | 16.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.67 | 16.08 | 2.00 | 0.00 | 1.00 | 0.00 | 15.73 | 15.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.75 | 15.18 | 2.00 | 0.00 | 1.00 | 0.00 | 15.76 | 13.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.85 | 14.84 | 2.00 | 0.00 | 1.00 | 0.00 | 15.89 | 14.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 15.98 | 14.22 | 2.00 | 0.00 | 1.00 | 0.00 | 16.08 | 14.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.14 | 14.06 | 2.00 | 0.00 | 1.00 | 0.00 | 16.20 | 14.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.26 | 13.56 | 2.00 | 0.00 | 1.00 | 0.00 | 16.34 | 13.66 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.39 | 13.52 | 2.00 | 0.00 | 1.00 | 0.00 | 16.47 | 12.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.54 | 11.97 | 2.00 | 0.00 | 1.00 | 0.00 | 16.60 | 11.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.67 | 11.59 | 2.00 | 0.00 | 1.00 | 0.00 | 16.74 | 11.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.82 | 11.33 | 2.00 | 0.00 | 1.00 | 0.00 | 16.87 | 11.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 16.95 | 11.30 | 2.00 | 0.00 | 1.00 | 0.00 | 17.01 | 11.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.08 | 11.96 | 2.00 | 0.00 | 1.00 | 0.00 | 17.22 | 12.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.27 | 13.05 | 2.00 | 0.00 | 1.00 | 0.00 | 17.36 | 13.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.49 | 15.04 | 2.00 | 0.00 | 1.00 | 0.00 | 17.56 | 15.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.62 | 16.58 | 2.00 | 0.00 | 1.00 | 0.00 | 17.68 | 17.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.75 | 18.43 | 2.00 | 0.00 | 1.00 | 0.00 | 17.80 | 19.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 17.88 | 21.80 | 2.00 | 0.00 | 1.00 | 0.00 | 17.96 | 24.51 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.02 | 26.45 | 2.00 | 0.00 | 1.00 | 0.00 | 18.10 | 27.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.24 | 31.10 | 2.00 | 0.00 | 1.00 | 0.00 | 18.30 | 92.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.37 | 93.50 | 2.00 | 0.00 | 1.00 | 0.00 | 18.43 | 91.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 18.58 | 95.09 | 2.00 | 0.00 | 1.00 | 0.00 | 18.64 | 98.77 | 0.22 | 3.25 | 1.00 | 0.02 |
| 18.66 | 96.52 | 0.21 | 3.33 | 1.00 | 0.01 | 18.72 | 101.96 | 0.23 | 3.15 | 1.00 | 0.02 |
| 18.80 | 101.91 | 0.23 | 3.15 | 1.00 | 0.03 | 18.85 | 101.87 | 0.23 | 3.15 | 1.00 | 0.02 |
| 18.94 | 102.38 | 0.23 | 3.14 | 1.00 | 0.03 | 18.98 | 102.55 | 0.23 | 3.13 | 1.00 | 0.02 |
| 19.07 | 101.78 | 0.23 | 3.16 | 1.00 | 0.03 | 19.14 | 101.65 | 0.23 | 3.16 | 1.00 | 0.02 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 19.20 | 101.86 | 0.23 | 3.15 | 1.00 | 0.02 | 19.25 | 102.09 | 0.23 | 3.15 | 1.00 | 0.02 |
| 19.30 | 103.38 | 0.23 | 3.11 | 1.00 | 0.02 | 19.38 | 106.19 | 0.24 | 3.02 | 1.00 | 0.03 |
| 19.46 | 107.24 | 0.24 | 2.99 | 1.00 | 0.03 | 19.52 | 106.86 | 0.24 | 3.00 | 1.00 | 0.02 |
| 19.60 | 108.32 | 0.24 | 2.96 | 1.00 | 0.03 | 19.73 | 111.12 | 0.25 | 2.88 | 1.00 | 0.04 |
| 19.79 | 111.55 | 0.25 | 2.87 | 1.00 | 0.02 | 19.87 | 113.13 | 0.26 | 2.83 | 1.00 | 0.03 |
| 20.00 | 117.41 | 0.27 | 2.72 | 1.00 | 0.04 | 20.05 | 119.86 | 0.28 | 2.66 | 1.00 | 0.02 |
| 20.13 | 122.67 | 0.30 | 2.59 | 1.00 | 0.02 | 20.19 | 124.14 | 0.30 | 2.56 | 1.00 | 0.02 |
| 20.26 | 125.59 | 0.31 | 2.53 | 1.00 | 0.02 | 20.39 | 128.08 | 0.32 | 2.47 | 1.00 | 0.04 |
| 20.45 | 129.02 | 0.33 | 2.45 | 1.00 | 0.02 | 20.53 | 130.17 | 0.34 | 2.43 | 1.00 | 0.02 |
| 20.59 | 130.62 | 0.34 | 2.42 | 1.00 | 0.02 | 20.72 | 131.94 | 0.35 | 2.40 | 1.00 | 0.04 |
| 20.80 | 132.30 | 0.35 | 2.39 | 1.00 | 0.02 | 20.85 | 132.57 | 0.35 | 2.38 | 1.00 | 0.01 |
| 20.93 | 132.11 | 0.35 | 2.39 | 1.00 | 0.02 | 21.00 | 130.09 | 0.33 | 2.43 | 1.00 | 0.02 |
| 21.06 | 128.09 | 0.32 | 2.47 | 1.00 | 0.02 | 21.20 | 118.25 | 0.28 | 2.70 | 1.00 | 0.04 |
| 21.28 | 116.98 | 0.27 | 2.73 | 1.00 | 0.03 | 21.34 | 117.07 | 0.27 | 2.73 | 1.00 | 0.02 |
| 21.41 | 118.40 | 0.28 | 2.69 | 1.00 | 0.02 | 21.48 | 123.80 | 0.30 | 2.57 | 1.00 | 0.02 |
| 21.55 | 120.07 | 0.28 | 2.65 | 1.00 | 0.02 | 21.62 | 114.26 | 0.26 | 2.80 | 1.00 | 0.02 |
| 21.68 | 118.58 | 0.28 | 2.69 | 1.00 | 0.02 | 21.76 | 122.32 | 0.29 | 2.60 | 1.00 | 0.03 |
| 21.82 | 123.47 | 0.30 | 2.57 | 1.00 | 0.02 | 21.84 | 119.25 | 0.28 | 2.67 | 1.00 | 0.01 |
| 21.85 | 117.80 | 0.27 | 2.71 | 1.00 | 0.00 | 21.94 | 122.96 | 0.29 | 2.59 | 1.00 | 0.03 |
| 21.99 | 122.64 | 0.29 | 2.59 | 1.00 | 0.01 | 22.06 | 121.39 | 0.29 | 2.62 | 1.00 | 0.02 |
| 22.14 | 120.16 | 0.28 | 2.65 | 1.00 | 0.03 | 22.21 | 120.24 | 0.28 | 2.65 | 1.00 | 0.02 |
| 22.31 | 119.84 | 0.28 | 2.66 | 1.00 | 0.03 | 22.39 | 119.50 | 0.28 | 2.67 | 1.00 | 0.03 |
| 22.45 | 118.42 | 0.27 | 2.69 | 1.00 | 0.02 | 22.50 | 116.23 | 0.27 | 2.75 | 1.00 | 0.02 |
| 22.54 | 112.94 | 0.25 | 2.83 | 1.00 | 0.01 | 22.60 | 107.44 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.65 | 106.30 | 2.00 | 0.00 | 1.00 | 0.00 | 22.73 | 108.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.79 | 106.87 | 2.00 | 0.00 | 1.00 | 0.00 | 22.87 | 98.79 | 2.00 | 0.00 | 1.00 | 0.00 |
| 22.93 | 30.07 | 2.00 | 0.00 | 1.00 | 0.00 | 23.00 | 23.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.07 | 19.35 | 2.00 | 0.00 | 1.00 | 0.00 | 23.14 | 17.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.22 | 17.79 | 2.00 | 0.00 | 1.00 | 0.00 | 23.27 | 20.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.35 | 24.97 | 2.00 | 0.00 | 1.00 | 0.00 | 23.41 | 30.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 23.49 | 34.80 | 2.00 | 0.00 | 1.00 | 0.00 | 23.56 | 98.43 | 0.21 | 3.27 | 1.00 | 0.03 |
| 23.62 | 97.97 | 0.21 | 3.28 | 1.00 | 0.02 | 23.68 | 95.55 | 0.20 | 3.36 | 1.00 | 0.02 |
| 23.76 | 93.18 | 0.20 | 3.45 | 1.00 | 0.03 | 23.84 | 91.22 | 0.20 | 3.53 | 1.00 | 0.03 |
| 23.91 | 27.81 | 2.00 | 0.00 | 1.00 | 0.00 | 23.98 | 23.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.11 | 16.63 | 2.00 | 0.00 | 1.00 | 0.00 | 24.18 | 14.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.24 | 13.00 | 2.00 | 0.00 | 1.00 | 0.00 | 24.36 | 14.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.42 | 12.77 | 2.00 | 0.00 | 1.00 | 0.00 | 24.48 | 14.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.52 | 14.44 | 2.00 | 0.00 | 1.00 | 0.00 | 24.56 | 9.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.64 | 23.38 | 2.00 | 0.00 | 1.00 | 0.00 | 24.68 | 24.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.78 | 26.07 | 2.00 | 0.00 | 1.00 | 0.00 | 24.81 | 27.42 | 2.00 | 0.00 | 1.00 | 0.00 |
| 24.90 | 31.95 | 2.00 | 0.00 | 1.00 | 0.00 | 24.97 | 101.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.02 | 105.60 | 2.00 | 0.00 | 1.00 | 0.00 | 25.09 | 110.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.18 | 108.48 | 2.00 | 0.00 | 1.00 | 0.00 | 25.22 | 107.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 25.26 | 107.16 | 2.00 | 0.00 | 1.00 | 0.00 | 25.39 | 108.06 | 0.23 | 2.97 | 1.00 | 0.05 |
| 25.44 | 108.62 | 0.24 | 2.95 | 1.00 | 0.02 | 25.48 | 109.63 | 0.24 | 2.92 | 1.00 | 0.01 |
| 25.57 | 111.34 | 0.24 | 2.87 | 1.00 | 0.03 | 25.61 | 112.38 | 0.25 | 2.85 | 1.00 | 0.02 |
| 25.70 | 114.91 | 0.26 | 2.78 | 1.00 | 0.03 | 25.74 | 116.08 | 0.26 | 2.75 | 1.00 | 0.01 |
| 25.79 | 116.72 | 0.26 | 2.73 | 1.00 | 0.01 | 25.88 | 116.27 | 0.26 | 2.75 | 1.00 | 0.03 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25.94 | 114.86 | 0.26 | 2.78 | 1.00 | 0.02 | 26.01 | 113.27 | 0.25 | 2.82 | 1.00 | 0.02 |
| 26.06 | 112.82 | 0.25 | 2.83 | 1.00 | 0.02 | 26.12 | 113.01 | 0.25 | 2.83 | 1.00 | 0.02 |
| 26.19 | 113.12 | 2.00 | 0.00 | 1.00 | 0.00 | 26.30 | 113.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.36 | 113.56 | 2.00 | 0.00 | 1.00 | 0.00 | 26.42 | 110.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.48 | 104.02 | 2.00 | 0.00 | 1.00 | 0.00 | 26.55 | 95.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.60 | 27.40 | 2.00 | 0.00 | 1.00 | 0.00 | 26.67 | 20.79 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.72 | 16.19 | 2.00 | 0.00 | 1.00 | 0.00 | 26.78 | 13.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 26.85 | 11.58 | 2.00 | 0.00 | 1.00 | 0.00 | 26.97 | 9.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.03 | 8.48 | 2.00 | 0.00 | 1.00 | 0.00 | 27.08 | 7.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.12 | 6.55 | 2.00 | 0.00 | 1.00 | 0.00 | 27.20 | 7.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.24 | 7.12 | 2.00 | 0.00 | 1.00 | 0.00 | 27.30 | 7.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.43 | 6.92 | 2.00 | 0.00 | 1.00 | 0.00 | 27.48 | 7.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.52 | 6.81 | 2.00 | 0.00 | 1.00 | 0.00 | 27.61 | 7.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.65 | 7.19 | 2.00 | 0.00 | 1.00 | 0.00 | 27.70 | 7.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.80 | 7.75 | 2.00 | 0.00 | 1.00 | 0.00 | 27.85 | 7.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 27.90 | 7.84 | 2.00 | 0.00 | 1.00 | 0.00 | 28.05 | 7.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.10 | 7.91 | 2.00 | 0.00 | 1.00 | 0.00 | 28.14 | 8.10 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.18 | 8.00 | 2.00 | 0.00 | 1.00 | 0.00 | 28.29 | 7.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.36 | 7.70 | 2.00 | 0.00 | 1.00 | 0.00 | 28.41 | 7.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.50 | 7.12 | 2.00 | 0.00 | 1.00 | 0.00 | 28.57 | 6.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.62 | 6.73 | 2.00 | 0.00 | 1.00 | 0.00 | 28.68 | 6.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.73 | 6.82 | 2.00 | 0.00 | 1.00 | 0.00 | 28.84 | 7.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 28.89 | 8.60 | 2.00 | 0.00 | 1.00 | 0.00 | 28.96 | 9.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.02 | 9.72 | 2.00 | 0.00 | 1.00 | 0.00 | 29.07 | 9.06 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.15 | 8.95 | 2.00 | 0.00 | 1.00 | 0.00 | 29.23 | 9.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.29 | 9.21 | 2.00 | 0.00 | 1.00 | 0.00 | 29.38 | 9.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.42 | 10.70 | 2.00 | 0.00 | 1.00 | 0.00 | 29.46 | 12.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.56 | 16.08 | 2.00 | 0.00 | 1.00 | 0.00 | 29.62 | 17.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.68 | 18.36 | 2.00 | 0.00 | 1.00 | 0.00 | 29.73 | 19.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 29.86 | 21.37 | 2.00 | 0.00 | 1.00 | 0.00 | 29.99 | 24.00 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.05 | 23.89 | 2.00 | 0.00 | 1.00 | 0.00 | 30.13 | 22.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.17 | 20.43 | 2.00 | 0.00 | 1.00 | 0.00 | 30.26 | 17.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.32 | 16.07 | 2.00 | 0.00 | 1.00 | 0.00 | 30.39 | 15.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.47 | 17.14 | 2.00 | 0.00 | 1.00 | 0.00 | 30.53 | 18.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.60 | 20.21 | 2.00 | 0.00 | 1.00 | 0.00 | 30.66 | 21.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.75 | 22.36 | 2.00 | 0.00 | 1.00 | 0.00 | 30.81 | 22.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 30.88 | 20.95 | 2.00 | 0.00 | 1.00 | 0.00 | 30.93 | 19.47 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.02 | 17.36 | 2.00 | 0.00 | 1.00 | 0.00 | 31.06 | 15.25 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.28 | 11.30 | 2.00 | 0.00 | 1.00 | 0.00 | 31.35 | 10.57 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.38 | 8.38 | 2.00 | 0.00 | 1.00 | 0.00 | 31.44 | 9.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.51 | 9.91 | 2.00 | 0.00 | 1.00 | 0.00 | 31.59 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.64 | 10.26 | 2.00 | 0.00 | 1.00 | 0.00 | 31.74 | 10.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.79 | 9.96 | 2.00 | 0.00 | 1.00 | 0.00 | 31.83 | 9.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 31.90 | 9.59 | 2.00 | 0.00 | 1.00 | 0.00 | 31.99 | 9.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.04 | 9.31 | 2.00 | 0.00 | 1.00 | 0.00 | 32.20 | 9.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.25 | 9.28 | 2.00 | 0.00 | 1.00 | 0.00 | 32.30 | 9.72 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.37 | 10.61 | 2.00 | 0.00 | 1.00 | 0.00 | 32.43 | 11.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.47 | 12.03 | 2.00 | 0.00 | 1.00 | 0.00 | 32.52 | 12.12 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 32.57 | 12.01 | 2.00 | 0.00 | 1.00 | 0.00 | 32.70 | 11.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.74 | 11.45 | 2.00 | 0.00 | 1.00 | 0.00 | 32.81 | 11.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.87 | 11.70 | 2.00 | 0.00 | 1.00 | 0.00 | 32.92 | 12.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 32.98 | 13.38 | 2.00 | 0.00 | 1.00 | 0.00 | 33.05 | 14.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.11 | 14.34 | 2.00 | 0.00 | 1.00 | 0.00 | 33.22 | 14.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.28 | 15.27 | 2.00 | 0.00 | 1.00 | 0.00 | 33.36 | 15.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.40 | 15.07 | 2.00 | 0.00 | 1.00 | 0.00 | 33.48 | 13.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.59 | 13.53 | 2.00 | 0.00 | 1.00 | 0.00 | 33.66 | 13.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.72 | 13.78 | 2.00 | 0.00 | 1.00 | 0.00 | 33.78 | 13.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.84 | 12.78 | 2.00 | 0.00 | 1.00 | 0.00 | 33.89 | 12.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 33.97 | 11.88 | 2.00 | 0.00 | 1.00 | 0.00 | 34.02 | 11.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.08 | 11.86 | 2.00 | 0.00 | 1.00 | 0.00 | 34.20 | 11.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.26 | 12.80 | 2.00 | 0.00 | 1.00 | 0.00 | 34.37 | 13.83 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.42 | 15.05 | 2.00 | 0.00 | 1.00 | 0.00 | 34.49 | 15.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.54 | 15.07 | 2.00 | 0.00 | 1.00 | 0.00 | 34.62 | 15.10 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.66 | 15.53 | 2.00 | 0.00 | 1.00 | 0.00 | 34.73 | 15.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.80 | 14.98 | 2.00 | 0.00 | 1.00 | 0.00 | 34.88 | 14.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 34.93 | 14.69 | 2.00 | 0.00 | 1.00 | 0.00 | 35.01 | 13.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.06 | 13.62 | 2.00 | 0.00 | 1.00 | 0.00 | 35.11 | 13.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.21 | 12.47 | 2.00 | 0.00 | 1.00 | 0.00 | 35.25 | 11.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.34 | 10.28 | 2.00 | 0.00 | 1.00 | 0.00 | 35.38 | 10.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.44 | 10.01 | 2.00 | 0.00 | 1.00 | 0.00 | 35.50 | 10.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.60 | 10.68 | 2.00 | 0.00 | 1.00 | 0.00 | 35.64 | 10.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.71 | 11.09 | 2.00 | 0.00 | 1.00 | 0.00 | 35.77 | 11.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 35.86 | 10.99 | 2.00 | 0.00 | 1.00 | 0.00 | 35.92 | 10.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.03 | 10.97 | 2.00 | 0.00 | 1.00 | 0.00 | 36.06 | 10.96 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.12 | 11.03 | 2.00 | 0.00 | 1.00 | 0.00 | 36.21 | 11.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.27 | 12.56 | 2.00 | 0.00 | 1.00 | 0.00 | 36.30 | 13.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.39 | 13.91 | 2.00 | 0.00 | 1.00 | 0.00 | 36.45 | 14.50 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.52 | 15.34 | 2.00 | 0.00 | 1.00 | 0.00 | 36.58 | 16.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.65 | 17.28 | 2.00 | 0.00 | 1.00 | 0.00 | 36.79 | 18.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 36.92 | 16.12 | 2.00 | 0.00 | 1.00 | 0.00 | 37.00 | 15.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.05 | 15.23 | 2.00 | 0.00 | 1.00 | 0.00 | 37.14 | 15.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.24 | 16.47 | 2.00 | 0.00 | 1.00 | 0.00 | 37.26 | 14.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.28 | 18.33 | 2.00 | 0.00 | 1.00 | 0.00 | 37.35 | 24.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.41 | 28.66 | 2.00 | 0.00 | 1.00 | 0.00 | 37.48 | 32.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.55 | 99.41 | 2.00 | 0.00 | 1.00 | 0.00 | 37.61 | 105.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.75 | 117.33 | 2.00 | 0.00 | 1.00 | 0.00 | 37.78 | 122.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.83 | 127.69 | 2.00 | 0.00 | 1.00 | 0.00 | 37.90 | 133.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 37.94 | 132.37 | 2.00 | 0.00 | 1.00 | 0.00 | 38.03 | 121.59 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.07 | 120.07 | 2.00 | 0.00 | 1.00 | 0.00 | 38.17 | 110.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 38.28 | 108.42 | 0.23 | 2.96 | 1.00 | 0.04 | 38.31 | 116.92 | 0.26 | 2.73 | 1.00 | 0.01 |
| 38.37 | 130.87 | 0.32 | 2.42 | 1.00 | 0.02 | 38.42 | 136.42 | 0.36 | 2.31 | 1.00 | 0.01 |
| 38.59 | 133.74 | 0.34 | 2.36 | 1.00 | 0.05 | 38.64 | 131.65 | 0.33 | 2.40 | 1.00 | 0.01 |
| 38.69 | 134.05 | 0.34 | 2.35 | 1.00 | 0.02 | 38.82 | 129.10 | 0.31 | 2.45 | 1.00 | 0.04 |
| 38.90 | 134.24 | 0.34 | 2.35 | 1.00 | 0.02 | 38.95 | 140.79 | 0.39 | 2.23 | 1.00 | 0.01 |
| 39.03 | 142.76 | 0.41 | 2.19 | 1.00 | 0.02 | 39.10 | 142.05 | 0.40 | 2.21 | 1.00 | 0.02 |
| 39.17 | 141.51 | 0.40 | 2.22 | 1.00 | 0.02 | 39.23 | 141.08 | 0.39 | 2.22 | 1.00 | 0.02 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 39.37 | 139.18 | 0.38 | 2.26 | 1.00 | 0.04 | 39.51 | 138.23 | 0.37 | 2.28 | 1.00 | 0.04 |
| 39.56 | 142.89 | 0.41 | 2.19 | 1.00 | 0.02 | 39.64 | 145.47 | 0.43 | 2.15 | 1.00 | 0.02 |
| 39.70 | 150.56 | 0.49 | 2.07 | 1.00 | 0.01 | 39.82 | 153.87 | 0.54 | 2.02 | 1.00 | 0.03 |
| 39.84 | 154.14 | 0.54 | 2.01 | 1.00 | 0.01 | 39.94 | 157.62 | 0.60 | 1.87 | 1.00 | 0.02 |
| 40.01 | 152.13 | 2.00 | 0.00 | 1.00 | 0.00 | 40.05 | 139.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.12 | 125.01 | 2.00 | 0.00 | 1.00 | 0.00 | 40.18 | 112.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.23 | 103.18 | 2.00 | 0.00 | 1.00 | 0.00 | 40.31 | 35.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.36 | 30.77 | 2.00 | 0.00 | 1.00 | 0.00 | 40.45 | 26.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.50 | 23.57 | 2.00 | 0.00 | 1.00 | 0.00 | 40.63 | 32.55 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.71 | 105.05 | 2.00 | 0.00 | 1.00 | 0.00 | 40.77 | 111.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.85 | 114.60 | 2.00 | 0.00 | 1.00 | 0.00 | 40.90 | 114.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 40.98 | 109.17 | 2.00 | 0.00 | 1.00 | 0.00 | 41.06 | 100.68 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.11 | 31.88 | 2.00 | 0.00 | 1.00 | 0.00 | 41.17 | 26.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.25 | 23.76 | 2.00 | 0.00 | 1.00 | 0.00 | 41.31 | 21.63 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.38 | 22.43 | 2.00 | 0.00 | 1.00 | 0.00 | 41.47 | 25.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.53 | 27.26 | 2.00 | 0.00 | 1.00 | 0.00 | 41.60 | 95.26 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.66 | 114.32 | 2.00 | 0.00 | 1.00 | 0.00 | 41.73 | 122.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.80 | 115.21 | 2.00 | 0.00 | 1.00 | 0.00 | 41.87 | 124.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 41.95 | 124.51 | 0.29 | 2.55 | 1.00 | 0.02 | 42.00 | 120.46 | 0.27 | 2.64 | 1.00 | 0.02 |
| 42.09 | 134.48 | 0.35 | 2.35 | 1.00 | 0.02 | 42.15 | 143.71 | 0.42 | 2.18 | 1.00 | 0.01 |
| 42.22 | 128.15 | 2.00 | 0.00 | 1.00 | 0.00 | 42.26 | 131.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.33 | 128.21 | 2.00 | 0.00 | 1.00 | 0.00 | 42.40 | 123.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.44 | 116.43 | 2.00 | 0.00 | 1.00 | 0.00 | 42.49 | 106.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.50 | 36.47 | 2.00 | 0.00 | 1.00 | 0.00 | 42.54 | 101.52 | 0.22 | 3.16 | 1.00 | 0.01 |
| 42.59 | 36.44 | 2.00 | 0.00 | 1.00 | 0.00 | 42.65 | 31.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.76 | 31.16 | 2.00 | 0.00 | 1.00 | 0.00 | 42.81 | 31.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 42.89 | 110.64 | 2.00 | 0.00 | 1.00 | 0.00 | 43.02 | 155.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.08 | 163.57 | 2.00 | 0.00 | 1.00 | 0.00 | 43.16 | 169.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.20 | 173.39 | 2.00 | 0.00 | 1.00 | 0.00 | 43.26 | 177.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.33 | 179.86 | 2.00 | 0.00 | 1.00 | 0.00 | 43.38 | 180.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 43.43 | 180.19 | 2.00 | 0.00 | 1.00 | 0.00 | 43.50 | 178.18 | 1.24 | 0.47 | 1.00 | 0.00 |
| 43.55 | 177.16 | 1.19 | 0.52 | 1.00 | 0.00 | 43.60 | 176.82 | 1.17 | 0.54 | 1.00 | 0.00 |
| 43.67 | 177.50 | 1.20 | 0.51 | 1.00 | 0.00 | 43.72 | 179.19 | 1.29 | 0.42 | 1.00 | 0.00 |
| 43.78 | 181.10 | 1.40 | 0.33 | 1.00 | 0.00 | 43.89 | 186.07 | 1.76 | 0.11 | 1.00 | 0.00 |
| 43.95 | 186.37 | 1.79 | 0.09 | 1.00 | 0.00 | 44.00 | 184.20 | 1.61 | 0.18 | 1.00 | 0.00 |
| 44.06 | 180.07 | 1.34 | 0.37 | 1.00 | 0.00 | 44.13 | 173.75 | 1.04 | 0.71 | 1.00 | 0.01 |
| 44.21 | 163.36 | 0.72 | 1.52 | 1.00 | 0.01 | 44.26 | 152.83 | 0.53 | 2.03 | 1.00 | 0.01 |
| 44.35 | 146.29 | 0.45 | 2.14 | 1.00 | 0.02 | 44.40 | 145.56 | 0.44 | 2.15 | 1.00 | 0.01 |
| 44.48 | 153.09 | 0.53 | 2.03 | 1.00 | 0.02 | 44.54 | 166.95 | 0.81 | 1.19 | 1.00 | 0.01 |
| 44.62 | 170.99 | 0.93 | 0.89 | 1.00 | 0.01 | 44.66 | 168.08 | 0.84 | 1.10 | 1.00 | 0.01 |
| 44.80 | 167.94 | 0.84 | 1.11 | 1.00 | 0.02 | 44.87 | 168.23 | 0.85 | 1.08 | 1.00 | 0.01 |
| 44.90 | 168.22 | 0.85 | 1.08 | 1.00 | 0.00 | 45.04 | 168.14 | 0.84 | 1.09 | 1.00 | 0.02 |
| 45.12 | 167.42 | 2.00 | 0.00 | 1.00 | 0.00 | 45.25 | 164.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.31 | 161.96 | 2.00 | 0.00 | 1.00 | 0.00 | 45.44 | 155.24 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.52 | 149.94 | 2.00 | 0.00 | 1.00 | 0.00 | 45.58 | 141.78 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.72 | 118.57 | 2.00 | 0.00 | 1.00 | 0.00 | 45.79 | 116.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 45.85 | 115.71 | 2.00 | 0.00 | 1.00 | 0.00 | 45.99 | 113.71 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.06 | 123.76 | 2.00 | 0.00 | 1.00 | 0.00 | 46.12 | 118.10 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 46.19 | 106.13 | 2.00 | 0.00 | 1.00 | 0.00 | 46.26 | 34.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.33 | 26.82 | 2.00 | 0.00 | 1.00 | 0.00 | 46.42 | 22.18 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.47 | 19.95 | 2.00 | 0.00 | 1.00 | 0.00 | 46.60 | 18.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.68 | 17.62 | 2.00 | 0.00 | 1.00 | 0.00 | 46.73 | 16.54 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.81 | 15.47 | 2.00 | 0.00 | 1.00 | 0.00 | 46.87 | 14.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 46.95 | 14.09 | 2.00 | 0.00 | 1.00 | 0.00 | 47.03 | 13.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.08 | 13.77 | 2.00 | 0.00 | 1.00 | 0.00 | 47.21 | 14.27 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.30 | 14.71 | 2.00 | 0.00 | 1.00 | 0.00 | 47.35 | 14.93 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.44 | 14.99 | 2.00 | 0.00 | 1.00 | 0.00 | 47.48 | 14.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.57 | 14.52 | 2.00 | 0.00 | 1.00 | 0.00 | 47.62 | 14.29 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.70 | 14.12 | 2.00 | 0.00 | 1.00 | 0.00 | 47.78 | 14.04 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.83 | 13.96 | 2.00 | 0.00 | 1.00 | 0.00 | 47.91 | 13.95 | 2.00 | 0.00 | 1.00 | 0.00 |
| 47.97 | 13.94 | 2.00 | 0.00 | 1.00 | 0.00 | 48.05 | 14.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.11 | 14.07 | 2.00 | 0.00 | 1.00 | 0.00 | 48.19 | 13.99 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.24 | 13.53 | 2.00 | 0.00 | 1.00 | 0.00 | 48.26 | 12.19 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.31 | 13.08 | 2.00 | 0.00 | 1.00 | 0.00 | 48.43 | 16.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.49 | 18.20 | 2.00 | 0.00 | 1.00 | 0.00 | 48.61 | 18.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.69 | 18.23 | 2.00 | 0.00 | 1.00 | 0.00 | 48.75 | 17.39 | 2.00 | 0.00 | 1.00 | 0.00 |
| 48.88 | 14.56 | 2.00 | 0.00 | 1.00 | 0.00 | 48.96 | 13.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.01 | 12.25 | 2.00 | 0.00 | 1.00 | 0.00 | 49.09 | 13.09 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.23 | 12.96 | 2.00 | 0.00 | 1.00 | 0.00 | 49.28 | 14.14 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.36 | 15.09 | 2.00 | 0.00 | 1.00 | 0.00 | 49.41 | 16.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.50 | 18.40 | 2.00 | 0.00 | 1.00 | 0.00 | 49.56 | 25.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.63 | 35.28 | 2.00 | 0.00 | 1.00 | 0.00 | 49.69 | 44.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.77 | 48.99 | 2.00 | 0.00 | 1.00 | 0.00 | 49.85 | 51.22 | 2.00 | 0.00 | 1.00 | 0.00 |
| 49.90 | 115.40 | 0.26 | 2.77 | 1.00 | 0.02 | 49.98 | 110.24 | 0.25 | 2.90 | 1.00 | 0.03 |
| 50.04 | 42.15 | 2.00 | 0.00 | 1.00 | 0.00 | 50.12 | 101.62 | 0.22 | 3.16 | 1.00 | 0.03 |
| 50.20 | 99.05 | 0.22 | 3.24 | 1.00 | 0.03 | 50.26 | 33.81 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.34 | 28.81 | 2.00 | 0.00 | 1.00 | 0.00 | 50.39 | 24.98 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.53 | 31.71 | 2.00 | 0.00 | 1.00 | 0.00 | 50.61 | 46.73 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.66 | 117.65 | 0.27 | 2.71 | 1.00 | 0.02 | 50.74 | 114.48 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.80 | 123.48 | 2.00 | 0.00 | 1.00 | 0.00 | 50.87 | 146.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 50.95 | 157.18 | 2.00 | 0.00 | 1.00 | 0.00 | 51.00 | 162.91 | 2.00 | 0.00 | 1.00 | 0.00 |
| 51.14 | 171.92 | 0.98 | 0.80 | 1.00 | 0.01 | 51.22 | 179.73 | 1.34 | 0.38 | 1.00 | 0.00 |
| 51.27 | 173.17 | 1.03 | 0.73 | 1.00 | 0.00 | 51.53 | 163.00 | 0.72 | 1.50 | 1.00 | 0.05 |
| 51.59 | 161.52 | 0.69 | 1.64 | 1.00 | 0.01 | 51.67 | 160.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 51.71 | 160.79 | 2.00 | 0.00 | 1.00 | 0.00 | 51.79 | 168.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 51.88 | 164.29 | 2.00 | 0.00 | 1.00 | 0.00 | 51.93 | 151.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 51.97 | 139.20 | 2.00 | 0.00 | 1.00 | 0.00 | 52.07 | 46.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 52.12 | 37.07 | 2.00 | 0.00 | 1.00 | 0.00 | 52.19 | 30.32 | 2.00 | 0.00 | 1.00 | 0.00 |
| 52.24 | 26.17 | 2.00 | 0.00 | 1.00 | 0.00 | 52.34 | 20.86 | 2.00 | 0.00 | 1.00 | 0.00 |
| 52.42 | 18.38 | 2.00 | 0.00 | 1.00 | 0.00 | 52.47 | 16.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 52.51 | 14.97 | 2.00 | 0.00 | 1.00 | 0.00 | 52.64 | 14.11 | 2.00 | 0.00 | 1.00 | 0.00 |
| 52.68 | 13.88 | 2.00 | 0.00 | 1.00 | 0.00 | 52.73 | 13.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 52.80 | 12.87 | 2.00 | 0.00 | 1.00 | 0.00 | 52.86 | 12.65 | 2.00 | 0.00 | 1.00 | 0.00 |
| 52.96 | 13.14 | 2.00 | 0.00 | 1.00 | 0.00 | 53.02 | 13.13 | 2.00 | 0.00 | 1.00 | 0.00 |
| 53.08 | 13.12 | 2.00 | 0.00 | 1.00 | 0.00 | 53.13 | 13.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 53.17 | 13.11 | 2.00 | 0.00 | 1.00 | 0.00 | 53.23 | 13.10 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 53.30 | 13.09 | 2.00 | 0.00 | 1.00 | 0.00 | 53.40 | 14.08 | 2.00 | 0.00 | 1.00 | 0.00 |
| 53.45 | 14.92 | 2.00 | 0.00 | 1.00 | 0.00 | 53.53 | 15.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 53.57 | 15.40 | 2.00 | 0.00 | 1.00 | 0.00 | 53.69 | 13.69 | 2.00 | 0.00 | 1.00 | 0.00 |
| 53.75 | 15.27 | 2.00 | 0.00 | 1.00 | 0.00 | 53.79 | 12.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 53.92 | 15.14 | 2.00 | 0.00 | 1.00 | 0.00 | 53.97 | 17.62 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.02 | 20.40 | 2.00 | 0.00 | 1.00 | 0.00 | 54.08 | 22.76 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.14 | 27.15 | 2.00 | 0.00 | 1.00 | 0.00 | 54.19 | 33.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.25 | 35.90 | 2.00 | 0.00 | 1.00 | 0.00 | 54.30 | 35.52 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.36 | 32.87 | 2.00 | 0.00 | 1.00 | 0.00 | 54.41 | 29.20 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.47 | 24.77 | 2.00 | 0.00 | 1.00 | 0.00 | 54.54 | 21.37 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.62 | 16.52 | 2.00 | 0.00 | 1.00 | 0.00 | 54.68 | 18.77 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.73 | 17.78 | 2.00 | 0.00 | 1.00 | 0.00 | 54.80 | 18.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 54.90 | 107.82 | 0.24 | 2.97 | 1.00 | 0.04 | 54.98 | 135.79 | 0.37 | 2.32 | 1.00 | 0.02 |
| 55.03 | 134.09 | 0.36 | 2.35 | 1.00 | 0.01 | 55.09 | 136.02 | 2.00 | 0.00 | 1.00 | 0.00 |
| 55.16 | 145.38 | 2.00 | 0.00 | 1.00 | 0.00 | 55.24 | 154.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 55.37 | 144.98 | 2.00 | 0.00 | 1.00 | 0.00 | 55.43 | 134.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 55.51 | 120.02 | 2.00 | 0.00 | 1.00 | 0.00 | 55.57 | 42.21 | 2.00 | 0.00 | 1.00 | 0.00 |
| 55.64 | 34.33 | 2.00 | 0.00 | 1.00 | 0.00 | 55.71 | 29.07 | 2.00 | 0.00 | 1.00 | 0.00 |
| 55.78 | 24.68 | 2.00 | 0.00 | 1.00 | 0.00 | 55.86 | 21.52 | 2.00 | 0.00 | 1.00 | 0.00 |
| 55.91 | 18.75 | 2.00 | 0.00 | 1.00 | 0.00 | 56.00 | 16.84 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.07 | 18.30 | 2.00 | 0.00 | 1.00 | 0.00 | 56.14 | 17.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.18 | 18.00 | 2.00 | 0.00 | 1.00 | 0.00 | 56.28 | 19.88 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.33 | 21.91 | 2.00 | 0.00 | 1.00 | 0.00 | 56.40 | 24.01 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.50 | 28.11 | 2.00 | 0.00 | 1.00 | 0.00 | 56.55 | 27.74 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.60 | 26.03 | 2.00 | 0.00 | 1.00 | 0.00 | 56.67 | 24.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.72 | 24.52 | 2.00 | 0.00 | 1.00 | 0.00 | 56.77 | 26.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.89 | 36.25 | 2.00 | 0.00 | 1.00 | 0.00 | 56.94 | 104.70 | 2.00 | 0.00 | 1.00 | 0.00 |
| 56.99 | 109.27 | 2.00 | 0.00 | 1.00 | 0.00 | 57.06 | 110.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 57.12 | 112.22 | 2.00 | 0.00 | 1.00 | 0.00 | 57.19 | 112.35 | 2.00 | 0.00 | 1.00 | 0.00 |
| 57.25 | 110.10 | 2.00 | 0.00 | 1.00 | 0.00 | 57.32 | 107.61 | 2.00 | 0.00 | 1.00 | 0.00 |
| 57.38 | 103.34 | 2.00 | 0.00 | 1.00 | 0.00 | 57.43 | 37.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 57.51 | 33.27 | 2.00 | 0.00 | 1.00 | 0.00 | 57.58 | 31.16 | 2.00 | 0.00 | 1.00 | 0.00 |
| 57.65 | 30.97 | 2.00 | 0.00 | 1.00 | 0.00 | 57.70 | 92.55 | 0.21 | 3.47 | 1.00 | 0.02 |
| 57.78 | 94.45 | 0.21 | 3.40 | 1.00 | 0.03 | 57.84 | 33.28 | 2.00 | 0.00 | 1.00 | 0.00 |
| 57.91 | 30.29 | 2.00 | 0.00 | 1.00 | 0.00 | 57.97 | 25.90 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.05 | 21.56 | 2.00 | 0.00 | 1.00 | 0.00 | 58.09 | 18.58 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.17 | 16.77 | 2.00 | 0.00 | 1.00 | 0.00 | 58.22 | 15.33 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.31 | 13.81 | 2.00 | 0.00 | 1.00 | 0.00 | 58.35 | 12.87 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.44 | 12.72 | 2.00 | 0.00 | 1.00 | 0.00 | 58.58 | 16.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.62 | 24.82 | 2.00 | 0.00 | 1.00 | 0.00 | 58.70 | 31.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.76 | 32.05 | 2.00 | 0.00 | 1.00 | 0.00 | 58.82 | 28.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.89 | 24.11 | 2.00 | 0.00 | 1.00 | 0.00 | 58.95 | 19.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 58.95 | 16.45 | 2.00 | 0.00 | 1.00 | 0.00 | 59.01 | 17.40 | 2.00 | 0.00 | 1.00 | 0.00 |
| 59.07 | 15.14 | 2.00 | 0.00 | 1.00 | 0.00 | 59.13 | 14.12 | 2.00 | 0.00 | 1.00 | 0.00 |
| 59.19 | 13.24 | 2.00 | 0.00 | 1.00 | 0.00 | 59.29 | 12.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 59.34 | 11.88 | 2.00 | 0.00 | 1.00 | 0.00 | 59.43 | 11.80 | 2.00 | 0.00 | 1.00 | 0.00 |
| 59.49 | 12.00 | 2.00 | 0.00 | 1.00 | 0.00 | 59.59 | 13.60 | 2.00 | 0.00 | 1.00 | 0.00 |
| 59.65 | 13.86 | 2.00 | 0.00 | 1.00 | 0.00 | 59.69 | 13.52 | 2.00 | 0.00 | 1.00 | 0.00 |

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

| Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) | Depth (ft) | $q_{c1N,cs}$ | FS | $e_v$ (%) | DF | Settlement (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 59.74 | 13.44 | 2.00 | 0.00 | 1.00 | 0.00 | 59.81 | 13.97 | 2.00 | 0.00 | 1.00 | 0.00 |
| 59.91 | 21.16 | 2.00 | 0.00 | 1.00 | 0.00 | 59.96 | 29.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.02 | 36.71 | 2.00 | 0.00 | 1.00 | 0.00 | 60.14 | 109.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.19 | 115.47 | 2.00 | 0.00 | 1.00 | 0.00 | 60.25 | 122.94 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.31 | 130.85 | 2.00 | 0.00 | 1.00 | 0.00 | 60.36 | 135.03 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.41 | 136.84 | 2.00 | 0.00 | 1.00 | 0.00 | 60.48 | 139.46 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.53 | 138.23 | 2.00 | 0.00 | 1.00 | 0.00 | 60.58 | 134.85 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.64 | 130.79 | 2.00 | 0.00 | 1.00 | 0.00 | 60.76 | 122.05 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.80 | 118.12 | 2.00 | 0.00 | 1.00 | 0.00 | 60.85 | 49.23 | 2.00 | 0.00 | 1.00 | 0.00 |
| 60.93 | 47.54 | 2.00 | 0.00 | 1.00 | 0.00 | 60.98 | 48.75 | 2.00 | 0.00 | 1.00 | 0.00 |
| 61.09 | 137.69 | 2.00 | 0.00 | 1.00 | 0.00 | 61.15 | 156.50 | 2.00 | 0.00 | 1.00 | 0.00 |
| 61.20 | 170.37 | 2.00 | 0.00 | 1.00 | 0.00 | 61.25 | 176.64 | 2.00 | 0.00 | 1.00 | 0.00 |
| 61.37 | 178.70 | 1.32 | 0.39 | 1.00 | 0.01 | 61.42 | 176.07 | 1.19 | 0.52 | 1.00 | 0.00 |
| 61.47 | 172.68 | 1.04 | 0.71 | 1.00 | 0.00 | 61.53 | 170.33 | 0.96 | 0.85 | 1.00 | 0.01 |
| 61.59 | 164.01 | 2.00 | 0.00 | 1.00 | 0.00 | 61.64 | 159.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 61.70 | 154.50 | 2.00 | 0.00 | 1.00 | 0.00 | 61.76 | 149.67 | 2.00 | 0.00 | 1.00 | 0.00 |
| 61.82 | 144.58 | 2.00 | 0.00 | 1.00 | 0.00 | 61.88 | 127.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 61.95 | 127.07 | 0.33 | 2.50 | 1.00 | 0.02 | 62.04 | 117.02 | 0.28 | 2.73 | 1.00 | 0.03 |
| 62.12 | 42.95 | 2.00 | 0.00 | 1.00 | 0.00 | 62.14 | 39.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 62.23 | 33.68 | 2.00 | 0.00 | 1.00 | 0.00 | 62.30 | 29.15 | 2.00 | 0.00 | 1.00 | 0.00 |
| 62.34 | 26.93 | 2.00 | 0.00 | 1.00 | 0.00 | 62.43 | 24.38 | 2.00 | 0.00 | 1.00 | 0.00 |
| 62.48 | 23.69 | 2.00 | 0.00 | 1.00 | 0.00 | 62.56 | 22.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 62.61 | 21.70 | 2.00 | 0.00 | 1.00 | 0.00 | 62.70 | 20.41 | 2.00 | 0.00 | 1.00 | 0.00 |
| 62.74 | 21.95 | 2.00 | 0.00 | 1.00 | 0.00 | 62.85 | 36.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 62.96 | 125.00 | 2.00 | 0.00 | 1.00 | 0.00 | 63.01 | 136.17 | 2.00 | 0.00 | 1.00 | 0.00 |
| 63.10 | 136.35 | 2.00 | 0.00 | 1.00 | 0.00 | 63.15 | 127.49 | 2.00 | 0.00 | 1.00 | 0.00 |
| 63.20 | 122.64 | 2.00 | 0.00 | 1.00 | 0.00 | 63.27 | 131.56 | 2.00 | 0.00 | 1.00 | 0.00 |
| 63.36 | 148.60 | 2.00 | 0.00 | 1.00 | 0.00 | 63.45 | 156.46 | 0.62 | 1.95 | 1.00 | 0.02 |
| 63.50 | 158.71 | 0.66 | 1.80 | 1.00 | 0.01 | 63.61 | 160.66 | 0.70 | 1.63 | 1.00 | 0.02 |
| 63.76 | 162.00 | 0.73 | 1.49 | 1.00 | 0.03 | 63.81 | 164.95 | 0.80 | 1.23 | 1.00 | 0.01 |
| 63.86 | 167.24 | 0.87 | 1.05 | 1.00 | 0.01 | 63.92 | 167.38 | 0.87 | 1.04 | 1.00 | 0.01 |
| 63.98 | 165.51 | 0.82 | 1.18 | 1.00 | 0.01 | 64.02 | 163.00 | 0.76 | 1.39 | 1.00 | 0.01 |
| 64.07 | 161.43 | 0.72 | 1.55 | 1.00 | 0.01 | 64.12 | 160.88 | 0.71 | 1.60 | 1.00 | 0.01 |
| 64.18 | 160.48 | 0.70 | 1.64 | 1.00 | 0.01 | 64.24 | 160.56 | 0.70 | 1.63 | 1.00 | 0.01 |
| 64.34 | 160.74 | 0.71 | 1.62 | 1.00 | 0.02 | 64.43 | 166.38 | 0.84 | 1.11 | 1.00 | 0.01 |
| 64.48 | 166.57 | 0.85 | 1.09 | 1.00 | 0.01 | 64.55 | 166.65 | 0.85 | 1.09 | 1.00 | 0.01 |
| 64.60 | 167.56 | 0.88 | 1.02 | 1.00 | 0.01 | 64.69 | 171.83 | 1.02 | 0.74 | 1.00 | 0.01 |
| 64.74 | 174.50 | 1.13 | 0.59 | 1.00 | 0.00 | 64.79 | 177.89 | 1.29 | 0.42 | 1.00 | 0.00 |
| 64.89 | 166.21 | 2.00 | 0.00 | 1.00 | 0.00 | 64.93 | 168.31 | 2.00 | 0.00 | 1.00 | 0.00 |
| 64.98 | 170.33 | 2.00 | 0.00 | 1.00 | 0.00 | 65.07 | 174.45 | 2.00 | 0.00 | 1.00 | 0.00 |
| 65.14 | 175.78 | 2.00 | 0.00 | 1.00 | 0.00 | 65.19 | 177.05 | 2.00 | 0.00 | 1.00 | 0.00 |

**Total estimated settlement: 4.56**

**Abbreviations**

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

**APPENDIX F**

WELL PERMIT DOCUMENTS

J. Hnzora

# APPLICATION FOR WELL/EXPLORATORY BORING PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-5611
EHOCWELLS@OCHCA.COM
714-433-6000



WELL PERMIT NO. 21-12-30

For multiple cities, addresses, or locations, complete a separate permit application. **PROPOSED START DATE**

CITY: Cypress

WELL LOCATION / STREET INTERSECTION: 5665 and 5757 Plaza Drive / off of Katella and Valley View

LONGTITUDE (DECIMAL)

LATITUDE (DECIMAL)

OVERSIGHT AGENCY (if applicable)

EMAIL PERMIT TO: ehaaker@g3soilworks.com

■ Consultant ☐ Driller ☐ Well Owner

**SERVICE** ■ **Construction** ☐ **Destruction (Fee is per well)**

WATER WELLS (complete one permit application for per water well)
☐ Public Domestic/Municipal ☐ Private Domestic & No. of connections ___ ☐ Irrigation

☐ CATHODIC WELL (complete one permit application for per cathodic well)

NON-PRODUCTION WELLS (fee is the same as monitoring well construction) Total No. of Wells 5

■ Monitoring 5 ☐ Air Sparge ___ ☐ Soil Vapor Extraction ___ ☐ Electrical Grounding Well ___

☐ Water Extraction ___ ☐ Inclinometer ___ ☐ Injection/Recharge ___ ☐ Geothermal Heat Exchange ___

☐ Piezometer ___ ☐ Horizontal ___ ☐ Soil Vapor Probes ___ ☐ Other ___

EXPLORATORY BORINGS
(complete separate permits for probe survey and soil boring. Also complete the WELL & EXPLORATORY BORING DESTRUCTION section on the next page.)

☐ Probe Survey (CPT or Direct Push Only) ___
☐ Probe Survey Soil Vapor Probes (Direct Push) ___
☐ Soil Boring (hollow stem auger, mud rotary, sonic, or bucket auger, etc...) ___

Permit expires on 12.30.2022

**FOR ACCOUNTING USE ONLY**

HSO NO 417390 CHECK NO. 3901

DATE 1/13/22 AMOUNT $ 1005-

INTL LM

**APPROVAL BY OTHER AGENCIES**

JURISDICTION ___

REMARKS ___

AUTHORIZED SIGNATURE DATE

**FOR OFFICE USE ONLY**
**NO PERMIT IS DEEMED COMPLETED UNTIL THE FOLLOWING ARE MARKED AND SIGNED OFF:**
☐ NOTIFICATION OF COMPLETION RECEIVED
☐ FINAL INSPECTION
☐ ALL REQUIRED DOCUMENTS RECEIVED

PRINT NAME PHONE NUMBER

**DISPOSITION OF PERMIT (FOR OFFICE USE ONLY)**

☒ APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

NOTIFY THIS AGENCY AT LEAST 48 HOURS:

☒ PRIOR TO ANY CHANGES OF THE WORK PLAN.
☐ PRIOR TO SEALING THE ANNULAR SPACE.
☐ PRIOR TO FILLING OF CONDUCTOR CASING.

☒ SUBMIT TO THIS AGENCY, WITHIN 30 DAYS OF COMPLETION OF WORK, A COPY OF THE WELL COMPLETION REPORT(S) AND/OR DRILLING LOG(S). PLEASE REFERENCE PERMIT NO.

☒ SECURE ALL WELLS TO PREVENT TAMPERING.

☒ NOTIFY WHEN ALL WORK IS COMPLETED AND INCLUDE THE DEPTH TO FIRST ENCOUNTERED WATER, PHOTO DOCUMENTATION, AND/OR COPIES OF CEMENT TICKETS/CALCULATIONS.

☐ WORK COMPLETED PRIOR TO SUBMITTING PERMIT APPLICATION TO THIS AGENCY

☐ OTHER ___

Juan Anzora 12.29.2021
PERMIT ISSUED BY DATE

Juan Anzora 7144886287
PRINT NAME PHONE NUMBER

**WHEN SIGNED BY AN ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A VALID PERMIT.**
(R10/21)

I hereby agree to comply with all applicable requirements of the Health Care Agency and with all ordinances and laws of the County of Orange and of the State of California pertaining to well construction, reconstruction and destruction, including the requirements to maintain the integrity of all significant confining zones. A violation of the California Well Standards and the local Well Ordinance may constitute a misdemeanor (County Well Ordinance Sec. 4-5-31).

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## WELL OWNER

| WELL OWNER'S NAME | EMAIL ADDRESS |
|---|---|
| GLC Cypress LLC | blair.dahl@goodman.com |

| WELL OWNER'S ADDRESS / CITY / STATE/ ZIP CODE | TELEPHONE NUMBER |
|---|---|
| 18201 Von Karman Avenue, Suite 1170, Irvine, CA 92612 | (949) 407-0118 |

| WELL OWNER'S SIGNATURE | DATE |
|---|---|
| Alan Cockburn Digitally signed by Alan Cockburn Date: 2021.12.23 17:38:22 -08'00' | |

## CONSULTING FIRM

| NAME OF CONSULTING FIRM | BUSINESS ADDRESS/CITY/STATE/ZIP CODE | PROFESSIONAL LICENSE NUMBER |
|---|---|---|
| G3SoiWorks, Inc. | 350 Fischer Avenue, Costa Mesa, CA 92626 | PG 9409, CEG 2708 |

| CONSULTANT'S SIGNATURE | DATE | EMAIL ADDRESS |
|---|---|---|
| Erik Haaker Digitally signed by Erik Haaker Date: 2021.12.23 14:22:54 -08'00' | | ehaaker@g3soilworks.com |

## DRILLING CONTRACTOR

| NAME OF DRILLER | EMAIL ADDRESS | C-57 LICENSE NUMBER |
|---|---|---|
| J & H Drilling Company | steve@mrdrillco.com | 740854 |

| DRILLER'S SIGNATURE | DATE |
|---|---|
| Steve Molera | 12/29/2021 |

## REQUIRED DOCUMENTS

### WATER & STORMWATER DRY INJECTION WELL CONSTRUCTION

☐ An approval from the Division of Drinking Water (DDW) for public or municipal water wells.

☐ A cross-section well diagram detailing total depth, borehole diameter, depth and thickness of the sanitary seal(s), type(s) of casing(s), and length(s) of screen(s) / slotting. A top view is required for nested wells that demonstrate the radial thickness separation.

☐ Indicate the number of water aquifers the well will be screened through.

☐ A site map using a 250-foot radius from the proposed water well location that includes locations and distances to:

- All existing, active, inactive, and/or abandoned water wells.
- All existing, abandoned, and/or proposed sewer lines, recycled water lines, and storm drain lines.
- All active and/or abandoned leach fields, cesspits, and septic tanks.
- All animal enclosures (e.g., stables, coops, kennels, etc.).
- All water courses and/or bodies of water, including, but not limited to: rivers, creeks, ponds, retention ponds, and/or swimming pools.
- All other underground storage tanks and open (regulated) remediation sites.
- All nearby structures (e.g., commercial and residential buildings, houses, storage sheds) sanitary hazards and their locations.

### NON-PRODUCTION WELL CONSTRUCTION

■ Written work plan. For regulated sites, an approved work plan by the overseeing regulatory agency must be included for the installation of any type of nested well.

■ Site map(s) showing the locations of the proposed wells (no topographical maps).

■ A cross-section well diagram detailing total depth, borehole diameter, depth and thickness of the sanitary seal(s), type(s) of casing(s), and length(s) of screen(s) / slotting. A top view is required for nested wells that demonstrates a 2-inch radial thickness separation between casings and casing and wall of the borehole.

### WELL & EXPLORATORY BORING DESTRUCTION

☐ Written work plan. For regulated sites, an approval of the work plan by the overseeing regulatory agency must be included.

☐ Site map(s) showing the locations of the wells to be destroyed (no topographical maps).

☐ Type and amount of sealant (show calculations for water wells):

Total depth _____ feet  Borehole diameter _____ inches  Sealing material Select One of the Approved Materials

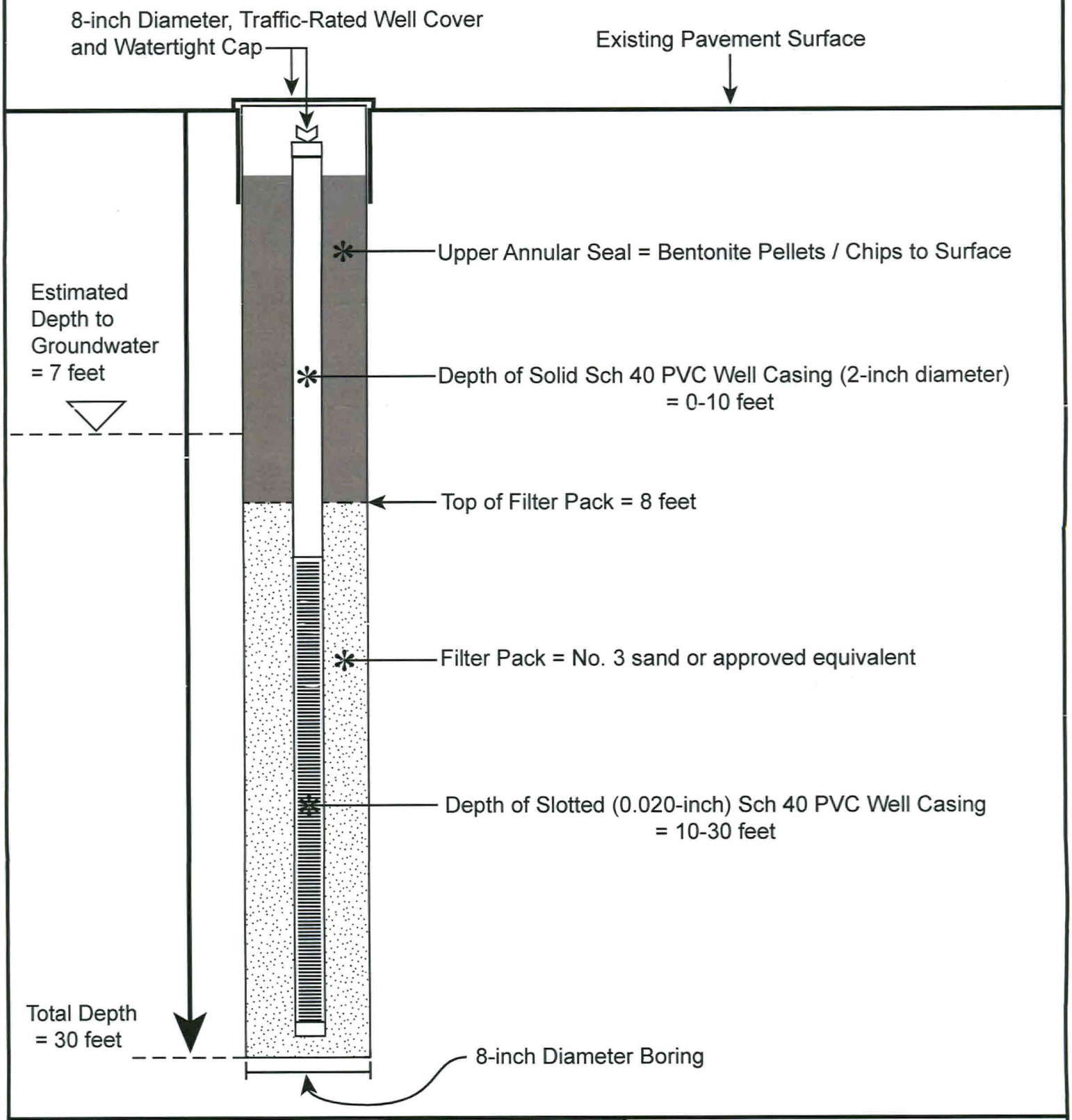
☐ Method of destruction:

☐ Pressure grout / removal of top 5 feet casing / removal of well boxes  ☐ Overdrill  ☐ Excavation

☐ Other

Notes: - Not to scale;
- Refer to notes for depths / dimensions;
- For illustrative purposes only
- Refer to Work Plan for more information.



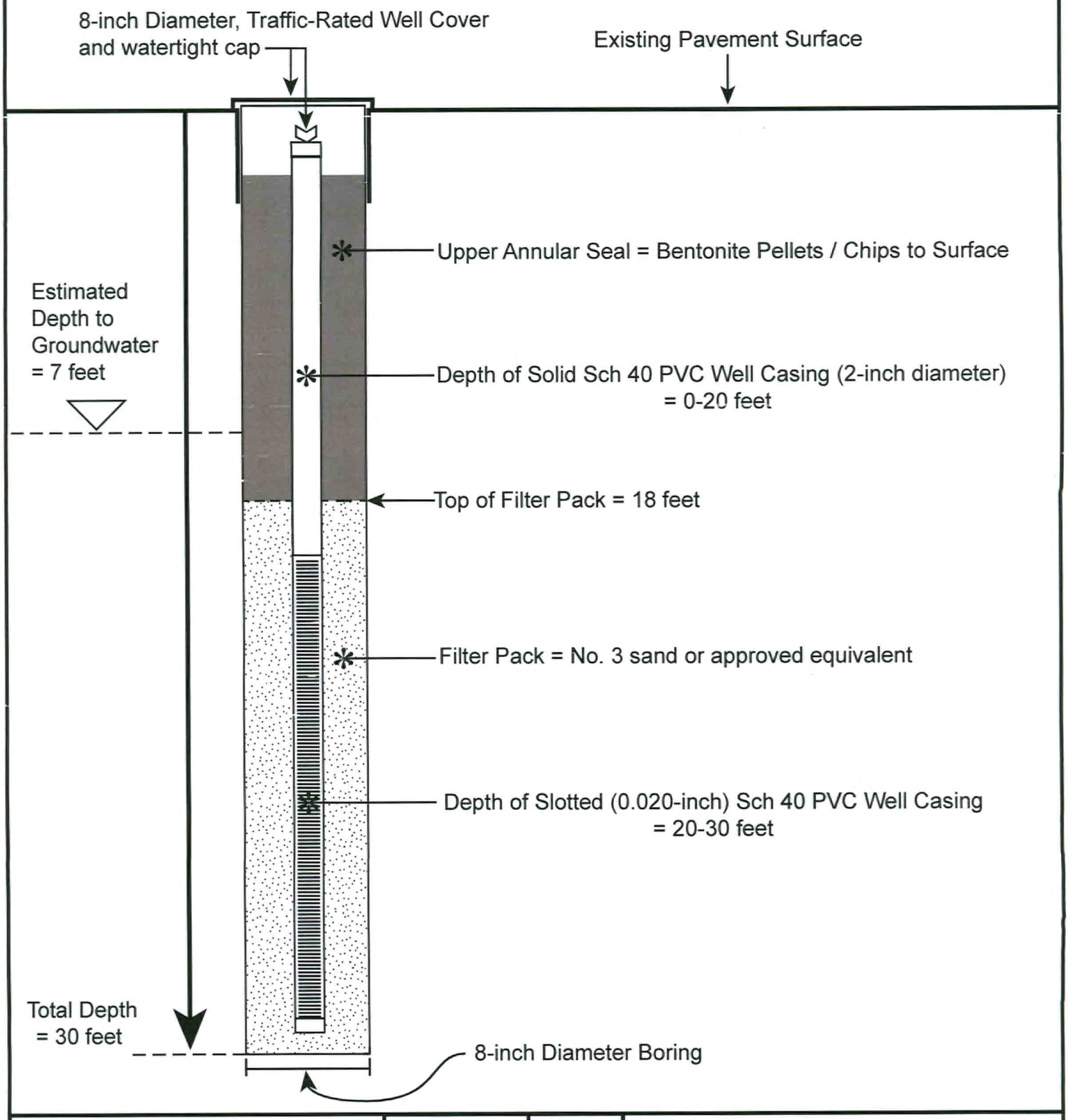



| | | | |
|---|---|---|---|
| Well Construction Diagram (B-1 & B-5) | Project No. 1-1209 | Dec. 2021 | G3SoilWorks |
| 5665-5757 Plaza Drive | Cypress, CA | Figure 2 | |

350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

Notes: - Not to scale;
- Refer to notes for depths / dimensions;
- For illustrative purposes only
- Refer to Work Plan for more information.



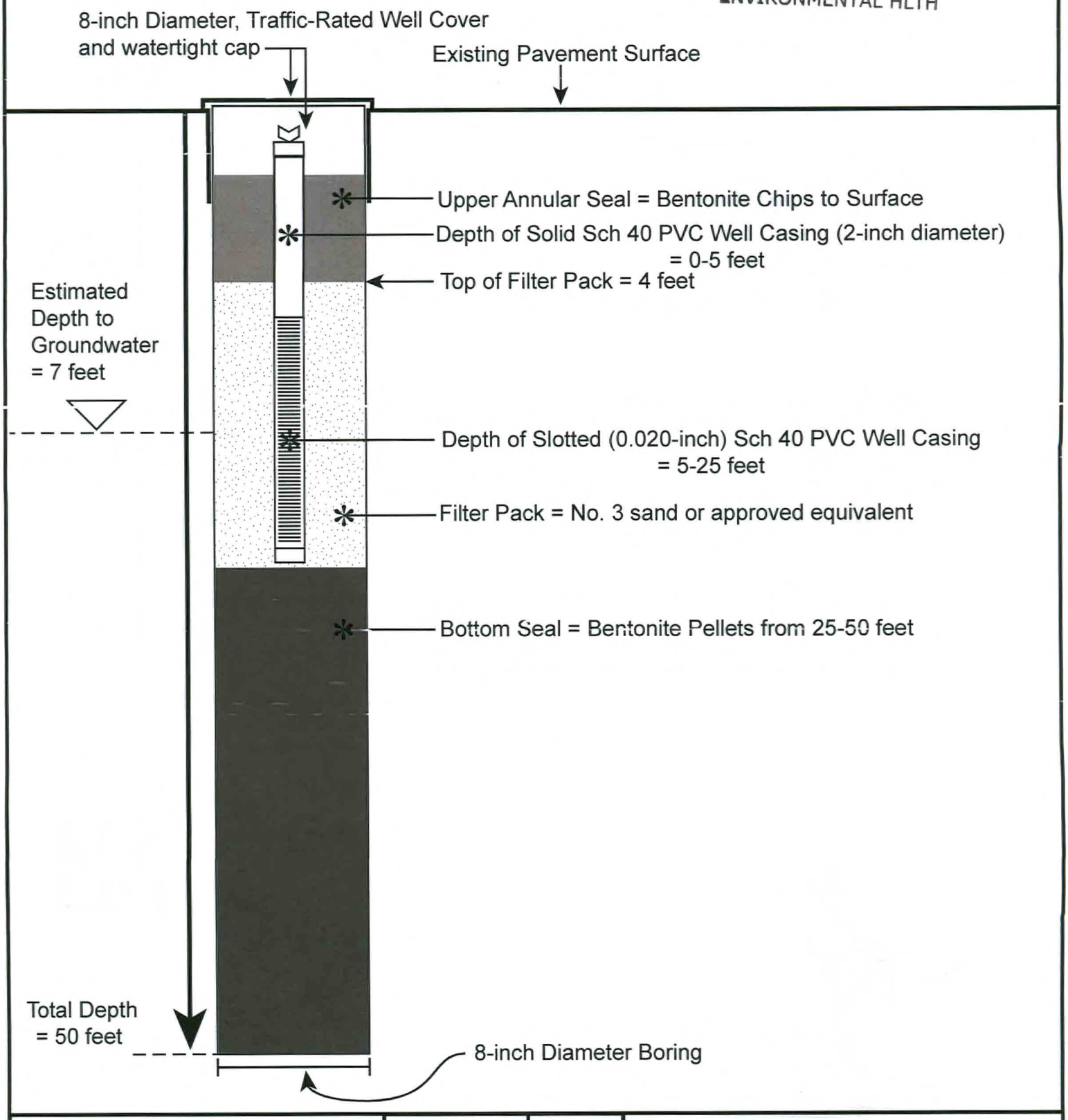



| | | | |
|---|---|---|---|
| Well Construction Diagram (B-2 & B-4) | Project No. 1-1209 | Dec. 2021 | G3SoilWorks |
| 5665-5757 Plaza Drive | Cypress, CA | Figure 3 | |

350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

Notes: - Not to scale;
- Refer to notes for depths / dimensions;
- For illustrative purposes only
- Refer to Work Plan for more information.






| | | | |
|---|---|---|---|
| Well Construction Diagram (B-3) | Project No. 1-1209 | Dec. 2021 | G3SoilWorks |
| 5665-5757 Plaza Drive | Cypress, CA | Figure 4 | |

350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com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| | | | |
|---|---|---|---|
| Well Location Map | | Proj. No. 1-1209 | Dec. 2021 |
| 5665 and 5757 Plaza Drive | Cypress, CA | | Figure 1 |

G3 SoilWorks
350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

G3SoilWorks
GEOLOGY · GEOTECH · GROUNDWATER

Orange County Health Care Agency
Environmental Health Division
1241 East Dyer Road, Suite 120
Santa Ana, CA 92705

December 27, 2021
Project No. 1-1209

Attention: Mr. Juan Anzora

Subject: **Work Plan for Well Construction Permit Application**
Geotechnical Investigation for
Proposed Commercial / Industrial Development
5665 and 5757 Plaza Drive
Cypress, California

References: Orange County Health Care Agency – Environmental Health Division
Application for Well Destruction Permit. dated December 23, 2021.

Dear Mr. Anzora,

G3SoilWorks, Inc. (G3), is providing this Work Plan for the construction of five (5) temporary monitoring wells to be located at the subject address. The proposed Work Plan and supporting information presented herein are provided as an attachment to the referenced Orange County Health Care Agency – Environmental Health Division (OCHCA-EHD) Application for Well Construction Permit dated December 23, 2021.

## PURPOSE / INTENT

The purpose of our work, in accordance with this Work Plan, will be to construct five (5) temporary monitoring wells at the subject property for the purposes of monitoring groundwater elevations as part of our geotechnical investigation for the proposed commercial / industrial development. The wells will be constructed in accordance with County requirements (i.e., Bulletin for Annular Sealing Material, Bulletin for Destruction of Monitoring Wells and Soil Borings, California Well Standards, etc.) and California Well Standards.

## PROJECT DESCRIPTION / BACKGROUND

As shown on Figure 1 (attached), the subject site is located northerly adjacent to Katella Avenue and Plaza Drive, between Walker Street and Valley View Street, in the City of Cypress. The property is generally flat-lying to very gently sloping and is occupied by paved parking areas at the proposed well locations. A total of five (5) temporary monitoring wells are to be constructed as part of G3's geotechnical investigation for the subject proposed commercial / industrial development. These wells are to be constructed in accordance with the attached well construction diagrams (Figures 2-4) and will range in depth from 25 to 30 feet below existing ground surface. One of the wells (B-3) will be drilled to 50 feet for the purposes of geotechnical sampling and testing, then sealed and set to a depth of 25 feet as shown on Figure 4.

## SOILS AND GROUNDWATER

Based on review of available geologic mapping and subsurface information, the site is underlain by Quaternary alluvium associated with the ancestral Santa Ana River. Soils include anastomosed / interfingered and interbedded sequences of poorly-graded sand, silty sand, sandy silt, and silty clay. Shallow groundwater is anticipated at depths of approximately 7 feet below ground surface and is understood to be "first water" of non-beneficial use.

## METHODOLOGY / WORK PLAN

The proposed temporary monitoring wells will be located within the limits of the property as shown Figure 1 (attached). The wells will be constructed by a C-57 licensed drilling contractor according to the attached well construction diagrams (Figures 2-4), with oversight and documentation by G3. The wells will remain in place for monitoring purposes until construction of the proposed commercial / industrial development begins. At some point during the construction phase, a well destruction permit application will be submitted for County review and approval, and the wells will be destroyed by a licensed C-57 drilling contractor in accordance with the approved well destruction permit.

## DISCUSSION / CONCLUSION

It is our opinion that the above work plan meets the intent of California Well Standards and conforms with applicable County requirements for well construction. Our work will be performed in accordance with the approved well construction permit and work plan proposed herein.

## CLOSURE

We thank you for your assistance and look forward to working with you in the future. If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,

**G3SoilWorks, Inc.**

CERTIFIED ENGINEERING GEOLOGIST
ERIK C. HAAKER
No. 2708
EXP. 2/28/23
STATE OF CALIFORNIA

By: _____
Erik C. Haaker, P.G., C.E.G.
Senior Engineering Geologist

Attachments:
Figure 1 – Well Location Map
Figure 2 – Well Construction Diagram (B-1 & B-5)
Figure 3 – Well Construction Diagram (B-2 & B-4)
Figure 4 – Well Construction Diagram (B-3)
OCHCA-EHD Application for Well Construction Permit

Distribution: Addressee (PDF electronic mail)

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ENVIRONMENTAL HLTH

**ORANGE COUNTY HEALTH CARE AGENCY**
**ENVIRONMENTAL HEALTH DIVISION**
**HEALTH SERVICE ORDER** 417390

Wells

Date 1/13/22 Initials VR

Client Name GLC Cypress LLC

Address #665 & 5757 Plaza Dr. off Katella & Valley View

Cypress Ca. Ph#

Paid By G3 Soil Works Inc.

Address 350 Fischer Ave - Front

Costa Mesa Ca. 92626 Ph# (714) 668-5600

Please circle the respective service code(s)

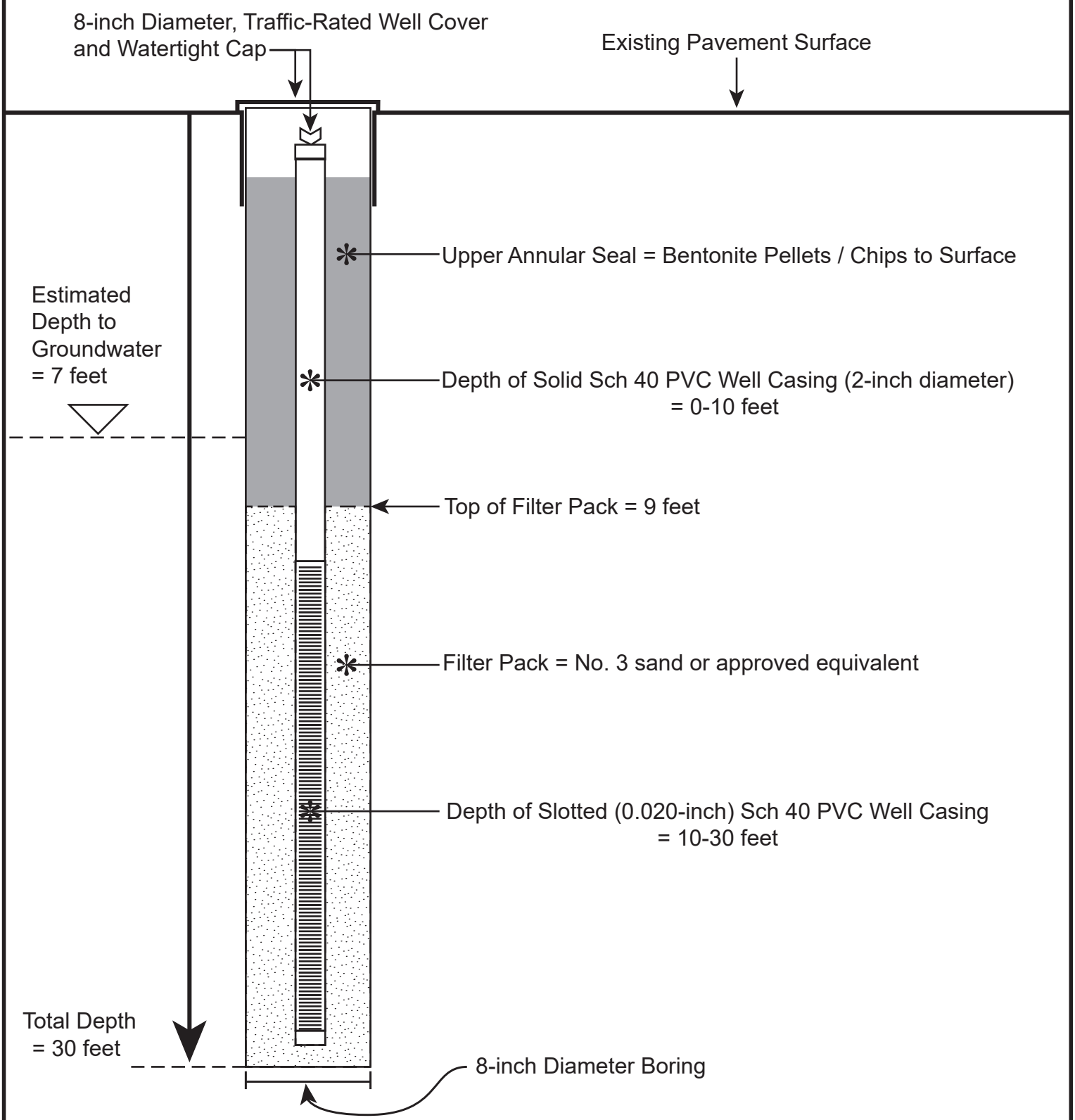
| | | |
|---|---|---|
| 01 | FPS/HSF (Acct/Bat# ) | $ |
| 02 | FPS Plan Check/Foods (PC# ) | $ |
| 03 | FPS Plan Check/Pools (PC# ) | $ |
| 04 | Food Vehicles Cat | $ |
| | Decal No(s) | |
| 05 | FPS/Court Restitution/Judgment | $ |
| | Name | |
| | Case# | |
| 06 | Hotels/Motels (Acct/Bat# ) | $ |
| 07 | Massage Parlor (Acct/Bat# ) | $ |
| 08 | Noise | $ |
| 09 | Liquid Waste Hauler | $ |
| 10 | Farm Labor Camp Registration | $ |
| 11 | Aboveground Petroleum Storage Act | $ |
| 12 | Hazardous Waste (Acct/Bat# ) | $ |
| 13 | CUPA Administrative Enforcement Orders | $ |
| 14 | Hazardous Waste Restitution/Judgment | $ |
| | Name | |
| | Case# | |
| 15 | Hazardous Waste Clean-up | $ |
| 16 | Medical Waste/Body Art ) | $ |
| 17 | UST/HSF (Acct/Bat# ) | $ |
| 18 | UST Plan Check (PC# ) | $ |
| 19 | UST State Surcharge | $ |
| 20 | UST Restitution/Judgment | $ |
| | Name | |
| | Case# | |
| (21) | Wells (Const 5 Recon Destr ) | $ 1009 |
| | Water Cath Init. Monit. ) | |
| | Add. Monit. #Wells | |
| | Driller | |
| | Consultant | |
| 22 | Backflow/Cross Connection | $ |
| | Client(s) | |
| 23 | Small Water Systems | $ |
| 24 | CUPA - Base Fee | $ |
| 25 | CUPA - CalArp | $ |
| 26 | FOG- OC Sanitation District | $ |
| 27 | Tierred Permitting | $ |
| __ | **OTHER** | $ |
| __ | **OTHER** | $ |
| __ | **OTHER** | $ |
| __ | **OTHER** | $ 1009 |

**PAID BY CHECK NO:** 3901

**APPENDIX G**

AS-BUILT WELL DIAGRAMS

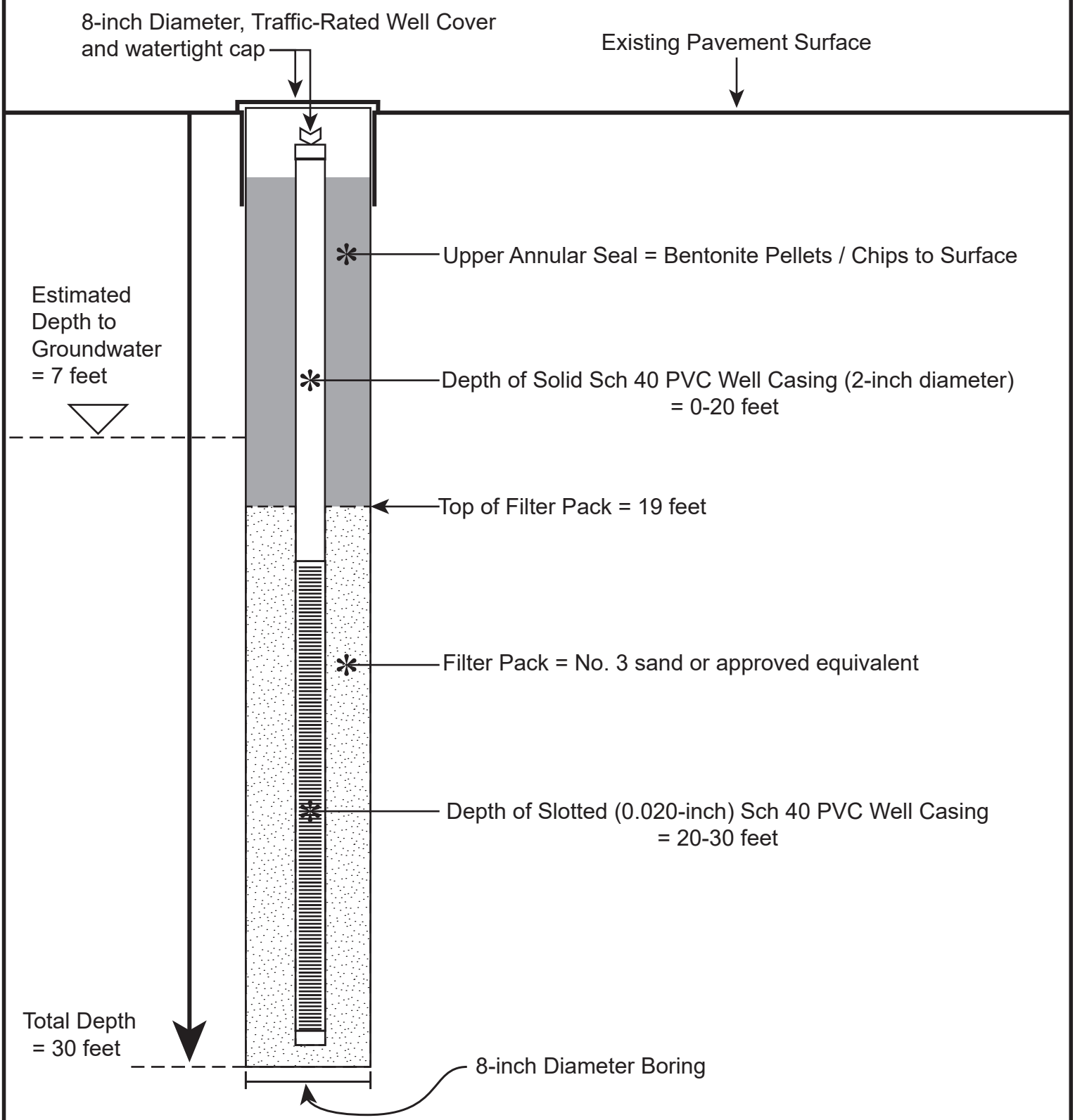
Notes: - Not to scale;
- Refer to notes for depths / dimensions;
- For illustrative purposes only
- Refer to Work Plan for more information.




| | | | |
|---|---|---|---|
| As-Built Well Diagram (B-1 & B-5) | Project No. 1-1209 | May 2022 | G3SoilWorks |
| 5665-5757 Plaza Drive | Cypress, CA | Detail 1 | |

350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

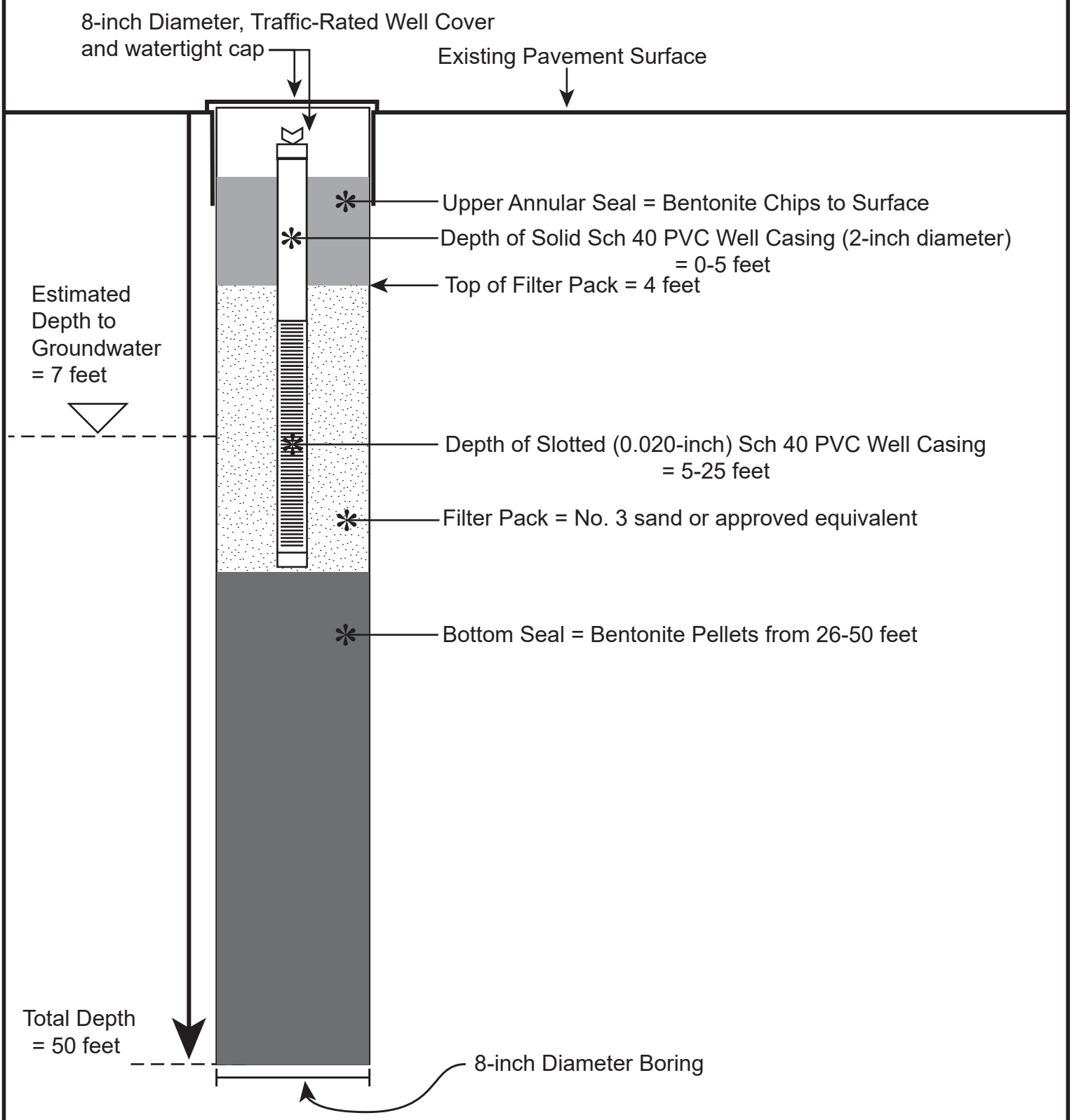
Notes: - Not to scale;
- Refer to notes for depths / dimensions;
- For illustrative purposes only
- Refer to Work Plan for more information.




| | | | |
|---|---|---|---|
| As-Built Well Diagram (B-2 & B-4) | Project No. 1-1209 | May 2022 | G3SoilWorks |
| 5665-5757 Plaza Drive | Cypress, CA | Detail 2 | |

350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

Notes: - Not to scale;
- Refer to notes for depths / dimensions;
- For illustrative purposes only
- Refer to Work Plan for more information.




| | | | |
|---|---|---|---|
| As-Built Well Diagram (B-3) | Project No. 1-1209 | Apr. 2022 | G3SoilWorks |
| 5665-5757 Plaza Drive | Cypress, CA | Detail 3 | |

350 Fischer Ave. Front
Costa Mesa, CA 92626
Phone: (714) 668 5600
www.G3SoilWorks.com

**APPENDIX H**

ASCE 7-16 SEISMIC DESIGN CRITERIA

# Hazards by Location

## Search Information


| | |
|---|---|
| **Address:** | 5757 Plaza Dr, Cypress, CA 90630, USA |
| **Coordinates:** | 33.8054078, -118.0321031 |
| **Elevation:** | 35 ft |
| **Timestamp:** | 2022-05-04T17:12:53.366Z |
| **Hazard Type:** | Seismic |
| **Reference Document:** | ASCE7-16 |
| **Risk Category:** | II |
| **Site Class:** | D-default |

## Basic Parameters

| Name | Value | Description |
|---|---|---|
| $S_S$ | 1.451 | $MCE_R$ ground motion (period=0.2s) |
| $S_1$ | 0.515 | $MCE_R$ ground motion (period=1.0s) |
| $S_{MS}$ | 1.742 | Site-modified spectral acceleration value |
| $S_{M1}$ | * null | Site-modified spectral acceleration value |
| $S_{DS}$ | 1.161 | Numeric seismic design value at 0.2s SA |
| $S_{D1}$ | * null | Numeric seismic design value at 1.0s SA |

* See Section 11.4.8

## Additional Information

| Name | Value | Description |
|---|---|---|
| SDC | * null | Seismic design category |
| $F_a$ | 1.2 | Site amplification factor at 0.2s |
| $F_v$ | * null | Site amplification factor at 1.0s |
| $CR_S$ | 0.911 | Coefficient of risk (0.2s) |
| $CR_1$ | 0.914 | Coefficient of risk (1.0s) |
| PGA | 0.622 | $MCE_G$ peak ground acceleration |
| $F_{PGA}$ | 1.2 | Site amplification factor at PGA |
| $PGA_M$ | 0.746 | Site modified peak ground acceleration |

| | | |
|---|---|---|
| $T_L$ | 8 | Long-period transition period (s) |
| SsRT | 1.451 | Probabilistic risk-targeted ground motion (0.2s) |
| SsUH | 1.593 | Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years) |
| SsD | 2.465 | Factored deterministic acceleration value (0.2s) |
| S1RT | 0.515 | Probabilistic risk-targeted ground motion (1.0s) |
| S1UH | 0.563 | Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years) |
| S1D | 0.836 | Factored deterministic acceleration value (1.0s) |
| PGAd | 0.999 | Factored deterministic acceleration value (PGA) |

* See Section 11.4.8

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

## Disclaimer

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

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Per ASCE 7-16 section 11.4.8, a site response analysis is required for structures on Site Class F unless any of the exceptions listed in section 20.3.1 are applicable. Provided that the proposed structure has a fundamental period of vibration of equal to or less than 0.5s, the site class and corresponding values can be determined by the procedures outlined in section 11 in lieu of performing a site response analysis. The values for $S_{M1}$, $S_{D1}$, $F_v$, and SDC have been tabulated in accordance with ASCE 7-16 procedures and are included in the table below. The applicability of the exemption and the parameters provided below should be verified by the Structural Engineer for conformance to local laws and ordinances.

| Parameter | Value | Description |
|---|---|---|
| $S_{M1}$ | 0.919 | Site-modified spectral acceleration value |
| $S_{D1}$ | 0.613 | Numeric seismic design value at 1.0s SA |
| $F_v$ | 1.785 | Site amplification factor at 1.0s |
| SDC | D | Seismic design category |

**APPENDIX I**

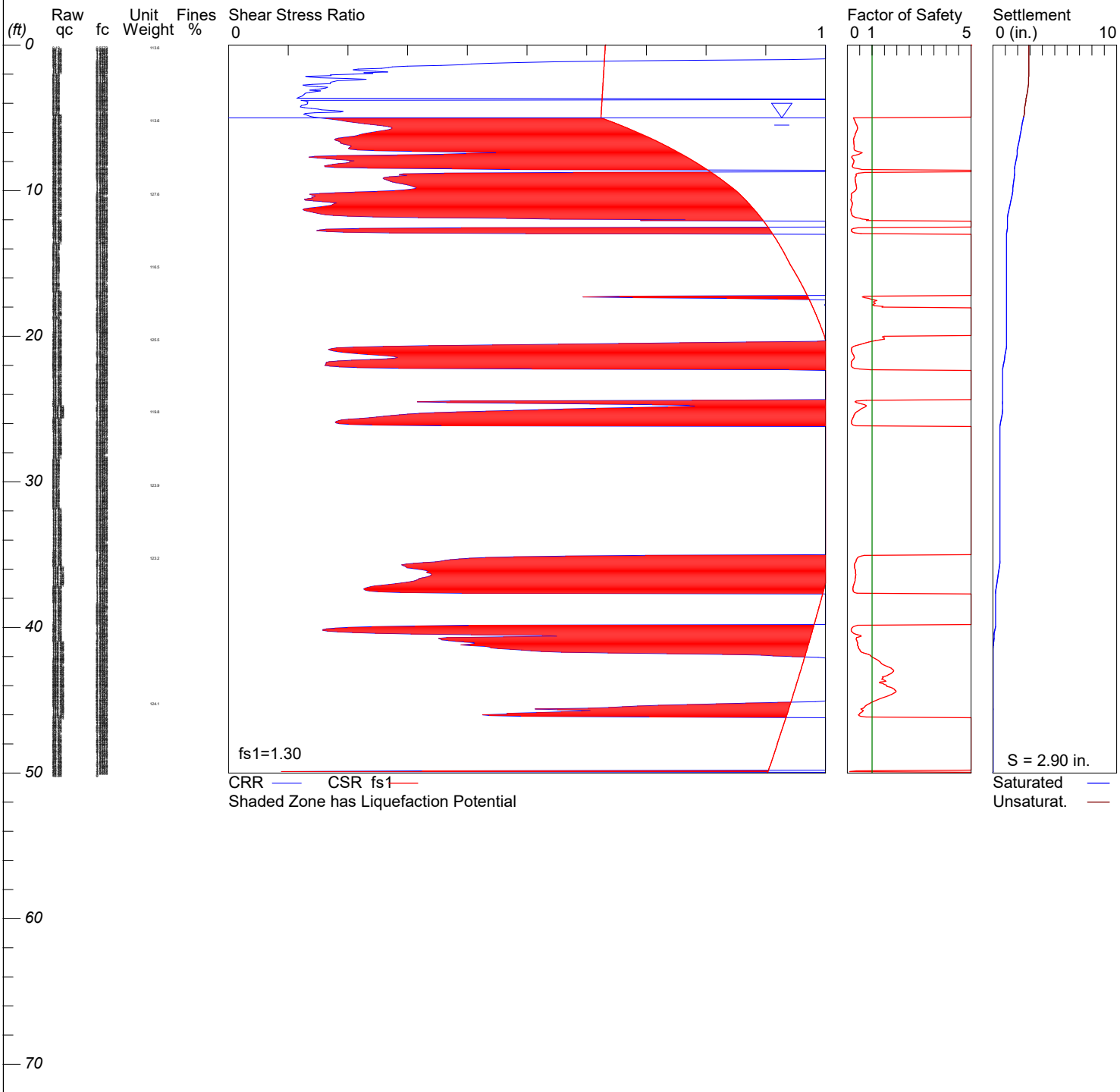
LIQUEFACTION ANALYSES

# LIQUEFACTION ANALYSIS

## Cypress

***Hole No.=CPT-1  Water Depth=5 ft***

***Magnitude=7.5***
***Acceleration=.747g***



**********
LIQUEFACTION ANALYSIS SUMMARY



**********
Font: Courier New, Regular, Size 8 is recommended for this report.
Licensed to ,  5/4/2022  12:33:40 PM

Input File Name: S:\PROJECTS\1000s GEOTECH PROJECTS\1-1209 Goodman Cypress\Calcs\Liquefaction\KYCPT1.liq
Title:  Cypress
Subtitle:  CPT-1

Surface Elev.=
Hole No.=CPT-1
Depth of Hole= 50.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 7.00 ft
Max. Acceleration= 0.75 g
Earthquake Magnitude= 7.50

Input Data:
Surface Elev.=
Hole No.=CPT-1
Depth of Hole=50.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 7.00 ft
Max. Acceleration=0.75 g
Earthquake Magnitude=7.50
No-Liquefiable Soils:  CL, OL are Non-Liq. Soil

1. CPT Calculation Method: Modify Robertson*
2. Settlement Analysis Method: Ishihara / Yoshimine
3. Fines Correction for Liquefaction: Stark/Olson et al.*
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
9. User request factor of safety (apply to CSR) ,  User= 1.3
   Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

| Depth | qc | fs | Rf | gamma | Fines | D50 |
|---|---|---|---|---|---|---|
| ft | atm | atm | pcf | % | mm | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0.00 | 0.19 | 0.56 | 293.63 | 113.60 | 0.00 | 0.50 |
| 0.07 | 55.17 | 0.76 | 1.38 | 113.60 | 0.00 | 0.50 |
| 0.15 | 84.29 | 0.97 | 1.15 | 113.60 | 0.00 | 0.50 |
| 0.20 | 85.12 | 1.08 | 1.27 | 113.60 | 0.00 | 0.50 |
| 0.28 | 81.97 | 1.25 | 1.53 | 113.60 | 0.00 | 0.50 |
| 0.34 | 77.34 | 1.38 | 1.78 | 113.60 | 0.00 | 0.50 |
| 0.41 | 72.98 | 1.41 | 1.93 | 113.60 | 0.00 | 0.50 |
| 0.47 | 69.08 | 1.40 | 2.03 | 113.60 | 0.00 | 0.50 |
| 0.53 | 64.82 | 1.35 | 2.09 | 113.60 | 0.00 | 0.50 |
| 0.60 | 61.11 | 1.30 | 2.13 | 113.60 | 0.00 | 0.50 |
| 0.66 | 55.27 | 1.22 | 2.20 | 113.60 | 0.00 | 0.50 |
| 0.72 | 51.93 | 1.17 | 2.25 | 113.60 | 0.00 | 0.50 |
| 0.81 | 45.16 | 1.08 | 2.38 | 113.60 | 0.00 | 0.50 |
| 0.87 | 41.08 | 0.98 | 2.39 | 113.60 | 0.00 | 0.50 |
| 0.94 | 37.74 | 0.94 | 2.50 | 113.60 | 0.00 | 0.50 |
| 1.00 | 35.70 | 0.91 | 2.56 | 113.60 | 0.00 | 0.50 |
| 1.06 | 32.55 | 0.82 | 2.53 | 113.60 | 0.00 | 0.50 |
| 1.12 | 28.65 | 0.75 | 2.62 | 113.60 | 0.00 | 0.50 |
| 1.18 | 25.59 | 0.71 | 2.78 | 113.60 | 0.00 | 0.50 |
| 1.27 | 21.88 | 0.65 | 2.95 | 113.60 | 0.00 | 0.50 |
| 1.33 | 17.80 | 0.58 | 3.24 | 113.60 | 0.00 | 0.50 |
| 1.39 | 16.69 | 0.52 | 3.14 | 113.60 | 0.00 | 0.50 |
| 1.46 | 16.69 | 0.47 | 2.80 | 113.60 | 0.00 | 0.50 |
| 1.52 | 14.74 | 0.41 | 2.75 | 113.60 | 0.00 | 0.50 |
| 1.58 | 12.89 | 0.36 | 2.79 | 113.60 | 0.00 | 0.50 |
| 1.66 | 12.80 | 0.31 | 2.42 | 113.60 | 0.00 | 0.50 |
| 1.72 | 11.13 | 0.27 | 2.38 | 113.60 | 0.00 | 0.50 |
| 1.78 | 9.55 | 0.23 | 2.38 | 113.60 | 0.00 | 0.50 |
| 1.84 | 8.53 | 0.20 | 2.30 | 113.60 | 0.00 | 0.50 |
| 1.90 | 8.16 | 0.17 | 2.07 | 113.60 | 0.00 | 0.50 |
| 1.97 | 7.60 | 0.16 | 2.06 | 113.60 | 0.00 | 0.50 |
| 2.04 | 6.95 | 0.11 | 1.61 | 113.60 | 0.00 | 0.50 |
| 2.12 | 6.77 | 0.11 | 1.56 | 113.60 | 0.00 | 0.50 |
| 2.19 | 6.58 | 0.11 | 1.63 | 113.60 | 0.00 | 0.50 |
| 2.25 | 6.31 | 0.11 | 1.79 | 113.60 | 0.00 | 0.50 |
| 2.31 | 5.75 | 0.11 | 1.99 | 113.60 | 0.00 | 0.50 |
| 2.37 | 5.38 | 0.10 | 1.94 | 113.60 | 0.00 | 0.50 |
| 2.43 | 5.38 | 0.09 | 1.73 | 113.60 | 0.00 | 0.50 |
| 2.50 | 5.29 | 0.09 | 1.66 | 113.60 | 0.00 | 0.50 |
| 2.58 | 5.29 | 0.08 | 1.59 | 113.60 | 0.00 | 0.50 |
| 2.65 | 5.29 | 0.08 | 1.59 | 113.60 | 0.00 | 0.50 |
| 2.70 | 5.66 | 0.08 | 1.47 | 113.60 | 0.00 | 0.50 |
| 2.77 | 6.03 | 0.08 | 1.35 | 113.60 | 0.00 | 0.50 |
| 2.83 | 5.84 | 0.09 | 1.48 | 113.60 | 0.00 | 0.50 |
| 2.89 | 5.66 | 0.09 | 1.57 | 113.60 | 0.00 | 0.50 |
| 2.97 | 5.66 | 0.09 | 1.52 | 113.60 | 0.00 | 0.50 |
| 3.04 | 5.66 | 0.08 | 1.45 | 113.60 | 0.00 | 0.50 |
| 3.10 | 5.66 | 0.08 | 1.35 | 113.60 | 0.00 | 0.50 |
| 3.16 | 5.29 | 0.07 | 1.36 | 113.60 | 0.00 | 0.50 |
| 3.22 | 5.10 | 0.07 | 1.29 | 113.60 | 0.00 | 0.50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.29 | 4.82 | 0.06 | 1.28 | 113.60 | 0.00 | 0.50 |
| 3.35 | 4.82 | 0.06 | 1.28 | 113.60 | 0.00 | 0.50 |
| 3.43 | 4.82 | 0.06 | 1.20 | 113.60 | 0.00 | 0.50 |
| 3.50 | 4.82 | 0.06 | 1.29 | 113.60 | 0.00 | 0.50 |
| 3.56 | 4.73 | 0.07 | 1.47 | 113.60 | 0.00 | 0.50 |
| 3.62 | 4.64 | 0.08 | 1.63 | 113.60 | 0.00 | 0.50 |
| 3.68 | 4.54 | 0.08 | 1.80 | 113.60 | 0.00 | 0.50 |
| 3.75 | 4.54 | 0.09 | 1.89 | 113.60 | 0.00 | 0.50 |
| 3.81 | 5.10 | 0.09 | 1.71 | 113.60 | 0.00 | 0.50 |
| 3.87 | 5.56 | 0.08 | 1.53 | 113.60 | 0.00 | 0.50 |
| 3.95 | 5.56 | 0.08 | 1.38 | 113.60 | 0.00 | 0.50 |
| 4.02 | 5.66 | 0.07 | 1.28 | 113.60 | 0.00 | 0.50 |
| 4.08 | 5.66 | 0.07 | 1.24 | 113.60 | 0.00 | 0.50 |
| 4.14 | 5.38 | 0.07 | 1.31 | 113.60 | 0.00 | 0.50 |
| 4.20 | 5.38 | 0.07 | 1.32 | 113.60 | 0.00 | 0.50 |
| 4.27 | 5.38 | 0.09 | 1.59 | 113.60 | 0.00 | 0.50 |
| 4.35 | 6.21 | 0.11 | 1.76 | 113.60 | 0.00 | 0.50 |
| 4.42 | 6.77 | 0.13 | 1.89 | 113.60 | 0.00 | 0.50 |
| 4.48 | 6.95 | 0.14 | 2.07 | 113.60 | 0.00 | 0.50 |
| 4.54 | 8.62 | 0.16 | 1.87 | 113.60 | 0.00 | 0.50 |
| 4.60 | 10.94 | 0.19 | 1.72 | 113.60 | 0.00 | 0.50 |
| 4.66 | 13.35 | 0.22 | 1.66 | 113.60 | 0.00 | 0.50 |
| 4.72 | 17.53 | 0.27 | 1.54 | 113.60 | 0.00 | 0.50 |
| 4.81 | 24.67 | 0.33 | 1.34 | 113.60 | 0.00 | 0.50 |
| 4.87 | 29.77 | 0.33 | 1.10 | 113.60 | 0.00 | 0.50 |
| 4.93 | 34.22 | 0.31 | 0.90 | 113.60 | 0.00 | 0.50 |
| 5.00 | 38.85 | 0.32 | 0.83 | 113.60 | 0.00 | 0.50 |
| 5.06 | 42.66 | 0.35 | 0.83 | 113.60 | 0.00 | 0.50 |
| 5.13 | 45.62 | 0.38 | 0.84 | 113.60 | 0.00 | 0.50 |
| 5.19 | 47.20 | 0.42 | 0.88 | 113.60 | 0.00 | 0.50 |
| 5.25 | 48.40 | 0.45 | 0.93 | 113.60 | 0.00 | 0.50 |
| 5.34 | 51.74 | 0.48 | 0.94 | 113.60 | 0.00 | 0.50 |
| 5.39 | 53.50 | 0.51 | 0.96 | 113.60 | 0.00 | 0.50 |
| 5.46 | 55.36 | 0.56 | 1.00 | 113.60 | 0.00 | 0.50 |
| 5.52 | 56.84 | 0.60 | 1.06 | 113.60 | 0.00 | 0.50 |
| 5.59 | 57.95 | 0.65 | 1.12 | 113.60 | 0.00 | 0.50 |
| 5.65 | 58.23 | 0.69 | 1.18 | 113.60 | 0.00 | 0.50 |
| 5.73 | 57.68 | 0.73 | 1.26 | 113.60 | 0.00 | 0.50 |
| 5.79 | 56.47 | 0.75 | 1.32 | 113.60 | 0.00 | 0.50 |
| 5.85 | 54.15 | 0.77 | 1.42 | 113.60 | 0.00 | 0.50 |
| 5.91 | 51.37 | 0.78 | 1.52 | 113.60 | 0.00 | 0.50 |
| 5.98 | 48.40 | 0.79 | 1.64 | 113.60 | 0.00 | 0.50 |
| 6.04 | 45.62 | 0.79 | 1.73 | 113.60 | 0.00 | 0.50 |
| 6.12 | 41.82 | 0.78 | 1.86 | 113.60 | 0.00 | 0.50 |
| 6.19 | 38.95 | 0.78 | 1.99 | 113.60 | 0.00 | 0.50 |
| 6.25 | 38.76 | 0.75 | 1.94 | 113.60 | 0.00 | 0.50 |
| 6.32 | 38.76 | 0.70 | 1.81 | 113.60 | 0.00 | 0.50 |
| 6.38 | 38.58 | 0.65 | 1.67 | 113.60 | 0.00 | 0.50 |
| 6.44 | 41.82 | 0.59 | 1.40 | 113.60 | 0.00 | 0.50 |
| 6.50 | 45.44 | 0.53 | 1.16 | 113.60 | 0.00 | 0.50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 6.57 | 49.15 | 0.49 | 1.00 | 113.60 | 0.00 | 0.50 |
| 6.63 | 52.67 | 0.47 | 0.89 | 113.60 | 0.00 | 0.50 |
| 6.69 | 54.15 | 0.44 | 0.81 | 113.60 | 0.00 | 0.50 |
| 6.77 | 57.12 | 0.40 | 0.69 | 113.60 | 0.00 | 0.50 |
| 6.83 | 58.88 | 0.41 | 0.70 | 113.60 | 0.00 | 0.50 |
| 6.90 | 59.44 | 0.45 | 0.76 | 113.60 | 0.00 | 0.50 |
| 6.96 | 57.95 | 0.52 | 0.90 | 113.60 | 0.00 | 0.50 |
| 7.03 | 54.43 | 0.59 | 1.08 | 113.60 | 0.00 | 0.50 |
| 7.09 | 49.05 | 0.67 | 1.37 | 113.60 | 0.00 | 0.50 |
| 7.15 | 42.75 | 0.76 | 1.78 | 113.60 | 0.00 | 0.50 |
| 7.24 | 34.87 | 0.85 | 2.45 | 113.60 | 0.00 | 0.50 |
| 7.30 | 29.21 | 0.86 | 2.94 | 113.60 | 0.00 | 0.50 |
| 7.37 | 24.85 | 0.82 | 3.30 | 113.60 | 0.00 | 0.50 |
| 7.42 | 24.85 | 0.79 | 3.18 | 113.60 | 0.00 | 0.50 |
| 7.51 | 24.85 | 0.75 | 3.01 | 113.60 | 0.00 | 0.50 |
| 7.57 | 26.71 | 0.73 | 2.72 | 113.60 | 0.00 | 0.50 |
| 7.64 | 32.45 | 0.51 | 1.57 | 113.60 | 0.00 | 0.50 |
| 7.70 | 38.85 | 0.37 | 0.95 | 113.60 | 0.00 | 0.50 |
| 7.77 | 44.88 | 0.44 | 0.98 | 113.60 | 0.00 | 0.50 |
| 7.83 | 49.89 | 0.52 | 1.04 | 113.60 | 0.00 | 0.50 |
| 7.90 | 52.85 | 0.63 | 1.20 | 113.60 | 0.00 | 0.50 |
| 7.97 | 53.50 | 0.72 | 1.35 | 113.60 | 0.00 | 0.50 |
| 8.01 | 45.71 | 0.75 | 1.64 | 113.60 | 0.00 | 0.50 |
| 8.07 | 51.09 | 0.71 | 1.39 | 113.60 | 0.00 | 0.50 |
| 8.17 | 48.40 | 0.58 | 1.21 | 113.60 | 0.00 | 0.50 |
| 8.23 | 44.05 | 0.58 | 1.32 | 113.60 | 0.00 | 0.50 |
| 8.30 | 37.56 | 0.58 | 1.55 | 113.60 | 0.00 | 0.50 |
| 8.33 | 33.85 | 0.58 | 1.71 | 113.60 | 0.00 | 0.50 |
| 8.40 | 27.17 | 0.58 | 2.12 | 113.60 | 0.00 | 0.50 |
| 8.49 | 20.77 | 0.60 | 2.90 | 113.60 | 0.00 | 0.50 |
| 8.56 | 17.06 | 0.63 | 3.70 | 113.60 | 0.00 | 0.50 |
| 8.62 | 14.65 | 0.69 | 4.69 | 113.60 | 0.00 | 0.50 |
| 8.68 | 16.69 | 0.76 | 4.58 | 113.60 | 0.00 | 0.50 |
| 8.75 | 23.00 | 0.82 | 3.55 | 113.60 | 0.00 | 0.50 |
| 8.81 | 28.19 | 0.83 | 2.95 | 113.60 | 0.00 | 0.50 |
| 8.88 | 30.69 | 0.86 | 2.80 | 113.60 | 0.00 | 0.50 |
| 8.94 | 31.81 | 0.93 | 2.91 | 113.60 | 0.00 | 0.50 |
| 9.01 | 35.05 | 0.98 | 2.80 | 113.60 | 0.00 | 0.50 |
| 9.08 | 39.97 | 1.02 | 2.55 | 113.60 | 0.00 | 0.50 |
| 9.14 | 43.03 | 1.03 | 2.40 | 113.60 | 0.00 | 0.50 |
| 9.21 | 44.69 | 1.05 | 2.35 | 113.60 | 0.00 | 0.50 |
| 9.27 | 45.90 | 1.07 | 2.34 | 113.60 | 0.00 | 0.50 |
| 9.34 | 46.92 | 1.09 | 2.33 | 113.60 | 0.00 | 0.50 |
| 9.40 | 48.77 | 1.11 | 2.28 | 113.60 | 0.00 | 0.50 |
| 9.47 | 51.00 | 1.15 | 2.25 | 113.60 | 0.00 | 0.50 |
| 9.53 | 52.95 | 1.18 | 2.22 | 113.60 | 0.00 | 0.50 |
| 9.60 | 54.25 | 1.21 | 2.23 | 113.60 | 0.00 | 0.50 |
| 9.66 | 53.69 | 1.24 | 2.31 | 113.60 | 0.00 | 0.50 |
| 9.73 | 51.46 | 1.26 | 2.45 | 113.60 | 0.00 | 0.50 |
| 9.79 | 47.85 | 1.26 | 2.64 | 113.60 | 0.00 | 0.50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9.86 | 43.40 | 1.21 | 2.79 | 113.60 | 0.00 | 0.50 |
| 9.92 | 38.11 | 1.09 | 2.87 | 113.60 | 0.00 | 0.50 |
| 9.99 | 33.38 | 0.95 | 2.83 | 113.60 | 0.00 | 0.50 |
| 10.05 | 29.58 | 0.78 | 2.63 | 127.60 | 0.00 | 0.50 |
| 10.12 | 27.08 | 0.62 | 2.29 | 127.60 | 0.00 | 0.50 |
| 10.18 | 25.13 | 0.49 | 1.95 | 127.60 | 0.00 | 0.50 |
| 10.25 | 24.20 | 0.40 | 1.67 | 127.60 | 0.00 | 0.50 |
| 10.32 | 22.90 | 0.40 | 1.74 | 127.60 | 0.00 | 0.50 |
| 10.38 | 22.44 | 0.41 | 1.82 | 127.60 | 0.00 | 0.50 |
| 10.44 | 23.00 | 0.39 | 1.71 | 127.60 | 0.00 | 0.50 |
| 10.51 | 23.55 | 0.41 | 1.75 | 127.60 | 0.00 | 0.50 |
| 10.57 | 25.13 | 0.39 | 1.55 | 127.60 | 0.00 | 0.50 |
| 10.64 | 28.93 | 0.40 | 1.39 | 127.60 | 0.00 | 0.50 |
| 10.71 | 34.96 | 0.53 | 1.51 | 127.60 | 0.00 | 0.50 |
| 10.78 | 42.38 | 0.65 | 1.53 | 127.60 | 0.00 | 0.50 |
| 10.84 | 48.22 | 0.71 | 1.46 | 127.60 | 0.00 | 0.50 |
| 10.92 | 44.42 | 0.70 | 1.57 | 127.60 | 0.00 | 0.50 |
| 10.99 | 47.38 | 0.67 | 1.41 | 127.60 | 0.00 | 0.50 |
| 11.06 | 43.58 | 0.64 | 1.46 | 127.60 | 0.00 | 0.50 |
| 11.12 | 39.87 | 0.58 | 1.46 | 127.60 | 0.00 | 0.50 |
| 11.18 | 37.00 | 0.49 | 1.32 | 127.60 | 0.00 | 0.50 |
| 11.25 | 34.77 | 0.41 | 1.19 | 127.60 | 0.00 | 0.50 |
| 11.31 | 32.92 | 0.40 | 1.22 | 127.60 | 0.00 | 0.50 |
| 11.38 | 31.43 | 0.43 | 1.38 | 127.60 | 0.00 | 0.50 |
| 11.44 | 30.14 | 0.47 | 1.56 | 127.60 | 0.00 | 0.50 |
| 11.50 | 29.02 | 0.49 | 1.70 | 127.60 | 0.00 | 0.50 |
| 11.57 | 28.10 | 0.52 | 1.83 | 127.60 | 0.00 | 0.50 |
| 11.64 | 28.10 | 0.54 | 1.93 | 127.60 | 0.00 | 0.50 |
| 11.70 | 28.10 | 0.59 | 2.10 | 127.60 | 0.00 | 0.50 |
| 11.77 | 28.10 | 0.66 | 2.36 | 127.60 | 0.00 | 0.50 |
| 11.83 | 27.63 | 0.75 | 2.71 | 127.60 | 0.00 | 0.50 |
| 11.90 | 26.52 | 0.82 | 3.11 | 127.60 | 0.00 | 0.50 |
| 11.96 | 25.41 | 0.87 | 3.44 | 127.60 | 0.00 | 0.50 |
| 12.02 | 23.65 | 0.92 | 3.90 | 127.60 | 0.00 | 0.50 |
| 12.09 | 23.09 | 0.99 | 4.29 | 127.60 | 0.00 | 0.50 |
| 12.15 | 21.23 | 1.03 | 4.85 | 127.60 | 0.00 | 0.50 |
| 12.22 | 19.19 | 0.96 | 4.99 | 127.60 | 0.00 | 0.50 |
| 12.28 | 16.69 | 0.91 | 5.45 | 127.60 | 0.00 | 0.50 |
| 12.34 | 16.78 | 0.92 | 5.50 | 127.60 | 0.00 | 0.50 |
| 12.41 | 16.78 | 0.83 | 4.95 | 127.60 | 0.00 | 0.50 |
| 12.48 | 16.88 | 0.69 | 4.12 | 127.60 | 0.00 | 0.50 |
| 12.54 | 18.64 | 0.58 | 3.12 | 127.60 | 0.00 | 0.50 |
| 12.61 | 23.27 | 0.50 | 2.14 | 127.60 | 0.00 | 0.50 |
| 12.68 | 31.81 | 0.60 | 1.90 | 127.60 | 0.00 | 0.50 |
| 12.74 | 36.26 | 0.57 | 1.57 | 127.60 | 0.00 | 0.50 |
| 12.80 | 33.75 | 0.64 | 1.91 | 127.60 | 0.00 | 0.50 |
| 12.86 | 28.65 | 0.67 | 2.34 | 127.60 | 0.00 | 0.50 |
| 12.96 | 20.68 | 0.64 | 3.08 | 127.60 | 0.00 | 0.50 |
| 12.99 | 18.92 | 0.62 | 3.26 | 127.60 | 0.00 | 0.50 |
| 13.09 | 14.56 | 0.56 | 3.83 | 127.60 | 0.00 | 0.50 |

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| 13.12 | 13.26 | 0.53 | 4.03 | 127.60 | 0.00 | 0.50 |
| 13.19 | 11.78 | 0.48 | 4.07 | 127.60 | 0.00 | 0.50 |
| 13.28 | 10.57 | 0.35 | 3.28 | 127.60 | 0.00 | 0.50 |
| 13.35 | 10.20 | 0.25 | 2.45 | 127.60 | 0.00 | 0.50 |
| 13.41 | 10.11 | 0.20 | 1.97 | 127.60 | 0.00 | 0.50 |
| 13.47 | 9.83 | 0.18 | 1.86 | 127.60 | 0.00 | 0.50 |
| 13.54 | 9.74 | 0.17 | 1.77 | 127.60 | 0.00 | 0.50 |
| 13.60 | 9.74 | 0.17 | 1.77 | 127.60 | 0.00 | 0.50 |
| 13.67 | 9.74 | 0.17 | 1.77 | 127.60 | 0.00 | 0.50 |
| 13.74 | 9.74 | 0.17 | 1.76 | 127.60 | 0.00 | 0.50 |
| 13.80 | 9.46 | 0.17 | 1.82 | 127.60 | 0.00 | 0.50 |
| 13.86 | 9.37 | 0.17 | 1.84 | 127.60 | 0.00 | 0.50 |
| 13.93 | 9.27 | 0.17 | 1.85 | 127.60 | 0.00 | 0.50 |
| 14.00 | 8.90 | 0.17 | 1.87 | 127.60 | 0.00 | 0.50 |
| 14.07 | 8.81 | 0.17 | 1.90 | 127.60 | 0.00 | 0.50 |
| 14.11 | 8.81 | 0.17 | 1.94 | 127.60 | 0.00 | 0.50 |
| 14.19 | 8.81 | 0.18 | 2.01 | 127.60 | 0.00 | 0.50 |
| 14.26 | 8.81 | 0.18 | 2.09 | 127.60 | 0.00 | 0.50 |
| 14.32 | 8.62 | 0.18 | 2.12 | 127.60 | 0.00 | 0.50 |
| 14.39 | 8.44 | 0.17 | 2.05 | 127.60 | 0.00 | 0.50 |
| 14.46 | 8.25 | 0.17 | 2.04 | 127.60 | 0.00 | 0.50 |
| 14.52 | 8.07 | 0.17 | 2.09 | 127.60 | 0.00 | 0.50 |
| 14.59 | 7.88 | 0.17 | 2.18 | 127.60 | 0.00 | 0.50 |
| 14.65 | 7.88 | 0.17 | 2.15 | 127.60 | 0.00 | 0.50 |
| 14.72 | 7.97 | 0.16 | 2.07 | 127.60 | 0.00 | 0.50 |
| 14.78 | 7.79 | 0.16 | 2.09 | 127.60 | 0.00 | 0.50 |
| 14.85 | 7.79 | 0.16 | 2.00 | 127.60 | 0.00 | 0.50 |
| 14.91 | 7.51 | 0.15 | 1.97 | 127.60 | 0.00 | 0.50 |
| 14.98 | 7.05 | 0.14 | 2.02 | 127.60 | 0.00 | 0.50 |
| 15.04 | 6.95 | 0.14 | 1.99 | 116.50 | 0.00 | 0.50 |
| 15.11 | 6.68 | 0.14 | 2.05 | 116.50 | 0.00 | 0.50 |
| 15.17 | 6.49 | 0.13 | 2.07 | 116.50 | 0.00 | 0.50 |
| 15.23 | 6.49 | 0.13 | 1.97 | 116.50 | 0.00 | 0.50 |
| 15.30 | 6.49 | 0.12 | 1.80 | 116.50 | 0.00 | 0.50 |
| 15.36 | 6.49 | 0.11 | 1.65 | 116.50 | 0.00 | 0.50 |
| 15.43 | 6.40 | 0.10 | 1.61 | 116.50 | 0.00 | 0.50 |
| 15.50 | 6.31 | 0.10 | 1.64 | 116.50 | 0.00 | 0.50 |
| 15.56 | 6.21 | 0.10 | 1.66 | 116.50 | 0.00 | 0.50 |
| 15.63 | 6.21 | 0.10 | 1.67 | 116.50 | 0.00 | 0.50 |
| 15.69 | 6.21 | 0.11 | 1.72 | 116.50 | 0.00 | 0.50 |
| 15.75 | 6.21 | 0.11 | 1.73 | 116.50 | 0.00 | 0.50 |
| 15.82 | 6.21 | 0.11 | 1.73 | 116.50 | 0.00 | 0.50 |
| 15.88 | 6.21 | 0.11 | 1.77 | 116.50 | 0.00 | 0.50 |
| 15.97 | 6.21 | 0.12 | 1.87 | 116.50 | 0.00 | 0.50 |
| 16.04 | 6.31 | 0.12 | 1.91 | 116.50 | 0.00 | 0.50 |
| 16.11 | 6.40 | 0.13 | 1.95 | 116.50 | 0.00 | 0.50 |
| 16.17 | 6.49 | 0.13 | 1.96 | 116.50 | 0.00 | 0.50 |
| 16.21 | 6.68 | 0.13 | 1.90 | 116.50 | 0.00 | 0.50 |
| 16.27 | 6.86 | 0.13 | 1.84 | 116.50 | 0.00 | 0.50 |
| 16.34 | 7.51 | 0.12 | 1.63 | 116.50 | 0.00 | 0.50 |

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| 16.43 | 8.35 | 0.13 | 1.50 | 116.50 | 0.00 | 0.50 |
| 16.49 | 8.90 | 0.14 | 1.54 | 116.50 | 0.00 | 0.50 |
| 16.56 | 8.81 | 0.15 | 1.71 | 116.50 | 0.00 | 0.50 |
| 16.62 | 8.44 | 0.18 | 2.19 | 116.50 | 0.00 | 0.50 |
| 16.69 | 8.44 | 0.28 | 3.28 | 116.50 | 0.00 | 0.50 |
| 16.75 | 10.48 | 0.35 | 3.32 | 116.50 | 0.00 | 0.50 |
| 16.82 | 14.93 | 0.34 | 2.30 | 116.50 | 0.00 | 0.50 |
| 16.88 | 17.53 | 0.38 | 2.17 | 116.50 | 0.00 | 0.50 |
| 16.95 | 16.88 | 0.47 | 2.81 | 116.50 | 0.00 | 0.50 |
| 17.01 | 15.30 | 0.61 | 4.00 | 116.50 | 0.00 | 0.50 |
| 17.08 | 14.74 | 0.75 | 5.07 | 116.50 | 0.00 | 0.50 |
| 17.13 | 15.11 | 0.83 | 5.52 | 116.50 | 0.00 | 0.50 |
| 17.19 | 25.96 | 0.94 | 3.63 | 116.50 | 0.00 | 0.50 |
| 17.26 | 30.60 | 1.01 | 3.32 | 116.50 | 0.00 | 0.50 |
| 17.32 | 31.99 | 1.08 | 3.39 | 116.50 | 0.00 | 0.50 |
| 17.42 | 32.92 | 1.25 | 3.79 | 116.50 | 0.00 | 0.50 |
| 17.48 | 34.03 | 1.39 | 4.10 | 116.50 | 0.00 | 0.50 |
| 17.55 | 36.91 | 1.56 | 4.22 | 116.50 | 0.00 | 0.50 |
| 17.61 | 40.43 | 1.71 | 4.22 | 116.50 | 0.00 | 0.50 |
| 17.68 | 42.47 | 1.84 | 4.34 | 116.50 | 0.00 | 0.50 |
| 17.74 | 43.95 | 1.95 | 4.45 | 116.50 | 0.00 | 0.50 |
| 17.80 | 45.71 | 2.03 | 4.43 | 116.50 | 0.00 | 0.50 |
| 17.87 | 46.83 | 2.06 | 4.40 | 116.50 | 0.00 | 0.50 |
| 17.93 | 44.60 | 2.00 | 4.49 | 116.50 | 0.00 | 0.50 |
| 18.00 | 37.00 | 1.81 | 4.89 | 116.50 | 0.00 | 0.50 |
| 18.07 | 26.52 | 1.51 | 5.68 | 116.50 | 0.00 | 0.50 |
| 18.13 | 19.66 | 1.22 | 6.20 | 116.50 | 0.00 | 0.50 |
| 18.20 | 15.76 | 0.97 | 6.17 | 116.50 | 0.00 | 0.50 |
| 18.26 | 12.98 | 0.71 | 5.50 | 116.50 | 0.00 | 0.50 |
| 18.33 | 11.03 | 0.47 | 4.28 | 116.50 | 0.00 | 0.50 |
| 18.40 | 10.11 | 0.31 | 3.05 | 116.50 | 0.00 | 0.50 |
| 18.46 | 9.83 | 0.28 | 2.81 | 116.50 | 0.00 | 0.50 |
| 18.52 | 9.83 | 0.35 | 3.60 | 116.50 | 0.00 | 0.50 |
| 18.59 | 9.92 | 0.43 | 4.37 | 116.50 | 0.00 | 0.50 |
| 18.65 | 10.48 | 0.46 | 4.42 | 116.50 | 0.00 | 0.50 |
| 18.72 | 11.13 | 0.46 | 4.14 | 116.50 | 0.00 | 0.50 |
| 18.78 | 12.05 | 0.46 | 3.79 | 116.50 | 0.00 | 0.50 |
| 18.84 | 12.15 | 0.45 | 3.74 | 116.50 | 0.00 | 0.50 |
| 18.91 | 11.78 | 0.47 | 3.97 | 116.50 | 0.00 | 0.50 |
| 18.98 | 11.87 | 0.47 | 3.98 | 116.50 | 0.00 | 0.50 |
| 19.04 | 12.61 | 0.47 | 3.74 | 116.50 | 0.00 | 0.50 |
| 19.11 | 13.17 | 0.46 | 3.52 | 116.50 | 0.00 | 0.50 |
| 19.17 | 13.82 | 0.44 | 3.19 | 116.50 | 0.00 | 0.50 |
| 19.24 | 14.47 | 0.49 | 3.38 | 116.50 | 0.00 | 0.50 |
| 19.31 | 15.11 | 0.59 | 3.93 | 116.50 | 0.00 | 0.50 |
| 19.37 | 16.23 | 0.73 | 4.49 | 116.50 | 0.00 | 0.50 |
| 19.44 | 18.08 | 0.89 | 4.92 | 116.50 | 0.00 | 0.50 |
| 19.50 | 19.19 | 1.09 | 5.68 | 116.50 | 0.00 | 0.50 |
| 19.57 | 20.68 | 1.30 | 6.29 | 116.50 | 0.00 | 0.50 |
| 19.63 | 23.00 | 1.35 | 5.87 | 116.50 | 0.00 | 0.50 |

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| 19.70 | 25.87 | 1.28 | 4.96 | 116.50 | 0.00 | 0.50 |
| 19.76 | 28.19 | 1.43 | 5.07 | 116.50 | 0.00 | 0.50 |
| 19.83 | 30.97 | 1.57 | 5.06 | 116.50 | 0.00 | 0.50 |
| 19.90 | 34.40 | 1.70 | 4.95 | 116.50 | 0.00 | 0.50 |
| 19.96 | 37.18 | 1.79 | 4.82 | 116.50 | 0.00 | 0.50 |
| 20.02 | 41.08 | 1.85 | 4.51 | 125.50 | 0.00 | 0.50 |
| 20.09 | 42.28 | 1.91 | 4.52 | 125.50 | 0.00 | 0.50 |
| 20.16 | 42.38 | 1.95 | 4.59 | 125.50 | 0.00 | 0.50 |
| 20.22 | 42.56 | 1.92 | 4.52 | 125.50 | 0.00 | 0.50 |
| 20.28 | 42.56 | 1.86 | 4.36 | 125.50 | 0.00 | 0.50 |
| 20.35 | 42.38 | 1.78 | 4.19 | 125.50 | 0.00 | 0.50 |
| 20.42 | 42.19 | 1.70 | 4.02 | 125.50 | 0.00 | 0.50 |
| 20.48 | 42.28 | 1.63 | 3.85 | 125.50 | 0.00 | 0.50 |
| 20.54 | 42.84 | 1.57 | 3.68 | 125.50 | 0.00 | 0.50 |
| 20.61 | 44.60 | 1.49 | 3.35 | 125.50 | 0.00 | 0.50 |
| 20.67 | 47.11 | 1.34 | 2.85 | 125.50 | 0.00 | 0.50 |
| 20.77 | 51.46 | 1.02 | 1.98 | 125.50 | 0.00 | 0.50 |
| 20.80 | 52.58 | 0.91 | 1.74 | 125.50 | 0.00 | 0.50 |
| 20.90 | 55.08 | 0.82 | 1.48 | 125.50 | 0.00 | 0.50 |
| 20.96 | 56.01 | 0.84 | 1.49 | 125.50 | 0.00 | 0.50 |
| 21.03 | 56.01 | 0.89 | 1.60 | 125.50 | 0.00 | 0.50 |
| 21.09 | 55.08 | 0.98 | 1.78 | 125.50 | 0.00 | 0.50 |
| 21.16 | 54.06 | 1.08 | 2.00 | 125.50 | 0.00 | 0.50 |
| 21.22 | 55.03 | 1.18 | 2.14 | 125.50 | 0.00 | 0.50 |
| 21.29 | 53.78 | 1.29 | 2.40 | 125.50 | 0.00 | 0.50 |
| 21.35 | 54.99 | 1.39 | 2.53 | 125.50 | 0.00 | 0.50 |
| 21.41 | 56.38 | 1.45 | 2.58 | 125.50 | 0.00 | 0.50 |
| 21.48 | 57.86 | 1.48 | 2.57 | 125.50 | 0.00 | 0.50 |
| 21.55 | 59.35 | 1.43 | 2.41 | 125.50 | 0.00 | 0.50 |
| 21.61 | 61.48 | 1.25 | 2.04 | 125.50 | 0.00 | 0.50 |
| 21.68 | 63.33 | 0.96 | 1.52 | 125.50 | 0.00 | 0.50 |
| 21.75 | 64.63 | 0.75 | 1.16 | 125.50 | 0.00 | 0.50 |
| 21.81 | 64.82 | 0.69 | 1.06 | 125.50 | 0.00 | 0.50 |
| 21.87 | 64.26 | 0.71 | 1.10 | 125.50 | 0.00 | 0.50 |
| 21.94 | 62.31 | 0.73 | 1.17 | 125.50 | 0.00 | 0.50 |
| 22.01 | 58.79 | 0.75 | 1.28 | 125.50 | 0.00 | 0.50 |
| 22.07 | 54.06 | 0.91 | 1.68 | 125.50 | 0.00 | 0.50 |
| 22.14 | 48.40 | 1.06 | 2.19 | 125.50 | 0.00 | 0.50 |
| 22.20 | 43.03 | 1.22 | 2.83 | 125.50 | 0.00 | 0.50 |
| 22.27 | 37.00 | 1.35 | 3.64 | 125.50 | 0.00 | 0.50 |
| 22.34 | 34.12 | 1.39 | 4.07 | 125.50 | 0.00 | 0.50 |
| 22.40 | 31.71 | 1.36 | 4.29 | 125.50 | 0.00 | 0.50 |
| 22.47 | 29.02 | 1.30 | 4.48 | 125.50 | 0.00 | 0.50 |
| 22.53 | 25.69 | 1.21 | 4.72 | 125.50 | 0.00 | 0.50 |
| 22.60 | 21.42 | 1.11 | 5.18 | 125.50 | 0.00 | 0.50 |
| 22.67 | 17.80 | 1.00 | 5.63 | 125.50 | 0.00 | 0.50 |
| 22.73 | 15.86 | 0.90 | 5.69 | 125.50 | 0.00 | 0.50 |
| 22.80 | 14.74 | 0.81 | 5.52 | 125.50 | 0.00 | 0.50 |
| 22.86 | 14.93 | 0.72 | 4.84 | 125.50 | 0.00 | 0.50 |
| 22.93 | 15.39 | 0.65 | 4.23 | 125.50 | 0.00 | 0.50 |

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| 22.99 | 15.30 | 0.61 | 3.96 | 125.50 | 0.00 | 0.50 |
| 23.06 | 14.56 | 0.55 | 3.77 | 125.50 | 0.00 | 0.50 |
| 23.12 | 13.91 | 0.48 | 3.43 | 125.50 | 0.00 | 0.50 |
| 23.19 | 13.17 | 0.43 | 3.28 | 125.50 | 0.00 | 0.50 |
| 23.25 | 12.80 | 0.41 | 3.17 | 125.50 | 0.00 | 0.50 |
| 23.31 | 13.12 | 0.39 | 2.99 | 125.50 | 0.00 | 0.50 |
| 23.38 | 12.33 | 0.37 | 3.03 | 125.50 | 0.00 | 0.50 |
| 23.44 | 13.07 | 0.35 | 2.71 | 125.50 | 0.00 | 0.50 |
| 23.51 | 13.54 | 0.33 | 2.43 | 125.50 | 0.00 | 0.50 |
| 23.57 | 13.35 | 0.29 | 2.16 | 125.50 | 0.00 | 0.50 |
| 23.64 | 12.89 | 0.24 | 1.86 | 125.50 | 0.00 | 0.50 |
| 23.70 | 12.24 | 0.22 | 1.81 | 125.50 | 0.00 | 0.50 |
| 23.76 | 11.78 | 0.22 | 1.87 | 125.50 | 0.00 | 0.50 |
| 23.82 | 11.13 | 0.22 | 1.97 | 125.50 | 0.00 | 0.50 |
| 23.89 | 10.76 | 0.25 | 2.28 | 125.50 | 0.00 | 0.50 |
| 23.95 | 10.76 | 0.32 | 3.01 | 125.50 | 0.00 | 0.50 |
| 24.02 | 10.85 | 0.42 | 3.89 | 125.50 | 0.00 | 0.50 |
| 24.08 | 12.24 | 0.55 | 4.47 | 125.50 | 0.00 | 0.50 |
| 24.15 | 15.76 | 0.74 | 4.69 | 125.50 | 0.00 | 0.50 |
| 24.22 | 20.96 | 0.98 | 4.68 | 125.50 | 0.00 | 0.50 |
| 24.28 | 26.89 | 1.19 | 4.44 | 125.50 | 0.00 | 0.50 |
| 24.35 | 33.38 | 1.39 | 4.17 | 125.50 | 0.00 | 0.50 |
| 24.41 | 42.19 | 1.56 | 3.69 | 125.50 | 0.00 | 0.50 |
| 24.48 | 58.98 | 1.71 | 2.89 | 125.50 | 0.00 | 0.50 |
| 24.54 | 90.13 | 1.88 | 2.09 | 125.50 | 0.00 | 0.50 |
| 24.61 | 125.92 | 2.09 | 1.66 | 125.50 | 0.00 | 0.50 |
| 24.68 | 149.94 | 2.27 | 1.51 | 125.50 | 0.00 | 0.50 |
| 24.74 | 160.33 | 2.37 | 1.48 | 125.50 | 0.00 | 0.50 |
| 24.81 | 162.83 | 2.34 | 1.44 | 125.50 | 0.00 | 0.50 |
| 24.88 | 157.82 | 2.16 | 1.37 | 125.50 | 0.00 | 0.50 |
| 24.94 | 150.68 | 1.98 | 1.31 | 125.50 | 0.00 | 0.50 |
| 25.00 | 142.24 | 1.88 | 1.32 | 119.80 | 0.00 | 0.50 |
| 25.08 | 133.34 | 1.82 | 1.37 | 119.80 | 0.00 | 0.50 |
| 25.14 | 126.02 | 1.68 | 1.33 | 119.80 | 0.00 | 0.50 |
| 25.20 | 119.53 | 1.46 | 1.22 | 119.80 | 0.00 | 0.50 |
| 25.26 | 114.06 | 1.28 | 1.13 | 119.80 | 0.00 | 0.50 |
| 25.33 | 108.58 | 1.21 | 1.11 | 119.80 | 0.00 | 0.50 |
| 25.39 | 104.50 | 1.17 | 1.12 | 119.80 | 0.00 | 0.50 |
| 25.46 | 99.87 | 1.14 | 1.14 | 119.80 | 0.00 | 0.50 |
| 25.53 | 95.79 | 1.10 | 1.14 | 119.80 | 0.00 | 0.50 |
| 25.59 | 91.80 | 1.06 | 1.16 | 119.80 | 0.00 | 0.50 |
| 25.66 | 88.09 | 0.95 | 1.08 | 119.80 | 0.00 | 0.50 |
| 25.72 | 84.20 | 0.77 | 0.92 | 119.80 | 0.00 | 0.50 |
| 25.82 | 76.96 | 0.82 | 1.07 | 119.80 | 0.00 | 0.50 |
| 25.86 | 73.63 | 0.86 | 1.17 | 119.80 | 0.00 | 0.50 |
| 25.92 | 65.47 | 0.95 | 1.45 | 119.80 | 0.00 | 0.50 |
| 25.99 | 56.75 | 1.03 | 1.82 | 119.80 | 0.00 | 0.50 |
| 26.06 | 43.40 | 1.02 | 2.36 | 119.80 | 0.00 | 0.50 |
| 26.13 | 36.44 | 0.98 | 2.69 | 119.80 | 0.00 | 0.50 |
| 26.19 | 29.86 | 0.93 | 3.12 | 119.80 | 0.00 | 0.50 |

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| 26.26 | 24.67 | 0.88 | 3.57 | 119.80 | 0.00 | 0.50 |
| 26.32 | 19.84 | 0.79 | 4.00 | 119.80 | 0.00 | 0.50 |
| 26.39 | 16.60 | 0.72 | 4.35 | 119.80 | 0.00 | 0.50 |
| 26.45 | 14.09 | 0.65 | 4.63 | 119.80 | 0.00 | 0.50 |
| 26.52 | 12.15 | 0.54 | 4.45 | 119.80 | 0.00 | 0.50 |
| 26.59 | 11.31 | 0.43 | 3.78 | 119.80 | 0.00 | 0.50 |
| 26.65 | 11.13 | 0.37 | 3.33 | 119.80 | 0.00 | 0.50 |
| 26.71 | 10.85 | 0.34 | 3.11 | 119.80 | 0.00 | 0.50 |
| 26.78 | 10.76 | 0.31 | 2.89 | 119.80 | 0.00 | 0.50 |
| 26.85 | 10.76 | 0.29 | 2.72 | 119.80 | 0.00 | 0.50 |
| 26.91 | 10.66 | 0.28 | 2.61 | 119.80 | 0.00 | 0.50 |
| 26.98 | 10.66 | 0.27 | 2.50 | 119.80 | 0.00 | 0.50 |
| 27.04 | 10.39 | 0.26 | 2.54 | 119.80 | 0.00 | 0.50 |
| 27.11 | 10.39 | 0.27 | 2.58 | 119.80 | 0.00 | 0.50 |
| 27.17 | 10.39 | 0.27 | 2.58 | 119.80 | 0.00 | 0.50 |
| 27.23 | 10.48 | 0.26 | 2.46 | 119.80 | 0.00 | 0.50 |
| 27.30 | 10.57 | 0.25 | 2.35 | 119.80 | 0.00 | 0.50 |
| 27.36 | 10.85 | 0.25 | 2.32 | 119.80 | 0.00 | 0.50 |
| 27.46 | 10.85 | 0.25 | 2.34 | 119.80 | 0.00 | 0.50 |
| 27.52 | 10.66 | 0.26 | 2.39 | 119.80 | 0.00 | 0.50 |
| 27.59 | 10.39 | 0.26 | 2.46 | 119.80 | 0.00 | 0.50 |
| 27.65 | 10.29 | 0.26 | 2.54 | 119.80 | 0.00 | 0.50 |
| 27.72 | 10.29 | 0.27 | 2.62 | 119.80 | 0.00 | 0.50 |
| 27.78 | 10.29 | 0.28 | 2.72 | 119.80 | 0.00 | 0.50 |
| 27.85 | 10.29 | 0.29 | 2.81 | 119.80 | 0.00 | 0.50 |
| 27.91 | 10.29 | 0.29 | 2.79 | 119.80 | 0.00 | 0.50 |
| 27.98 | 10.20 | 0.28 | 2.75 | 119.80 | 0.00 | 0.50 |
| 28.04 | 10.20 | 0.27 | 2.69 | 119.80 | 0.00 | 0.50 |
| 28.11 | 10.11 | 0.27 | 2.66 | 119.80 | 0.00 | 0.50 |
| 28.17 | 10.01 | 0.26 | 2.63 | 119.80 | 0.00 | 0.50 |
| 28.23 | 9.83 | 0.26 | 2.63 | 119.80 | 0.00 | 0.50 |
| 28.30 | 9.74 | 0.25 | 2.61 | 119.80 | 0.00 | 0.50 |
| 28.36 | 9.74 | 0.25 | 2.53 | 119.80 | 0.00 | 0.50 |
| 28.43 | 9.55 | 0.24 | 2.52 | 119.80 | 0.00 | 0.50 |
| 28.49 | 9.37 | 0.23 | 2.48 | 119.80 | 0.00 | 0.50 |
| 28.56 | 9.09 | 0.23 | 2.51 | 119.80 | 0.00 | 0.50 |
| 28.62 | 8.99 | 0.23 | 2.55 | 119.80 | 0.00 | 0.50 |
| 28.69 | 8.99 | 0.23 | 2.57 | 119.80 | 0.00 | 0.50 |
| 28.75 | 9.18 | 0.23 | 2.54 | 119.80 | 0.00 | 0.50 |
| 28.82 | 9.46 | 0.23 | 2.48 | 119.80 | 0.00 | 0.50 |
| 28.88 | 9.64 | 0.24 | 2.47 | 119.80 | 0.00 | 0.50 |
| 28.95 | 9.46 | 0.25 | 2.62 | 119.80 | 0.00 | 0.50 |
| 29.01 | 8.53 | 0.26 | 3.00 | 119.80 | 0.00 | 0.50 |
| 29.07 | 9.27 | 0.26 | 2.76 | 119.80 | 0.00 | 0.50 |
| 29.14 | 9.18 | 0.24 | 2.64 | 119.80 | 0.00 | 0.50 |
| 29.20 | 9.09 | 0.23 | 2.55 | 119.80 | 0.00 | 0.50 |
| 29.26 | 8.90 | 0.23 | 2.60 | 119.80 | 0.00 | 0.50 |
| 29.33 | 8.53 | 0.23 | 2.71 | 119.80 | 0.00 | 0.50 |
| 29.40 | 8.44 | 0.23 | 2.73 | 119.80 | 0.00 | 0.50 |
| 29.46 | 8.44 | 0.24 | 2.87 | 119.80 | 0.00 | 0.50 |

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|---|---|---|---|---|---|---|
| 29.53 | 8.62 | 0.24 | 2.76 | 119.80 | 0.00 | 0.50 |
| 29.62 | 8.90 | 0.23 | 2.56 | 119.80 | 0.00 | 0.50 |
| 29.69 | 9.27 | 0.23 | 2.48 | 119.80 | 0.00 | 0.50 |
| 29.75 | 9.27 | 0.24 | 2.63 | 119.80 | 0.00 | 0.50 |
| 29.82 | 9.27 | 0.27 | 2.87 | 119.80 | 0.00 | 0.50 |
| 29.88 | 9.27 | 0.28 | 3.05 | 119.80 | 0.00 | 0.50 |
| 29.94 | 9.27 | 0.28 | 3.06 | 119.80 | 0.00 | 0.50 |
| 30.01 | 9.37 | 0.27 | 2.92 | 123.90 | 0.00 | 0.50 |
| 30.08 | 9.27 | 0.27 | 2.93 | 123.90 | 0.00 | 0.50 |
| 30.14 | 8.90 | 0.25 | 2.84 | 123.90 | 0.00 | 0.50 |
| 30.20 | 8.35 | 0.22 | 2.59 | 123.90 | 0.00 | 0.50 |
| 30.27 | 7.70 | 0.20 | 2.55 | 123.90 | 0.00 | 0.50 |
| 30.34 | 7.14 | 0.19 | 2.65 | 123.90 | 0.00 | 0.50 |
| 30.40 | 6.58 | 0.19 | 2.81 | 123.90 | 0.00 | 0.50 |
| 30.47 | 6.12 | 0.18 | 2.97 | 123.90 | 0.00 | 0.50 |
| 30.53 | 6.63 | 0.18 | 2.68 | 123.90 | 0.00 | 0.50 |
| 30.60 | 6.68 | 0.17 | 2.56 | 123.90 | 0.00 | 0.50 |
| 30.66 | 7.88 | 0.16 | 2.09 | 123.90 | 0.00 | 0.50 |
| 30.73 | 8.16 | 0.16 | 1.95 | 123.90 | 0.00 | 0.50 |
| 30.80 | 8.25 | 0.16 | 1.97 | 123.90 | 0.00 | 0.50 |
| 30.86 | 8.35 | 0.17 | 2.03 | 123.90 | 0.00 | 0.50 |
| 30.93 | 8.81 | 0.18 | 2.04 | 123.90 | 0.00 | 0.50 |
| 30.99 | 9.27 | 0.19 | 2.01 | 123.90 | 0.00 | 0.50 |
| 31.06 | 9.46 | 0.19 | 1.97 | 123.90 | 0.00 | 0.50 |
| 31.12 | 9.27 | 0.19 | 2.01 | 123.90 | 0.00 | 0.50 |
| 31.19 | 9.27 | 0.19 | 2.01 | 123.90 | 0.00 | 0.50 |
| 31.25 | 9.27 | 0.19 | 2.03 | 123.90 | 0.00 | 0.50 |
| 31.32 | 9.27 | 0.20 | 2.21 | 123.90 | 0.00 | 0.50 |
| 31.38 | 8.99 | 0.23 | 2.58 | 123.90 | 0.00 | 0.50 |
| 31.45 | 8.81 | 0.26 | 2.92 | 123.90 | 0.00 | 0.50 |
| 31.52 | 9.09 | 0.29 | 3.14 | 123.90 | 0.00 | 0.50 |
| 31.58 | 9.74 | 0.32 | 3.25 | 123.90 | 0.00 | 0.50 |
| 31.64 | 10.01 | 0.35 | 3.45 | 123.90 | 0.00 | 0.50 |
| 31.70 | 11.41 | 0.35 | 3.10 | 123.90 | 0.00 | 0.50 |
| 31.77 | 11.78 | 0.30 | 2.56 | 123.90 | 0.00 | 0.50 |
| 31.84 | 12.33 | 0.23 | 1.86 | 123.90 | 0.00 | 0.50 |
| 31.91 | 12.70 | 0.34 | 2.64 | 123.90 | 0.00 | 0.50 |
| 31.97 | 13.35 | 0.46 | 3.42 | 123.90 | 0.00 | 0.50 |
| 32.03 | 14.74 | 0.58 | 3.93 | 123.90 | 0.00 | 0.50 |
| 32.10 | 17.25 | 0.68 | 3.94 | 123.90 | 0.00 | 0.50 |
| 32.18 | 17.34 | 0.76 | 4.37 | 123.90 | 0.00 | 0.50 |
| 32.24 | 18.08 | 0.80 | 4.44 | 123.90 | 0.00 | 0.50 |
| 32.31 | 17.43 | 0.84 | 4.80 | 123.90 | 0.00 | 0.50 |
| 32.37 | 15.58 | 0.85 | 5.45 | 123.90 | 0.00 | 0.50 |
| 32.43 | 14.09 | 0.81 | 5.78 | 123.90 | 0.00 | 0.50 |
| 32.49 | 13.17 | 0.77 | 5.82 | 123.90 | 0.00 | 0.50 |
| 32.56 | 12.43 | 0.72 | 5.79 | 123.90 | 0.00 | 0.50 |
| 32.62 | 12.61 | 0.63 | 5.00 | 123.90 | 0.00 | 0.50 |
| 32.68 | 12.43 | 0.51 | 4.14 | 123.90 | 0.00 | 0.50 |
| 32.75 | 12.24 | 0.40 | 3.24 | 123.90 | 0.00 | 0.50 |

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| 32.81 | 11.87 | 0.31 | 2.57 | 123.90 | 0.00 | 0.50 |
| 32.88 | 11.22 | 0.26 | 2.30 | 123.90 | 0.00 | 0.50 |
| 32.95 | 10.85 | 0.24 | 2.17 | 123.90 | 0.00 | 0.50 |
| 33.01 | 10.39 | 0.23 | 2.22 | 123.90 | 0.00 | 0.50 |
| 33.08 | 10.48 | 0.23 | 2.20 | 123.90 | 0.00 | 0.50 |
| 33.15 | 10.48 | 0.24 | 2.25 | 123.90 | 0.00 | 0.50 |
| 33.21 | 10.76 | 0.24 | 2.18 | 123.90 | 0.00 | 0.50 |
| 33.28 | 10.48 | 0.22 | 2.11 | 123.90 | 0.00 | 0.50 |
| 33.34 | 10.48 | 0.22 | 2.05 | 123.90 | 0.00 | 0.50 |
| 33.40 | 10.85 | 0.22 | 2.05 | 123.90 | 0.00 | 0.50 |
| 33.47 | 11.13 | 0.22 | 2.00 | 123.90 | 0.00 | 0.50 |
| 33.54 | 11.22 | 0.21 | 1.86 | 123.90 | 0.00 | 0.50 |
| 33.60 | 10.57 | 0.24 | 2.30 | 123.90 | 0.00 | 0.50 |
| 33.67 | 10.29 | 0.25 | 2.46 | 123.90 | 0.00 | 0.50 |
| 33.73 | 10.39 | 0.27 | 2.58 | 123.90 | 0.00 | 0.50 |
| 33.80 | 10.48 | 0.28 | 2.68 | 123.90 | 0.00 | 0.50 |
| 33.87 | 10.25 | 0.29 | 2.79 | 123.90 | 0.00 | 0.50 |
| 33.93 | 10.11 | 0.29 | 2.83 | 123.90 | 0.00 | 0.50 |
| 34.00 | 10.66 | 0.29 | 2.73 | 123.90 | 0.00 | 0.50 |
| 34.07 | 10.57 | 0.31 | 2.90 | 123.90 | 0.00 | 0.50 |
| 34.13 | 10.85 | 0.31 | 2.89 | 123.90 | 0.00 | 0.50 |
| 34.20 | 11.13 | 0.32 | 2.88 | 123.90 | 0.00 | 0.50 |
| 34.26 | 11.50 | 0.36 | 3.13 | 123.90 | 0.00 | 0.50 |
| 34.32 | 12.05 | 0.46 | 3.80 | 123.90 | 0.00 | 0.50 |
| 34.39 | 12.52 | 0.61 | 4.84 | 123.90 | 0.00 | 0.50 |
| 34.45 | 14.00 | 0.78 | 5.58 | 123.90 | 0.00 | 0.50 |
| 34.52 | 16.78 | 0.94 | 5.62 | 123.90 | 0.00 | 0.50 |
| 34.58 | 20.96 | 1.04 | 4.98 | 123.90 | 0.00 | 0.50 |
| 34.65 | 25.96 | 1.12 | 4.32 | 123.90 | 0.00 | 0.50 |
| 34.71 | 31.34 | 1.25 | 3.99 | 123.90 | 0.00 | 0.50 |
| 34.78 | 36.72 | 1.40 | 3.82 | 123.90 | 0.00 | 0.50 |
| 34.85 | 39.87 | 1.52 | 3.82 | 123.90 | 0.00 | 0.50 |
| 34.94 | 43.67 | 1.68 | 3.84 | 123.90 | 0.00 | 0.50 |
| 35.01 | 47.57 | 1.82 | 3.82 | 123.90 | 0.00 | 0.50 |
| 35.04 | 50.26 | 1.90 | 3.77 | 123.20 | 0.00 | 0.50 |
| 35.11 | 55.73 | 2.01 | 3.61 | 123.20 | 0.00 | 0.50 |
| 35.17 | 61.02 | 2.08 | 3.40 | 123.20 | 0.00 | 0.50 |
| 35.24 | 64.72 | 2.10 | 3.25 | 123.20 | 0.00 | 0.50 |
| 35.31 | 68.16 | 2.13 | 3.12 | 123.20 | 0.00 | 0.50 |
| 35.37 | 73.16 | 2.18 | 2.98 | 123.20 | 0.00 | 0.50 |
| 35.44 | 79.56 | 2.24 | 2.82 | 123.20 | 0.00 | 0.50 |
| 35.50 | 87.26 | 2.23 | 2.55 | 123.20 | 0.00 | 0.50 |
| 35.57 | 96.72 | 2.05 | 2.12 | 123.20 | 0.00 | 0.50 |
| 35.64 | 104.69 | 1.79 | 1.71 | 123.20 | 0.00 | 0.50 |
| 35.70 | 110.90 | 1.60 | 1.44 | 123.20 | 0.00 | 0.50 |
| 35.76 | 115.91 | 1.52 | 1.31 | 123.20 | 0.00 | 0.50 |
| 35.83 | 120.64 | 1.44 | 1.20 | 123.20 | 0.00 | 0.50 |
| 35.89 | 123.70 | 1.36 | 1.10 | 123.20 | 0.00 | 0.50 |
| 35.96 | 126.76 | 1.41 | 1.11 | 123.20 | 0.00 | 0.50 |
| 36.03 | 128.80 | 1.47 | 1.14 | 123.20 | 0.00 | 0.50 |

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| 36.09 | 129.17 | 1.54 | 1.20 | 123.20 | 0.00 | 0.50 |
| 36.16 | 127.78 | 1.61 | 1.26 | 123.20 | 0.00 | 0.50 |
| 36.22 | 123.88 | 1.68 | 1.35 | 123.20 | 0.00 | 0.50 |
| 36.32 | 124.16 | 1.76 | 1.42 | 123.20 | 0.00 | 0.50 |
| 36.38 | 122.59 | 1.80 | 1.47 | 123.20 | 0.00 | 0.50 |
| 36.44 | 121.10 | 1.83 | 1.51 | 123.20 | 0.00 | 0.50 |
| 36.51 | 119.53 | 1.83 | 1.53 | 123.20 | 0.00 | 0.50 |
| 36.57 | 117.58 | 1.82 | 1.55 | 123.20 | 0.00 | 0.50 |
| 36.63 | 114.52 | 1.82 | 1.59 | 123.20 | 0.00 | 0.50 |
| 36.70 | 114.24 | 1.82 | 1.59 | 123.20 | 0.00 | 0.50 |
| 36.76 | 112.02 | 1.83 | 1.64 | 123.20 | 0.00 | 0.50 |
| 36.82 | 109.42 | 1.85 | 1.69 | 123.20 | 0.00 | 0.50 |
| 36.89 | 105.71 | 1.83 | 1.73 | 123.20 | 0.00 | 0.50 |
| 36.96 | 100.80 | 1.80 | 1.79 | 123.20 | 0.00 | 0.50 |
| 37.02 | 95.23 | 1.77 | 1.86 | 123.20 | 0.00 | 0.50 |
| 37.09 | 90.69 | 1.71 | 1.88 | 123.20 | 0.00 | 0.50 |
| 37.14 | 82.90 | 1.64 | 1.98 | 123.20 | 0.00 | 0.50 |
| 37.21 | 83.46 | 1.57 | 1.89 | 123.20 | 0.00 | 0.50 |
| 37.30 | 80.49 | 1.53 | 1.90 | 123.20 | 0.00 | 0.50 |
| 37.36 | 75.57 | 1.52 | 2.01 | 123.20 | 0.00 | 0.50 |
| 37.43 | 69.92 | 1.52 | 2.18 | 123.20 | 0.00 | 0.50 |
| 37.49 | 63.24 | 1.50 | 2.37 | 123.20 | 0.00 | 0.50 |
| 37.56 | 57.03 | 1.47 | 2.58 | 123.20 | 0.00 | 0.50 |
| 37.63 | 50.44 | 1.47 | 2.92 | 123.20 | 0.00 | 0.50 |
| 37.69 | 43.12 | 1.47 | 3.41 | 123.20 | 0.00 | 0.50 |
| 37.75 | 35.98 | 1.46 | 4.06 | 123.20 | 0.00 | 0.50 |
| 37.82 | 29.49 | 1.42 | 4.82 | 123.20 | 0.00 | 0.50 |
| 37.89 | 25.78 | 1.35 | 5.24 | 123.20 | 0.00 | 0.50 |
| 37.95 | 22.72 | 1.27 | 5.58 | 123.20 | 0.00 | 0.50 |
| 38.02 | 20.68 | 1.14 | 5.52 | 123.20 | 0.00 | 0.50 |
| 38.09 | 18.73 | 1.02 | 5.45 | 123.20 | 0.00 | 0.50 |
| 38.15 | 17.71 | 0.91 | 5.14 | 123.20 | 0.00 | 0.50 |
| 38.22 | 17.53 | 0.83 | 4.75 | 123.20 | 0.00 | 0.50 |
| 38.28 | 17.53 | 0.68 | 3.86 | 123.20 | 0.00 | 0.50 |
| 38.35 | 17.62 | 0.53 | 3.00 | 123.20 | 0.00 | 0.50 |
| 38.41 | 17.53 | 0.56 | 3.21 | 123.20 | 0.00 | 0.50 |
| 38.48 | 17.34 | 0.60 | 3.46 | 123.20 | 0.00 | 0.50 |
| 38.54 | 16.88 | 0.63 | 3.73 | 123.20 | 0.00 | 0.50 |
| 38.61 | 16.04 | 0.65 | 4.08 | 123.20 | 0.00 | 0.50 |
| 38.67 | 15.67 | 0.67 | 4.31 | 123.20 | 0.00 | 0.50 |
| 38.73 | 15.39 | 0.69 | 4.46 | 123.20 | 0.00 | 0.50 |
| 38.80 | 14.93 | 0.70 | 4.67 | 123.20 | 0.00 | 0.50 |
| 38.87 | 14.84 | 0.68 | 4.56 | 123.20 | 0.00 | 0.50 |
| 38.93 | 14.84 | 0.63 | 4.28 | 123.20 | 0.00 | 0.50 |
| 38.99 | 14.84 | 0.61 | 4.08 | 123.20 | 0.00 | 0.50 |
| 39.05 | 14.84 | 0.60 | 4.02 | 123.20 | 0.00 | 0.50 |
| 39.12 | 15.11 | 0.59 | 3.93 | 123.20 | 0.00 | 0.50 |
| 39.18 | 15.49 | 0.59 | 3.79 | 123.20 | 0.00 | 0.50 |
| 39.25 | 15.67 | 0.60 | 3.84 | 123.20 | 0.00 | 0.50 |
| 39.32 | 16.04 | 0.61 | 3.83 | 123.20 | 0.00 | 0.50 |

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| 39.39 | 16.78 | 0.69 | 4.11 | 123.20 | 0.00 | 0.50 |
| 39.45 | 18.17 | 0.79 | 4.35 | 123.20 | 0.00 | 0.50 |
| 39.52 | 21.33 | 0.84 | 3.93 | 123.20 | 0.00 | 0.50 |
| 39.59 | 23.74 | 0.95 | 4.00 | 123.20 | 0.00 | 0.50 |
| 39.66 | 26.71 | 1.11 | 4.15 | 123.20 | 0.00 | 0.50 |
| 39.72 | 30.88 | 1.24 | 4.03 | 123.20 | 0.00 | 0.50 |
| 39.78 | 38.30 | 1.34 | 3.50 | 123.20 | 0.00 | 0.50 |
| 39.85 | 46.18 | 1.39 | 3.02 | 123.20 | 0.00 | 0.50 |
| 39.91 | 49.70 | 1.39 | 2.79 | 123.20 | 0.00 | 0.50 |
| 39.98 | 56.47 | 1.32 | 2.34 | 123.20 | 0.00 | 0.50 |
| 40.04 | 64.35 | 1.19 | 1.84 | 123.20 | 0.00 | 0.50 |
| 40.12 | 71.68 | 0.99 | 1.38 | 123.20 | 0.00 | 0.50 |
| 40.19 | 76.41 | 0.89 | 1.16 | 123.20 | 0.00 | 0.50 |
| 40.25 | 77.89 | 0.99 | 1.28 | 123.20 | 0.00 | 0.50 |
| 40.31 | 76.13 | 1.25 | 1.64 | 123.20 | 0.00 | 0.50 |
| 40.38 | 70.75 | 1.58 | 2.24 | 123.20 | 0.00 | 0.50 |
| 40.45 | 64.26 | 1.80 | 2.81 | 123.20 | 0.00 | 0.50 |
| 40.51 | 59.16 | 2.00 | 3.38 | 123.20 | 0.00 | 0.50 |
| 40.58 | 58.79 | 2.17 | 3.69 | 123.20 | 0.00 | 0.50 |
| 40.64 | 65.56 | 2.30 | 3.51 | 123.20 | 0.00 | 0.50 |
| 40.71 | 83.55 | 2.36 | 2.83 | 123.20 | 0.00 | 0.50 |
| 40.78 | 105.62 | 2.42 | 2.29 | 123.20 | 0.00 | 0.50 |
| 40.84 | 124.16 | 2.13 | 1.72 | 123.20 | 0.00 | 0.50 |
| 40.91 | 136.22 | 1.99 | 1.46 | 123.20 | 0.00 | 0.50 |
| 40.97 | 142.80 | 1.95 | 1.36 | 123.20 | 0.00 | 0.50 |
| 41.04 | 149.76 | 1.97 | 1.32 | 123.20 | 0.00 | 0.50 |
| 41.08 | 151.52 | 1.95 | 1.28 | 123.20 | 0.00 | 0.50 |
| 41.15 | 150.87 | 1.90 | 1.26 | 123.20 | 0.00 | 0.50 |
| 41.22 | 135.94 | 2.13 | 1.56 | 123.20 | 0.00 | 0.50 |
| 41.28 | 140.39 | 2.37 | 1.69 | 123.20 | 0.00 | 0.50 |
| 41.35 | 131.58 | 2.63 | 2.00 | 123.20 | 0.00 | 0.50 |
| 41.42 | 120.27 | 2.83 | 2.35 | 123.20 | 0.00 | 0.50 |
| 41.48 | 109.70 | 3.03 | 2.76 | 123.20 | 0.00 | 0.50 |
| 41.54 | 119.16 | 3.11 | 2.61 | 123.20 | 0.00 | 0.50 |
| 41.63 | 118.04 | 3.28 | 2.78 | 123.20 | 0.00 | 0.50 |
| 41.69 | 136.59 | 3.30 | 2.41 | 123.20 | 0.00 | 0.50 |
| 41.76 | 164.04 | 3.37 | 2.05 | 123.20 | 0.00 | 0.50 |
| 41.83 | 186.29 | 3.58 | 1.92 | 123.20 | 0.00 | 0.50 |
| 41.89 | 198.35 | 3.72 | 1.87 | 123.20 | 0.00 | 0.50 |
| 41.93 | 198.99 | 3.76 | 1.89 | 123.20 | 0.00 | 0.50 |
| 41.99 | 210.68 | 3.57 | 1.69 | 123.20 | 0.00 | 0.50 |
| 42.07 | 222.83 | 3.46 | 1.55 | 123.20 | 0.00 | 0.50 |
| 42.13 | 230.52 | 3.49 | 1.52 | 123.20 | 0.00 | 0.50 |
| 42.20 | 236.92 | 3.65 | 1.54 | 123.20 | 0.00 | 0.50 |
| 42.28 | 241.37 | 3.85 | 1.59 | 123.20 | 0.00 | 0.50 |
| 42.34 | 244.80 | 3.95 | 1.61 | 123.20 | 0.00 | 0.50 |
| 42.40 | 248.60 | 3.97 | 1.60 | 123.20 | 0.00 | 0.50 |
| 42.47 | 253.43 | 3.89 | 1.53 | 123.20 | 0.00 | 0.50 |
| 42.54 | 260.29 | 3.84 | 1.48 | 123.20 | 0.00 | 0.50 |
| 42.61 | 269.37 | 3.83 | 1.42 | 123.20 | 0.00 | 0.50 |

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| 42.67 | 277.35 | 3.84 | 1.38 | 123.20 | 0.00 | 0.50 |
| 42.74 | 286.07 | 3.87 | 1.35 | 123.20 | 0.00 | 0.50 |
| 42.79 | 292.37 | 3.87 | 1.32 | 123.20 | 0.00 | 0.50 |
| 42.85 | 296.64 | 3.81 | 1.28 | 123.20 | 0.00 | 0.50 |
| 42.92 | 303.87 | 3.73 | 1.23 | 123.20 | 0.00 | 0.50 |
| 42.99 | 305.82 | 3.68 | 1.20 | 123.20 | 0.00 | 0.50 |
| 43.05 | 304.15 | 3.64 | 1.20 | 123.20 | 0.00 | 0.50 |
| 43.12 | 301.27 | 3.60 | 1.20 | 123.20 | 0.00 | 0.50 |
| 43.18 | 298.21 | 3.54 | 1.19 | 123.20 | 0.00 | 0.50 |
| 43.24 | 293.39 | 3.43 | 1.17 | 123.20 | 0.00 | 0.50 |
| 43.34 | 286.53 | 3.38 | 1.18 | 123.20 | 0.00 | 0.50 |
| 43.40 | 282.36 | 2.32 | 0.82 | 123.20 | 0.00 | 0.50 |
| 43.47 | 286.67 | 2.00 | 0.70 | 123.20 | 0.00 | 0.50 |
| 43.54 | 280.59 | 2.26 | 0.80 | 123.20 | 0.00 | 0.50 |
| 43.60 | 286.81 | 2.44 | 0.85 | 123.20 | 0.00 | 0.50 |
| 43.67 | 292.93 | 2.62 | 0.90 | 123.20 | 0.00 | 0.50 |
| 43.73 | 294.13 | 2.72 | 0.93 | 123.20 | 0.00 | 0.50 |
| 43.77 | 260.38 | 2.78 | 1.07 | 123.20 | 0.00 | 0.50 |
| 43.84 | 281.99 | 2.97 | 1.05 | 123.20 | 0.00 | 0.50 |
| 43.91 | 280.59 | 3.32 | 1.18 | 123.20 | 0.00 | 0.50 |
| 43.98 | 284.30 | 3.77 | 1.33 | 123.20 | 0.00 | 0.50 |
| 44.03 | 272.99 | 3.97 | 1.46 | 123.20 | 0.00 | 0.50 |
| 44.11 | 287.46 | 4.23 | 1.47 | 123.20 | 0.00 | 0.50 |
| 44.17 | 289.50 | 4.43 | 1.53 | 123.20 | 0.00 | 0.50 |
| 44.24 | 289.13 | 4.71 | 1.63 | 123.20 | 0.00 | 0.50 |
| 44.30 | 286.53 | 4.97 | 1.73 | 123.20 | 0.00 | 0.50 |
| 44.37 | 287.83 | 5.12 | 1.78 | 123.20 | 0.00 | 0.50 |
| 44.43 | 285.79 | 5.16 | 1.81 | 123.20 | 0.00 | 0.50 |
| 44.50 | 280.69 | 5.16 | 1.84 | 123.20 | 0.00 | 0.50 |
| 44.57 | 274.47 | 5.14 | 1.87 | 123.20 | 0.00 | 0.50 |
| 44.63 | 267.52 | 5.12 | 1.91 | 123.20 | 0.00 | 0.50 |
| 44.70 | 259.36 | 5.09 | 1.96 | 123.20 | 0.00 | 0.50 |
| 44.76 | 251.01 | 4.98 | 1.98 | 123.20 | 0.00 | 0.50 |
| 44.83 | 240.63 | 4.85 | 2.02 | 123.20 | 0.00 | 0.50 |
| 44.89 | 233.03 | 4.77 | 2.04 | 123.20 | 0.00 | 0.50 |
| 44.96 | 223.57 | 4.64 | 2.07 | 123.20 | 0.00 | 0.50 |
| 45.03 | 213.83 | 4.47 | 2.09 | 124.10 | 0.00 | 0.50 |
| 45.09 | 207.62 | 4.31 | 2.08 | 124.10 | 0.00 | 0.50 |
| 45.15 | 201.22 | 4.16 | 2.07 | 124.10 | 0.00 | 0.50 |
| 45.21 | 193.43 | 4.02 | 2.08 | 124.10 | 0.00 | 0.50 |
| 45.29 | 185.18 | 3.82 | 2.07 | 124.10 | 0.00 | 0.50 |
| 45.35 | 180.45 | 3.59 | 1.99 | 124.10 | 0.00 | 0.50 |
| 45.42 | 177.39 | 3.40 | 1.92 | 124.10 | 0.00 | 0.50 |
| 45.49 | 177.39 | 3.23 | 1.82 | 124.10 | 0.00 | 0.50 |
| 45.55 | 177.85 | 2.93 | 1.65 | 124.10 | 0.00 | 0.50 |
| 45.61 | 178.18 | 2.17 | 1.22 | 124.10 | 0.00 | 0.50 |
| 45.70 | 183.32 | 2.80 | 1.53 | 124.10 | 0.00 | 0.50 |
| 45.76 | 178.50 | 2.83 | 1.58 | 124.10 | 0.00 | 0.50 |
| 45.83 | 164.22 | 2.87 | 1.75 | 124.10 | 0.00 | 0.50 |
| 45.90 | 144.84 | 2.91 | 2.01 | 124.10 | 0.00 | 0.50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 45.94 | 83.92 | 2.93 | 3.49 | 124.10 | 0.00 | 0.50 |
| 46.00 | 111.74 | 2.95 | 2.64 | 124.10 | 0.00 | 0.50 |
| 46.07 | 93.01 | 2.96 | 3.18 | 124.10 | 0.00 | 0.50 |
| 46.13 | 73.72 | 2.80 | 3.80 | 124.10 | 0.00 | 0.50 |
| 46.20 | 56.66 | 2.56 | 4.52 | 124.10 | 0.00 | 0.50 |
| 46.26 | 44.14 | 2.21 | 5.00 | 124.10 | 0.00 | 0.50 |
| 46.33 | 35.51 | 1.87 | 5.26 | 124.10 | 0.00 | 0.50 |
| 46.42 | 26.33 | 1.47 | 5.58 | 124.10 | 0.00 | 0.50 |
| 46.46 | 25.41 | 1.36 | 5.35 | 124.10 | 0.00 | 0.50 |
| 46.53 | 26.20 | 1.14 | 4.37 | 124.10 | 0.00 | 0.50 |
| 46.59 | 25.04 | 0.97 | 3.89 | 124.10 | 0.00 | 0.50 |
| 46.65 | 26.06 | 0.84 | 3.24 | 124.10 | 0.00 | 0.50 |
| 46.72 | 27.26 | 0.82 | 3.01 | 124.10 | 0.00 | 0.50 |
| 46.82 | 26.52 | 0.82 | 3.09 | 124.10 | 0.00 | 0.50 |
| 46.88 | 25.41 | 0.87 | 3.42 | 124.10 | 0.00 | 0.50 |
| 46.92 | 25.13 | 0.92 | 3.67 | 124.10 | 0.00 | 0.50 |
| 47.01 | 23.27 | 1.04 | 4.47 | 124.10 | 0.00 | 0.50 |
| 47.07 | 22.90 | 1.09 | 4.74 | 124.10 | 0.00 | 0.50 |
| 47.14 | 24.20 | 1.13 | 4.69 | 124.10 | 0.00 | 0.50 |
| 47.21 | 27.26 | 1.23 | 4.50 | 124.10 | 0.00 | 0.50 |
| 47.27 | 30.32 | 1.44 | 4.74 | 124.10 | 0.00 | 0.50 |
| 47.34 | 33.20 | 1.68 | 5.07 | 124.10 | 0.00 | 0.50 |
| 47.40 | 36.07 | 1.94 | 5.38 | 124.10 | 0.00 | 0.50 |
| 47.46 | 38.85 | 2.21 | 5.69 | 124.10 | 0.00 | 0.50 |
| 47.53 | 41.73 | 2.18 | 5.22 | 124.10 | 0.00 | 0.50 |
| 47.59 | 44.88 | 2.04 | 4.55 | 124.10 | 0.00 | 0.50 |
| 47.65 | 47.01 | 2.25 | 4.79 | 124.10 | 0.00 | 0.50 |
| 47.72 | 51.37 | 2.58 | 5.01 | 124.10 | 0.00 | 0.50 |
| 47.78 | 55.82 | 2.87 | 5.13 | 124.10 | 0.00 | 0.50 |
| 47.85 | 61.20 | 3.17 | 5.18 | 124.10 | 0.00 | 0.50 |
| 47.91 | 63.98 | 3.38 | 5.28 | 124.10 | 0.00 | 0.50 |
| 47.97 | 68.16 | 3.52 | 5.16 | 124.10 | 0.00 | 0.50 |
| 48.03 | 62.96 | 3.60 | 5.73 | 124.10 | 0.00 | 0.50 |
| 48.10 | 57.95 | 3.47 | 5.99 | 124.10 | 0.00 | 0.50 |
| 48.19 | 56.56 | 2.78 | 4.92 | 124.10 | 0.00 | 0.50 |
| 48.26 | 56.01 | 2.52 | 4.50 | 124.10 | 0.00 | 0.50 |
| 48.32 | 53.69 | 2.29 | 4.26 | 124.10 | 0.00 | 0.50 |
| 48.39 | 47.01 | 2.00 | 4.24 | 124.10 | 0.00 | 0.50 |
| 48.46 | 38.67 | 1.81 | 4.69 | 124.10 | 0.00 | 0.50 |
| 48.52 | 32.92 | 1.71 | 5.19 | 124.10 | 0.00 | 0.50 |
| 48.56 | 31.71 | 1.66 | 5.24 | 124.10 | 0.00 | 0.50 |
| 48.66 | 35.14 | 1.56 | 4.43 | 124.10 | 0.00 | 0.50 |
| 48.72 | 35.79 | 1.48 | 4.13 | 124.10 | 0.00 | 0.50 |
| 48.78 | 33.66 | 1.34 | 3.99 | 124.10 | 0.00 | 0.50 |
| 48.85 | 30.51 | 1.19 | 3.90 | 124.10 | 0.00 | 0.50 |
| 48.91 | 27.35 | 1.09 | 3.98 | 124.10 | 0.00 | 0.50 |
| 48.97 | 24.48 | 1.04 | 4.27 | 124.10 | 0.00 | 0.50 |
| 49.04 | 22.16 | 1.04 | 4.68 | 124.10 | 0.00 | 0.50 |
| 49.10 | 21.33 | 1.01 | 4.74 | 124.10 | 0.00 | 0.50 |
| 49.16 | 21.23 | 0.97 | 4.59 | 124.10 | 0.00 | 0.50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 49.23 | 22.44 | 0.98 | 4.37 | 124.10 | 0.00 | 0.50 |
| 49.29 | 24.39 | 1.13 | 4.63 | 124.10 | 0.00 | 0.50 |
| 49.35 | 27.63 | 1.22 | 4.42 | 124.10 | 0.00 | 0.50 |
| 49.41 | 30.88 | 1.27 | 4.10 | 124.10 | 0.00 | 0.50 |
| 49.50 | 33.85 | 1.68 | 4.96 | 124.10 | 0.00 | 0.50 |
| 49.57 | 36.16 | 1.98 | 5.47 | 124.10 | 0.00 | 0.50 |
| 49.63 | 40.34 | 2.11 | 5.23 | 124.10 | 0.00 | 0.50 |
| 49.70 | 46.83 | 2.01 | 4.28 | 124.10 | 0.00 | 0.50 |
| 49.77 | 54.25 | 1.95 | 3.60 | 124.10 | 0.00 | 0.50 |
| 49.83 | 54.52 | 1.94 | 3.55 | 124.10 | 0.00 | 0.50 |
| 49.90 | 48.96 | 0.00 | 0.00 | 124.10 | 0.00 | 0.50 |
| 49.97 | 48.64 | 0.00 | 0.00 | 124.10 | 0.00 | 0.50 |

Modify Robertson method generates Fines from qc/fs. Inputted Fines are not relevant.

Output Results:

Settlement of Saturated Sands=2.47 in.
Settlement of Unsaturated Sands=0.43 in.
Total Settlement of Saturated and Unsaturated Sands=2.90 in.
Differential Settlement=1.450 to 1.914 in.

| Depth ft | CRRm | CSRfs | F.S. | S_sat. in. | S_dry in. | S_all in. |
|---|---|---|---|---|---|---|
| 0.00 | 2.00 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.05 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.10 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.15 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.20 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.25 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.30 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.35 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.40 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.45 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.50 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.55 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.60 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.65 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.70 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.75 | 2.08 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.80 | 1.89 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.85 | 1.50 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.90 | 1.24 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 0.95 | 1.06 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.00 | 0.94 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.05 | 0.77 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.10 | 0.64 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.15 | 0.55 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.20 | 0.49 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1.25 | 0.44 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.30 | 0.41 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.35 | 0.39 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.40 | 0.36 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.45 | 0.30 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.50 | 0.27 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.55 | 0.27 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.60 | 0.26 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.65 | 0.22 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.70 | 0.21 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.75 | 0.22 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.80 | 0.25 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.85 | 0.27 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.90 | 0.23 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 1.95 | 0.24 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 2.00 | 0.21 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 2.05 | 0.17 | 0.63 | 5.00 | 2.47 | 0.43 | 2.90 |
| 2.10 | 0.17 | 0.63 | 5.00 | 2.47 | 0.43 | 2.89 |
| 2.15 | 0.13 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.20 | 0.14 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.25 | 0.15 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.30 | 0.20 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.35 | 0.23 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.40 | 0.22 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.45 | 0.18 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.50 | 0.18 | 0.63 | 5.00 | 2.47 | 0.42 | 2.89 |
| 2.55 | 0.17 | 0.63 | 5.00 | 2.47 | 0.42 | 2.88 |
| 2.60 | 0.17 | 0.63 | 5.00 | 2.47 | 0.41 | 2.88 |
| 2.65 | 0.17 | 0.63 | 5.00 | 2.47 | 0.41 | 2.88 |
| 2.70 | 0.14 | 0.63 | 5.00 | 2.47 | 0.41 | 2.88 |
| 2.75 | 0.12 | 0.63 | 5.00 | 2.47 | 0.40 | 2.87 |
| 2.80 | 0.13 | 0.63 | 5.00 | 2.47 | 0.39 | 2.86 |
| 2.85 | 0.15 | 0.63 | 5.00 | 2.47 | 0.38 | 2.85 |
| 2.90 | 0.17 | 0.63 | 5.00 | 2.47 | 0.37 | 2.84 |
| 2.95 | 0.16 | 0.63 | 5.00 | 2.47 | 0.36 | 2.83 |
| 3.00 | 0.16 | 0.63 | 5.00 | 2.47 | 0.36 | 2.83 |
| 3.05 | 0.15 | 0.63 | 5.00 | 2.47 | 0.35 | 2.82 |
| 3.10 | 0.14 | 0.63 | 5.00 | 2.47 | 0.34 | 2.81 |
| 3.15 | 0.15 | 0.63 | 5.00 | 2.47 | 0.33 | 2.80 |
| 3.20 | 0.14 | 0.63 | 5.00 | 2.47 | 0.32 | 2.79 |
| 3.25 | 0.14 | 0.63 | 5.00 | 2.47 | 0.31 | 2.78 |
| 3.30 | 0.13 | 0.63 | 5.00 | 2.47 | 0.30 | 2.77 |
| 3.35 | 0.13 | 0.63 | 5.00 | 2.47 | 0.29 | 2.76 |
| 3.40 | 0.13 | 0.63 | 5.00 | 2.47 | 0.28 | 2.74 |
| 3.45 | 0.12 | 0.63 | 5.00 | 2.47 | 0.26 | 2.73 |
| 3.50 | 0.12 | 0.63 | 5.00 | 2.47 | 0.25 | 2.72 |
| 3.55 | 0.12 | 0.63 | 5.00 | 2.47 | 0.24 | 2.71 |
| 3.60 | 0.12 | 0.63 | 5.00 | 2.47 | 0.23 | 2.70 |
| 3.65 | 0.11 | 0.63 | 5.00 | 2.47 | 0.22 | 2.69 |
| 3.70 | 2.00 | 0.63 | 5.00 | 2.47 | 0.21 | 2.68 |

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|---|---|---|---|---|---|---|
| 3.75 | 2.00 | 0.63 | 5.00 | 2.47 | 0.21 | 2.68 |
| 3.80 | 0.12 | 0.63 | 5.00 | 2.47 | 0.21 | 2.68 |
| 3.85 | 0.13 | 0.63 | 5.00 | 2.47 | 0.20 | 2.66 |
| 3.90 | 0.13 | 0.63 | 5.00 | 2.47 | 0.19 | 2.65 |
| 3.95 | 0.13 | 0.63 | 5.00 | 2.47 | 0.17 | 2.64 |
| 4.00 | 0.13 | 0.63 | 5.00 | 2.47 | 0.16 | 2.63 |
| 4.05 | 0.13 | 0.63 | 5.00 | 2.47 | 0.15 | 2.62 |
| 4.10 | 0.13 | 0.63 | 5.00 | 2.47 | 0.14 | 2.61 |
| 4.15 | 0.12 | 0.63 | 5.00 | 2.47 | 0.13 | 2.60 |
| 4.20 | 0.12 | 0.63 | 5.00 | 2.47 | 0.12 | 2.59 |
| 4.25 | 0.12 | 0.62 | 5.00 | 2.47 | 0.11 | 2.58 |
| 4.30 | 0.13 | 0.62 | 5.00 | 2.47 | 0.10 | 2.57 |
| 4.35 | 0.14 | 0.62 | 5.00 | 2.47 | 0.09 | 2.56 |
| 4.40 | 0.15 | 0.62 | 5.00 | 2.47 | 0.09 | 2.56 |
| 4.45 | 0.16 | 0.62 | 5.00 | 2.47 | 0.09 | 2.56 |
| 4.50 | 0.18 | 0.62 | 5.00 | 2.47 | 0.09 | 2.56 |
| 4.55 | 0.19 | 0.62 | 5.00 | 2.47 | 0.09 | 2.56 |
| 4.60 | 0.19 | 0.62 | 5.00 | 2.47 | 0.09 | 2.56 |
| 4.65 | 0.14 | 0.62 | 5.00 | 2.47 | 0.08 | 2.55 |
| 4.70 | 0.13 | 0.62 | 5.00 | 2.47 | 0.08 | 2.55 |
| 4.75 | 0.13 | 0.62 | 5.00 | 2.47 | 0.07 | 2.54 |
| 4.80 | 0.13 | 0.62 | 5.00 | 2.47 | 0.06 | 2.52 |
| 4.85 | 0.13 | 0.62 | 5.00 | 2.47 | 0.04 | 2.51 |
| 4.90 | 0.14 | 0.62 | 5.00 | 2.47 | 0.03 | 2.50 |
| 4.95 | 0.14 | 0.62 | 5.00 | 2.47 | 0.01 | 2.48 |
| 5.00 | 0.15 | 0.62 | 0.24* | 2.47 | 0.00 | 2.47 |
| 5.05 | 0.16 | 0.63 | 0.26* | 2.46 | 0.00 | 2.46 |
| 5.10 | 0.17 | 0.63 | 0.28* | 2.44 | 0.00 | 2.44 |
| 5.15 | 0.18 | 0.63 | 0.29* | 2.43 | 0.00 | 2.43 |
| 5.20 | 0.19 | 0.64 | 0.30* | 2.42 | 0.00 | 2.42 |
| 5.25 | 0.20 | 0.64 | 0.31* | 2.40 | 0.00 | 2.40 |
| 5.30 | 0.21 | 0.64 | 0.32* | 2.39 | 0.00 | 2.39 |
| 5.35 | 0.22 | 0.65 | 0.34* | 2.38 | 0.00 | 2.38 |
| 5.40 | 0.23 | 0.65 | 0.35* | 2.37 | 0.00 | 2.37 |
| 5.45 | 0.24 | 0.65 | 0.36* | 2.36 | 0.00 | 2.36 |
| 5.50 | 0.25 | 0.66 | 0.38* | 2.35 | 0.00 | 2.35 |
| 5.55 | 0.26 | 0.66 | 0.39* | 2.34 | 0.00 | 2.34 |
| 5.60 | 0.27 | 0.66 | 0.40* | 2.33 | 0.00 | 2.33 |
| 5.65 | 0.27 | 0.66 | 0.41* | 2.31 | 0.00 | 2.31 |
| 5.70 | 0.27 | 0.67 | 0.41* | 2.30 | 0.00 | 2.30 |
| 5.75 | 0.27 | 0.67 | 0.41* | 2.29 | 0.00 | 2.29 |
| 5.80 | 0.27 | 0.67 | 0.40* | 2.29 | 0.00 | 2.29 |
| 5.85 | 0.26 | 0.68 | 0.39* | 2.28 | 0.00 | 2.28 |
| 5.90 | 0.26 | 0.68 | 0.38* | 2.27 | 0.00 | 2.27 |
| 5.95 | 0.25 | 0.68 | 0.36* | 2.26 | 0.00 | 2.26 |
| 6.00 | 0.24 | 0.69 | 0.35* | 2.25 | 0.00 | 2.25 |
| 6.05 | 0.23 | 0.69 | 0.34* | 2.24 | 0.00 | 2.24 |
| 6.10 | 0.23 | 0.69 | 0.33* | 2.23 | 0.00 | 2.23 |
| 6.15 | 0.22 | 0.69 | 0.32* | 2.22 | 0.00 | 2.22 |
| 6.20 | 0.22 | 0.70 | 0.31* | 2.21 | 0.00 | 2.21 |

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|---|---|---|---|---|---|---|
| 6.25 | 0.21 | 0.70 | 0.30* | 2.20 | 0.00 | 2.20 |
| 6.30 | 0.20 | 0.70 | 0.29* | 2.18 | 0.00 | 2.18 |
| 6.35 | 0.19 | 0.70 | 0.27* | 2.17 | 0.00 | 2.17 |
| 6.40 | 0.18 | 0.71 | 0.26* | 2.16 | 0.00 | 2.16 |
| 6.45 | 0.18 | 0.71 | 0.25* | 2.15 | 0.00 | 2.15 |
| 6.50 | 0.18 | 0.71 | 0.25* | 2.14 | 0.00 | 2.14 |
| 6.55 | 0.18 | 0.71 | 0.25* | 2.13 | 0.00 | 2.13 |
| 6.60 | 0.18 | 0.72 | 0.26* | 2.12 | 0.00 | 2.12 |
| 6.65 | 0.19 | 0.72 | 0.26* | 2.10 | 0.00 | 2.10 |
| 6.70 | 0.19 | 0.72 | 0.26* | 2.09 | 0.00 | 2.09 |
| 6.75 | 0.19 | 0.72 | 0.26* | 2.08 | 0.00 | 2.08 |
| 6.80 | 0.19 | 0.73 | 0.27* | 2.06 | 0.00 | 2.06 |
| 6.85 | 0.20 | 0.73 | 0.27* | 2.05 | 0.00 | 2.05 |
| 6.90 | 0.20 | 0.73 | 0.28* | 2.04 | 0.00 | 2.04 |
| 6.95 | 0.21 | 0.73 | 0.28* | 2.03 | 0.00 | 2.03 |
| 7.00 | 0.20 | 0.74 | 0.28* | 2.02 | 0.00 | 2.02 |
| 7.05 | 0.20 | 0.74 | 0.27* | 2.00 | 0.00 | 2.00 |
| 7.10 | 0.20 | 0.74 | 0.27* | 1.99 | 0.00 | 1.99 |
| 7.15 | 0.20 | 0.74 | 0.27* | 1.98 | 0.00 | 1.98 |
| 7.20 | 0.22 | 0.75 | 0.29* | 1.97 | 0.00 | 1.97 |
| 7.25 | 0.24 | 0.75 | 0.33* | 1.96 | 0.00 | 1.96 |
| 7.30 | 0.31 | 0.75 | 0.41* | 1.95 | 0.00 | 1.95 |
| 7.35 | 0.40 | 0.75 | 0.53* | 1.95 | 0.00 | 1.95 |
| 7.40 | 0.45 | 0.75 | 0.59* | 1.95 | 0.00 | 1.95 |
| 7.45 | 0.40 | 0.76 | 0.53* | 1.95 | 0.00 | 1.95 |
| 7.50 | 0.36 | 0.76 | 0.48* | 1.95 | 0.00 | 1.95 |
| 7.55 | 0.28 | 0.76 | 0.37* | 1.95 | 0.00 | 1.95 |
| 7.60 | 0.18 | 0.76 | 0.24* | 1.95 | 0.00 | 1.95 |
| 7.65 | 0.14 | 0.77 | 0.19* | 1.94 | 0.00 | 1.94 |
| 7.70 | 0.13 | 0.77 | 0.18* | 1.93 | 0.00 | 1.93 |
| 7.75 | 0.15 | 0.77 | 0.19* | 1.91 | 0.00 | 1.91 |
| 7.80 | 0.16 | 0.77 | 0.21* | 1.90 | 0.00 | 1.90 |
| 7.85 | 0.18 | 0.77 | 0.23* | 1.89 | 0.00 | 1.89 |
| 7.90 | 0.20 | 0.78 | 0.25* | 1.87 | 0.00 | 1.87 |
| 7.95 | 0.21 | 0.78 | 0.27* | 1.86 | 0.00 | 1.86 |
| 8.00 | 0.20 | 0.78 | 0.26* | 1.85 | 0.00 | 1.85 |
| 8.05 | 0.20 | 0.78 | 0.26* | 1.84 | 0.00 | 1.84 |
| 8.10 | 0.20 | 0.78 | 0.25* | 1.83 | 0.00 | 1.83 |
| 8.15 | 0.18 | 0.79 | 0.23* | 1.82 | 0.00 | 1.82 |
| 8.20 | 0.17 | 0.79 | 0.22* | 1.81 | 0.00 | 1.81 |
| 8.25 | 0.17 | 0.79 | 0.21* | 1.79 | 0.00 | 1.79 |
| 8.30 | 0.16 | 0.79 | 0.20* | 1.78 | 0.00 | 1.78 |
| 8.35 | 0.16 | 0.79 | 0.20* | 1.77 | 0.00 | 1.77 |
| 8.40 | 0.18 | 0.80 | 0.22* | 1.76 | 0.00 | 1.76 |
| 8.45 | 0.23 | 0.80 | 0.29* | 1.75 | 0.00 | 1.75 |
| 8.50 | 0.37 | 0.80 | 0.47* | 1.74 | 0.00 | 1.74 |
| 8.55 | 0.47 | 0.80 | 0.59* | 1.74 | 0.00 | 1.74 |
| 8.60 | 2.00 | 0.80 | 5.00 | 1.74 | 0.00 | 1.74 |
| 8.65 | 2.00 | 0.81 | 5.00 | 1.74 | 0.00 | 1.74 |
| 8.70 | 2.00 | 0.81 | 5.00 | 1.74 | 0.00 | 1.74 |

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|---|---|---|---|---|---|---|
| 8.75 | 0.58 | 0.81 | 0.71* | 1.74 | 0.00 | 1.74 |
| 8.80 | 0.36 | 0.81 | 0.45* | 1.74 | 0.00 | 1.74 |
| 8.85 | 0.29 | 0.81 | 0.36* | 1.74 | 0.00 | 1.74 |
| 8.90 | 0.29 | 0.81 | 0.35* | 1.74 | 0.00 | 1.74 |
| 8.95 | 0.30 | 0.82 | 0.37* | 1.74 | 0.00 | 1.74 |
| 9.00 | 0.29 | 0.82 | 0.35* | 1.73 | 0.00 | 1.73 |
| 9.05 | 0.27 | 0.82 | 0.33* | 1.73 | 0.00 | 1.73 |
| 9.10 | 0.26 | 0.82 | 0.32* | 1.72 | 0.00 | 1.72 |
| 9.15 | 0.26 | 0.82 | 0.31* | 1.72 | 0.00 | 1.72 |
| 9.20 | 0.26 | 0.82 | 0.32* | 1.71 | 0.00 | 1.71 |
| 9.25 | 0.26 | 0.83 | 0.32* | 1.70 | 0.00 | 1.70 |
| 9.30 | 0.27 | 0.83 | 0.32* | 1.69 | 0.00 | 1.69 |
| 9.35 | 0.27 | 0.83 | 0.33* | 1.68 | 0.00 | 1.68 |
| 9.40 | 0.27 | 0.83 | 0.33* | 1.68 | 0.00 | 1.68 |
| 9.45 | 0.28 | 0.83 | 0.34* | 1.67 | 0.00 | 1.67 |
| 9.50 | 0.29 | 0.83 | 0.34* | 1.66 | 0.00 | 1.66 |
| 9.55 | 0.29 | 0.84 | 0.35* | 1.65 | 0.00 | 1.65 |
| 9.60 | 0.30 | 0.84 | 0.36* | 1.64 | 0.00 | 1.64 |
| 9.65 | 0.30 | 0.84 | 0.36* | 1.64 | 0.00 | 1.64 |
| 9.70 | 0.31 | 0.84 | 0.37* | 1.63 | 0.00 | 1.63 |
| 9.75 | 0.31 | 0.84 | 0.37* | 1.62 | 0.00 | 1.62 |
| 9.80 | 0.32 | 0.84 | 0.37* | 1.62 | 0.00 | 1.62 |
| 9.85 | 0.31 | 0.85 | 0.37* | 1.61 | 0.00 | 1.61 |
| 9.90 | 0.31 | 0.85 | 0.36* | 1.61 | 0.00 | 1.61 |
| 9.95 | 0.30 | 0.85 | 0.35* | 1.61 | 0.00 | 1.61 |
| 10.00 | 0.28 | 0.85 | 0.33* | 1.61 | 0.00 | 1.61 |
| 10.05 | 0.25 | 0.85 | 0.29* | 1.60 | 0.00 | 1.60 |
| 10.10 | 0.21 | 0.85 | 0.25* | 1.60 | 0.00 | 1.60 |
| 10.15 | 0.18 | 0.85 | 0.21* | 1.59 | 0.00 | 1.59 |
| 10.20 | 0.15 | 0.86 | 0.18* | 1.58 | 0.00 | 1.58 |
| 10.25 | 0.14 | 0.86 | 0.16* | 1.56 | 0.00 | 1.56 |
| 10.30 | 0.14 | 0.86 | 0.16* | 1.55 | 0.00 | 1.55 |
| 10.35 | 0.14 | 0.86 | 0.17* | 1.54 | 0.00 | 1.54 |
| 10.40 | 0.14 | 0.86 | 0.17* | 1.53 | 0.00 | 1.53 |
| 10.45 | 0.14 | 0.86 | 0.16* | 1.52 | 0.00 | 1.52 |
| 10.50 | 0.14 | 0.86 | 0.16* | 1.50 | 0.00 | 1.50 |
| 10.55 | 0.13 | 0.86 | 0.15* | 1.49 | 0.00 | 1.49 |
| 10.60 | 0.13 | 0.87 | 0.15* | 1.48 | 0.00 | 1.48 |
| 10.65 | 0.13 | 0.87 | 0.15* | 1.47 | 0.00 | 1.47 |
| 10.70 | 0.14 | 0.87 | 0.16* | 1.45 | 0.00 | 1.45 |
| 10.75 | 0.16 | 0.87 | 0.18* | 1.44 | 0.00 | 1.44 |
| 10.80 | 0.17 | 0.87 | 0.20* | 1.43 | 0.00 | 1.43 |
| 10.85 | 0.18 | 0.87 | 0.21* | 1.41 | 0.00 | 1.41 |
| 10.90 | 0.18 | 0.87 | 0.20* | 1.40 | 0.00 | 1.40 |
| 10.95 | 0.17 | 0.87 | 0.20* | 1.39 | 0.00 | 1.39 |
| 11.00 | 0.17 | 0.87 | 0.20* | 1.38 | 0.00 | 1.38 |
| 11.05 | 0.16 | 0.88 | 0.19* | 1.37 | 0.00 | 1.37 |
| 11.10 | 0.16 | 0.88 | 0.18* | 1.35 | 0.00 | 1.35 |
| 11.15 | 0.15 | 0.88 | 0.17* | 1.34 | 0.00 | 1.34 |
| 11.20 | 0.13 | 0.88 | 0.15* | 1.33 | 0.00 | 1.33 |

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|---|---|---|---|---|---|---|
| 11.25 | 0.13 | 0.88 | 0.14* | 1.32 | 0.00 | 1.32 |
| 11.30 | 0.12 | 0.88 | 0.14* | 1.30 | 0.00 | 1.30 |
| 11.35 | 0.13 | 0.88 | 0.14* | 1.29 | 0.00 | 1.29 |
| 11.40 | 0.13 | 0.88 | 0.15* | 1.27 | 0.00 | 1.27 |
| 11.45 | 0.14 | 0.88 | 0.16* | 1.26 | 0.00 | 1.26 |
| 11.50 | 0.14 | 0.88 | 0.16* | 1.25 | 0.00 | 1.25 |
| 11.55 | 0.15 | 0.89 | 0.17* | 1.23 | 0.00 | 1.23 |
| 11.60 | 0.15 | 0.89 | 0.17* | 1.22 | 0.00 | 1.22 |
| 11.65 | 0.16 | 0.89 | 0.18* | 1.21 | 0.00 | 1.21 |
| 11.70 | 0.18 | 0.89 | 0.20* | 1.20 | 0.00 | 1.20 |
| 11.75 | 0.20 | 0.89 | 0.22* | 1.19 | 0.00 | 1.19 |
| 11.80 | 0.24 | 0.89 | 0.27* | 1.18 | 0.00 | 1.18 |
| 11.85 | 0.32 | 0.89 | 0.36* | 1.17 | 0.00 | 1.17 |
| 11.90 | 0.47 | 0.89 | 0.52* | 1.17 | 0.00 | 1.17 |
| 11.95 | 0.54 | 0.89 | 0.60* | 1.17 | 0.00 | 1.17 |
| 12.00 | 0.77 | 0.89 | 0.86* | 1.17 | 0.00 | 1.17 |
| 12.05 | 0.69 | 0.90 | 0.77* | 1.17 | 0.00 | 1.17 |
| 12.10 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.15 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.20 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.25 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.30 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.35 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.40 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.45 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.50 | 2.00 | 0.90 | 5.00 | 1.17 | 0.00 | 1.17 |
| 12.55 | 0.39 | 0.90 | 0.43* | 1.17 | 0.00 | 1.17 |
| 12.60 | 0.22 | 0.91 | 0.24* | 1.17 | 0.00 | 1.17 |
| 12.65 | 0.16 | 0.91 | 0.18* | 1.16 | 0.00 | 1.16 |
| 12.70 | 0.15 | 0.91 | 0.17* | 1.15 | 0.00 | 1.15 |
| 12.75 | 0.15 | 0.91 | 0.16* | 1.14 | 0.00 | 1.14 |
| 12.80 | 0.16 | 0.91 | 0.18* | 1.13 | 0.00 | 1.13 |
| 12.85 | 0.19 | 0.91 | 0.21* | 1.12 | 0.00 | 1.12 |
| 12.90 | 0.27 | 0.91 | 0.30* | 1.11 | 0.00 | 1.11 |
| 12.95 | 0.50 | 0.91 | 0.55* | 1.11 | 0.00 | 1.11 |
| 13.00 | 2.00 | 0.91 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.05 | 2.00 | 0.91 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.10 | 2.00 | 0.91 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.15 | 2.00 | 0.91 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.20 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.25 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.30 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.35 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.40 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.45 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.50 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.55 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.60 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.65 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.70 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |

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|---|---|---|---|---|---|---|
| 13.75 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.80 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.85 | 2.00 | 0.92 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.90 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 13.95 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.00 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.05 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.10 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.15 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.20 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.25 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.30 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.35 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.40 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.45 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.50 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.55 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.60 | 2.00 | 0.93 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.65 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.70 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.75 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.80 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.85 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.90 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 14.95 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.00 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.05 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.10 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.15 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.20 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.25 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.30 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.35 | 2.00 | 0.94 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.40 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.45 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.50 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.55 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.60 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.65 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.70 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.75 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.80 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.85 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.90 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 15.95 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.00 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.05 | 2.00 | 0.95 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.10 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.15 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.20 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |

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|---|---|---|---|---|---|---|
| 16.25 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.30 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.35 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.40 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.45 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.50 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.55 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.60 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.65 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.70 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.75 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.80 | 2.00 | 0.96 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.85 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.90 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 16.95 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 17.00 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 17.05 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 17.10 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 17.15 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 17.20 | 2.00 | 0.97 | 5.00 | 1.11 | 0.00 | 1.11 |
| 17.25 | 0.66 | 0.97 | 0.68* | 1.11 | 0.00 | 1.11 |
| 17.30 | 0.59 | 0.97 | 0.61* | 1.11 | 0.00 | 1.11 |
| 17.35 | 0.68 | 0.97 | 0.70* | 1.11 | 0.00 | 1.11 |
| 17.40 | 0.84 | 0.97 | 0.86* | 1.11 | 0.00 | 1.11 |
| 17.45 | 0.92 | 0.97 | 0.95* | 1.11 | 0.00 | 1.11 |
| 17.50 | 1.06 | 0.97 | 1.09 | 1.11 | 0.00 | 1.11 |
| 17.55 | 1.16 | 0.97 | 1.19 | 1.11 | 0.00 | 1.11 |
| 17.60 | 1.05 | 0.97 | 1.07 | 1.11 | 0.00 | 1.11 |
| 17.65 | 1.03 | 0.97 | 1.06 | 1.11 | 0.00 | 1.11 |
| 17.70 | 1.07 | 0.98 | 1.10 | 1.11 | 0.00 | 1.11 |
| 17.75 | 1.10 | 0.98 | 1.13 | 1.11 | 0.00 | 1.11 |
| 17.80 | 1.04 | 0.98 | 1.07 | 1.11 | 0.00 | 1.11 |
| 17.85 | 1.00 | 0.98 | 1.02 | 1.11 | 0.00 | 1.11 |
| 17.90 | 1.06 | 0.98 | 1.08 | 1.11 | 0.00 | 1.11 |
| 17.95 | 1.40 | 0.98 | 1.44 | 1.11 | 0.00 | 1.11 |
| 18.00 | 1.37 | 0.98 | 1.40 | 1.11 | 0.00 | 1.11 |
| 18.05 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.10 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.15 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.20 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.25 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.30 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.35 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.40 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.45 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.50 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.55 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.60 | 2.00 | 0.98 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.65 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.70 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |

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|---|---|---|---|---|---|---|
| 18.75 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.80 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.85 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.90 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 18.95 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.00 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.05 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.10 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.15 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.20 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.25 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.30 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.35 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.40 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.45 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.50 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.55 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.60 | 2.00 | 0.99 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.65 | 2.00 | 1.00 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.70 | 2.00 | 1.00 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.75 | 2.00 | 1.00 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.80 | 2.00 | 1.00 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.85 | 2.00 | 1.00 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.90 | 2.00 | 1.00 | 5.00 | 1.11 | 0.00 | 1.11 |
| 19.95 | 2.00 | 1.00 | 5.00 | 1.11 | 0.00 | 1.11 |
| 20.00 | 1.48 | 1.00 | 1.49 | 1.11 | 0.00 | 1.11 |
| 20.05 | 1.41 | 1.00 | 1.42 | 1.11 | 0.00 | 1.11 |
| 20.10 | 1.49 | 1.00 | 1.49 | 1.11 | 0.00 | 1.11 |
| 20.15 | 1.48 | 1.00 | 1.49 | 1.11 | 0.00 | 1.11 |
| 20.20 | 1.50 | 1.00 | 1.50 | 1.11 | 0.00 | 1.11 |
| 20.25 | 1.32 | 1.00 | 1.32 | 1.11 | 0.00 | 1.11 |
| 20.30 | 1.14 | 1.00 | 1.14 | 1.11 | 0.00 | 1.11 |
| 20.35 | 0.99 | 1.00 | 0.99* | 1.11 | 0.00 | 1.11 |
| 20.40 | 0.87 | 1.00 | 0.87* | 1.11 | 0.00 | 1.11 |
| 20.45 | 0.76 | 1.00 | 0.76* | 1.11 | 0.00 | 1.11 |
| 20.50 | 0.65 | 1.00 | 0.65* | 1.11 | 0.00 | 1.11 |
| 20.55 | 0.55 | 1.00 | 0.55* | 1.11 | 0.00 | 1.11 |
| 20.60 | 0.44 | 1.00 | 0.44* | 1.11 | 0.00 | 1.11 |
| 20.65 | 0.34 | 1.00 | 0.33* | 1.11 | 0.00 | 1.11 |
| 20.70 | 0.26 | 1.00 | 0.26* | 1.11 | 0.00 | 1.11 |
| 20.75 | 0.21 | 1.00 | 0.21* | 1.10 | 0.00 | 1.10 |
| 20.80 | 0.18 | 1.00 | 0.18* | 1.09 | 0.00 | 1.09 |
| 20.85 | 0.17 | 1.00 | 0.17* | 1.08 | 0.00 | 1.08 |
| 20.90 | 0.17 | 1.00 | 0.17* | 1.07 | 0.00 | 1.07 |
| 20.95 | 0.17 | 1.00 | 0.17* | 1.05 | 0.00 | 1.05 |
| 21.00 | 0.17 | 1.00 | 0.17* | 1.04 | 0.00 | 1.04 |
| 21.05 | 0.18 | 1.00 | 0.18* | 1.03 | 0.00 | 1.03 |
| 21.10 | 0.19 | 1.00 | 0.19* | 1.02 | 0.00 | 1.02 |
| 21.15 | 0.20 | 1.01 | 0.20* | 1.01 | 0.00 | 1.01 |
| 21.20 | 0.22 | 1.01 | 0.22* | 1.00 | 0.00 | 1.00 |

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|---|---|---|---|---|---|---|
| 21.25 | 0.23 | 1.01 | 0.23* | 0.99 | 0.00 | 0.99 |
| 21.30 | 0.25 | 1.01 | 0.25* | 0.98 | 0.00 | 0.98 |
| 21.35 | 0.27 | 1.01 | 0.27* | 0.97 | 0.00 | 0.97 |
| 21.40 | 0.28 | 1.01 | 0.28* | 0.96 | 0.00 | 0.96 |
| 21.45 | 0.28 | 1.01 | 0.28* | 0.96 | 0.00 | 0.96 |
| 21.50 | 0.28 | 1.01 | 0.28* | 0.95 | 0.00 | 0.95 |
| 21.55 | 0.27 | 1.01 | 0.26* | 0.94 | 0.00 | 0.94 |
| 21.60 | 0.24 | 1.01 | 0.24* | 0.94 | 0.00 | 0.94 |
| 21.65 | 0.21 | 1.01 | 0.20* | 0.93 | 0.00 | 0.93 |
| 21.70 | 0.18 | 1.01 | 0.18* | 0.92 | 0.00 | 0.92 |
| 21.75 | 0.17 | 1.01 | 0.17* | 0.90 | 0.00 | 0.90 |
| 21.80 | 0.16 | 1.01 | 0.16* | 0.89 | 0.00 | 0.89 |
| 21.85 | 0.16 | 1.01 | 0.16* | 0.88 | 0.00 | 0.88 |
| 21.90 | 0.16 | 1.01 | 0.16* | 0.87 | 0.00 | 0.87 |
| 21.95 | 0.16 | 1.01 | 0.16* | 0.85 | 0.00 | 0.85 |
| 22.00 | 0.16 | 1.01 | 0.16* | 0.84 | 0.00 | 0.84 |
| 22.05 | 0.17 | 1.01 | 0.17* | 0.83 | 0.00 | 0.83 |
| 22.10 | 0.19 | 1.01 | 0.18* | 0.82 | 0.00 | 0.82 |
| 22.15 | 0.22 | 1.01 | 0.21* | 0.80 | 0.00 | 0.80 |
| 22.20 | 0.29 | 1.01 | 0.28* | 0.80 | 0.00 | 0.80 |
| 22.25 | 0.51 | 1.01 | 0.50* | 0.79 | 0.00 | 0.79 |
| 22.30 | 0.94 | 1.01 | 0.93* | 0.79 | 0.00 | 0.79 |
| 22.35 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.40 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.45 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.50 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.55 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.60 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.65 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.70 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.75 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.80 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.85 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.90 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 22.95 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.00 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.05 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.10 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.15 | 2.00 | 1.01 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.20 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.25 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.30 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.35 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.40 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.45 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.50 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.55 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.60 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.65 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.70 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |

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|---|---|---|---|---|---|---|
| 23.75 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.80 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.85 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.90 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 23.95 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.00 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.05 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.10 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.15 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.20 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.25 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.30 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.35 | 2.00 | 1.02 | 5.00 | 0.79 | 0.00 | 0.79 |
| 24.40 | 0.78 | 1.02 | 0.76* | 0.79 | 0.00 | 0.79 |
| 24.45 | 0.37 | 1.02 | 0.36* | 0.79 | 0.00 | 0.79 |
| 24.50 | 0.32 | 1.02 | 0.31* | 0.79 | 0.00 | 0.79 |
| 24.55 | 0.37 | 1.02 | 0.36* | 0.79 | 0.00 | 0.79 |
| 24.60 | 0.48 | 1.02 | 0.47* | 0.78 | 0.00 | 0.78 |
| 24.65 | 0.61 | 1.02 | 0.59* | 0.78 | 0.00 | 0.78 |
| 24.70 | 0.71 | 1.02 | 0.70* | 0.78 | 0.00 | 0.78 |
| 24.75 | 0.77 | 1.02 | 0.76* | 0.78 | 0.00 | 0.78 |
| 24.80 | 0.78 | 1.02 | 0.77* | 0.78 | 0.00 | 0.78 |
| 24.85 | 0.74 | 1.02 | 0.72* | 0.78 | 0.00 | 0.78 |
| 24.90 | 0.68 | 1.02 | 0.66* | 0.78 | 0.00 | 0.78 |
| 24.95 | 0.62 | 1.02 | 0.60* | 0.78 | 0.00 | 0.78 |
| 25.00 | 0.56 | 1.02 | 0.55* | 0.78 | 0.00 | 0.78 |
| 25.05 | 0.52 | 1.02 | 0.51* | 0.78 | 0.00 | 0.78 |
| 25.10 | 0.48 | 1.02 | 0.47* | 0.78 | 0.00 | 0.78 |
| 25.15 | 0.43 | 1.02 | 0.42* | 0.78 | 0.00 | 0.78 |
| 25.20 | 0.38 | 1.02 | 0.37* | 0.77 | 0.00 | 0.77 |
| 25.25 | 0.35 | 1.02 | 0.34* | 0.76 | 0.00 | 0.76 |
| 25.30 | 0.32 | 1.02 | 0.31* | 0.76 | 0.00 | 0.76 |
| 25.35 | 0.30 | 1.02 | 0.29* | 0.75 | 0.00 | 0.75 |
| 25.40 | 0.29 | 1.02 | 0.28* | 0.74 | 0.00 | 0.74 |
| 25.45 | 0.27 | 1.02 | 0.27* | 0.73 | 0.00 | 0.73 |
| 25.50 | 0.26 | 1.02 | 0.25* | 0.72 | 0.00 | 0.72 |
| 25.55 | 0.25 | 1.02 | 0.24* | 0.71 | 0.00 | 0.71 |
| 25.60 | 0.24 | 1.02 | 0.23* | 0.70 | 0.00 | 0.70 |
| 25.65 | 0.22 | 1.02 | 0.21* | 0.68 | 0.00 | 0.68 |
| 25.70 | 0.20 | 1.03 | 0.20* | 0.67 | 0.00 | 0.67 |
| 25.75 | 0.19 | 1.03 | 0.18* | 0.66 | 0.00 | 0.66 |
| 25.80 | 0.18 | 1.03 | 0.18* | 0.65 | 0.00 | 0.65 |
| 25.85 | 0.18 | 1.03 | 0.18* | 0.64 | 0.00 | 0.64 |
| 25.90 | 0.18 | 1.03 | 0.17* | 0.62 | 0.00 | 0.62 |
| 25.95 | 0.18 | 1.03 | 0.18* | 0.61 | 0.00 | 0.61 |
| 26.00 | 0.19 | 1.03 | 0.18* | 0.60 | 0.00 | 0.60 |
| 26.05 | 0.20 | 1.03 | 0.20* | 0.59 | 0.00 | 0.59 |
| 26.10 | 0.24 | 1.03 | 0.23* | 0.58 | 0.00 | 0.58 |
| 26.15 | 0.36 | 1.03 | 0.35* | 0.57 | 0.00 | 0.57 |
| 26.20 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |

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|---|---|---|---|---|---|---|
| 26.25 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.30 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.35 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.40 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.45 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.50 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.55 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.60 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.65 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.70 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.75 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.80 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.85 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.90 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 26.95 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.00 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.05 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.10 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.15 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.20 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.25 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.30 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.35 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.40 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.45 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.50 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.55 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.60 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.65 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.70 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.75 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.80 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.85 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.90 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 27.95 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.00 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.05 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.10 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.15 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.20 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.25 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.30 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.35 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.40 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.45 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.50 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.55 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.60 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.65 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.70 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |

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|---|---|---|---|---|---|---|
| 28.75 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.80 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.85 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.90 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 28.95 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.00 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.05 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.10 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.15 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.20 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.25 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.30 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.35 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.40 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.45 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.50 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.55 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.60 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.65 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.70 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.75 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.80 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.85 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.90 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 29.95 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.00 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.05 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.10 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.15 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.20 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.25 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.30 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.35 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.40 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.45 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.50 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.55 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.60 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.65 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.70 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.75 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.80 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.85 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.90 | 2.00 | 1.04 | 5.00 | 0.57 | 0.00 | 0.57 |
| 30.95 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.00 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.05 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.10 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.15 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.20 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |

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| 31.25 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.30 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.35 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.40 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.45 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.50 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.55 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.60 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.65 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.70 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.75 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.80 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.85 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.90 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 31.95 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.00 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.05 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.10 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.15 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.20 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.25 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.30 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.35 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.40 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.45 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.50 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.55 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.60 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.65 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.70 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.75 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.80 | 2.00 | 1.03 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.85 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.90 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 32.95 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.00 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.05 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.10 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.15 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.20 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.25 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.30 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.35 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.40 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.45 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.50 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.55 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.60 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.65 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.70 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |

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|---|---|---|---|---|---|---|
| 33.75 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.80 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.85 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.90 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 33.95 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.00 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.05 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.10 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.15 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.20 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.25 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.30 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.35 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.40 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.45 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.50 | 2.00 | 1.02 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.55 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.60 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.65 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.70 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.75 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.80 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.85 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.90 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 34.95 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 35.00 | 2.00 | 1.01 | 5.00 | 0.57 | 0.00 | 0.57 |
| 35.05 | 0.70 | 1.01 | 0.69* | 0.57 | 0.00 | 0.57 |
| 35.10 | 0.56 | 1.01 | 0.56* | 0.57 | 0.00 | 0.57 |
| 35.15 | 0.48 | 1.01 | 0.47* | 0.57 | 0.00 | 0.57 |
| 35.20 | 0.43 | 1.01 | 0.43* | 0.57 | 0.00 | 0.57 |
| 35.25 | 0.40 | 1.01 | 0.40* | 0.57 | 0.00 | 0.57 |
| 35.30 | 0.39 | 1.01 | 0.38* | 0.57 | 0.00 | 0.57 |
| 35.35 | 0.37 | 1.01 | 0.37* | 0.57 | 0.00 | 0.57 |
| 35.40 | 0.36 | 1.01 | 0.36* | 0.57 | 0.00 | 0.57 |
| 35.45 | 0.36 | 1.01 | 0.35* | 0.57 | 0.00 | 0.57 |
| 35.50 | 0.35 | 1.01 | 0.34* | 0.57 | 0.00 | 0.57 |
| 35.55 | 0.33 | 1.01 | 0.32* | 0.57 | 0.00 | 0.57 |
| 35.60 | 0.31 | 1.01 | 0.31* | 0.57 | 0.00 | 0.57 |
| 35.65 | 0.30 | 1.01 | 0.29* | 0.56 | 0.00 | 0.56 |
| 35.70 | 0.29 | 1.01 | 0.29* | 0.55 | 0.00 | 0.55 |
| 35.75 | 0.29 | 1.01 | 0.29* | 0.54 | 0.00 | 0.54 |
| 35.80 | 0.30 | 1.01 | 0.29* | 0.53 | 0.00 | 0.53 |
| 35.85 | 0.30 | 1.01 | 0.30* | 0.52 | 0.00 | 0.52 |
| 35.90 | 0.30 | 1.01 | 0.30* | 0.51 | 0.00 | 0.51 |
| 35.95 | 0.31 | 1.01 | 0.31* | 0.50 | 0.00 | 0.50 |
| 36.00 | 0.32 | 1.01 | 0.32* | 0.49 | 0.00 | 0.49 |
| 36.05 | 0.33 | 1.01 | 0.32* | 0.48 | 0.00 | 0.48 |
| 36.10 | 0.33 | 1.01 | 0.33* | 0.47 | 0.00 | 0.47 |
| 36.15 | 0.33 | 1.01 | 0.33* | 0.46 | 0.00 | 0.46 |
| 36.20 | 0.33 | 1.00 | 0.33* | 0.46 | 0.00 | 0.46 |

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|---|---|---|---|---|---|---|
| 36.25 | 0.33 | 1.00 | 0.33* | 0.45 | 0.00 | 0.45 |
| 36.30 | 0.34 | 1.00 | 0.34* | 0.44 | 0.00 | 0.44 |
| 36.35 | 0.34 | 1.00 | 0.34* | 0.43 | 0.00 | 0.43 |
| 36.40 | 0.34 | 1.00 | 0.34* | 0.42 | 0.00 | 0.42 |
| 36.45 | 0.34 | 1.00 | 0.34* | 0.41 | 0.00 | 0.41 |
| 36.50 | 0.33 | 1.00 | 0.33* | 0.40 | 0.00 | 0.40 |
| 36.55 | 0.33 | 1.00 | 0.33* | 0.40 | 0.00 | 0.40 |
| 36.60 | 0.32 | 1.00 | 0.32* | 0.39 | 0.00 | 0.39 |
| 36.65 | 0.32 | 1.00 | 0.32* | 0.38 | 0.00 | 0.38 |
| 36.70 | 0.32 | 1.00 | 0.32* | 0.37 | 0.00 | 0.37 |
| 36.75 | 0.32 | 1.00 | 0.31* | 0.36 | 0.00 | 0.36 |
| 36.80 | 0.31 | 1.00 | 0.31* | 0.35 | 0.00 | 0.35 |
| 36.85 | 0.31 | 1.00 | 0.31* | 0.35 | 0.00 | 0.35 |
| 36.90 | 0.30 | 1.00 | 0.30* | 0.34 | 0.00 | 0.34 |
| 36.95 | 0.29 | 1.00 | 0.29* | 0.33 | 0.00 | 0.33 |
| 37.00 | 0.28 | 1.00 | 0.28* | 0.32 | 0.00 | 0.32 |
| 37.05 | 0.27 | 1.00 | 0.27* | 0.31 | 0.00 | 0.31 |
| 37.10 | 0.26 | 1.00 | 0.26* | 0.30 | 0.00 | 0.30 |
| 37.15 | 0.24 | 1.00 | 0.25* | 0.29 | 0.00 | 0.29 |
| 37.20 | 0.24 | 1.00 | 0.24* | 0.28 | 0.00 | 0.28 |
| 37.25 | 0.23 | 1.00 | 0.23* | 0.27 | 0.00 | 0.27 |
| 37.30 | 0.23 | 1.00 | 0.23* | 0.26 | 0.00 | 0.26 |
| 37.35 | 0.23 | 1.00 | 0.23* | 0.25 | 0.00 | 0.25 |
| 37.40 | 0.23 | 1.00 | 0.23* | 0.24 | 0.00 | 0.24 |
| 37.45 | 0.23 | 1.00 | 0.23* | 0.23 | 0.00 | 0.23 |
| 37.50 | 0.24 | 1.00 | 0.24* | 0.23 | 0.00 | 0.23 |
| 37.55 | 0.25 | 1.00 | 0.25* | 0.22 | 0.00 | 0.22 |
| 37.60 | 0.29 | 1.00 | 0.29* | 0.21 | 0.00 | 0.21 |
| 37.65 | 0.39 | 1.00 | 0.39* | 0.21 | 0.00 | 0.21 |
| 37.70 | 2.00 | 1.00 | 5.00 | 0.21 | 0.00 | 0.21 |
| 37.75 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 37.80 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 37.85 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 37.90 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 37.95 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.00 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.05 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.10 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.15 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.20 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.25 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.30 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.35 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.40 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.45 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.50 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.55 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.60 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.65 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.70 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |

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|---|---|---|---|---|---|---|
| 38.75 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.80 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.85 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.90 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 38.95 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.00 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.05 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.10 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.15 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.20 | 2.00 | 0.99 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.25 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.30 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.35 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.40 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.45 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.50 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.55 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.60 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.65 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.70 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.75 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.80 | 2.00 | 0.98 | 5.00 | 0.21 | 0.00 | 0.21 |
| 39.85 | 0.40 | 0.98 | 0.41* | 0.21 | 0.00 | 0.21 |
| 39.90 | 0.31 | 0.98 | 0.32* | 0.21 | 0.00 | 0.21 |
| 39.95 | 0.24 | 0.98 | 0.25* | 0.21 | 0.00 | 0.21 |
| 40.00 | 0.20 | 0.98 | 0.20* | 0.20 | 0.00 | 0.20 |
| 40.05 | 0.18 | 0.98 | 0.18* | 0.19 | 0.00 | 0.19 |
| 40.10 | 0.16 | 0.98 | 0.17* | 0.18 | 0.00 | 0.18 |
| 40.15 | 0.16 | 0.98 | 0.16* | 0.17 | 0.00 | 0.17 |
| 40.20 | 0.16 | 0.98 | 0.16* | 0.15 | 0.00 | 0.15 |
| 40.25 | 0.17 | 0.98 | 0.17* | 0.14 | 0.00 | 0.14 |
| 40.30 | 0.18 | 0.98 | 0.19* | 0.13 | 0.00 | 0.13 |
| 40.35 | 0.21 | 0.98 | 0.21* | 0.12 | 0.00 | 0.12 |
| 40.40 | 0.25 | 0.98 | 0.25* | 0.11 | 0.00 | 0.11 |
| 40.45 | 0.31 | 0.98 | 0.31* | 0.10 | 0.00 | 0.10 |
| 40.50 | 0.41 | 0.98 | 0.42* | 0.10 | 0.00 | 0.10 |
| 40.55 | 0.53 | 0.98 | 0.54* | 0.10 | 0.00 | 0.10 |
| 40.60 | 0.55 | 0.98 | 0.56* | 0.10 | 0.00 | 0.10 |
| 40.65 | 0.46 | 0.98 | 0.47* | 0.10 | 0.00 | 0.10 |
| 40.70 | 0.37 | 0.97 | 0.38* | 0.10 | 0.00 | 0.10 |
| 40.75 | 0.35 | 0.97 | 0.36* | 0.10 | 0.00 | 0.10 |
| 40.80 | 0.36 | 0.97 | 0.36* | 0.09 | 0.00 | 0.09 |
| 40.85 | 0.36 | 0.97 | 0.37* | 0.09 | 0.00 | 0.09 |
| 40.90 | 0.37 | 0.97 | 0.38* | 0.08 | 0.00 | 0.08 |
| 40.95 | 0.38 | 0.97 | 0.39* | 0.07 | 0.00 | 0.07 |
| 41.00 | 0.40 | 0.97 | 0.41* | 0.07 | 0.00 | 0.07 |
| 41.05 | 0.41 | 0.97 | 0.42* | 0.06 | 0.00 | 0.06 |
| 41.10 | 0.41 | 0.97 | 0.42* | 0.05 | 0.00 | 0.05 |
| 41.15 | 0.40 | 0.97 | 0.42* | 0.05 | 0.00 | 0.05 |
| 41.20 | 0.39 | 0.97 | 0.40* | 0.04 | 0.00 | 0.04 |

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|---|---|---|---|---|---|---|
| 41.25 | 0.41 | 0.97 | 0.42* | 0.03 | 0.00 | 0.03 |
| 41.30 | 0.43 | 0.97 | 0.44* | 0.03 | 0.00 | 0.03 |
| 41.35 | 0.44 | 0.97 | 0.45* | 0.02 | 0.00 | 0.02 |
| 41.40 | 0.44 | 0.97 | 0.45* | 0.02 | 0.00 | 0.02 |
| 41.45 | 0.45 | 0.97 | 0.47* | 0.02 | 0.00 | 0.02 |
| 41.50 | 0.47 | 0.97 | 0.49* | 0.02 | 0.00 | 0.02 |
| 41.55 | 0.49 | 0.97 | 0.51* | 0.02 | 0.00 | 0.02 |
| 41.60 | 0.51 | 0.97 | 0.52* | 0.02 | 0.00 | 0.02 |
| 41.65 | 0.52 | 0.97 | 0.54* | 0.02 | 0.00 | 0.02 |
| 41.70 | 0.56 | 0.97 | 0.58* | 0.02 | 0.00 | 0.02 |
| 41.75 | 0.64 | 0.97 | 0.66* | 0.02 | 0.00 | 0.02 |
| 41.80 | 0.73 | 0.97 | 0.76* | 0.02 | 0.00 | 0.02 |
| 41.85 | 0.83 | 0.97 | 0.86* | 0.02 | 0.00 | 0.02 |
| 41.90 | 0.89 | 0.97 | 0.92* | 0.02 | 0.00 | 0.02 |
| 41.95 | 0.91 | 0.97 | 0.94* | 0.02 | 0.00 | 0.02 |
| 42.00 | 0.94 | 0.97 | 0.98* | 0.02 | 0.00 | 0.02 |
| 42.05 | 0.99 | 0.97 | 1.02 | 0.02 | 0.00 | 0.02 |
| 42.10 | 1.04 | 0.96 | 1.08 | 0.02 | 0.00 | 0.02 |
| 42.15 | 1.09 | 0.96 | 1.13 | 0.02 | 0.00 | 0.02 |
| 42.20 | 1.15 | 0.96 | 1.19 | 0.02 | 0.00 | 0.02 |
| 42.25 | 1.19 | 0.96 | 1.23 | 0.02 | 0.00 | 0.02 |
| 42.30 | 1.23 | 0.96 | 1.28 | 0.02 | 0.00 | 0.02 |
| 42.35 | 1.27 | 0.96 | 1.31 | 0.02 | 0.00 | 0.02 |
| 42.40 | 1.30 | 0.96 | 1.35 | 0.02 | 0.00 | 0.02 |
| 42.45 | 1.31 | 0.96 | 1.37 | 0.02 | 0.00 | 0.02 |
| 42.50 | 1.34 | 0.96 | 1.40 | 0.02 | 0.00 | 0.02 |
| 42.55 | 1.38 | 0.96 | 1.44 | 0.02 | 0.00 | 0.02 |
| 42.60 | 1.44 | 0.96 | 1.50 | 0.02 | 0.00 | 0.02 |
| 42.65 | 1.51 | 0.96 | 1.57 | 0.02 | 0.00 | 0.02 |
| 42.70 | 1.58 | 0.96 | 1.64 | 0.02 | 0.00 | 0.02 |
| 42.75 | 1.64 | 0.96 | 1.71 | 0.02 | 0.00 | 0.02 |
| 42.80 | 1.70 | 0.96 | 1.77 | 0.02 | 0.00 | 0.02 |
| 42.85 | 1.73 | 0.96 | 1.80 | 0.02 | 0.00 | 0.02 |
| 42.90 | 1.77 | 0.96 | 1.84 | 0.02 | 0.00 | 0.02 |
| 42.95 | 1.79 | 0.96 | 1.87 | 0.02 | 0.00 | 0.02 |
| 43.00 | 1.79 | 0.96 | 1.87 | 0.02 | 0.00 | 0.02 |
| 43.05 | 1.77 | 0.96 | 1.85 | 0.02 | 0.00 | 0.02 |
| 43.10 | 1.73 | 0.96 | 1.81 | 0.02 | 0.00 | 0.02 |
| 43.15 | 1.70 | 0.96 | 1.77 | 0.02 | 0.00 | 0.02 |
| 43.20 | 1.65 | 0.96 | 1.72 | 0.02 | 0.00 | 0.02 |
| 43.25 | 1.59 | 0.96 | 1.66 | 0.02 | 0.00 | 0.02 |
| 43.30 | 1.54 | 0.96 | 1.61 | 0.02 | 0.00 | 0.02 |
| 43.35 | 1.46 | 0.96 | 1.53 | 0.02 | 0.00 | 0.02 |
| 43.40 | 1.34 | 0.96 | 1.41 | 0.02 | 0.00 | 0.02 |
| 43.45 | 1.38 | 0.95 | 1.45 | 0.02 | 0.00 | 0.02 |
| 43.50 | 1.36 | 0.95 | 1.42 | 0.02 | 0.00 | 0.02 |
| 43.55 | 1.33 | 0.95 | 1.39 | 0.02 | 0.00 | 0.02 |
| 43.60 | 1.39 | 0.95 | 1.46 | 0.02 | 0.00 | 0.02 |
| 43.65 | 1.46 | 0.95 | 1.53 | 0.02 | 0.00 | 0.02 |
| 43.70 | 1.49 | 0.95 | 1.56 | 0.02 | 0.00 | 0.02 |

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|---|---|---|---|---|---|---|
| 43.75 | 1.26 | 0.95 | 1.32 | 0.02 | 0.00 | 0.02 |
| 43.80 | 1.23 | 0.95 | 1.29 | 0.02 | 0.00 | 0.02 |
| 43.85 | 1.37 | 0.95 | 1.44 | 0.02 | 0.00 | 0.02 |
| 43.90 | 1.41 | 0.95 | 1.48 | 0.02 | 0.00 | 0.02 |
| 43.95 | 1.49 | 0.95 | 1.56 | 0.02 | 0.00 | 0.02 |
| 44.00 | 1.51 | 0.95 | 1.59 | 0.02 | 0.00 | 0.02 |
| 44.05 | 1.52 | 0.95 | 1.60 | 0.02 | 0.00 | 0.02 |
| 44.10 | 1.63 | 0.95 | 1.72 | 0.02 | 0.00 | 0.02 |
| 44.15 | 1.71 | 0.95 | 1.80 | 0.02 | 0.00 | 0.02 |
| 44.20 | 1.76 | 0.95 | 1.86 | 0.02 | 0.00 | 0.02 |
| 44.25 | 1.80 | 0.95 | 1.90 | 0.02 | 0.00 | 0.02 |
| 44.30 | 1.82 | 0.95 | 1.92 | 0.02 | 0.00 | 0.02 |
| 44.35 | 1.86 | 0.95 | 1.96 | 0.02 | 0.00 | 0.02 |
| 44.40 | 1.86 | 0.95 | 1.97 | 0.02 | 0.00 | 0.02 |
| 44.45 | 1.84 | 0.95 | 1.94 | 0.02 | 0.00 | 0.02 |
| 44.50 | 1.80 | 0.95 | 1.90 | 0.02 | 0.00 | 0.02 |
| 44.55 | 1.74 | 0.95 | 1.84 | 0.02 | 0.00 | 0.02 |
| 44.60 | 1.68 | 0.95 | 1.78 | 0.02 | 0.00 | 0.02 |
| 44.65 | 1.62 | 0.95 | 1.71 | 0.02 | 0.00 | 0.02 |
| 44.70 | 1.56 | 0.95 | 1.65 | 0.02 | 0.00 | 0.02 |
| 44.75 | 1.48 | 0.94 | 1.57 | 0.02 | 0.00 | 0.02 |
| 44.80 | 1.40 | 0.94 | 1.48 | 0.02 | 0.00 | 0.02 |
| 44.85 | 1.32 | 0.94 | 1.39 | 0.02 | 0.00 | 0.02 |
| 44.90 | 1.24 | 0.94 | 1.32 | 0.02 | 0.00 | 0.02 |
| 44.95 | 1.17 | 0.94 | 1.25 | 0.02 | 0.00 | 0.02 |
| 45.00 | 1.11 | 0.94 | 1.17 | 0.02 | 0.00 | 0.02 |
| 45.05 | 1.04 | 0.94 | 1.11 | 0.02 | 0.00 | 0.02 |
| 45.10 | 0.98 | 0.94 | 1.04 | 0.02 | 0.00 | 0.02 |
| 45.15 | 0.92 | 0.94 | 0.98* | 0.02 | 0.00 | 0.02 |
| 45.20 | 0.87 | 0.94 | 0.92* | 0.02 | 0.00 | 0.02 |
| 45.25 | 0.82 | 0.94 | 0.87* | 0.02 | 0.00 | 0.02 |
| 45.30 | 0.77 | 0.94 | 0.82* | 0.02 | 0.00 | 0.02 |
| 45.35 | 0.72 | 0.94 | 0.77* | 0.02 | 0.00 | 0.02 |
| 45.40 | 0.68 | 0.94 | 0.73* | 0.02 | 0.00 | 0.02 |
| 45.45 | 0.66 | 0.94 | 0.70* | 0.02 | 0.00 | 0.02 |
| 45.50 | 0.64 | 0.94 | 0.68* | 0.02 | 0.00 | 0.02 |
| 45.55 | 0.60 | 0.94 | 0.64* | 0.02 | 0.00 | 0.02 |
| 45.60 | 0.51 | 0.94 | 0.55* | 0.02 | 0.00 | 0.02 |
| 45.65 | 0.55 | 0.94 | 0.59* | 0.02 | 0.00 | 0.02 |
| 45.70 | 0.61 | 0.94 | 0.65* | 0.02 | 0.00 | 0.02 |
| 45.75 | 0.59 | 0.94 | 0.63* | 0.02 | 0.00 | 0.02 |
| 45.80 | 0.56 | 0.94 | 0.59* | 0.02 | 0.00 | 0.02 |
| 45.85 | 0.52 | 0.94 | 0.55* | 0.02 | 0.00 | 0.02 |
| 45.90 | 0.47 | 0.94 | 0.50* | 0.02 | 0.00 | 0.02 |
| 45.95 | 0.47 | 0.94 | 0.50* | 0.02 | 0.00 | 0.02 |
| 46.00 | 0.43 | 0.94 | 0.45* | 0.02 | 0.00 | 0.02 |
| 46.05 | 0.44 | 0.93 | 0.47* | 0.02 | 0.00 | 0.02 |
| 46.10 | 0.49 | 0.93 | 0.52* | 0.02 | 0.00 | 0.02 |
| 46.15 | 0.71 | 0.93 | 0.76* | 0.02 | 0.00 | 0.02 |
| 46.20 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |

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|---|---|---|---|---|---|---|
| 46.25 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.30 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.35 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.40 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.45 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.50 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.55 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.60 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.65 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.70 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.75 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.80 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.85 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.90 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 46.95 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.00 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.05 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.10 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.15 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.20 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.25 | 2.00 | 0.93 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.30 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.35 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.40 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.45 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.50 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.55 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.60 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.65 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.70 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.75 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.80 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.85 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.90 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 47.95 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.00 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.05 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.10 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.15 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.20 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.25 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.30 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.35 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.40 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.45 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.50 | 2.00 | 0.92 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.55 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.60 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.65 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.70 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 48.75 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.80 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.85 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.90 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 48.95 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.00 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.05 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.10 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.15 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.20 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.25 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.30 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.35 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.40 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.45 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.50 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.55 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.60 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.65 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.70 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.75 | 2.00 | 0.91 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.80 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.85 | 0.32 | 0.90 | 0.36* | 0.02 | 0.00 | 0.02 |
| 49.90 | 0.09 | 0.90 | 0.10* | 0.02 | 0.00 | 0.02 |
| 49.95 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.00 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5,  CRR is limited to 2,  CSR is limited to 2)

Units:  Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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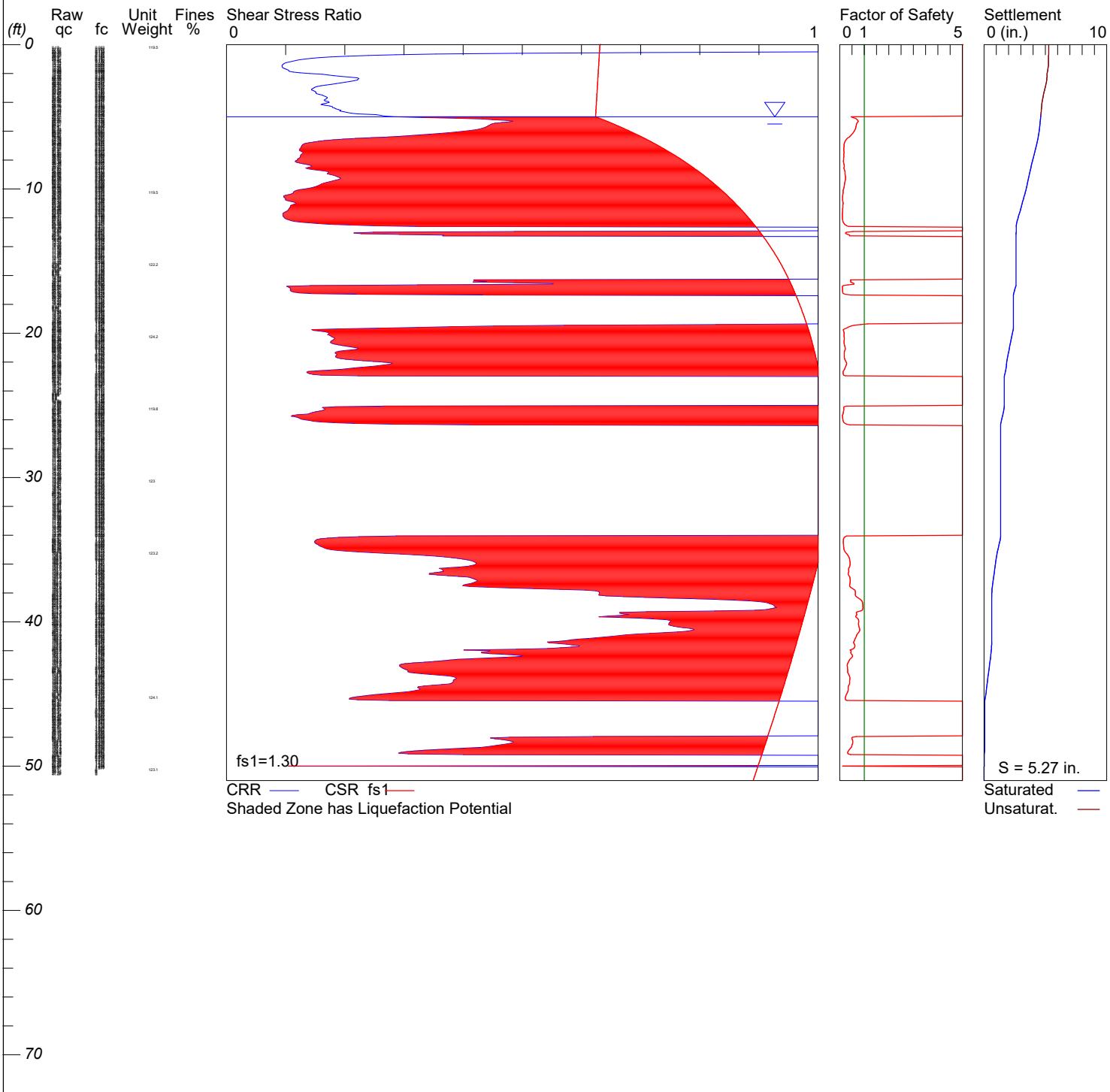
1 atm (atmosphere) = 1 tsf (ton/ft2)
CRRm  Cyclic resistance ratio from soils
CSRsf  Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.  Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat  Settlement from saturated sands
S_dry  Settlement from Unsaturated Sands
S_all  Total Settlement from Saturated and Unsaturated Sands
NoLiq  No-Liquefy Soils

# LIQUEFACTION ANALYSIS

## Cypress

***Hole No.=CPT-2  Water Depth=5 ft***

***Magnitude=7.5***
***Acceleration=.747g***



**********
LIQUEFACTION ANALYSIS SUMMARY



**********
Font: Courier New, Regular, Size 8 is recommended for this report.
Licensed to , 5/4/2022 12:37:28 PM

Input File Name: S:\PROJECTS\1000s GEOTECH PROJECTS\1-1209 Goodman Cypress\Calcs\Liquefaction\KYCPT2.liq
Title: Cypress
Subtitle: CPT-2

Surface Elev.=
Hole No.=CPT-2
Depth of Hole= 51.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 7.00 ft
Max. Acceleration= 0.75 g
Earthquake Magnitude= 7.50

Input Data:
Surface Elev.=
Hole No.=CPT-2
Depth of Hole=51.00 ft
Water Table during Earthquake= 5.00 ft
Water Table during In-Situ Testing= 7.00 ft
Max. Acceleration=0.75 g
Earthquake Magnitude=7.50
No-Liquefiable Soils: CL, OL are Non-Liq. Soil

1. CPT Calculation Method: Modify Robertson*
2. Settlement Analysis Method: Ishihara / Yoshimine
3. Fines Correction for Liquefaction: Stark/Olson et al.*
4. Fine Correction for Settlement: During Liquefaction*
5. Settlement Calculation in: All zones*
9. User request factor of safety (apply to CSR) , User= 1.3
Plot one CSR curve (fs1=User)
10. Use Curve Smoothing: Yes*
* Recommended Options

In-Situ Test Data:

| Depth | qc | fs | Rf | gamma | Fines | D50 |
|---|---|---|---|---|---|---|
| ft | atm | atm | pcf | % | mm | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0.00 | 0.18 | 0.06 | 35.00 | 119.50 | 0.00 | 0.50 |
| 0.09 | 32.67 | 0.09 | 0.27 | 119.50 | 0.00 | 0.50 |
| 0.15 | 57.87 | 0.10 | 0.17 | 119.50 | 0.00 | 0.50 |
| 0.21 | 55.47 | 0.12 | 0.21 | 119.50 | 0.00 | 0.50 |
| 0.27 | 53.35 | 0.13 | 0.25 | 119.50 | 0.00 | 0.50 |
| 0.33 | 49.47 | 0.14 | 0.28 | 119.50 | 0.00 | 0.50 |
| 0.40 | 44.49 | 0.15 | 0.34 | 119.50 | 0.00 | 0.50 |
| 0.48 | 38.12 | 0.15 | 0.40 | 119.50 | 0.00 | 0.50 |
| 0.54 | 33.69 | 0.16 | 0.46 | 119.50 | 0.00 | 0.50 |
| 0.61 | 29.90 | 0.16 | 0.55 | 119.50 | 0.00 | 0.50 |
| 0.67 | 26.30 | 0.16 | 0.62 | 119.50 | 0.00 | 0.50 |
| 0.73 | 23.72 | 0.16 | 0.67 | 119.50 | 0.00 | 0.50 |
| 0.80 | 21.50 | 0.15 | 0.70 | 119.50 | 0.00 | 0.50 |
| 0.86 | 19.47 | 0.13 | 0.67 | 119.50 | 0.00 | 0.50 |
| 0.92 | 17.81 | 0.12 | 0.69 | 119.50 | 0.00 | 0.50 |
| 0.99 | 16.34 | 0.12 | 0.71 | 119.50 | 0.00 | 0.50 |
| 1.07 | 14.77 | 0.10 | 0.66 | 119.50 | 0.00 | 0.50 |
| 1.13 | 14.12 | 0.09 | 0.65 | 119.50 | 0.00 | 0.50 |
| 1.20 | 13.01 | 0.08 | 0.61 | 119.50 | 0.00 | 0.50 |
| 1.26 | 12.37 | 0.06 | 0.49 | 119.50 | 0.00 | 0.50 |
| 1.32 | 11.44 | 0.05 | 0.48 | 119.50 | 0.00 | 0.50 |
| 1.38 | 10.98 | 0.05 | 0.50 | 119.50 | 0.00 | 0.50 |
| 1.49 | 10.43 | 0.05 | 0.53 | 119.50 | 0.00 | 0.50 |
| 1.53 | 10.94 | 0.06 | 0.51 | 119.50 | 0.00 | 0.50 |
| 1.59 | 10.52 | 0.06 | 0.61 | 119.50 | 0.00 | 0.50 |
| 1.65 | 10.89 | 0.08 | 0.73 | 119.50 | 0.00 | 0.50 |
| 1.71 | 11.63 | 0.10 | 0.84 | 119.50 | 0.00 | 0.50 |
| 1.77 | 12.83 | 0.11 | 0.88 | 119.50 | 0.00 | 0.50 |
| 1.86 | 15.23 | 0.11 | 0.71 | 119.50 | 0.00 | 0.50 |
| 1.92 | 18.46 | 0.13 | 0.69 | 119.50 | 0.00 | 0.50 |
| 1.98 | 21.87 | 0.18 | 0.80 | 119.50 | 0.00 | 0.50 |
| 2.05 | 25.75 | 0.25 | 0.96 | 119.50 | 0.00 | 0.50 |
| 2.11 | 28.98 | 0.25 | 0.85 | 119.50 | 0.00 | 0.50 |
| 2.17 | 32.12 | 0.25 | 0.76 | 119.50 | 0.00 | 0.50 |
| 2.23 | 35.53 | 0.24 | 0.69 | 119.50 | 0.00 | 0.50 |
| 2.32 | 39.59 | 0.25 | 0.63 | 119.50 | 0.00 | 0.50 |
| 2.38 | 39.50 | 0.25 | 0.64 | 119.50 | 0.00 | 0.50 |
| 2.44 | 40.24 | 0.25 | 0.62 | 119.50 | 0.00 | 0.50 |
| 2.51 | 39.87 | 0.25 | 0.62 | 119.50 | 0.00 | 0.50 |
| 2.57 | 39.59 | 0.23 | 0.59 | 119.50 | 0.00 | 0.50 |
| 2.63 | 39.13 | 0.22 | 0.56 | 119.50 | 0.00 | 0.50 |
| 2.69 | 38.40 | 0.21 | 0.54 | 119.50 | 0.00 | 0.50 |
| 2.76 | 37.19 | 0.20 | 0.54 | 119.50 | 0.00 | 0.50 |
| 2.84 | 34.98 | 0.19 | 0.55 | 119.50 | 0.00 | 0.50 |
| 2.91 | 33.50 | 0.19 | 0.56 | 119.50 | 0.00 | 0.50 |
| 2.97 | 33.13 | 0.18 | 0.56 | 119.50 | 0.00 | 0.50 |
| 3.03 | 33.04 | 0.18 | 0.55 | 119.50 | 0.00 | 0.50 |
| 3.09 | 32.76 | 0.18 | 0.55 | 119.50 | 0.00 | 0.50 |
| 3.15 | 32.67 | 0.19 | 0.60 | 119.50 | 0.00 | 0.50 |
| 3.22 | 31.84 | 0.25 | 0.78 | 119.50 | 0.00 | 0.50 |

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|---|---|---|---|---|---|---|
| 3.30 | 31.29 | 0.28 | 0.90 | 119.50 | 0.00 | 0.50 |
| 3.36 | 31.20 | 0.29 | 0.93 | 119.50 | 0.00 | 0.50 |
| 3.43 | 31.47 | 0.31 | 0.98 | 119.50 | 0.00 | 0.50 |
| 3.49 | 30.92 | 0.37 | 1.19 | 119.50 | 0.00 | 0.50 |
| 3.55 | 28.89 | 0.41 | 1.41 | 119.50 | 0.00 | 0.50 |
| 3.62 | 27.87 | 0.44 | 1.59 | 119.50 | 0.00 | 0.50 |
| 3.68 | 25.66 | 0.46 | 1.78 | 119.50 | 0.00 | 0.50 |
| 3.75 | 27.32 | 0.45 | 1.65 | 119.50 | 0.00 | 0.50 |
| 3.81 | 25.57 | 0.45 | 1.75 | 119.50 | 0.00 | 0.50 |
| 3.88 | 26.77 | 0.44 | 1.65 | 119.50 | 0.00 | 0.50 |
| 3.96 | 26.86 | 0.48 | 1.80 | 119.50 | 0.00 | 0.50 |
| 4.02 | 26.86 | 0.49 | 1.81 | 119.50 | 0.00 | 0.50 |
| 4.09 | 27.78 | 0.45 | 1.63 | 119.50 | 0.00 | 0.50 |
| 4.15 | 30.00 | 0.43 | 1.43 | 119.50 | 0.00 | 0.50 |
| 4.21 | 32.12 | 0.46 | 1.43 | 119.50 | 0.00 | 0.50 |
| 4.28 | 31.93 | 0.51 | 1.61 | 119.50 | 0.00 | 0.50 |
| 4.34 | 33.23 | 0.51 | 1.53 | 119.50 | 0.00 | 0.50 |
| 4.40 | 34.61 | 0.52 | 1.51 | 119.50 | 0.00 | 0.50 |
| 4.47 | 36.73 | 0.52 | 1.41 | 119.50 | 0.00 | 0.50 |
| 4.54 | 39.04 | 0.54 | 1.38 | 119.50 | 0.00 | 0.50 |
| 4.61 | 38.21 | 0.55 | 1.43 | 119.50 | 0.00 | 0.50 |
| 4.67 | 40.70 | 0.57 | 1.39 | 119.50 | 0.00 | 0.50 |
| 4.73 | 42.55 | 0.58 | 1.36 | 119.50 | 0.00 | 0.50 |
| 4.80 | 43.66 | 0.63 | 1.44 | 119.50 | 0.00 | 0.50 |
| 4.86 | 45.50 | 0.78 | 1.71 | 119.50 | 0.00 | 0.50 |
| 4.94 | 50.95 | 0.73 | 1.44 | 119.50 | 0.00 | 0.50 |
| 5.01 | 56.30 | 0.73 | 1.30 | 119.50 | 0.00 | 0.50 |
| 5.07 | 67.65 | 0.73 | 1.08 | 119.50 | 0.00 | 0.50 |
| 5.13 | 78.08 | 0.72 | 0.92 | 119.50 | 0.00 | 0.50 |
| 5.20 | 81.40 | 0.71 | 0.87 | 119.50 | 0.00 | 0.50 |
| 5.26 | 85.00 | 0.72 | 0.84 | 119.50 | 0.00 | 0.50 |
| 5.32 | 86.67 | 0.72 | 0.83 | 119.50 | 0.00 | 0.50 |
| 5.40 | 87.31 | 0.64 | 0.73 | 119.50 | 0.00 | 0.50 |
| 5.46 | 87.40 | 0.60 | 0.68 | 119.50 | 0.00 | 0.50 |
| 5.52 | 87.50 | 0.60 | 0.69 | 119.50 | 0.00 | 0.50 |
| 5.59 | 87.31 | 0.62 | 0.71 | 119.50 | 0.00 | 0.50 |
| 5.65 | 87.13 | 0.63 | 0.73 | 119.50 | 0.00 | 0.50 |
| 5.71 | 86.85 | 0.65 | 0.75 | 119.50 | 0.00 | 0.50 |
| 5.78 | 86.57 | 0.67 | 0.77 | 119.50 | 0.00 | 0.50 |
| 5.86 | 86.02 | 0.68 | 0.79 | 119.50 | 0.00 | 0.50 |
| 5.92 | 85.19 | 0.69 | 0.81 | 119.50 | 0.00 | 0.50 |
| 5.98 | 83.80 | 0.70 | 0.83 | 119.50 | 0.00 | 0.50 |
| 6.04 | 82.51 | 0.70 | 0.85 | 119.50 | 0.00 | 0.50 |
| 6.11 | 80.67 | 0.70 | 0.87 | 119.50 | 0.00 | 0.50 |
| 6.17 | 78.45 | 0.70 | 0.89 | 119.50 | 0.00 | 0.50 |
| 6.24 | 75.96 | 0.69 | 0.91 | 119.50 | 0.00 | 0.50 |
| 6.32 | 72.18 | 0.68 | 0.94 | 119.50 | 0.00 | 0.50 |
| 6.38 | 69.04 | 0.66 | 0.96 | 119.50 | 0.00 | 0.50 |
| 6.45 | 64.79 | 0.57 | 0.88 | 119.50 | 0.00 | 0.50 |
| 6.51 | 60.18 | 0.49 | 0.81 | 119.50 | 0.00 | 0.50 |

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|---|---|---|---|---|---|---|
| 6.57 | 54.36 | 0.47 | 0.87 | 119.50 | 0.00 | 0.50 |
| 6.64 | 48.64 | 0.45 | 0.93 | 119.50 | 0.00 | 0.50 |
| 6.70 | 44.86 | 0.43 | 0.95 | 119.50 | 0.00 | 0.50 |
| 6.76 | 41.63 | 0.40 | 0.97 | 119.50 | 0.00 | 0.50 |
| 6.83 | 36.55 | 0.38 | 1.05 | 119.50 | 0.00 | 0.50 |
| 6.89 | 35.07 | 0.37 | 1.07 | 119.50 | 0.00 | 0.50 |
| 6.97 | 32.58 | 0.37 | 1.14 | 119.50 | 0.00 | 0.50 |
| 7.04 | 31.57 | 0.38 | 1.19 | 119.50 | 0.00 | 0.50 |
| 7.11 | 31.10 | 0.37 | 1.20 | 119.50 | 0.00 | 0.50 |
| 7.17 | 31.20 | 0.37 | 1.18 | 119.50 | 0.00 | 0.50 |
| 7.23 | 31.66 | 0.35 | 1.12 | 119.50 | 0.00 | 0.50 |
| 7.29 | 32.86 | 0.34 | 1.04 | 119.50 | 0.00 | 0.50 |
| 7.36 | 34.43 | 0.34 | 0.99 | 119.50 | 0.00 | 0.50 |
| 7.42 | 35.90 | 0.35 | 0.99 | 119.50 | 0.00 | 0.50 |
| 7.48 | 36.83 | 0.37 | 1.00 | 119.50 | 0.00 | 0.50 |
| 7.55 | 36.46 | 0.36 | 0.99 | 119.50 | 0.00 | 0.50 |
| 7.63 | 35.81 | 0.35 | 0.97 | 119.50 | 0.00 | 0.50 |
| 7.69 | 36.27 | 0.34 | 0.93 | 119.50 | 0.00 | 0.50 |
| 7.76 | 37.38 | 0.32 | 0.87 | 119.50 | 0.00 | 0.50 |
| 7.82 | 38.12 | 0.31 | 0.82 | 119.50 | 0.00 | 0.50 |
| 7.88 | 37.19 | 0.30 | 0.82 | 119.50 | 0.00 | 0.50 |
| 7.94 | 36.36 | 0.29 | 0.80 | 119.50 | 0.00 | 0.50 |
| 8.01 | 35.44 | 0.31 | 0.87 | 119.50 | 0.00 | 0.50 |
| 8.07 | 34.15 | 0.28 | 0.81 | 119.50 | 0.00 | 0.50 |
| 8.14 | 32.49 | 0.31 | 0.95 | 119.50 | 0.00 | 0.50 |
| 8.21 | 30.55 | 0.38 | 1.24 | 119.50 | 0.00 | 0.50 |
| 8.29 | 27.60 | 0.44 | 1.58 | 119.50 | 0.00 | 0.50 |
| 8.36 | 27.04 | 0.46 | 1.70 | 119.50 | 0.00 | 0.50 |
| 8.42 | 27.73 | 0.48 | 1.73 | 119.50 | 0.00 | 0.50 |
| 8.49 | 27.87 | 0.47 | 1.69 | 119.50 | 0.00 | 0.50 |
| 8.56 | 34.52 | 0.44 | 1.28 | 119.50 | 0.00 | 0.50 |
| 8.62 | 42.92 | 0.41 | 0.96 | 119.50 | 0.00 | 0.50 |
| 8.69 | 49.93 | 0.40 | 0.80 | 119.50 | 0.00 | 0.50 |
| 8.75 | 55.65 | 0.40 | 0.71 | 119.50 | 0.00 | 0.50 |
| 8.81 | 59.81 | 0.39 | 0.66 | 119.50 | 0.00 | 0.50 |
| 8.88 | 60.82 | 0.35 | 0.58 | 119.50 | 0.00 | 0.50 |
| 8.95 | 60.36 | 0.35 | 0.58 | 119.50 | 0.00 | 0.50 |
| 9.01 | 61.28 | 0.39 | 0.63 | 119.50 | 0.00 | 0.50 |
| 9.07 | 63.96 | 0.38 | 0.60 | 119.50 | 0.00 | 0.50 |
| 9.13 | 64.93 | 0.38 | 0.59 | 119.50 | 0.00 | 0.50 |
| 9.20 | 66.18 | 0.39 | 0.59 | 119.50 | 0.00 | 0.50 |
| 9.27 | 65.90 | 0.43 | 0.65 | 119.50 | 0.00 | 0.50 |
| 9.33 | 63.87 | 0.46 | 0.73 | 119.50 | 0.00 | 0.50 |
| 9.40 | 60.27 | 0.50 | 0.83 | 119.50 | 0.00 | 0.50 |
| 9.46 | 56.39 | 0.54 | 0.95 | 119.50 | 0.00 | 0.50 |
| 9.53 | 52.52 | 0.56 | 1.06 | 119.50 | 0.00 | 0.50 |
| 9.59 | 48.92 | 0.57 | 1.16 | 119.50 | 0.00 | 0.50 |
| 9.65 | 46.61 | 0.57 | 1.22 | 119.50 | 0.00 | 0.50 |
| 9.72 | 44.76 | 0.56 | 1.26 | 119.50 | 0.00 | 0.50 |
| 9.79 | 43.38 | 0.56 | 1.28 | 119.50 | 0.00 | 0.50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9.85 | 41.53 | 0.54 | 1.29 | 119.50 | 0.00 | 0.50 |
| 9.92 | 38.58 | 0.52 | 1.35 | 119.50 | 0.00 | 0.50 |
| 9.99 | 35.16 | 0.47 | 1.34 | 119.50 | 0.00 | 0.50 |
| 10.05 | 32.49 | 0.39 | 1.21 | 119.50 | 0.00 | 0.50 |
| 10.12 | 30.09 | 0.34 | 1.14 | 119.50 | 0.00 | 0.50 |
| 10.18 | 28.24 | 0.32 | 1.14 | 119.50 | 0.00 | 0.50 |
| 10.25 | 27.13 | 0.31 | 1.16 | 119.50 | 0.00 | 0.50 |
| 10.31 | 26.03 | 0.31 | 1.18 | 119.50 | 0.00 | 0.50 |
| 10.38 | 25.75 | 0.27 | 1.06 | 119.50 | 0.00 | 0.50 |
| 10.44 | 25.75 | 0.20 | 0.79 | 119.50 | 0.00 | 0.50 |
| 10.51 | 26.40 | 0.16 | 0.61 | 119.50 | 0.00 | 0.50 |
| 10.57 | 27.78 | 0.16 | 0.57 | 119.50 | 0.00 | 0.50 |
| 10.64 | 28.43 | 0.19 | 0.66 | 119.50 | 0.00 | 0.50 |
| 10.70 | 27.32 | 0.20 | 0.75 | 119.50 | 0.00 | 0.50 |
| 10.76 | 25.75 | 0.20 | 0.78 | 119.50 | 0.00 | 0.50 |
| 10.83 | 24.18 | 0.25 | 1.05 | 119.50 | 0.00 | 0.50 |
| 10.90 | 23.26 | 0.29 | 1.27 | 119.50 | 0.00 | 0.50 |
| 10.97 | 23.26 | 0.32 | 1.37 | 119.50 | 0.00 | 0.50 |
| 11.03 | 23.26 | 0.32 | 1.37 | 119.50 | 0.00 | 0.50 |
| 11.10 | 24.55 | 0.29 | 1.19 | 119.50 | 0.00 | 0.50 |
| 11.16 | 25.38 | 0.28 | 1.10 | 119.50 | 0.00 | 0.50 |
| 11.23 | 24.46 | 0.28 | 1.13 | 119.50 | 0.00 | 0.50 |
| 11.29 | 23.63 | 0.26 | 1.12 | 119.50 | 0.00 | 0.50 |
| 11.36 | 23.63 | 0.26 | 1.09 | 119.50 | 0.00 | 0.50 |
| 11.42 | 23.63 | 0.25 | 1.07 | 119.50 | 0.00 | 0.50 |
| 11.49 | 23.63 | 0.24 | 1.03 | 119.50 | 0.00 | 0.50 |
| 11.56 | 24.37 | 0.22 | 0.92 | 119.50 | 0.00 | 0.50 |
| 11.63 | 25.10 | 0.19 | 0.76 | 119.50 | 0.00 | 0.50 |
| 11.69 | 26.03 | 0.16 | 0.61 | 119.50 | 0.00 | 0.50 |
| 11.76 | 26.77 | 0.15 | 0.57 | 119.50 | 0.00 | 0.50 |
| 11.82 | 27.41 | 0.16 | 0.57 | 119.50 | 0.00 | 0.50 |
| 11.89 | 27.41 | 0.16 | 0.58 | 119.50 | 0.00 | 0.50 |
| 11.95 | 27.97 | 0.17 | 0.61 | 119.50 | 0.00 | 0.50 |
| 12.02 | 27.13 | 0.19 | 0.70 | 119.50 | 0.00 | 0.50 |
| 12.09 | 27.04 | 0.23 | 0.84 | 119.50 | 0.00 | 0.50 |
| 12.15 | 26.86 | 0.27 | 1.01 | 119.50 | 0.00 | 0.50 |
| 12.22 | 25.38 | 0.31 | 1.20 | 119.50 | 0.00 | 0.50 |
| 12.29 | 23.54 | 0.35 | 1.47 | 119.50 | 0.00 | 0.50 |
| 12.35 | 22.15 | 0.38 | 1.70 | 119.50 | 0.00 | 0.50 |
| 12.42 | 21.32 | 0.40 | 1.88 | 119.50 | 0.00 | 0.50 |
| 12.48 | 20.49 | 0.41 | 2.00 | 119.50 | 0.00 | 0.50 |
| 12.54 | 19.29 | 0.42 | 2.19 | 119.50 | 0.00 | 0.50 |
| 12.61 | 17.81 | 0.51 | 2.84 | 119.50 | 0.00 | 0.50 |
| 12.67 | 16.52 | 0.60 | 3.64 | 119.50 | 0.00 | 0.50 |
| 12.73 | 15.51 | 0.64 | 4.13 | 119.50 | 0.00 | 0.50 |
| 12.80 | 15.87 | 0.65 | 4.11 | 119.50 | 0.00 | 0.50 |
| 12.87 | 17.07 | 0.67 | 3.91 | 119.50 | 0.00 | 0.50 |
| 12.93 | 20.30 | 0.65 | 3.18 | 119.50 | 0.00 | 0.50 |
| 13.00 | 25.10 | 0.62 | 2.45 | 119.50 | 0.00 | 0.50 |
| 13.07 | 27.04 | 0.62 | 2.31 | 119.50 | 0.00 | 0.50 |

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| 13.13 | 25.38 | 0.63 | 2.49 | 119.50 | 0.00 | 0.50 |
| 13.19 | 22.43 | 0.61 | 2.72 | 119.50 | 0.00 | 0.50 |
| 13.25 | 19.47 | 0.56 | 2.89 | 119.50 | 0.00 | 0.50 |
| 13.32 | 16.71 | 0.51 | 3.07 | 119.50 | 0.00 | 0.50 |
| 13.38 | 14.67 | 0.50 | 3.38 | 119.50 | 0.00 | 0.50 |
| 13.45 | 13.29 | 0.46 | 3.48 | 119.50 | 0.00 | 0.50 |
| 13.52 | 12.74 | 0.41 | 3.23 | 119.50 | 0.00 | 0.50 |
| 13.61 | 12.37 | 0.33 | 2.64 | 119.50 | 0.00 | 0.50 |
| 13.67 | 12.18 | 0.28 | 2.26 | 119.50 | 0.00 | 0.50 |
| 13.74 | 12.09 | 0.25 | 2.07 | 119.50 | 0.00 | 0.50 |
| 13.81 | 11.81 | 0.24 | 2.02 | 119.50 | 0.00 | 0.50 |
| 13.87 | 11.72 | 0.23 | 2.01 | 119.50 | 0.00 | 0.50 |
| 13.91 | 11.72 | 0.23 | 2.01 | 119.50 | 0.00 | 0.50 |
| 13.97 | 11.72 | 0.23 | 2.00 | 119.50 | 0.00 | 0.50 |
| 14.05 | 11.35 | 0.23 | 2.04 | 119.50 | 0.00 | 0.50 |
| 14.12 | 11.54 | 0.23 | 2.00 | 119.50 | 0.00 | 0.50 |
| 14.18 | 11.35 | 0.23 | 2.04 | 119.50 | 0.00 | 0.50 |
| 14.25 | 11.35 | 0.23 | 2.04 | 119.50 | 0.00 | 0.50 |
| 14.31 | 11.35 | 0.24 | 2.12 | 119.50 | 0.00 | 0.50 |
| 14.38 | 11.35 | 0.26 | 2.30 | 119.50 | 0.00 | 0.50 |
| 14.44 | 11.54 | 0.27 | 2.33 | 119.50 | 0.00 | 0.50 |
| 14.51 | 11.91 | 0.27 | 2.29 | 119.50 | 0.00 | 0.50 |
| 14.57 | 12.00 | 0.27 | 2.22 | 119.50 | 0.00 | 0.50 |
| 14.64 | 12.18 | 0.26 | 2.14 | 119.50 | 0.00 | 0.50 |
| 14.70 | 11.72 | 0.25 | 2.12 | 119.50 | 0.00 | 0.50 |
| 14.76 | 11.35 | 0.23 | 2.05 | 119.50 | 0.00 | 0.50 |
| 14.86 | 10.71 | 0.21 | 1.92 | 119.50 | 0.00 | 0.50 |
| 14.92 | 10.34 | 0.19 | 1.82 | 119.50 | 0.00 | 0.50 |
| 14.98 | 10.06 | 0.18 | 1.75 | 119.50 | 0.00 | 0.50 |
| 15.04 | 9.78 | 0.17 | 1.77 | 122.20 | 0.00 | 0.50 |
| 15.11 | 9.69 | 0.17 | 1.74 | 122.20 | 0.00 | 0.50 |
| 15.18 | 9.97 | 0.17 | 1.72 | 122.20 | 0.00 | 0.50 |
| 15.24 | 10.34 | 0.17 | 1.67 | 122.20 | 0.00 | 0.50 |
| 15.30 | 10.34 | 0.17 | 1.63 | 122.20 | 0.00 | 0.50 |
| 15.37 | 10.06 | 0.16 | 1.63 | 122.20 | 0.00 | 0.50 |
| 15.44 | 9.69 | 0.17 | 1.70 | 122.20 | 0.00 | 0.50 |
| 15.51 | 9.23 | 0.18 | 1.91 | 122.20 | 0.00 | 0.50 |
| 15.57 | 8.86 | 0.20 | 2.21 | 122.20 | 0.00 | 0.50 |
| 15.64 | 9.18 | 0.23 | 2.54 | 122.20 | 0.00 | 0.50 |
| 15.70 | 8.49 | 0.29 | 3.45 | 122.20 | 0.00 | 0.50 |
| 15.77 | 9.14 | 0.37 | 3.99 | 122.20 | 0.00 | 0.50 |
| 15.83 | 10.52 | 0.42 | 4.00 | 122.20 | 0.00 | 0.50 |
| 15.90 | 12.64 | 0.45 | 3.54 | 122.20 | 0.00 | 0.50 |
| 15.96 | 14.77 | 0.49 | 3.28 | 122.20 | 0.00 | 0.50 |
| 16.03 | 16.24 | 0.56 | 3.44 | 122.20 | 0.00 | 0.50 |
| 16.10 | 17.54 | 0.63 | 3.61 | 122.20 | 0.00 | 0.50 |
| 16.17 | 18.46 | 0.67 | 3.65 | 122.20 | 0.00 | 0.50 |
| 16.23 | 20.21 | 0.68 | 3.34 | 122.20 | 0.00 | 0.50 |
| 16.30 | 22.70 | 0.66 | 2.92 | 122.20 | 0.00 | 0.50 |
| 16.36 | 25.20 | 0.68 | 2.70 | 122.20 | 0.00 | 0.50 |

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| 16.43 | 25.57 | 0.73 | 2.85 | 122.20 | 0.00 | 0.50 |
| 16.49 | 25.66 | 0.77 | 3.00 | 122.20 | 0.00 | 0.50 |
| 16.55 | 25.57 | 0.79 | 3.10 | 122.20 | 0.00 | 0.50 |
| 16.62 | 25.57 | 0.83 | 3.25 | 122.20 | 0.00 | 0.50 |
| 16.69 | 28.98 | 0.57 | 1.97 | 122.20 | 0.00 | 0.50 |
| 16.75 | 34.70 | 0.24 | 0.68 | 122.20 | 0.00 | 0.50 |
| 16.82 | 40.52 | 0.25 | 0.61 | 122.20 | 0.00 | 0.50 |
| 16.89 | 44.30 | 0.22 | 0.50 | 122.20 | 0.00 | 0.50 |
| 16.95 | 45.87 | 0.21 | 0.46 | 122.20 | 0.00 | 0.50 |
| 17.01 | 43.38 | 0.23 | 0.53 | 122.20 | 0.00 | 0.50 |
| 17.08 | 41.35 | 0.27 | 0.66 | 122.20 | 0.00 | 0.50 |
| 17.15 | 40.43 | 0.35 | 0.88 | 122.20 | 0.00 | 0.50 |
| 17.21 | 35.16 | 0.47 | 1.34 | 122.20 | 0.00 | 0.50 |
| 17.28 | 29.35 | 0.60 | 2.06 | 122.20 | 0.00 | 0.50 |
| 17.34 | 24.37 | 0.72 | 2.96 | 122.20 | 0.00 | 0.50 |
| 17.41 | 20.21 | 0.78 | 3.87 | 122.20 | 0.00 | 0.50 |
| 17.47 | 17.72 | 0.77 | 4.35 | 122.20 | 0.00 | 0.50 |
| 17.54 | 16.34 | 0.71 | 4.33 | 122.20 | 0.00 | 0.50 |
| 17.61 | 15.51 | 0.59 | 3.83 | 122.20 | 0.00 | 0.50 |
| 17.67 | 14.21 | 0.47 | 3.27 | 122.20 | 0.00 | 0.50 |
| 17.74 | 12.46 | 0.36 | 2.91 | 122.20 | 0.00 | 0.50 |
| 17.80 | 11.44 | 0.29 | 2.54 | 122.20 | 0.00 | 0.50 |
| 17.87 | 10.34 | 0.25 | 2.38 | 122.20 | 0.00 | 0.50 |
| 17.93 | 9.41 | 0.23 | 2.43 | 122.20 | 0.00 | 0.50 |
| 18.00 | 9.46 | 0.24 | 2.51 | 122.20 | 0.00 | 0.50 |
| 18.06 | 9.46 | 0.26 | 2.76 | 122.20 | 0.00 | 0.50 |
| 18.13 | 9.51 | 0.28 | 2.95 | 122.20 | 0.00 | 0.50 |
| 18.20 | 10.61 | 0.29 | 2.72 | 122.20 | 0.00 | 0.50 |
| 18.26 | 11.91 | 0.30 | 2.55 | 122.20 | 0.00 | 0.50 |
| 18.33 | 13.38 | 0.34 | 2.52 | 122.20 | 0.00 | 0.50 |
| 18.39 | 14.21 | 0.38 | 2.70 | 122.20 | 0.00 | 0.50 |
| 18.45 | 14.67 | 0.42 | 2.88 | 122.20 | 0.00 | 0.50 |
| 18.52 | 14.77 | 0.44 | 2.98 | 122.20 | 0.00 | 0.50 |
| 18.58 | 15.14 | 0.44 | 2.90 | 122.20 | 0.00 | 0.50 |
| 18.65 | 15.97 | 0.44 | 2.77 | 122.20 | 0.00 | 0.50 |
| 18.71 | 17.35 | 0.50 | 2.89 | 122.20 | 0.00 | 0.50 |
| 18.78 | 18.55 | 0.63 | 3.39 | 122.20 | 0.00 | 0.50 |
| 18.84 | 19.20 | 0.79 | 4.09 | 122.20 | 0.00 | 0.50 |
| 18.91 | 19.66 | 0.96 | 4.86 | 122.20 | 0.00 | 0.50 |
| 18.97 | 21.04 | 1.10 | 5.22 | 122.20 | 0.00 | 0.50 |
| 19.03 | 24.92 | 1.22 | 4.89 | 122.20 | 0.00 | 0.50 |
| 19.10 | 29.53 | 1.32 | 4.47 | 122.20 | 0.00 | 0.50 |
| 19.17 | 32.58 | 1.39 | 4.28 | 122.20 | 0.00 | 0.50 |
| 19.24 | 33.60 | 1.44 | 4.29 | 122.20 | 0.00 | 0.50 |
| 19.30 | 34.33 | 1.46 | 4.26 | 122.20 | 0.00 | 0.50 |
| 19.37 | 36.64 | 1.48 | 4.03 | 122.20 | 0.00 | 0.50 |
| 19.43 | 40.15 | 1.50 | 3.73 | 122.20 | 0.00 | 0.50 |
| 19.50 | 44.03 | 1.51 | 3.42 | 122.20 | 0.00 | 0.50 |
| 19.56 | 47.35 | 1.49 | 3.14 | 122.20 | 0.00 | 0.50 |
| 19.63 | 50.85 | 1.42 | 2.79 | 122.20 | 0.00 | 0.50 |

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| 19.69 | 53.99 | 1.04 | 1.94 | 122.20 | 0.00 | 0.50 |
| 19.76 | 56.76 | 0.50 | 0.88 | 122.20 | 0.00 | 0.50 |
| 19.83 | 59.16 | 0.64 | 1.08 | 122.20 | 0.00 | 0.50 |
| 19.90 | 60.73 | 0.75 | 1.23 | 122.20 | 0.00 | 0.50 |
| 19.96 | 62.30 | 0.79 | 1.26 | 122.20 | 0.00 | 0.50 |
| 20.02 | 63.31 | 0.78 | 1.24 | 124.20 | 0.00 | 0.50 |
| 20.10 | 61.56 | 0.78 | 1.27 | 124.20 | 0.00 | 0.50 |
| 20.16 | 64.98 | 0.78 | 1.20 | 124.20 | 0.00 | 0.50 |
| 20.22 | 65.16 | 0.79 | 1.22 | 124.20 | 0.00 | 0.50 |
| 20.29 | 65.44 | 0.83 | 1.27 | 124.20 | 0.00 | 0.50 |
| 20.35 | 65.81 | 0.85 | 1.29 | 124.20 | 0.00 | 0.50 |
| 20.42 | 66.27 | 0.83 | 1.25 | 124.20 | 0.00 | 0.50 |
| 20.49 | 66.64 | 0.80 | 1.20 | 124.20 | 0.00 | 0.50 |
| 20.56 | 67.38 | 0.77 | 1.14 | 124.20 | 0.00 | 0.50 |
| 20.62 | 68.48 | 0.74 | 1.08 | 124.20 | 0.00 | 0.50 |
| 20.68 | 69.04 | 0.75 | 1.08 | 124.20 | 0.00 | 0.50 |
| 20.75 | 69.59 | 0.80 | 1.14 | 124.20 | 0.00 | 0.50 |
| 20.82 | 69.68 | 0.88 | 1.26 | 124.20 | 0.00 | 0.50 |
| 20.88 | 69.59 | 0.96 | 1.38 | 124.20 | 0.00 | 0.50 |
| 20.95 | 69.04 | 1.06 | 1.53 | 124.20 | 0.00 | 0.50 |
| 21.01 | 68.21 | 1.14 | 1.67 | 124.20 | 0.00 | 0.50 |
| 21.08 | 68.76 | 1.17 | 1.71 | 124.20 | 0.00 | 0.50 |
| 21.14 | 71.16 | 1.08 | 1.51 | 124.20 | 0.00 | 0.50 |
| 21.21 | 73.47 | 0.89 | 1.21 | 124.20 | 0.00 | 0.50 |
| 21.27 | 74.76 | 0.76 | 1.02 | 124.20 | 0.00 | 0.50 |
| 21.34 | 75.50 | 0.72 | 0.95 | 124.20 | 0.00 | 0.50 |
| 21.40 | 75.68 | 0.72 | 0.96 | 124.20 | 0.00 | 0.50 |
| 21.47 | 76.05 | 0.75 | 0.99 | 124.20 | 0.00 | 0.50 |
| 21.53 | 73.74 | 0.78 | 1.06 | 124.20 | 0.00 | 0.50 |
| 21.60 | 71.07 | 0.82 | 1.16 | 124.20 | 0.00 | 0.50 |
| 21.67 | 67.10 | 0.89 | 1.33 | 124.20 | 0.00 | 0.50 |
| 21.73 | 63.04 | 0.98 | 1.55 | 124.20 | 0.00 | 0.50 |
| 21.79 | 59.16 | 1.07 | 1.81 | 124.20 | 0.00 | 0.50 |
| 21.86 | 55.84 | 1.18 | 2.12 | 124.20 | 0.00 | 0.50 |
| 21.93 | 52.89 | 1.27 | 2.40 | 124.20 | 0.00 | 0.50 |
| 21.99 | 50.58 | 1.32 | 2.60 | 124.20 | 0.00 | 0.50 |
| 22.05 | 48.55 | 1.32 | 2.73 | 124.20 | 0.00 | 0.50 |
| 22.12 | 47.16 | 1.30 | 2.76 | 124.20 | 0.00 | 0.50 |
| 22.18 | 46.61 | 1.26 | 2.70 | 124.20 | 0.00 | 0.50 |
| 22.24 | 47.26 | 1.24 | 2.63 | 124.20 | 0.00 | 0.50 |
| 22.31 | 49.65 | 1.24 | 2.49 | 124.20 | 0.00 | 0.50 |
| 22.37 | 53.44 | 1.21 | 2.26 | 124.20 | 0.00 | 0.50 |
| 22.47 | 56.58 | 1.10 | 1.95 | 124.20 | 0.00 | 0.50 |
| 22.50 | 56.76 | 1.06 | 1.87 | 124.20 | 0.00 | 0.50 |
| 22.57 | 56.76 | 0.88 | 1.55 | 124.20 | 0.00 | 0.50 |
| 22.64 | 55.75 | 0.58 | 1.05 | 124.20 | 0.00 | 0.50 |
| 22.70 | 54.27 | 0.57 | 1.05 | 124.20 | 0.00 | 0.50 |
| 22.77 | 52.33 | 0.61 | 1.17 | 124.20 | 0.00 | 0.50 |
| 22.84 | 49.01 | 0.69 | 1.41 | 124.20 | 0.00 | 0.50 |
| 22.90 | 43.10 | 0.78 | 1.81 | 124.20 | 0.00 | 0.50 |

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| 22.97 | 31.38 | 0.86 | 2.72 | 124.20 | 0.00 | 0.50 |
| 23.03 | 26.21 | 0.91 | 3.47 | 124.20 | 0.00 | 0.50 |
| 23.10 | 20.21 | 0.91 | 4.49 | 124.20 | 0.00 | 0.50 |
| 23.16 | 16.80 | 0.84 | 5.02 | 124.20 | 0.00 | 0.50 |
| 23.23 | 16.06 | 0.75 | 4.67 | 124.20 | 0.00 | 0.50 |
| 23.29 | 15.41 | 0.63 | 4.11 | 124.20 | 0.00 | 0.50 |
| 23.36 | 14.12 | 0.52 | 3.70 | 124.20 | 0.00 | 0.50 |
| 23.42 | 12.00 | 0.44 | 3.67 | 124.20 | 0.00 | 0.50 |
| 23.49 | 10.80 | 0.38 | 3.53 | 124.20 | 0.00 | 0.50 |
| 23.59 | 10.34 | 0.26 | 2.55 | 124.20 | 0.00 | 0.50 |
| 23.62 | 10.34 | 0.22 | 2.08 | 124.20 | 0.00 | 0.50 |
| 23.71 | 10.43 | 0.14 | 1.35 | 124.20 | 0.00 | 0.50 |
| 23.78 | 10.61 | 0.12 | 1.13 | 124.20 | 0.00 | 0.50 |
| 23.85 | 10.80 | 0.11 | 1.03 | 124.20 | 0.00 | 0.50 |
| 23.91 | 10.43 | 0.12 | 1.10 | 124.20 | 0.00 | 0.50 |
| 23.97 | 9.88 | 0.13 | 1.27 | 124.20 | 0.00 | 0.50 |
| 24.03 | 9.69 | 0.13 | 1.38 | 124.20 | 0.00 | 0.50 |
| 24.10 | 9.69 | 0.13 | 1.38 | 124.20 | 0.00 | 0.50 |
| 24.17 | 9.60 | 0.12 | 1.29 | 124.20 | 0.00 | 0.50 |
| 24.23 | 9.60 | 0.12 | 1.24 | 124.20 | 0.00 | 0.50 |
| 24.30 | 9.60 | 0.12 | 1.25 | 124.20 | 0.00 | 0.50 |
| 24.36 | 9.60 | 0.12 | 1.29 | 124.20 | 0.00 | 0.50 |
| 24.43 | 9.78 | 0.14 | 1.38 | 124.20 | 0.00 | 0.50 |
| 24.49 | 10.06 | 0.16 | 1.54 | 124.20 | 0.00 | 0.50 |
| 24.56 | 10.52 | 0.19 | 1.77 | 124.20 | 0.00 | 0.50 |
| 24.63 | 10.98 | 0.22 | 1.99 | 124.20 | 0.00 | 0.50 |
| 24.69 | 11.63 | 0.26 | 2.28 | 124.20 | 0.00 | 0.50 |
| 24.76 | 12.64 | 0.34 | 2.71 | 124.20 | 0.00 | 0.50 |
| 24.82 | 14.67 | 0.43 | 2.96 | 124.20 | 0.00 | 0.50 |
| 24.88 | 17.54 | 0.51 | 2.88 | 124.20 | 0.00 | 0.50 |
| 24.95 | 20.95 | 0.56 | 2.66 | 124.20 | 0.00 | 0.50 |
| 25.01 | 23.81 | 0.58 | 2.44 | 119.80 | 0.00 | 0.50 |
| 25.08 | 27.87 | 0.57 | 2.06 | 119.80 | 0.00 | 0.50 |
| 25.14 | 30.46 | 0.58 | 1.90 | 119.80 | 0.00 | 0.50 |
| 25.21 | 31.84 | 0.62 | 1.94 | 119.80 | 0.00 | 0.50 |
| 25.27 | 33.32 | 0.66 | 1.98 | 119.80 | 0.00 | 0.50 |
| 25.34 | 34.80 | 0.68 | 1.96 | 119.80 | 0.00 | 0.50 |
| 25.41 | 36.92 | 0.69 | 1.87 | 119.80 | 0.00 | 0.50 |
| 25.47 | 39.50 | 0.69 | 1.75 | 119.80 | 0.00 | 0.50 |
| 25.53 | 41.44 | 0.68 | 1.65 | 119.80 | 0.00 | 0.50 |
| 25.60 | 41.53 | 0.65 | 1.57 | 119.80 | 0.00 | 0.50 |
| 25.67 | 40.70 | 0.43 | 1.07 | 119.80 | 0.00 | 0.50 |
| 25.74 | 39.69 | 0.38 | 0.94 | 119.80 | 0.00 | 0.50 |
| 25.80 | 39.04 | 0.47 | 1.21 | 119.80 | 0.00 | 0.50 |
| 25.87 | 38.76 | 0.52 | 1.35 | 119.80 | 0.00 | 0.50 |
| 25.93 | 37.93 | 0.53 | 1.39 | 119.80 | 0.00 | 0.50 |
| 25.99 | 33.41 | 0.52 | 1.57 | 119.80 | 0.00 | 0.50 |
| 26.05 | 34.06 | 0.58 | 1.71 | 119.80 | 0.00 | 0.50 |
| 26.11 | 36.18 | 0.64 | 1.78 | 119.80 | 0.00 | 0.50 |
| 26.18 | 34.52 | 0.70 | 2.03 | 119.80 | 0.00 | 0.50 |

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| 26.25 | 32.76 | 0.75 | 2.28 | 119.80 | 0.00 | 0.50 |
| 26.34 | 30.09 | 0.79 | 2.64 | 119.80 | 0.00 | 0.50 |
| 26.40 | 27.97 | 0.80 | 2.85 | 119.80 | 0.00 | 0.50 |
| 26.46 | 26.49 | 0.77 | 2.93 | 119.80 | 0.00 | 0.50 |
| 26.53 | 23.35 | 0.72 | 3.10 | 119.80 | 0.00 | 0.50 |
| 26.59 | 19.29 | 0.66 | 3.43 | 119.80 | 0.00 | 0.50 |
| 26.66 | 16.34 | 0.60 | 3.68 | 119.80 | 0.00 | 0.50 |
| 26.72 | 14.21 | 0.53 | 3.72 | 119.80 | 0.00 | 0.50 |
| 26.78 | 12.09 | 0.44 | 3.61 | 119.80 | 0.00 | 0.50 |
| 26.85 | 10.71 | 0.37 | 3.43 | 119.80 | 0.00 | 0.50 |
| 26.91 | 10.24 | 0.31 | 3.05 | 119.80 | 0.00 | 0.50 |
| 26.98 | 10.34 | 0.26 | 2.50 | 119.80 | 0.00 | 0.50 |
| 27.04 | 10.43 | 0.21 | 2.04 | 119.80 | 0.00 | 0.50 |
| 27.11 | 10.61 | 0.19 | 1.81 | 119.80 | 0.00 | 0.50 |
| 27.17 | 10.52 | 0.19 | 1.77 | 119.80 | 0.00 | 0.50 |
| 27.24 | 10.34 | 0.19 | 1.81 | 119.80 | 0.00 | 0.50 |
| 27.31 | 10.34 | 0.19 | 1.80 | 119.80 | 0.00 | 0.50 |
| 27.37 | 10.34 | 0.18 | 1.73 | 119.80 | 0.00 | 0.50 |
| 27.43 | 10.15 | 0.18 | 1.75 | 119.80 | 0.00 | 0.50 |
| 27.49 | 10.15 | 0.19 | 1.82 | 119.80 | 0.00 | 0.50 |
| 27.58 | 10.15 | 0.19 | 1.82 | 119.80 | 0.00 | 0.50 |
| 27.65 | 10.43 | 0.19 | 1.80 | 119.80 | 0.00 | 0.50 |
| 27.71 | 10.43 | 0.19 | 1.83 | 119.80 | 0.00 | 0.50 |
| 27.78 | 10.61 | 0.19 | 1.82 | 119.80 | 0.00 | 0.50 |
| 27.85 | 10.61 | 0.20 | 1.85 | 119.80 | 0.00 | 0.50 |
| 27.91 | 10.61 | 0.20 | 1.88 | 119.80 | 0.00 | 0.50 |
| 27.97 | 10.61 | 0.20 | 1.92 | 119.80 | 0.00 | 0.50 |
| 28.04 | 10.61 | 0.21 | 1.96 | 119.80 | 0.00 | 0.50 |
| 28.11 | 10.52 | 0.22 | 2.04 | 119.80 | 0.00 | 0.50 |
| 28.17 | 10.52 | 0.23 | 2.15 | 119.80 | 0.00 | 0.50 |
| 28.24 | 10.52 | 0.24 | 2.27 | 119.80 | 0.00 | 0.50 |
| 28.30 | 10.80 | 0.25 | 2.34 | 119.80 | 0.00 | 0.50 |
| 28.37 | 10.98 | 0.26 | 2.40 | 119.80 | 0.00 | 0.50 |
| 28.43 | 11.17 | 0.26 | 2.36 | 119.80 | 0.00 | 0.50 |
| 28.50 | 11.35 | 0.28 | 2.46 | 119.80 | 0.00 | 0.50 |
| 28.57 | 11.44 | 0.28 | 2.47 | 119.80 | 0.00 | 0.50 |
| 28.63 | 11.44 | 0.28 | 2.44 | 119.80 | 0.00 | 0.50 |
| 28.69 | 11.44 | 0.27 | 2.33 | 119.80 | 0.00 | 0.50 |
| 28.74 | 11.31 | 0.27 | 2.37 | 119.80 | 0.00 | 0.50 |
| 28.81 | 11.44 | 0.28 | 2.43 | 119.80 | 0.00 | 0.50 |
| 28.87 | 11.17 | 0.27 | 2.38 | 119.80 | 0.00 | 0.50 |
| 28.93 | 11.44 | 0.29 | 2.55 | 119.80 | 0.00 | 0.50 |
| 29.00 | 12.09 | 0.32 | 2.68 | 119.80 | 0.00 | 0.50 |
| 29.07 | 12.64 | 0.35 | 2.78 | 119.80 | 0.00 | 0.50 |
| 29.16 | 13.94 | 0.39 | 2.77 | 119.80 | 0.00 | 0.50 |
| 29.20 | 14.12 | 0.40 | 2.83 | 119.80 | 0.00 | 0.50 |
| 29.26 | 14.67 | 0.44 | 2.99 | 119.80 | 0.00 | 0.50 |
| 29.33 | 15.14 | 0.48 | 3.18 | 119.80 | 0.00 | 0.50 |
| 29.42 | 14.21 | 0.47 | 3.32 | 119.80 | 0.00 | 0.50 |
| 29.49 | 13.66 | 0.48 | 3.51 | 119.80 | 0.00 | 0.50 |

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| 29.55 | 13.29 | 0.48 | 3.63 | 119.80 | 0.00 | 0.50 |
| 29.59 | 13.20 | 0.49 | 3.70 | 119.80 | 0.00 | 0.50 |
| 29.68 | 13.84 | 0.48 | 3.45 | 119.80 | 0.00 | 0.50 |
| 29.75 | 14.49 | 0.42 | 2.92 | 119.80 | 0.00 | 0.50 |
| 29.81 | 14.49 | 0.40 | 2.75 | 119.80 | 0.00 | 0.50 |
| 29.88 | 14.49 | 0.40 | 2.74 | 119.80 | 0.00 | 0.50 |
| 29.94 | 13.48 | 0.40 | 3.00 | 119.80 | 0.00 | 0.50 |
| 30.01 | 13.48 | 0.40 | 2.97 | 123.00 | 0.00 | 0.50 |
| 30.07 | 13.20 | 0.40 | 3.04 | 123.00 | 0.00 | 0.50 |
| 30.13 | 13.52 | 0.42 | 3.12 | 123.00 | 0.00 | 0.50 |
| 30.20 | 13.01 | 0.47 | 3.57 | 123.00 | 0.00 | 0.50 |
| 30.26 | 13.57 | 0.53 | 3.94 | 123.00 | 0.00 | 0.50 |
| 30.33 | 14.21 | 0.63 | 4.40 | 123.00 | 0.00 | 0.50 |
| 30.39 | 15.23 | 0.70 | 4.62 | 123.00 | 0.00 | 0.50 |
| 30.47 | 16.80 | 0.78 | 4.65 | 123.00 | 0.00 | 0.50 |
| 30.53 | 18.09 | 0.86 | 4.75 | 123.00 | 0.00 | 0.50 |
| 30.60 | 18.74 | 0.92 | 4.90 | 123.00 | 0.00 | 0.50 |
| 30.66 | 19.11 | 0.95 | 4.98 | 123.00 | 0.00 | 0.50 |
| 30.73 | 19.57 | 0.96 | 4.89 | 123.00 | 0.00 | 0.50 |
| 30.79 | 20.40 | 0.92 | 4.50 | 123.00 | 0.00 | 0.50 |
| 30.86 | 20.95 | 0.81 | 3.88 | 123.00 | 0.00 | 0.50 |
| 30.92 | 21.14 | 0.68 | 3.24 | 123.00 | 0.00 | 0.50 |
| 30.99 | 20.21 | 0.59 | 2.93 | 123.00 | 0.00 | 0.50 |
| 31.05 | 19.29 | 0.57 | 2.97 | 123.00 | 0.00 | 0.50 |
| 31.12 | 17.44 | 0.55 | 3.14 | 123.00 | 0.00 | 0.50 |
| 31.18 | 15.60 | 0.54 | 3.44 | 123.00 | 0.00 | 0.50 |
| 31.23 | 13.01 | 0.52 | 3.99 | 123.00 | 0.00 | 0.50 |
| 31.32 | 14.12 | 0.26 | 1.82 | 123.00 | 0.00 | 0.50 |
| 31.39 | 12.83 | 0.25 | 1.92 | 123.00 | 0.00 | 0.50 |
| 31.45 | 12.18 | 0.25 | 2.02 | 123.00 | 0.00 | 0.50 |
| 31.52 | 11.44 | 0.25 | 2.23 | 123.00 | 0.00 | 0.50 |
| 31.58 | 10.98 | 0.26 | 2.38 | 123.00 | 0.00 | 0.50 |
| 31.64 | 10.61 | 0.26 | 2.45 | 123.00 | 0.00 | 0.50 |
| 31.70 | 10.61 | 0.26 | 2.41 | 123.00 | 0.00 | 0.50 |
| 31.77 | 10.61 | 0.25 | 2.38 | 123.00 | 0.00 | 0.50 |
| 31.83 | 10.61 | 0.24 | 2.30 | 123.00 | 0.00 | 0.50 |
| 31.90 | 10.61 | 0.22 | 2.10 | 123.00 | 0.00 | 0.50 |
| 31.96 | 10.61 | 0.22 | 2.11 | 123.00 | 0.00 | 0.50 |
| 32.03 | 10.89 | 0.22 | 2.06 | 123.00 | 0.00 | 0.50 |
| 32.10 | 10.98 | 0.23 | 2.10 | 123.00 | 0.00 | 0.50 |
| 32.16 | 10.98 | 0.25 | 2.24 | 123.00 | 0.00 | 0.50 |
| 32.23 | 10.71 | 0.25 | 2.32 | 123.00 | 0.00 | 0.50 |
| 32.30 | 10.71 | 0.26 | 2.41 | 123.00 | 0.00 | 0.50 |
| 32.36 | 10.52 | 0.28 | 2.70 | 123.00 | 0.00 | 0.50 |
| 32.43 | 10.52 | 0.31 | 2.97 | 123.00 | 0.00 | 0.50 |
| 32.49 | 10.89 | 0.34 | 3.08 | 123.00 | 0.00 | 0.50 |
| 32.56 | 10.89 | 0.34 | 3.15 | 123.00 | 0.00 | 0.50 |
| 32.62 | 10.98 | 0.34 | 3.09 | 123.00 | 0.00 | 0.50 |
| 32.69 | 11.35 | 0.35 | 3.08 | 123.00 | 0.00 | 0.50 |
| 32.75 | 11.44 | 0.37 | 3.25 | 123.00 | 0.00 | 0.50 |

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| 32.82 | 11.44 | 0.39 | 3.42 | 123.00 | 0.00 | 0.50 |
| 32.88 | 11.44 | 0.40 | 3.50 | 123.00 | 0.00 | 0.50 |
| 32.95 | 11.54 | 0.40 | 3.42 | 123.00 | 0.00 | 0.50 |
| 33.02 | 11.54 | 0.40 | 3.44 | 123.00 | 0.00 | 0.50 |
| 33.08 | 11.35 | 0.40 | 3.53 | 123.00 | 0.00 | 0.50 |
| 33.14 | 11.35 | 0.40 | 3.53 | 123.00 | 0.00 | 0.50 |
| 33.20 | 10.89 | 0.40 | 3.68 | 123.00 | 0.00 | 0.50 |
| 33.27 | 10.71 | 0.40 | 3.73 | 123.00 | 0.00 | 0.50 |
| 33.33 | 10.98 | 0.39 | 3.52 | 123.00 | 0.00 | 0.50 |
| 33.40 | 11.54 | 0.31 | 2.69 | 123.00 | 0.00 | 0.50 |
| 33.46 | 12.28 | 0.23 | 1.85 | 123.00 | 0.00 | 0.50 |
| 33.53 | 13.11 | 0.19 | 1.46 | 123.00 | 0.00 | 0.50 |
| 33.62 | 13.57 | 0.29 | 2.16 | 123.00 | 0.00 | 0.50 |
| 33.69 | 13.38 | 0.48 | 3.61 | 123.00 | 0.00 | 0.50 |
| 33.76 | 13.48 | 0.67 | 4.93 | 123.00 | 0.00 | 0.50 |
| 33.79 | 14.21 | 0.75 | 5.31 | 123.00 | 0.00 | 0.50 |
| 33.85 | 17.72 | 0.90 | 5.09 | 123.00 | 0.00 | 0.50 |
| 33.95 | 27.60 | 1.10 | 3.97 | 123.00 | 0.00 | 0.50 |
| 34.00 | 39.41 | 1.17 | 2.96 | 123.00 | 0.00 | 0.50 |
| 34.07 | 44.86 | 1.17 | 2.61 | 123.00 | 0.00 | 0.50 |
| 34.13 | 50.30 | 1.13 | 2.25 | 123.00 | 0.00 | 0.50 |
| 34.20 | 58.33 | 1.04 | 1.78 | 123.00 | 0.00 | 0.50 |
| 34.26 | 66.82 | 0.90 | 1.34 | 123.00 | 0.00 | 0.50 |
| 34.33 | 74.76 | 0.74 | 0.99 | 123.00 | 0.00 | 0.50 |
| 34.39 | 79.65 | 0.64 | 0.80 | 123.00 | 0.00 | 0.50 |
| 34.46 | 81.77 | 0.59 | 0.73 | 123.00 | 0.00 | 0.50 |
| 34.52 | 82.14 | 0.59 | 0.72 | 123.00 | 0.00 | 0.50 |
| 34.59 | 81.04 | 0.64 | 0.79 | 123.00 | 0.00 | 0.50 |
| 34.65 | 80.99 | 0.70 | 0.86 | 123.00 | 0.00 | 0.50 |
| 34.72 | 80.94 | 0.72 | 0.89 | 123.00 | 0.00 | 0.50 |
| 34.78 | 84.08 | 0.71 | 0.85 | 123.00 | 0.00 | 0.50 |
| 34.85 | 89.07 | 0.67 | 0.75 | 123.00 | 0.00 | 0.50 |
| 34.91 | 94.42 | 0.59 | 0.63 | 123.00 | 0.00 | 0.50 |
| 34.98 | 101.60 | 0.51 | 0.51 | 123.00 | 0.00 | 0.50 |
| 35.05 | 109.40 | 0.52 | 0.47 | 123.20 | 0.00 | 0.50 |
| 35.12 | 118.20 | 0.55 | 0.46 | 123.20 | 0.00 | 0.50 |
| 35.18 | 126.50 | 0.62 | 0.49 | 123.20 | 0.00 | 0.50 |
| 35.25 | 135.50 | 0.71 | 0.52 | 123.20 | 0.00 | 0.50 |
| 35.31 | 143.80 | 0.78 | 0.54 | 123.20 | 0.00 | 0.50 |
| 35.38 | 150.90 | 0.84 | 0.56 | 123.20 | 0.00 | 0.50 |
| 35.44 | 155.70 | 0.89 | 0.57 | 123.20 | 0.00 | 0.50 |
| 35.50 | 158.40 | 0.95 | 0.60 | 123.20 | 0.00 | 0.50 |
| 35.57 | 160.10 | 1.04 | 0.65 | 123.20 | 0.00 | 0.50 |
| 35.64 | 160.90 | 1.13 | 0.70 | 123.20 | 0.00 | 0.50 |
| 35.71 | 160.90 | 1.22 | 0.76 | 123.20 | 0.00 | 0.50 |
| 35.77 | 160.50 | 1.30 | 0.81 | 123.20 | 0.00 | 0.50 |
| 35.84 | 159.20 | 1.38 | 0.87 | 123.20 | 0.00 | 0.50 |
| 35.90 | 157.40 | 1.47 | 0.94 | 123.20 | 0.00 | 0.50 |
| 35.97 | 154.90 | 1.57 | 1.01 | 123.20 | 0.00 | 0.50 |
| 36.04 | 152.00 | 1.65 | 1.09 | 123.20 | 0.00 | 0.50 |

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| 36.10 | 147.40 | 1.75 | 1.19 | 123.20 | 0.00 | 0.50 |
| 36.16 | 141.00 | 1.89 | 1.34 | 123.20 | 0.00 | 0.50 |
| 36.23 | 133.00 | 1.95 | 1.46 | 123.20 | 0.00 | 0.50 |
| 36.29 | 125.10 | 1.93 | 1.54 | 123.20 | 0.00 | 0.50 |
| 36.36 | 119.80 | 2.10 | 1.75 | 123.20 | 0.00 | 0.50 |
| 36.42 | 120.70 | 2.09 | 1.73 | 123.20 | 0.00 | 0.50 |
| 36.49 | 128.60 | 1.93 | 1.50 | 123.20 | 0.00 | 0.50 |
| 36.55 | 132.90 | 1.76 | 1.33 | 123.20 | 0.00 | 0.50 |
| 36.64 | 135.60 | 1.54 | 1.13 | 123.20 | 0.00 | 0.50 |
| 36.71 | 141.40 | 1.36 | 0.96 | 123.20 | 0.00 | 0.50 |
| 36.77 | 150.70 | 1.26 | 0.83 | 123.20 | 0.00 | 0.50 |
| 36.84 | 157.70 | 1.26 | 0.80 | 123.20 | 0.00 | 0.50 |
| 36.90 | 161.70 | 1.30 | 0.80 | 123.20 | 0.00 | 0.50 |
| 36.97 | 161.40 | 1.37 | 0.85 | 123.20 | 0.00 | 0.50 |
| 37.03 | 160.00 | 1.45 | 0.91 | 123.20 | 0.00 | 0.50 |
| 37.10 | 159.00 | 1.53 | 0.96 | 123.20 | 0.00 | 0.50 |
| 37.16 | 158.10 | 1.57 | 1.00 | 123.20 | 0.00 | 0.50 |
| 37.23 | 156.10 | 1.62 | 1.04 | 123.20 | 0.00 | 0.50 |
| 37.29 | 154.00 | 1.65 | 1.07 | 123.20 | 0.00 | 0.50 |
| 37.36 | 151.00 | 1.71 | 1.13 | 123.20 | 0.00 | 0.50 |
| 37.42 | 147.80 | 1.74 | 1.18 | 123.20 | 0.00 | 0.50 |
| 37.49 | 146.90 | 1.73 | 1.18 | 123.20 | 0.00 | 0.50 |
| 37.55 | 152.20 | 1.68 | 1.11 | 123.20 | 0.00 | 0.50 |
| 37.62 | 165.20 | 1.61 | 0.98 | 123.20 | 0.00 | 0.50 |
| 37.68 | 178.40 | 1.53 | 0.86 | 123.20 | 0.00 | 0.50 |
| 37.75 | 193.30 | 1.42 | 0.74 | 123.20 | 0.00 | 0.50 |
| 37.81 | 201.20 | 1.33 | 0.66 | 123.20 | 0.00 | 0.50 |
| 37.88 | 202.90 | 1.28 | 0.63 | 123.20 | 0.00 | 0.50 |
| 37.95 | 203.20 | 1.28 | 0.63 | 123.20 | 0.00 | 0.50 |
| 38.01 | 203.40 | 1.30 | 0.64 | 123.20 | 0.00 | 0.50 |
| 38.08 | 203.50 | 1.37 | 0.67 | 123.20 | 0.00 | 0.50 |
| 38.14 | 203.40 | 1.47 | 0.72 | 123.20 | 0.00 | 0.50 |
| 38.21 | 204.70 | 1.60 | 0.78 | 123.20 | 0.00 | 0.50 |
| 38.27 | 208.50 | 1.72 | 0.82 | 123.20 | 0.00 | 0.50 |
| 38.34 | 213.20 | 1.87 | 0.88 | 123.20 | 0.00 | 0.50 |
| 38.40 | 218.20 | 2.03 | 0.93 | 123.20 | 0.00 | 0.50 |
| 38.47 | 222.20 | 2.19 | 0.99 | 123.20 | 0.00 | 0.50 |
| 38.54 | 223.70 | 2.35 | 1.05 | 123.20 | 0.00 | 0.50 |
| 38.60 | 222.80 | 2.50 | 1.12 | 123.20 | 0.00 | 0.50 |
| 38.67 | 221.90 | 2.63 | 1.19 | 123.20 | 0.00 | 0.50 |
| 38.74 | 219.90 | 2.74 | 1.25 | 123.20 | 0.00 | 0.50 |
| 38.80 | 218.80 | 2.83 | 1.29 | 123.20 | 0.00 | 0.50 |
| 38.87 | 218.10 | 2.88 | 1.32 | 123.20 | 0.00 | 0.50 |
| 38.94 | 217.70 | 2.91 | 1.34 | 123.20 | 0.00 | 0.50 |
| 39.00 | 217.90 | 2.93 | 1.34 | 123.20 | 0.00 | 0.50 |
| 39.06 | 216.30 | 2.97 | 1.37 | 123.20 | 0.00 | 0.50 |
| 39.13 | 214.30 | 3.01 | 1.40 | 123.20 | 0.00 | 0.50 |
| 39.19 | 211.70 | 3.07 | 1.45 | 123.20 | 0.00 | 0.50 |
| 39.25 | 209.60 | 2.68 | 1.28 | 123.20 | 0.00 | 0.50 |
| 39.32 | 207.00 | 1.77 | 0.86 | 123.20 | 0.00 | 0.50 |

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| 39.39 | 204.90 | 1.85 | 0.90 | 123.20 | 0.00 | 0.50 |
| 39.46 | 204.50 | 1.93 | 0.95 | 123.20 | 0.00 | 0.50 |
| 39.52 | 204.20 | 2.03 | 0.99 | 123.20 | 0.00 | 0.50 |
| 39.58 | 197.10 | 2.10 | 1.06 | 123.20 | 0.00 | 0.50 |
| 39.66 | 190.60 | 2.18 | 1.14 | 123.20 | 0.00 | 0.50 |
| 39.72 | 199.70 | 2.26 | 1.13 | 123.20 | 0.00 | 0.50 |
| 39.79 | 200.60 | 2.43 | 1.21 | 123.20 | 0.00 | 0.50 |
| 39.85 | 200.90 | 2.58 | 1.29 | 123.20 | 0.00 | 0.50 |
| 39.92 | 200.10 | 2.67 | 1.34 | 123.20 | 0.00 | 0.50 |
| 39.98 | 198.90 | 2.72 | 1.37 | 123.20 | 0.00 | 0.50 |
| 40.05 | 197.50 | 2.77 | 1.40 | 123.20 | 0.00 | 0.50 |
| 40.09 | 197.00 | 2.79 | 1.41 | 123.20 | 0.00 | 0.50 |
| 40.15 | 196.50 | 2.81 | 1.43 | 123.20 | 0.00 | 0.50 |
| 40.22 | 196.10 | 2.83 | 1.44 | 123.20 | 0.00 | 0.50 |
| 40.29 | 196.80 | 2.86 | 1.45 | 123.20 | 0.00 | 0.50 |
| 40.38 | 198.70 | 2.87 | 1.45 | 123.20 | 0.00 | 0.50 |
| 40.45 | 201.20 | 2.89 | 1.44 | 123.20 | 0.00 | 0.50 |
| 40.48 | 201.70 | 2.91 | 1.44 | 123.20 | 0.00 | 0.50 |
| 40.55 | 202.10 | 2.91 | 1.44 | 123.20 | 0.00 | 0.50 |
| 40.64 | 200.60 | 2.92 | 1.46 | 123.20 | 0.00 | 0.50 |
| 40.70 | 197.90 | 2.91 | 1.47 | 123.20 | 0.00 | 0.50 |
| 40.77 | 193.30 | 2.88 | 1.49 | 123.20 | 0.00 | 0.50 |
| 40.83 | 189.20 | 2.85 | 1.50 | 123.20 | 0.00 | 0.50 |
| 40.90 | 186.10 | 2.80 | 1.50 | 123.20 | 0.00 | 0.50 |
| 40.97 | 184.50 | 2.75 | 1.49 | 123.20 | 0.00 | 0.50 |
| 41.03 | 182.80 | 2.72 | 1.49 | 123.20 | 0.00 | 0.50 |
| 41.09 | 180.70 | 2.68 | 1.48 | 123.20 | 0.00 | 0.50 |
| 41.16 | 178.80 | 2.63 | 1.47 | 123.20 | 0.00 | 0.50 |
| 41.22 | 175.20 | 2.58 | 1.47 | 123.20 | 0.00 | 0.50 |
| 41.29 | 175.50 | 2.52 | 1.43 | 123.20 | 0.00 | 0.50 |
| 41.35 | 175.50 | 2.42 | 1.38 | 123.20 | 0.00 | 0.50 |
| 41.42 | 175.90 | 2.19 | 1.25 | 123.20 | 0.00 | 0.50 |
| 41.48 | 187.60 | 1.95 | 1.04 | 123.20 | 0.00 | 0.50 |
| 41.55 | 198.60 | 1.68 | 0.85 | 123.20 | 0.00 | 0.50 |
| 41.61 | 206.80 | 1.43 | 0.69 | 123.20 | 0.00 | 0.50 |
| 41.68 | 207.50 | 1.54 | 0.74 | 123.20 | 0.00 | 0.50 |
| 41.74 | 203.80 | 1.59 | 0.78 | 123.20 | 0.00 | 0.50 |
| 41.81 | 197.70 | 1.63 | 0.83 | 123.20 | 0.00 | 0.50 |
| 41.88 | 190.20 | 1.69 | 0.89 | 123.20 | 0.00 | 0.50 |
| 41.95 | 157.70 | 1.74 | 1.10 | 123.20 | 0.00 | 0.50 |
| 42.01 | 172.70 | 1.73 | 1.00 | 123.20 | 0.00 | 0.50 |
| 42.08 | 167.30 | 1.72 | 1.03 | 123.20 | 0.00 | 0.50 |
| 42.14 | 164.10 | 1.79 | 1.09 | 123.20 | 0.00 | 0.50 |
| 42.21 | 164.60 | 1.94 | 1.18 | 123.20 | 0.00 | 0.50 |
| 42.27 | 170.10 | 2.03 | 1.19 | 123.20 | 0.00 | 0.50 |
| 42.34 | 178.30 | 1.93 | 1.08 | 123.20 | 0.00 | 0.50 |
| 42.40 | 184.50 | 1.70 | 0.92 | 123.20 | 0.00 | 0.50 |
| 42.46 | 183.00 | 1.52 | 0.83 | 123.20 | 0.00 | 0.50 |
| 42.53 | 174.90 | 1.48 | 0.84 | 123.20 | 0.00 | 0.50 |
| 42.59 | 166.20 | 1.44 | 0.87 | 123.20 | 0.00 | 0.50 |

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| 42.66 | 157.60 | 1.55 | 0.98 | 123.20 | 0.00 | 0.50 |
| 42.72 | 147.30 | 1.74 | 1.18 | 123.20 | 0.00 | 0.50 |
| 42.79 | 133.00 | 1.91 | 1.44 | 123.20 | 0.00 | 0.50 |
| 42.86 | 116.00 | 2.02 | 1.74 | 123.20 | 0.00 | 0.50 |
| 42.93 | 101.50 | 2.08 | 2.05 | 123.20 | 0.00 | 0.50 |
| 42.99 | 93.40 | 2.10 | 2.24 | 123.20 | 0.00 | 0.50 |
| 43.06 | 89.25 | 2.10 | 2.35 | 123.20 | 0.00 | 0.50 |
| 43.13 | 87.68 | 2.11 | 2.40 | 123.20 | 0.00 | 0.50 |
| 43.19 | 88.79 | 2.13 | 2.39 | 123.20 | 0.00 | 0.50 |
| 43.26 | 91.28 | 2.15 | 2.36 | 123.20 | 0.00 | 0.50 |
| 43.32 | 97.56 | 2.17 | 2.23 | 123.20 | 0.00 | 0.50 |
| 43.38 | 104.80 | 2.16 | 2.06 | 123.20 | 0.00 | 0.50 |
| 43.45 | 111.90 | 2.07 | 1.85 | 123.20 | 0.00 | 0.50 |
| 43.51 | 118.90 | 1.98 | 1.67 | 123.20 | 0.00 | 0.50 |
| 43.57 | 125.60 | 1.98 | 1.58 | 123.20 | 0.00 | 0.50 |
| 43.64 | 133.30 | 2.00 | 1.50 | 123.20 | 0.00 | 0.50 |
| 43.71 | 139.30 | 2.04 | 1.47 | 123.20 | 0.00 | 0.50 |
| 43.77 | 143.80 | 2.08 | 1.45 | 123.20 | 0.00 | 0.50 |
| 43.84 | 145.00 | 2.10 | 1.45 | 123.20 | 0.00 | 0.50 |
| 43.91 | 145.80 | 2.11 | 1.44 | 123.20 | 0.00 | 0.50 |
| 43.97 | 146.10 | 2.09 | 1.43 | 123.20 | 0.00 | 0.50 |
| 44.04 | 146.00 | 2.06 | 1.41 | 123.20 | 0.00 | 0.50 |
| 44.10 | 147.20 | 2.04 | 1.38 | 123.20 | 0.00 | 0.50 |
| 44.17 | 147.70 | 2.02 | 1.37 | 123.20 | 0.00 | 0.50 |
| 44.23 | 146.40 | 2.05 | 1.40 | 123.20 | 0.00 | 0.50 |
| 44.30 | 142.60 | 2.11 | 1.48 | 123.20 | 0.00 | 0.50 |
| 44.37 | 135.00 | 2.13 | 1.58 | 123.20 | 0.00 | 0.50 |
| 44.43 | 128.00 | 2.10 | 1.64 | 123.20 | 0.00 | 0.50 |
| 44.50 | 121.50 | 2.11 | 1.74 | 123.20 | 0.00 | 0.50 |
| 44.56 | 116.60 | 2.18 | 1.87 | 123.20 | 0.00 | 0.50 |
| 44.63 | 109.90 | 2.30 | 2.10 | 123.20 | 0.00 | 0.50 |
| 44.70 | 101.40 | 2.35 | 2.32 | 123.20 | 0.00 | 0.50 |
| 44.77 | 97.93 | 2.30 | 2.35 | 123.20 | 0.00 | 0.50 |
| 44.84 | 95.34 | 2.24 | 2.35 | 123.20 | 0.00 | 0.50 |
| 44.90 | 98.76 | 2.12 | 2.14 | 123.20 | 0.00 | 0.50 |
| 44.97 | 104.10 | 1.92 | 1.85 | 123.20 | 0.00 | 0.50 |
| 45.03 | 105.50 | 1.74 | 1.65 | 124.10 | 0.00 | 0.50 |
| 45.10 | 104.10 | 1.61 | 1.54 | 124.10 | 0.00 | 0.50 |
| 45.17 | 99.49 | 1.53 | 1.54 | 124.10 | 0.00 | 0.50 |
| 45.23 | 92.11 | 1.50 | 1.63 | 124.10 | 0.00 | 0.50 |
| 45.30 | 84.27 | 1.50 | 1.78 | 124.10 | 0.00 | 0.50 |
| 45.36 | 73.47 | 1.50 | 2.05 | 124.10 | 0.00 | 0.50 |
| 45.42 | 61.10 | 1.51 | 2.47 | 124.10 | 0.00 | 0.50 |
| 45.49 | 48.82 | 1.51 | 3.09 | 124.10 | 0.00 | 0.50 |
| 45.55 | 40.89 | 1.50 | 3.68 | 124.10 | 0.00 | 0.50 |
| 45.61 | 33.60 | 1.50 | 4.46 | 124.10 | 0.00 | 0.50 |
| 45.68 | 27.97 | 1.46 | 5.21 | 124.10 | 0.00 | 0.50 |
| 45.75 | 26.21 | 1.33 | 5.09 | 124.10 | 0.00 | 0.50 |
| 45.81 | 25.10 | 1.14 | 4.53 | 124.10 | 0.00 | 0.50 |
| 45.88 | 23.17 | 0.92 | 3.98 | 124.10 | 0.00 | 0.50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 45.94 | 21.69 | 0.79 | 3.65 | 124.10 | 0.00 | 0.50 |
| 46.01 | 20.30 | 0.76 | 3.72 | 124.10 | 0.00 | 0.50 |
| 46.07 | 20.40 | 0.72 | 3.52 | 124.10 | 0.00 | 0.50 |
| 46.13 | 20.49 | 0.68 | 3.34 | 124.10 | 0.00 | 0.50 |
| 46.20 | 21.14 | 0.69 | 3.28 | 124.10 | 0.00 | 0.50 |
| 46.26 | 22.43 | 0.75 | 3.34 | 124.10 | 0.00 | 0.50 |
| 46.33 | 24.27 | 0.84 | 3.47 | 124.10 | 0.00 | 0.50 |
| 46.39 | 26.67 | 0.96 | 3.60 | 124.10 | 0.00 | 0.50 |
| 46.46 | 28.98 | 1.09 | 3.77 | 124.10 | 0.00 | 0.50 |
| 46.52 | 30.46 | 1.21 | 3.97 | 124.10 | 0.00 | 0.50 |
| 46.59 | 31.84 | 1.32 | 4.13 | 124.10 | 0.00 | 0.50 |
| 46.65 | 32.40 | 1.42 | 4.39 | 124.10 | 0.00 | 0.50 |
| 46.72 | 32.58 | 1.52 | 4.67 | 124.10 | 0.00 | 0.50 |
| 46.79 | 32.49 | 1.58 | 4.87 | 124.10 | 0.00 | 0.50 |
| 46.86 | 33.32 | 1.64 | 4.93 | 124.10 | 0.00 | 0.50 |
| 46.92 | 35.07 | 1.77 | 5.06 | 124.10 | 0.00 | 0.50 |
| 46.99 | 37.47 | 1.91 | 5.10 | 124.10 | 0.00 | 0.50 |
| 47.05 | 40.70 | 1.94 | 4.76 | 124.10 | 0.00 | 0.50 |
| 47.12 | 41.63 | 1.92 | 4.60 | 124.10 | 0.00 | 0.50 |
| 47.18 | 38.95 | 1.94 | 4.98 | 124.10 | 0.00 | 0.50 |
| 47.25 | 36.00 | 2.00 | 5.56 | 124.10 | 0.00 | 0.50 |
| 47.31 | 36.09 | 1.95 | 5.41 | 124.10 | 0.00 | 0.50 |
| 47.38 | 36.18 | 1.83 | 5.07 | 124.10 | 0.00 | 0.50 |
| 47.44 | 42.27 | 2.29 | 5.41 | 124.10 | 0.00 | 0.50 |
| 47.51 | 48.73 | 2.64 | 5.43 | 124.10 | 0.00 | 0.50 |
| 47.58 | 54.18 | 3.01 | 5.55 | 124.10 | 0.00 | 0.50 |
| 47.64 | 57.13 | 3.34 | 5.85 | 124.10 | 0.00 | 0.50 |
| 47.72 | 65.71 | 3.60 | 5.48 | 124.10 | 0.00 | 0.50 |
| 47.79 | 67.19 | 3.66 | 5.44 | 124.10 | 0.00 | 0.50 |
| 47.85 | 69.22 | 3.60 | 5.20 | 124.10 | 0.00 | 0.50 |
| 47.92 | 80.11 | 3.48 | 4.34 | 124.10 | 0.00 | 0.50 |
| 47.98 | 99.86 | 3.30 | 3.30 | 124.10 | 0.00 | 0.50 |
| 48.05 | 121.40 | 3.12 | 2.57 | 124.10 | 0.00 | 0.50 |
| 48.11 | 138.80 | 3.01 | 2.17 | 124.10 | 0.00 | 0.50 |
| 48.17 | 149.10 | 2.91 | 1.95 | 124.10 | 0.00 | 0.50 |
| 48.24 | 154.10 | 2.88 | 1.87 | 124.10 | 0.00 | 0.50 |
| 48.31 | 155.60 | 2.90 | 1.86 | 124.10 | 0.00 | 0.50 |
| 48.38 | 155.10 | 2.91 | 1.88 | 124.10 | 0.00 | 0.50 |
| 48.44 | 150.70 | 2.95 | 1.96 | 124.10 | 0.00 | 0.50 |
| 48.51 | 144.40 | 3.00 | 2.08 | 124.10 | 0.00 | 0.50 |
| 48.57 | 137.40 | 3.03 | 2.21 | 124.10 | 0.00 | 0.50 |
| 48.63 | 130.20 | 3.08 | 2.36 | 124.10 | 0.00 | 0.50 |
| 48.70 | 120.50 | 3.05 | 2.53 | 124.10 | 0.00 | 0.50 |
| 48.76 | 113.20 | 2.89 | 2.55 | 124.10 | 0.00 | 0.50 |
| 48.83 | 108.90 | 2.69 | 2.47 | 124.10 | 0.00 | 0.50 |
| 48.89 | 108.80 | 2.50 | 2.30 | 124.10 | 0.00 | 0.50 |
| 48.96 | 110.70 | 2.31 | 2.09 | 124.10 | 0.00 | 0.50 |
| 49.02 | 108.30 | 2.21 | 2.04 | 124.10 | 0.00 | 0.50 |
| 49.09 | 99.40 | 2.20 | 2.22 | 124.10 | 0.00 | 0.50 |
| 49.15 | 82.70 | 2.21 | 2.67 | 124.10 | 0.00 | 0.50 |

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|---|---|---|---|---|---|---|
| 49.21 | 65.62 | 2.20 | 3.36 | 124.10 | 0.00 | 0.50 |
| 49.28 | 52.42 | 2.13 | 4.06 | 124.10 | 0.00 | 0.50 |
| 49.34 | 45.22 | 2.02 | 4.46 | 124.10 | 0.00 | 0.50 |
| 49.41 | 39.23 | 1.91 | 4.87 | 124.10 | 0.00 | 0.50 |
| 49.50 | 31.38 | 1.74 | 5.53 | 124.10 | 0.00 | 0.50 |
| 49.57 | 27.87 | 1.61 | 5.78 | 124.10 | 0.00 | 0.50 |
| 49.63 | 27.13 | 1.43 | 5.28 | 124.10 | 0.00 | 0.50 |
| 49.70 | 27.69 | 1.33 | 4.82 | 124.10 | 0.00 | 0.50 |
| 49.77 | 28.61 | 1.27 | 4.45 | 124.10 | 0.00 | 0.50 |
| 49.80 | 29.07 | 1.27 | 4.38 | 124.10 | 0.00 | 0.50 |
| 49.87 | 30.27 | 1.34 | 4.41 | 124.10 | 0.00 | 0.50 |
| 49.93 | 31.20 | 1.38 | 4.41 | 124.10 | 0.00 | 0.50 |
| 50.02 | 30.00 | 0.00 | 0.00 | 123.10 | 0.00 | 0.50 |
| 50.07 | 33.13 | 0.00 | 0.00 | 123.10 | 0.00 | 0.50 |
| 50.14 | 33.50 | 0.00 | 0.00 | 123.10 | 0.00 | 0.50 |
| 50.20 | 34.15 | 0.00 | 0.00 | 123.10 | 0.00 | 0.50 |
| 50.26 | 37.38 | 0.00 | 0.00 | 123.10 | 0.00 | 0.50 |
| 50.33 | 41.07 | 0.00 | 0.00 | 123.10 | 0.00 | 0.50 |

Modify Robertson method generates Fines from qc/fs. Inputted Fines are not relevant.

Output Results:

Settlement of Saturated Sands=4.62 in.
Settlement of Unsaturated Sands=0.64 in.
Total Settlement of Saturated and Unsaturated Sands=5.27 in.
Differential Settlement=2.633 to 3.475 in.

| Depth ft | CRRm | CSRfs | F.S. | S_sat. in. | S_dry in. | S_all in. |
|---|---|---|---|---|---|---|
| 0.00 | 2.00 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.05 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.10 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.15 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.20 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.25 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.30 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.35 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.40 | 2.08 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.45 | 1.58 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.50 | 1.04 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.55 | 0.70 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.60 | 0.49 | 0.63 | 5.00 | 4.62 | 0.64 | 5.27 |
| 0.65 | 0.35 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 0.70 | 0.29 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 0.75 | 0.24 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 0.80 | 0.21 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 0.85 | 0.18 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 0.90 | 0.16 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0.95 | 0.14 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 1.00 | 0.13 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 1.05 | 0.12 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 1.10 | 0.12 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 1.15 | 0.11 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 1.20 | 0.11 | 0.63 | 5.00 | 4.62 | 0.64 | 5.26 |
| 1.25 | 0.10 | 0.63 | 5.00 | 4.62 | 0.63 | 5.26 |
| 1.30 | 0.10 | 0.63 | 5.00 | 4.62 | 0.63 | 5.26 |
| 1.35 | 0.10 | 0.63 | 5.00 | 4.62 | 0.63 | 5.26 |
| 1.40 | 0.09 | 0.63 | 5.00 | 4.62 | 0.63 | 5.25 |
| 1.45 | 0.09 | 0.63 | 5.00 | 4.62 | 0.62 | 5.25 |
| 1.50 | 0.09 | 0.63 | 5.00 | 4.62 | 0.62 | 5.24 |
| 1.55 | 0.09 | 0.63 | 5.00 | 4.62 | 0.61 | 5.23 |
| 1.60 | 0.10 | 0.63 | 5.00 | 4.62 | 0.60 | 5.22 |
| 1.65 | 0.10 | 0.63 | 5.00 | 4.62 | 0.59 | 5.21 |
| 1.70 | 0.10 | 0.63 | 5.00 | 4.62 | 0.58 | 5.20 |
| 1.75 | 0.10 | 0.63 | 5.00 | 4.62 | 0.57 | 5.20 |
| 1.80 | 0.11 | 0.63 | 5.00 | 4.62 | 0.56 | 5.19 |
| 1.85 | 0.11 | 0.63 | 5.00 | 4.62 | 0.55 | 5.18 |
| 1.90 | 0.11 | 0.63 | 5.00 | 4.62 | 0.54 | 5.17 |
| 1.95 | 0.12 | 0.63 | 5.00 | 4.62 | 0.53 | 5.15 |
| 2.00 | 0.14 | 0.63 | 5.00 | 4.62 | 0.52 | 5.15 |
| 2.05 | 0.16 | 0.63 | 5.00 | 4.62 | 0.52 | 5.14 |
| 2.10 | 0.17 | 0.63 | 5.00 | 4.62 | 0.51 | 5.14 |
| 2.15 | 0.18 | 0.63 | 5.00 | 4.62 | 0.51 | 5.14 |
| 2.20 | 0.19 | 0.63 | 5.00 | 4.62 | 0.51 | 5.13 |
| 2.25 | 0.21 | 0.63 | 5.00 | 4.62 | 0.50 | 5.13 |
| 2.30 | 0.22 | 0.63 | 5.00 | 4.62 | 0.50 | 5.13 |
| 2.35 | 0.22 | 0.63 | 5.00 | 4.62 | 0.50 | 5.12 |
| 2.40 | 0.22 | 0.63 | 5.00 | 4.62 | 0.49 | 5.12 |
| 2.45 | 0.22 | 0.63 | 5.00 | 4.62 | 0.49 | 5.11 |
| 2.50 | 0.22 | 0.63 | 5.00 | 4.62 | 0.48 | 5.11 |
| 2.55 | 0.21 | 0.63 | 5.00 | 4.62 | 0.47 | 5.10 |
| 2.60 | 0.20 | 0.63 | 5.00 | 4.62 | 0.46 | 5.08 |
| 2.65 | 0.19 | 0.63 | 5.00 | 4.62 | 0.45 | 5.07 |
| 2.70 | 0.19 | 0.63 | 5.00 | 4.62 | 0.44 | 5.06 |
| 2.75 | 0.18 | 0.63 | 5.00 | 4.62 | 0.42 | 5.05 |
| 2.80 | 0.17 | 0.63 | 5.00 | 4.62 | 0.41 | 5.03 |
| 2.85 | 0.16 | 0.63 | 5.00 | 4.62 | 0.40 | 5.02 |
| 2.90 | 0.15 | 0.63 | 5.00 | 4.62 | 0.38 | 5.01 |
| 2.95 | 0.15 | 0.63 | 5.00 | 4.62 | 0.37 | 4.99 |
| 3.00 | 0.15 | 0.63 | 5.00 | 4.62 | 0.35 | 4.98 |
| 3.05 | 0.15 | 0.63 | 5.00 | 4.62 | 0.34 | 4.96 |
| 3.10 | 0.14 | 0.63 | 5.00 | 4.62 | 0.32 | 4.95 |
| 3.15 | 0.14 | 0.63 | 5.00 | 4.62 | 0.31 | 4.93 |
| 3.20 | 0.15 | 0.63 | 5.00 | 4.62 | 0.30 | 4.92 |
| 3.25 | 0.15 | 0.63 | 5.00 | 4.62 | 0.28 | 4.91 |
| 3.30 | 0.15 | 0.63 | 5.00 | 4.62 | 0.27 | 4.89 |
| 3.35 | 0.15 | 0.63 | 5.00 | 4.62 | 0.25 | 4.88 |
| 3.40 | 0.15 | 0.63 | 5.00 | 4.62 | 0.24 | 4.87 |

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|---|---|---|---|---|---|---|
| 3.45 | 0.16 | 0.63 | 5.00 | 4.62 | 0.23 | 4.85 |
| 3.50 | 0.16 | 0.63 | 5.00 | 4.62 | 0.22 | 4.84 |
| 3.55 | 0.16 | 0.63 | 5.00 | 4.62 | 0.20 | 4.83 |
| 3.60 | 0.17 | 0.63 | 5.00 | 4.62 | 0.19 | 4.82 |
| 3.65 | 0.17 | 0.63 | 5.00 | 4.62 | 0.18 | 4.81 |
| 3.70 | 0.17 | 0.63 | 5.00 | 4.62 | 0.17 | 4.79 |
| 3.75 | 0.17 | 0.63 | 5.00 | 4.62 | 0.16 | 4.78 |
| 3.80 | 0.17 | 0.63 | 5.00 | 4.62 | 0.15 | 4.77 |
| 3.85 | 0.16 | 0.63 | 5.00 | 4.62 | 0.14 | 4.76 |
| 3.90 | 0.17 | 0.63 | 5.00 | 4.62 | 0.13 | 4.75 |
| 3.95 | 0.17 | 0.63 | 5.00 | 4.62 | 0.12 | 4.74 |
| 4.00 | 0.17 | 0.63 | 5.00 | 4.62 | 0.11 | 4.73 |
| 4.05 | 0.17 | 0.63 | 5.00 | 4.62 | 0.10 | 4.72 |
| 4.10 | 0.16 | 0.63 | 5.00 | 4.62 | 0.09 | 4.71 |
| 4.15 | 0.16 | 0.63 | 5.00 | 4.62 | 0.08 | 4.71 |
| 4.20 | 0.17 | 0.63 | 5.00 | 4.62 | 0.08 | 4.70 |
| 4.25 | 0.17 | 0.62 | 5.00 | 4.62 | 0.07 | 4.70 |
| 4.30 | 0.18 | 0.62 | 5.00 | 4.62 | 0.07 | 4.69 |
| 4.35 | 0.18 | 0.62 | 5.00 | 4.62 | 0.06 | 4.69 |
| 4.40 | 0.18 | 0.62 | 5.00 | 4.62 | 0.06 | 4.68 |
| 4.45 | 0.18 | 0.62 | 5.00 | 4.62 | 0.06 | 4.68 |
| 4.50 | 0.19 | 0.62 | 5.00 | 4.62 | 0.05 | 4.67 |
| 4.55 | 0.19 | 0.62 | 5.00 | 4.62 | 0.05 | 4.67 |
| 4.60 | 0.19 | 0.62 | 5.00 | 4.62 | 0.04 | 4.66 |
| 4.65 | 0.20 | 0.62 | 5.00 | 4.62 | 0.03 | 4.66 |
| 4.70 | 0.20 | 0.62 | 5.00 | 4.62 | 0.03 | 4.65 |
| 4.75 | 0.21 | 0.62 | 5.00 | 4.62 | 0.02 | 4.65 |
| 4.80 | 0.22 | 0.62 | 5.00 | 4.62 | 0.02 | 4.64 |
| 4.85 | 0.25 | 0.62 | 5.00 | 4.62 | 0.01 | 4.64 |
| 4.90 | 0.26 | 0.62 | 5.00 | 4.62 | 0.01 | 4.63 |
| 4.95 | 0.27 | 0.62 | 5.00 | 4.62 | 0.00 | 4.63 |
| 5.00 | 0.29 | 0.62 | 0.46* | 4.62 | 0.00 | 4.62 |
| 5.05 | 0.33 | 0.63 | 0.53* | 4.61 | 0.00 | 4.61 |
| 5.10 | 0.39 | 0.63 | 0.62* | 4.61 | 0.00 | 4.61 |
| 5.15 | 0.43 | 0.63 | 0.68* | 4.60 | 0.00 | 4.60 |
| 5.20 | 0.45 | 0.64 | 0.71* | 4.59 | 0.00 | 4.59 |
| 5.25 | 0.47 | 0.64 | 0.74* | 4.59 | 0.00 | 4.59 |
| 5.30 | 0.48 | 0.64 | 0.75* | 4.58 | 0.00 | 4.58 |
| 5.35 | 0.48 | 0.65 | 0.74* | 4.58 | 0.00 | 4.58 |
| 5.40 | 0.47 | 0.65 | 0.72* | 4.57 | 0.00 | 4.57 |
| 5.45 | 0.45 | 0.65 | 0.70* | 4.57 | 0.00 | 4.57 |
| 5.50 | 0.45 | 0.65 | 0.69* | 4.56 | 0.00 | 4.56 |
| 5.55 | 0.45 | 0.66 | 0.68* | 4.55 | 0.00 | 4.55 |
| 5.60 | 0.44 | 0.66 | 0.67* | 4.55 | 0.00 | 4.55 |
| 5.65 | 0.44 | 0.66 | 0.67* | 4.54 | 0.00 | 4.54 |
| 5.70 | 0.44 | 0.67 | 0.66* | 4.53 | 0.00 | 4.53 |
| 5.75 | 0.44 | 0.67 | 0.65* | 4.53 | 0.00 | 4.53 |
| 5.80 | 0.43 | 0.67 | 0.64* | 4.52 | 0.00 | 4.52 |
| 5.85 | 0.43 | 0.67 | 0.63* | 4.51 | 0.00 | 4.51 |
| 5.90 | 0.42 | 0.68 | 0.62* | 4.51 | 0.00 | 4.51 |

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|---|---|---|---|---|---|---|
| 5.95 | 0.41 | 0.68 | 0.61* | 4.50 | 0.00 | 4.50 |
| 6.00 | 0.40 | 0.68 | 0.59* | 4.49 | 0.00 | 4.49 |
| 6.05 | 0.39 | 0.68 | 0.57* | 4.49 | 0.00 | 4.49 |
| 6.10 | 0.38 | 0.69 | 0.55* | 4.48 | 0.00 | 4.48 |
| 6.15 | 0.36 | 0.69 | 0.53* | 4.47 | 0.00 | 4.47 |
| 6.20 | 0.35 | 0.69 | 0.50* | 4.46 | 0.00 | 4.46 |
| 6.25 | 0.33 | 0.69 | 0.47* | 4.45 | 0.00 | 4.45 |
| 6.30 | 0.31 | 0.70 | 0.45* | 4.44 | 0.00 | 4.44 |
| 6.35 | 0.30 | 0.70 | 0.42* | 4.43 | 0.00 | 4.43 |
| 6.40 | 0.27 | 0.70 | 0.39* | 4.42 | 0.00 | 4.42 |
| 6.45 | 0.24 | 0.70 | 0.35* | 4.41 | 0.00 | 4.41 |
| 6.50 | 0.22 | 0.71 | 0.31* | 4.40 | 0.00 | 4.40 |
| 6.55 | 0.20 | 0.71 | 0.28* | 4.39 | 0.00 | 4.39 |
| 6.60 | 0.18 | 0.71 | 0.25* | 4.38 | 0.00 | 4.38 |
| 6.65 | 0.17 | 0.71 | 0.23* | 4.36 | 0.00 | 4.36 |
| 6.70 | 0.16 | 0.72 | 0.22* | 4.35 | 0.00 | 4.35 |
| 6.75 | 0.15 | 0.72 | 0.20* | 4.34 | 0.00 | 4.34 |
| 6.80 | 0.14 | 0.72 | 0.19* | 4.32 | 0.00 | 4.32 |
| 6.85 | 0.13 | 0.72 | 0.18* | 4.31 | 0.00 | 4.31 |
| 6.90 | 0.13 | 0.73 | 0.18* | 4.29 | 0.00 | 4.29 |
| 6.95 | 0.13 | 0.73 | 0.18* | 4.28 | 0.00 | 4.28 |
| 7.00 | 0.13 | 0.73 | 0.17* | 4.27 | 0.00 | 4.27 |
| 7.05 | 0.13 | 0.73 | 0.17* | 4.25 | 0.00 | 4.25 |
| 7.10 | 0.13 | 0.73 | 0.17* | 4.24 | 0.00 | 4.24 |
| 7.15 | 0.13 | 0.74 | 0.17* | 4.22 | 0.00 | 4.22 |
| 7.20 | 0.12 | 0.74 | 0.17* | 4.21 | 0.00 | 4.21 |
| 7.25 | 0.12 | 0.74 | 0.17* | 4.19 | 0.00 | 4.19 |
| 7.30 | 0.12 | 0.74 | 0.17* | 4.18 | 0.00 | 4.18 |
| 7.35 | 0.12 | 0.74 | 0.17* | 4.16 | 0.00 | 4.16 |
| 7.40 | 0.13 | 0.75 | 0.17* | 4.15 | 0.00 | 4.15 |
| 7.45 | 0.13 | 0.75 | 0.17* | 4.13 | 0.00 | 4.13 |
| 7.50 | 0.13 | 0.75 | 0.17* | 4.12 | 0.00 | 4.12 |
| 7.55 | 0.13 | 0.75 | 0.17* | 4.10 | 0.00 | 4.10 |
| 7.60 | 0.13 | 0.75 | 0.17* | 4.09 | 0.00 | 4.09 |
| 7.65 | 0.13 | 0.76 | 0.17* | 4.08 | 0.00 | 4.08 |
| 7.70 | 0.13 | 0.76 | 0.16* | 4.06 | 0.00 | 4.06 |
| 7.75 | 0.12 | 0.76 | 0.16* | 4.05 | 0.00 | 4.05 |
| 7.80 | 0.12 | 0.76 | 0.16* | 4.03 | 0.00 | 4.03 |
| 7.85 | 0.12 | 0.76 | 0.16* | 4.02 | 0.00 | 4.02 |
| 7.90 | 0.12 | 0.77 | 0.16* | 4.00 | 0.00 | 4.00 |
| 7.95 | 0.12 | 0.77 | 0.16* | 3.98 | 0.00 | 3.98 |
| 8.00 | 0.12 | 0.77 | 0.16* | 3.97 | 0.00 | 3.97 |
| 8.05 | 0.12 | 0.77 | 0.15* | 3.95 | 0.00 | 3.95 |
| 8.10 | 0.12 | 0.77 | 0.15* | 3.94 | 0.00 | 3.94 |
| 8.15 | 0.12 | 0.78 | 0.15* | 3.92 | 0.00 | 3.92 |
| 8.20 | 0.12 | 0.78 | 0.16* | 3.91 | 0.00 | 3.91 |
| 8.25 | 0.13 | 0.78 | 0.17* | 3.89 | 0.00 | 3.89 |
| 8.30 | 0.14 | 0.78 | 0.17* | 3.88 | 0.00 | 3.88 |
| 8.35 | 0.14 | 0.78 | 0.18* | 3.87 | 0.00 | 3.87 |
| 8.40 | 0.14 | 0.78 | 0.18* | 3.85 | 0.00 | 3.85 |

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|---|---|---|---|---|---|---|
| 8.45 | 0.14 | 0.79 | 0.18* | 3.84 | 0.00 | 3.84 |
| 8.50 | 0.14 | 0.79 | 0.18* | 3.83 | 0.00 | 3.83 |
| 8.55 | 0.13 | 0.79 | 0.17* | 3.82 | 0.00 | 3.82 |
| 8.60 | 0.14 | 0.79 | 0.17* | 3.80 | 0.00 | 3.80 |
| 8.65 | 0.14 | 0.79 | 0.18* | 3.79 | 0.00 | 3.79 |
| 8.70 | 0.15 | 0.79 | 0.19* | 3.77 | 0.00 | 3.77 |
| 8.75 | 0.16 | 0.80 | 0.21* | 3.76 | 0.00 | 3.76 |
| 8.80 | 0.17 | 0.80 | 0.22* | 3.75 | 0.00 | 3.75 |
| 8.85 | 0.17 | 0.80 | 0.22* | 3.73 | 0.00 | 3.73 |
| 8.90 | 0.17 | 0.80 | 0.21* | 3.72 | 0.00 | 3.72 |
| 8.95 | 0.17 | 0.80 | 0.21* | 3.71 | 0.00 | 3.71 |
| 9.00 | 0.18 | 0.80 | 0.22* | 3.69 | 0.00 | 3.69 |
| 9.05 | 0.18 | 0.81 | 0.22* | 3.68 | 0.00 | 3.68 |
| 9.10 | 0.18 | 0.81 | 0.23* | 3.67 | 0.00 | 3.67 |
| 9.15 | 0.19 | 0.81 | 0.23* | 3.65 | 0.00 | 3.65 |
| 9.20 | 0.19 | 0.81 | 0.24* | 3.64 | 0.00 | 3.64 |
| 9.25 | 0.19 | 0.81 | 0.24* | 3.63 | 0.00 | 3.63 |
| 9.30 | 0.19 | 0.81 | 0.24* | 3.61 | 0.00 | 3.61 |
| 9.35 | 0.19 | 0.82 | 0.23* | 3.60 | 0.00 | 3.60 |
| 9.40 | 0.18 | 0.82 | 0.23* | 3.59 | 0.00 | 3.59 |
| 9.45 | 0.18 | 0.82 | 0.22* | 3.58 | 0.00 | 3.58 |
| 9.50 | 0.17 | 0.82 | 0.21* | 3.56 | 0.00 | 3.56 |
| 9.55 | 0.17 | 0.82 | 0.21* | 3.55 | 0.00 | 3.55 |
| 9.60 | 0.16 | 0.82 | 0.20* | 3.54 | 0.00 | 3.54 |
| 9.65 | 0.16 | 0.82 | 0.20* | 3.53 | 0.00 | 3.53 |
| 9.70 | 0.16 | 0.83 | 0.19* | 3.51 | 0.00 | 3.51 |
| 9.75 | 0.16 | 0.83 | 0.19* | 3.50 | 0.00 | 3.50 |
| 9.80 | 0.15 | 0.83 | 0.19* | 3.49 | 0.00 | 3.49 |
| 9.85 | 0.15 | 0.83 | 0.18* | 3.48 | 0.00 | 3.48 |
| 9.90 | 0.15 | 0.83 | 0.17* | 3.46 | 0.00 | 3.46 |
| 9.95 | 0.14 | 0.83 | 0.17* | 3.45 | 0.00 | 3.45 |
| 10.00 | 0.13 | 0.83 | 0.16* | 3.44 | 0.00 | 3.44 |
| 10.05 | 0.12 | 0.84 | 0.15* | 3.42 | 0.00 | 3.42 |
| 10.10 | 0.12 | 0.84 | 0.14* | 3.41 | 0.00 | 3.41 |
| 10.15 | 0.12 | 0.84 | 0.14* | 3.39 | 0.00 | 3.39 |
| 10.20 | 0.11 | 0.84 | 0.14* | 3.38 | 0.00 | 3.38 |
| 10.25 | 0.11 | 0.84 | 0.13* | 3.36 | 0.00 | 3.36 |
| 10.30 | 0.11 | 0.84 | 0.13* | 3.35 | 0.00 | 3.35 |
| 10.35 | 0.11 | 0.84 | 0.13* | 3.33 | 0.00 | 3.33 |
| 10.40 | 0.10 | 0.85 | 0.12* | 3.32 | 0.00 | 3.32 |
| 10.45 | 0.10 | 0.85 | 0.12* | 3.30 | 0.00 | 3.30 |
| 10.50 | 0.10 | 0.85 | 0.11* | 3.28 | 0.00 | 3.28 |
| 10.55 | 0.10 | 0.85 | 0.11* | 3.26 | 0.00 | 3.26 |
| 10.60 | 0.10 | 0.85 | 0.12* | 3.25 | 0.00 | 3.25 |
| 10.65 | 0.10 | 0.85 | 0.12* | 3.23 | 0.00 | 3.23 |
| 10.70 | 0.10 | 0.85 | 0.12* | 3.21 | 0.00 | 3.21 |
| 10.75 | 0.10 | 0.85 | 0.12* | 3.19 | 0.00 | 3.19 |
| 10.80 | 0.10 | 0.86 | 0.12* | 3.17 | 0.00 | 3.17 |
| 10.85 | 0.11 | 0.86 | 0.13* | 3.16 | 0.00 | 3.16 |
| 10.90 | 0.11 | 0.86 | 0.13* | 3.14 | 0.00 | 3.14 |

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|---|---|---|---|---|---|---|
| 10.95 | 0.12 | 0.86 | 0.14* | 3.13 | 0.00 | 3.13 |
| 11.00 | 0.12 | 0.86 | 0.14* | 3.11 | 0.00 | 3.11 |
| 11.05 | 0.12 | 0.86 | 0.13* | 3.10 | 0.00 | 3.10 |
| 11.10 | 0.11 | 0.86 | 0.13* | 3.08 | 0.00 | 3.08 |
| 11.15 | 0.11 | 0.86 | 0.13* | 3.07 | 0.00 | 3.07 |
| 11.20 | 0.11 | 0.86 | 0.12* | 3.05 | 0.00 | 3.05 |
| 11.25 | 0.11 | 0.87 | 0.12* | 3.04 | 0.00 | 3.04 |
| 11.30 | 0.11 | 0.87 | 0.12* | 3.02 | 0.00 | 3.02 |
| 11.35 | 0.11 | 0.87 | 0.12* | 3.00 | 0.00 | 3.00 |
| 11.40 | 0.11 | 0.87 | 0.12* | 2.99 | 0.00 | 2.99 |
| 11.45 | 0.10 | 0.87 | 0.12* | 2.97 | 0.00 | 2.97 |
| 11.50 | 0.10 | 0.87 | 0.12* | 2.96 | 0.00 | 2.96 |
| 11.55 | 0.10 | 0.87 | 0.12* | 2.94 | 0.00 | 2.94 |
| 11.60 | 0.10 | 0.87 | 0.11* | 2.92 | 0.00 | 2.92 |
| 11.65 | 0.10 | 0.87 | 0.11* | 2.91 | 0.00 | 2.91 |
| 11.70 | 0.10 | 0.88 | 0.11* | 2.89 | 0.00 | 2.89 |
| 11.75 | 0.10 | 0.88 | 0.11* | 2.87 | 0.00 | 2.87 |
| 11.80 | 0.10 | 0.88 | 0.11* | 2.85 | 0.00 | 2.85 |
| 11.85 | 0.10 | 0.88 | 0.11* | 2.83 | 0.00 | 2.83 |
| 11.90 | 0.10 | 0.88 | 0.11* | 2.81 | 0.00 | 2.81 |
| 11.95 | 0.10 | 0.88 | 0.11* | 2.79 | 0.00 | 2.79 |
| 12.00 | 0.10 | 0.88 | 0.11* | 2.78 | 0.00 | 2.78 |
| 12.05 | 0.10 | 0.88 | 0.11* | 2.76 | 0.00 | 2.76 |
| 12.10 | 0.10 | 0.88 | 0.12* | 2.74 | 0.00 | 2.74 |
| 12.15 | 0.11 | 0.89 | 0.12* | 2.72 | 0.00 | 2.72 |
| 12.20 | 0.11 | 0.89 | 0.12* | 2.71 | 0.00 | 2.71 |
| 12.25 | 0.12 | 0.89 | 0.13* | 2.69 | 0.00 | 2.69 |
| 12.30 | 0.13 | 0.89 | 0.14* | 2.68 | 0.00 | 2.68 |
| 12.35 | 0.14 | 0.89 | 0.16* | 2.66 | 0.00 | 2.66 |
| 12.40 | 0.16 | 0.89 | 0.17* | 2.65 | 0.00 | 2.65 |
| 12.45 | 0.17 | 0.89 | 0.20* | 2.64 | 0.00 | 2.64 |
| 12.50 | 0.21 | 0.89 | 0.23* | 2.63 | 0.00 | 2.63 |
| 12.55 | 0.25 | 0.89 | 0.28* | 2.62 | 0.00 | 2.62 |
| 12.60 | 0.32 | 0.89 | 0.36* | 2.62 | 0.00 | 2.62 |
| 12.65 | 2.00 | 0.90 | 5.00 | 2.62 | 0.00 | 2.62 |
| 12.70 | 2.00 | 0.90 | 5.00 | 2.62 | 0.00 | 2.62 |
| 12.75 | 2.00 | 0.90 | 5.00 | 2.62 | 0.00 | 2.62 |
| 12.80 | 2.00 | 0.90 | 5.00 | 2.62 | 0.00 | 2.62 |
| 12.85 | 2.00 | 0.90 | 5.00 | 2.62 | 0.00 | 2.62 |
| 12.90 | 2.00 | 0.90 | 5.00 | 2.62 | 0.00 | 2.62 |
| 12.95 | 0.49 | 0.90 | 0.54* | 2.62 | 0.00 | 2.62 |
| 13.00 | 0.25 | 0.90 | 0.27* | 2.62 | 0.00 | 2.62 |
| 13.05 | 0.22 | 0.90 | 0.24* | 2.61 | 0.00 | 2.61 |
| 13.10 | 0.23 | 0.90 | 0.25* | 2.61 | 0.00 | 2.61 |
| 13.15 | 0.29 | 0.90 | 0.32* | 2.60 | 0.00 | 2.60 |
| 13.20 | 0.37 | 0.91 | 0.41* | 2.60 | 0.00 | 2.60 |
| 13.25 | 0.37 | 0.91 | 0.40* | 2.60 | 0.00 | 2.60 |
| 13.30 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.35 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.40 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |

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|---|---|---|---|---|---|---|
| 13.45 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.50 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.55 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.60 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.65 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.70 | 2.00 | 0.91 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.75 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.80 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.85 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.90 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 13.95 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.00 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.05 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.10 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.15 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.20 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.25 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.30 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.35 | 2.00 | 0.92 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.40 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.45 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.50 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.55 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.60 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.65 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.70 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.75 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.80 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.85 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.90 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 14.95 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.00 | 2.00 | 0.93 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.05 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.10 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.15 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.20 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.25 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.30 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.35 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.40 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.45 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.50 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.55 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.60 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.65 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.70 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.75 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.80 | 2.00 | 0.94 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.85 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 15.90 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |

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|---|---|---|---|---|---|---|
| 15.95 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 16.00 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 16.05 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 16.10 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 16.15 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 16.20 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 16.25 | 2.00 | 0.95 | 5.00 | 2.60 | 0.00 | 2.60 |
| 16.30 | 0.42 | 0.95 | 0.44* | 2.60 | 0.00 | 2.60 |
| 16.35 | 0.42 | 0.95 | 0.44* | 2.60 | 0.00 | 2.60 |
| 16.40 | 0.44 | 0.95 | 0.46* | 2.60 | 0.00 | 2.60 |
| 16.45 | 0.42 | 0.95 | 0.44* | 2.60 | 0.00 | 2.60 |
| 16.50 | 0.49 | 0.95 | 0.51* | 2.60 | 0.00 | 2.60 |
| 16.55 | 0.55 | 0.95 | 0.58* | 2.60 | 0.00 | 2.60 |
| 16.60 | 0.55 | 0.95 | 0.58* | 2.60 | 0.00 | 2.60 |
| 16.65 | 0.32 | 0.95 | 0.34* | 2.60 | 0.00 | 2.60 |
| 16.70 | 0.14 | 0.96 | 0.15* | 2.60 | 0.00 | 2.60 |
| 16.75 | 0.10 | 0.96 | 0.11* | 2.59 | 0.00 | 2.59 |
| 16.80 | 0.11 | 0.96 | 0.11* | 2.57 | 0.00 | 2.57 |
| 16.85 | 0.11 | 0.96 | 0.11* | 2.55 | 0.00 | 2.55 |
| 16.90 | 0.11 | 0.96 | 0.11* | 2.53 | 0.00 | 2.53 |
| 16.95 | 0.11 | 0.96 | 0.11* | 2.52 | 0.00 | 2.52 |
| 17.00 | 0.11 | 0.96 | 0.11* | 2.50 | 0.00 | 2.50 |
| 17.05 | 0.11 | 0.96 | 0.11* | 2.48 | 0.00 | 2.48 |
| 17.10 | 0.11 | 0.96 | 0.11* | 2.46 | 0.00 | 2.46 |
| 17.15 | 0.11 | 0.96 | 0.12* | 2.45 | 0.00 | 2.45 |
| 17.20 | 0.12 | 0.96 | 0.13* | 2.43 | 0.00 | 2.43 |
| 17.25 | 0.14 | 0.96 | 0.15* | 2.42 | 0.00 | 2.42 |
| 17.30 | 0.22 | 0.96 | 0.23* | 2.41 | 0.00 | 2.41 |
| 17.35 | 0.43 | 0.96 | 0.45* | 2.40 | 0.00 | 2.40 |
| 17.40 | 2.00 | 0.96 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.45 | 2.00 | 0.96 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.50 | 2.00 | 0.96 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.55 | 2.00 | 0.96 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.60 | 2.00 | 0.96 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.65 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.70 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.75 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.80 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.85 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.90 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 17.95 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.00 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.05 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.10 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.15 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.20 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.25 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.30 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.35 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.40 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |

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|---|---|---|---|---|---|---|
| 18.45 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.50 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.55 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.60 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.65 | 2.00 | 0.97 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.70 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.75 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.80 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.85 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.90 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 18.95 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.00 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.05 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.10 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.15 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.20 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.25 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.30 | 2.00 | 0.98 | 5.00 | 2.40 | 0.00 | 2.40 |
| 19.35 | 1.12 | 0.98 | 1.14 | 2.40 | 0.00 | 2.40 |
| 19.40 | 0.83 | 0.98 | 0.84* | 2.40 | 0.00 | 2.40 |
| 19.45 | 0.57 | 0.98 | 0.58* | 2.40 | 0.00 | 2.40 |
| 19.50 | 0.45 | 0.98 | 0.46* | 2.40 | 0.00 | 2.40 |
| 19.55 | 0.38 | 0.98 | 0.38* | 2.40 | 0.00 | 2.40 |
| 19.60 | 0.32 | 0.98 | 0.33* | 2.40 | 0.00 | 2.40 |
| 19.65 | 0.26 | 0.98 | 0.26* | 2.40 | 0.00 | 2.40 |
| 19.70 | 0.19 | 0.98 | 0.19* | 2.39 | 0.00 | 2.39 |
| 19.75 | 0.14 | 0.98 | 0.15* | 2.38 | 0.00 | 2.38 |
| 19.80 | 0.15 | 0.98 | 0.15* | 2.36 | 0.00 | 2.36 |
| 19.85 | 0.16 | 0.98 | 0.16* | 2.35 | 0.00 | 2.35 |
| 19.90 | 0.17 | 0.98 | 0.17* | 2.34 | 0.00 | 2.34 |
| 19.95 | 0.17 | 0.99 | 0.17* | 2.33 | 0.00 | 2.33 |
| 20.00 | 0.17 | 0.99 | 0.18* | 2.31 | 0.00 | 2.31 |
| 20.05 | 0.17 | 0.99 | 0.18* | 2.30 | 0.00 | 2.30 |
| 20.10 | 0.17 | 0.99 | 0.17* | 2.29 | 0.00 | 2.29 |
| 20.15 | 0.17 | 0.99 | 0.18* | 2.28 | 0.00 | 2.28 |
| 20.20 | 0.18 | 0.99 | 0.18* | 2.26 | 0.00 | 2.26 |
| 20.25 | 0.18 | 0.99 | 0.18* | 2.25 | 0.00 | 2.25 |
| 20.30 | 0.18 | 0.99 | 0.18* | 2.24 | 0.00 | 2.24 |
| 20.35 | 0.18 | 0.99 | 0.19* | 2.23 | 0.00 | 2.23 |
| 20.40 | 0.18 | 0.99 | 0.18* | 2.22 | 0.00 | 2.22 |
| 20.45 | 0.18 | 0.99 | 0.18* | 2.20 | 0.00 | 2.20 |
| 20.50 | 0.18 | 0.99 | 0.18* | 2.19 | 0.00 | 2.19 |
| 20.55 | 0.18 | 0.99 | 0.18* | 2.18 | 0.00 | 2.18 |
| 20.60 | 0.18 | 0.99 | 0.18* | 2.17 | 0.00 | 2.17 |
| 20.65 | 0.18 | 0.99 | 0.18* | 2.15 | 0.00 | 2.15 |
| 20.70 | 0.18 | 0.99 | 0.18* | 2.14 | 0.00 | 2.14 |
| 20.75 | 0.18 | 0.99 | 0.18* | 2.13 | 0.00 | 2.13 |
| 20.80 | 0.19 | 0.99 | 0.19* | 2.12 | 0.00 | 2.12 |
| 20.85 | 0.20 | 0.99 | 0.20* | 2.11 | 0.00 | 2.11 |
| 20.90 | 0.20 | 0.99 | 0.21* | 2.09 | 0.00 | 2.09 |

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|---|---|---|---|---|---|---|
| 20.95 | 0.21 | 0.99 | 0.21* | 2.08 | 0.00 | 2.08 |
| 21.00 | 0.22 | 0.99 | 0.22* | 2.07 | 0.00 | 2.07 |
| 21.05 | 0.22 | 0.99 | 0.23* | 2.06 | 0.00 | 2.06 |
| 21.10 | 0.22 | 0.99 | 0.22* | 2.05 | 0.00 | 2.05 |
| 21.15 | 0.21 | 0.99 | 0.21* | 2.04 | 0.00 | 2.04 |
| 21.20 | 0.20 | 0.99 | 0.20* | 2.03 | 0.00 | 2.03 |
| 21.25 | 0.19 | 0.99 | 0.19* | 2.02 | 0.00 | 2.02 |
| 21.30 | 0.19 | 0.99 | 0.19* | 2.01 | 0.00 | 2.01 |
| 21.35 | 0.18 | 0.99 | 0.18* | 1.99 | 0.00 | 1.99 |
| 21.40 | 0.18 | 0.99 | 0.19* | 1.98 | 0.00 | 1.98 |
| 21.45 | 0.19 | 0.99 | 0.19* | 1.97 | 0.00 | 1.97 |
| 21.50 | 0.19 | 1.00 | 0.19* | 1.96 | 0.00 | 1.96 |
| 21.55 | 0.19 | 1.00 | 0.19* | 1.95 | 0.00 | 1.95 |
| 21.60 | 0.18 | 1.00 | 0.19* | 1.93 | 0.00 | 1.93 |
| 21.65 | 0.19 | 1.00 | 0.19* | 1.92 | 0.00 | 1.92 |
| 21.70 | 0.19 | 1.00 | 0.19* | 1.91 | 0.00 | 1.91 |
| 21.75 | 0.19 | 1.00 | 0.19* | 1.90 | 0.00 | 1.90 |
| 21.80 | 0.20 | 1.00 | 0.20* | 1.89 | 0.00 | 1.89 |
| 21.85 | 0.21 | 1.00 | 0.22* | 1.88 | 0.00 | 1.88 |
| 21.90 | 0.23 | 1.00 | 0.23* | 1.87 | 0.00 | 1.87 |
| 21.95 | 0.25 | 1.00 | 0.25* | 1.86 | 0.00 | 1.86 |
| 22.00 | 0.26 | 1.00 | 0.27* | 1.85 | 0.00 | 1.85 |
| 22.05 | 0.28 | 1.00 | 0.28* | 1.84 | 0.00 | 1.84 |
| 22.10 | 0.28 | 1.00 | 0.28* | 1.84 | 0.00 | 1.84 |
| 22.15 | 0.28 | 1.00 | 0.28* | 1.83 | 0.00 | 1.83 |
| 22.20 | 0.27 | 1.00 | 0.27* | 1.83 | 0.00 | 1.83 |
| 22.25 | 0.26 | 1.00 | 0.26* | 1.82 | 0.00 | 1.82 |
| 22.30 | 0.25 | 1.00 | 0.25* | 1.82 | 0.00 | 1.82 |
| 22.35 | 0.23 | 1.00 | 0.23* | 1.81 | 0.00 | 1.81 |
| 22.40 | 0.22 | 1.00 | 0.22* | 1.80 | 0.00 | 1.80 |
| 22.45 | 0.21 | 1.00 | 0.21* | 1.79 | 0.00 | 1.79 |
| 22.50 | 0.20 | 1.00 | 0.19* | 1.78 | 0.00 | 1.78 |
| 22.55 | 0.18 | 1.00 | 0.18* | 1.77 | 0.00 | 1.77 |
| 22.60 | 0.16 | 1.00 | 0.16* | 1.76 | 0.00 | 1.76 |
| 22.65 | 0.14 | 1.00 | 0.14* | 1.74 | 0.00 | 1.74 |
| 22.70 | 0.14 | 1.00 | 0.14* | 1.73 | 0.00 | 1.73 |
| 22.75 | 0.14 | 1.00 | 0.14* | 1.72 | 0.00 | 1.72 |
| 22.80 | 0.14 | 1.00 | 0.14* | 1.70 | 0.00 | 1.70 |
| 22.85 | 0.15 | 1.00 | 0.15* | 1.69 | 0.00 | 1.69 |
| 22.90 | 0.16 | 1.00 | 0.16* | 1.68 | 0.00 | 1.68 |
| 22.95 | 0.22 | 1.00 | 0.22* | 1.66 | 0.00 | 1.66 |
| 23.00 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.05 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.10 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.15 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.20 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.25 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.30 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.35 | 2.00 | 1.00 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.40 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |

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| 23.45 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.50 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.55 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.60 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.65 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.70 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.75 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.80 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.85 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.90 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 23.95 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.00 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.05 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.10 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.15 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.20 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.25 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.30 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.35 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.40 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.45 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.50 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.55 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.60 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.65 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.70 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.75 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.80 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.85 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.90 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 24.95 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 25.00 | 2.00 | 1.01 | 5.00 | 1.66 | 0.00 | 1.66 |
| 25.05 | 0.27 | 1.01 | 0.26* | 1.66 | 0.00 | 1.66 |
| 25.10 | 0.18 | 1.01 | 0.18* | 1.66 | 0.00 | 1.66 |
| 25.15 | 0.16 | 1.01 | 0.16* | 1.65 | 0.00 | 1.65 |
| 25.20 | 0.16 | 1.01 | 0.16* | 1.63 | 0.00 | 1.63 |
| 25.25 | 0.17 | 1.01 | 0.16* | 1.62 | 0.00 | 1.62 |
| 25.30 | 0.17 | 1.01 | 0.16* | 1.61 | 0.00 | 1.61 |
| 25.35 | 0.16 | 1.01 | 0.16* | 1.60 | 0.00 | 1.60 |
| 25.40 | 0.16 | 1.01 | 0.15* | 1.59 | 0.00 | 1.59 |
| 25.45 | 0.15 | 1.01 | 0.15* | 1.58 | 0.00 | 1.58 |
| 25.50 | 0.15 | 1.01 | 0.14* | 1.57 | 0.00 | 1.57 |
| 25.55 | 0.14 | 1.01 | 0.14* | 1.56 | 0.00 | 1.56 |
| 25.60 | 0.14 | 1.01 | 0.14* | 1.54 | 0.00 | 1.54 |
| 25.65 | 0.12 | 1.02 | 0.12* | 1.53 | 0.00 | 1.53 |
| 25.70 | 0.11 | 1.02 | 0.11* | 1.52 | 0.00 | 1.52 |
| 25.75 | 0.11 | 1.02 | 0.11* | 1.50 | 0.00 | 1.50 |
| 25.80 | 0.12 | 1.02 | 0.12* | 1.48 | 0.00 | 1.48 |
| 25.85 | 0.12 | 1.02 | 0.12* | 1.47 | 0.00 | 1.47 |
| 25.90 | 0.12 | 1.02 | 0.12* | 1.46 | 0.00 | 1.46 |

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|---|---|---|---|---|---|---|
| 25.95 | 0.13 | 1.02 | 0.12* | 1.44 | 0.00 | 1.44 |
| 26.00 | 0.13 | 1.02 | 0.13* | 1.43 | 0.00 | 1.43 |
| 26.05 | 0.14 | 1.02 | 0.14* | 1.41 | 0.00 | 1.41 |
| 26.10 | 0.15 | 1.02 | 0.14* | 1.40 | 0.00 | 1.40 |
| 26.15 | 0.16 | 1.02 | 0.16* | 1.39 | 0.00 | 1.39 |
| 26.20 | 0.18 | 1.02 | 0.18* | 1.38 | 0.00 | 1.38 |
| 26.25 | 0.22 | 1.02 | 0.21* | 1.37 | 0.00 | 1.37 |
| 26.30 | 0.28 | 1.02 | 0.27* | 1.36 | 0.00 | 1.36 |
| 26.35 | 0.41 | 1.02 | 0.41* | 1.36 | 0.00 | 1.36 |
| 26.40 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.45 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.50 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.55 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.60 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.65 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.70 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.75 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.80 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.85 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.90 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 26.95 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.00 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.05 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.10 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.15 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.20 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.25 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.30 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.35 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.40 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.45 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.50 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.55 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.60 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.65 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.70 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.75 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.80 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.85 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.90 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 27.95 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.00 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.05 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.10 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.15 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.20 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.25 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.30 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.35 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.40 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |

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|---|---|---|---|---|---|---|
| 28.45 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.50 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.55 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.60 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.65 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.70 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.75 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.80 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.85 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.90 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 28.95 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.00 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.05 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.10 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.15 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.20 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.25 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.30 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.35 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.40 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.45 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.50 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.55 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.60 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.65 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.70 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.75 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.80 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.85 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.90 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 29.95 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.00 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.05 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.10 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.15 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.20 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.25 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.30 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.35 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.40 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.45 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.50 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.55 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.60 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.65 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.70 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.75 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.80 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.85 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 30.90 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |

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|---|---|---|---|---|---|---|
| 30.95 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.00 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.05 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.10 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.15 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.20 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.25 | 2.00 | 1.03 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.30 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.35 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.40 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.45 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.50 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.55 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.60 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.65 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.70 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.75 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.80 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.85 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.90 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 31.95 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.00 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.05 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.10 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.15 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.20 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.25 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.30 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.35 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.40 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.45 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.50 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.55 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.60 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.65 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.70 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.75 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.80 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.85 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.90 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 32.95 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.00 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.05 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.10 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.15 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.20 | 2.00 | 1.02 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.25 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.30 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.35 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.40 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |

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|---|---|---|---|---|---|---|
| 33.45 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.50 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.55 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.60 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.65 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.70 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.75 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.80 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.85 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.90 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 33.95 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 34.00 | 2.00 | 1.01 | 5.00 | 1.36 | 0.00 | 1.36 |
| 34.05 | 0.29 | 1.01 | 0.28* | 1.36 | 0.00 | 1.36 |
| 34.10 | 0.22 | 1.01 | 0.22* | 1.36 | 0.00 | 1.36 |
| 34.15 | 0.19 | 1.01 | 0.19* | 1.35 | 0.00 | 1.35 |
| 34.20 | 0.17 | 1.01 | 0.17* | 1.34 | 0.00 | 1.34 |
| 34.25 | 0.16 | 1.01 | 0.16* | 1.33 | 0.00 | 1.33 |
| 34.30 | 0.15 | 1.01 | 0.15* | 1.32 | 0.00 | 1.32 |
| 34.35 | 0.15 | 1.01 | 0.15* | 1.30 | 0.00 | 1.30 |
| 34.40 | 0.15 | 1.01 | 0.15* | 1.29 | 0.00 | 1.29 |
| 34.45 | 0.15 | 1.01 | 0.15* | 1.28 | 0.00 | 1.28 |
| 34.50 | 0.15 | 1.01 | 0.15* | 1.26 | 0.00 | 1.26 |
| 34.55 | 0.15 | 1.01 | 0.15* | 1.25 | 0.00 | 1.25 |
| 34.60 | 0.15 | 1.01 | 0.15* | 1.24 | 0.00 | 1.24 |
| 34.65 | 0.15 | 1.01 | 0.15* | 1.22 | 0.00 | 1.22 |
| 34.70 | 0.16 | 1.01 | 0.16* | 1.21 | 0.00 | 1.21 |
| 34.75 | 0.16 | 1.01 | 0.16* | 1.19 | 0.00 | 1.19 |
| 34.80 | 0.16 | 1.01 | 0.16* | 1.18 | 0.00 | 1.18 |
| 34.85 | 0.16 | 1.01 | 0.16* | 1.17 | 0.00 | 1.17 |
| 34.90 | 0.17 | 1.01 | 0.17* | 1.15 | 0.00 | 1.15 |
| 34.95 | 0.17 | 1.01 | 0.17* | 1.14 | 0.00 | 1.14 |
| 35.00 | 0.18 | 1.01 | 0.18* | 1.13 | 0.00 | 1.13 |
| 35.05 | 0.19 | 1.00 | 0.19* | 1.11 | 0.00 | 1.11 |
| 35.10 | 0.20 | 1.00 | 0.20* | 1.10 | 0.00 | 1.10 |
| 35.15 | 0.22 | 1.00 | 0.22* | 1.09 | 0.00 | 1.09 |
| 35.20 | 0.24 | 1.00 | 0.24* | 1.08 | 0.00 | 1.08 |
| 35.25 | 0.27 | 1.00 | 0.27* | 1.06 | 0.00 | 1.06 |
| 35.30 | 0.29 | 1.00 | 0.29* | 1.05 | 0.00 | 1.05 |
| 35.35 | 0.32 | 1.00 | 0.31* | 1.04 | 0.00 | 1.04 |
| 35.40 | 0.34 | 1.00 | 0.34* | 1.03 | 0.00 | 1.03 |
| 35.45 | 0.35 | 1.00 | 0.35* | 1.02 | 0.00 | 1.02 |
| 35.50 | 0.37 | 1.00 | 0.37* | 1.01 | 0.00 | 1.01 |
| 35.55 | 0.38 | 1.00 | 0.38* | 1.00 | 0.00 | 1.00 |
| 35.60 | 0.39 | 1.00 | 0.39* | 0.99 | 0.00 | 0.99 |
| 35.65 | 0.40 | 1.00 | 0.40* | 0.98 | 0.00 | 0.98 |
| 35.70 | 0.41 | 1.00 | 0.41* | 0.97 | 0.00 | 0.97 |
| 35.75 | 0.41 | 1.00 | 0.41* | 0.96 | 0.00 | 0.96 |
| 35.80 | 0.42 | 1.00 | 0.42* | 0.96 | 0.00 | 0.96 |
| 35.85 | 0.42 | 1.00 | 0.42* | 0.95 | 0.00 | 0.95 |
| 35.90 | 0.42 | 1.00 | 0.42* | 0.94 | 0.00 | 0.94 |

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|---|---|---|---|---|---|---|
| 35.95 | 0.42 | 1.00 | 0.42* | 0.93 | 0.00 | 0.93 |
| 36.00 | 0.42 | 1.00 | 0.42* | 0.92 | 0.00 | 0.92 |
| 36.05 | 0.42 | 1.00 | 0.42* | 0.92 | 0.00 | 0.92 |
| 36.10 | 0.41 | 1.00 | 0.41* | 0.91 | 0.00 | 0.91 |
| 36.15 | 0.41 | 1.00 | 0.41* | 0.90 | 0.00 | 0.90 |
| 36.20 | 0.39 | 1.00 | 0.40* | 0.89 | 0.00 | 0.89 |
| 36.25 | 0.38 | 1.00 | 0.38* | 0.89 | 0.00 | 0.89 |
| 36.30 | 0.36 | 1.00 | 0.36* | 0.88 | 0.00 | 0.88 |
| 36.35 | 0.36 | 1.00 | 0.37* | 0.87 | 0.00 | 0.87 |
| 36.40 | 0.37 | 1.00 | 0.37* | 0.87 | 0.00 | 0.87 |
| 36.45 | 0.37 | 1.00 | 0.37* | 0.86 | 0.00 | 0.86 |
| 36.50 | 0.37 | 1.00 | 0.37* | 0.85 | 0.00 | 0.85 |
| 36.55 | 0.36 | 1.00 | 0.36* | 0.84 | 0.00 | 0.84 |
| 36.60 | 0.35 | 1.00 | 0.35* | 0.84 | 0.00 | 0.84 |
| 36.65 | 0.34 | 1.00 | 0.34* | 0.83 | 0.00 | 0.83 |
| 36.70 | 0.34 | 1.00 | 0.34* | 0.82 | 0.00 | 0.82 |
| 36.75 | 0.36 | 0.99 | 0.36* | 0.81 | 0.00 | 0.81 |
| 36.80 | 0.37 | 0.99 | 0.38* | 0.80 | 0.00 | 0.80 |
| 36.85 | 0.39 | 0.99 | 0.39* | 0.79 | 0.00 | 0.79 |
| 36.90 | 0.41 | 0.99 | 0.41* | 0.78 | 0.00 | 0.78 |
| 36.95 | 0.41 | 0.99 | 0.42* | 0.77 | 0.00 | 0.77 |
| 37.00 | 0.42 | 0.99 | 0.42* | 0.77 | 0.00 | 0.77 |
| 37.05 | 0.42 | 0.99 | 0.42* | 0.76 | 0.00 | 0.76 |
| 37.10 | 0.42 | 0.99 | 0.43* | 0.75 | 0.00 | 0.75 |
| 37.15 | 0.42 | 0.99 | 0.43* | 0.74 | 0.00 | 0.74 |
| 37.20 | 0.42 | 0.99 | 0.43* | 0.73 | 0.00 | 0.73 |
| 37.25 | 0.42 | 0.99 | 0.42* | 0.73 | 0.00 | 0.73 |
| 37.30 | 0.42 | 0.99 | 0.42* | 0.72 | 0.00 | 0.72 |
| 37.35 | 0.41 | 0.99 | 0.42* | 0.71 | 0.00 | 0.71 |
| 37.40 | 0.41 | 0.99 | 0.41* | 0.70 | 0.00 | 0.70 |
| 37.45 | 0.40 | 0.99 | 0.40* | 0.69 | 0.00 | 0.69 |
| 37.50 | 0.40 | 0.99 | 0.40* | 0.69 | 0.00 | 0.69 |
| 37.55 | 0.41 | 0.99 | 0.42* | 0.68 | 0.00 | 0.68 |
| 37.60 | 0.44 | 0.99 | 0.45* | 0.67 | 0.00 | 0.67 |
| 37.65 | 0.48 | 0.99 | 0.48* | 0.66 | 0.00 | 0.66 |
| 37.70 | 0.52 | 0.99 | 0.53* | 0.66 | 0.00 | 0.66 |
| 37.75 | 0.56 | 0.99 | 0.57* | 0.65 | 0.00 | 0.65 |
| 37.80 | 0.61 | 0.99 | 0.61* | 0.65 | 0.00 | 0.65 |
| 37.85 | 0.62 | 0.99 | 0.63* | 0.64 | 0.00 | 0.64 |
| 37.90 | 0.63 | 0.99 | 0.64* | 0.64 | 0.00 | 0.64 |
| 37.95 | 0.63 | 0.99 | 0.64* | 0.64 | 0.00 | 0.64 |
| 38.00 | 0.63 | 0.99 | 0.64* | 0.64 | 0.00 | 0.64 |
| 38.05 | 0.63 | 0.99 | 0.64* | 0.63 | 0.00 | 0.63 |
| 38.10 | 0.63 | 0.99 | 0.64* | 0.63 | 0.00 | 0.63 |
| 38.15 | 0.63 | 0.99 | 0.64* | 0.63 | 0.00 | 0.63 |
| 38.20 | 0.64 | 0.99 | 0.65* | 0.63 | 0.00 | 0.63 |
| 38.25 | 0.67 | 0.99 | 0.68* | 0.63 | 0.00 | 0.63 |
| 38.30 | 0.71 | 0.98 | 0.72* | 0.63 | 0.00 | 0.63 |
| 38.35 | 0.75 | 0.98 | 0.76* | 0.63 | 0.00 | 0.63 |
| 38.40 | 0.79 | 0.98 | 0.81* | 0.63 | 0.00 | 0.63 |

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|---|---|---|---|---|---|---|
| 38.45 | 0.83 | 0.98 | 0.84* | 0.63 | 0.00 | 0.63 |
| 38.50 | 0.86 | 0.98 | 0.88* | 0.63 | 0.00 | 0.63 |
| 38.55 | 0.89 | 0.98 | 0.90* | 0.63 | 0.00 | 0.63 |
| 38.60 | 0.90 | 0.98 | 0.92* | 0.63 | 0.00 | 0.63 |
| 38.65 | 0.91 | 0.98 | 0.93* | 0.63 | 0.00 | 0.63 |
| 38.70 | 0.92 | 0.98 | 0.93* | 0.63 | 0.00 | 0.63 |
| 38.75 | 0.92 | 0.98 | 0.94* | 0.63 | 0.00 | 0.63 |
| 38.80 | 0.92 | 0.98 | 0.94* | 0.63 | 0.00 | 0.63 |
| 38.85 | 0.93 | 0.98 | 0.94* | 0.63 | 0.00 | 0.63 |
| 38.90 | 0.93 | 0.98 | 0.94* | 0.63 | 0.00 | 0.63 |
| 38.95 | 0.93 | 0.98 | 0.95* | 0.63 | 0.00 | 0.63 |
| 39.00 | 0.93 | 0.98 | 0.95* | 0.63 | 0.00 | 0.63 |
| 39.05 | 0.93 | 0.98 | 0.94* | 0.63 | 0.00 | 0.63 |
| 39.10 | 0.92 | 0.98 | 0.94* | 0.63 | 0.00 | 0.63 |
| 39.15 | 0.91 | 0.98 | 0.93* | 0.63 | 0.00 | 0.63 |
| 39.20 | 0.89 | 0.98 | 0.91* | 0.63 | 0.00 | 0.63 |
| 39.25 | 0.83 | 0.98 | 0.84* | 0.63 | 0.00 | 0.63 |
| 39.30 | 0.71 | 0.98 | 0.73* | 0.63 | 0.00 | 0.63 |
| 39.35 | 0.66 | 0.98 | 0.68* | 0.63 | 0.00 | 0.63 |
| 39.40 | 0.67 | 0.98 | 0.68* | 0.63 | 0.00 | 0.63 |
| 39.45 | 0.67 | 0.98 | 0.69* | 0.63 | 0.00 | 0.63 |
| 39.50 | 0.68 | 0.98 | 0.70* | 0.63 | 0.00 | 0.63 |
| 39.55 | 0.67 | 0.98 | 0.68* | 0.63 | 0.00 | 0.63 |
| 39.60 | 0.65 | 0.98 | 0.66* | 0.63 | 0.00 | 0.63 |
| 39.65 | 0.63 | 0.98 | 0.65* | 0.63 | 0.00 | 0.63 |
| 39.70 | 0.67 | 0.98 | 0.68* | 0.63 | 0.00 | 0.63 |
| 39.75 | 0.70 | 0.98 | 0.72* | 0.63 | 0.00 | 0.63 |
| 39.80 | 0.72 | 0.97 | 0.74* | 0.63 | 0.00 | 0.63 |
| 39.85 | 0.74 | 0.97 | 0.76* | 0.63 | 0.00 | 0.63 |
| 39.90 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 39.95 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 40.00 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 40.05 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 40.10 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 40.15 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 40.20 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 40.25 | 0.75 | 0.97 | 0.77* | 0.63 | 0.00 | 0.63 |
| 40.30 | 0.76 | 0.97 | 0.78* | 0.63 | 0.00 | 0.63 |
| 40.35 | 0.76 | 0.97 | 0.79* | 0.63 | 0.00 | 0.63 |
| 40.40 | 0.77 | 0.97 | 0.79* | 0.63 | 0.00 | 0.63 |
| 40.45 | 0.78 | 0.97 | 0.81* | 0.63 | 0.00 | 0.63 |
| 40.50 | 0.79 | 0.97 | 0.81* | 0.63 | 0.00 | 0.63 |
| 40.55 | 0.79 | 0.97 | 0.82* | 0.63 | 0.00 | 0.63 |
| 40.60 | 0.79 | 0.97 | 0.81* | 0.63 | 0.00 | 0.63 |
| 40.65 | 0.78 | 0.97 | 0.80* | 0.63 | 0.00 | 0.63 |
| 40.70 | 0.76 | 0.97 | 0.79* | 0.63 | 0.00 | 0.63 |
| 40.75 | 0.74 | 0.97 | 0.76* | 0.63 | 0.00 | 0.63 |
| 40.80 | 0.72 | 0.97 | 0.74* | 0.63 | 0.00 | 0.63 |
| 40.85 | 0.69 | 0.97 | 0.72* | 0.63 | 0.00 | 0.63 |
| 40.90 | 0.68 | 0.97 | 0.70* | 0.63 | 0.00 | 0.63 |

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|---|---|---|---|---|---|---|
| 40.95 | 0.66 | 0.97 | 0.69* | 0.63 | 0.00 | 0.63 |
| 41.00 | 0.65 | 0.97 | 0.68* | 0.63 | 0.00 | 0.63 |
| 41.05 | 0.64 | 0.97 | 0.66* | 0.63 | 0.00 | 0.63 |
| 41.10 | 0.63 | 0.97 | 0.65* | 0.63 | 0.00 | 0.63 |
| 41.15 | 0.61 | 0.97 | 0.64* | 0.63 | 0.00 | 0.63 |
| 41.20 | 0.59 | 0.97 | 0.62* | 0.63 | 0.00 | 0.63 |
| 41.25 | 0.58 | 0.96 | 0.60* | 0.63 | 0.00 | 0.63 |
| 41.30 | 0.58 | 0.96 | 0.60* | 0.63 | 0.00 | 0.63 |
| 41.35 | 0.56 | 0.96 | 0.58* | 0.63 | 0.00 | 0.63 |
| 41.40 | 0.54 | 0.96 | 0.56* | 0.63 | 0.00 | 0.63 |
| 41.45 | 0.54 | 0.96 | 0.57* | 0.63 | 0.00 | 0.63 |
| 41.50 | 0.56 | 0.96 | 0.58* | 0.62 | 0.00 | 0.62 |
| 41.55 | 0.57 | 0.96 | 0.60* | 0.62 | 0.00 | 0.62 |
| 41.60 | 0.58 | 0.96 | 0.61* | 0.62 | 0.00 | 0.62 |
| 41.65 | 0.60 | 0.96 | 0.62* | 0.62 | 0.00 | 0.62 |
| 41.70 | 0.60 | 0.96 | 0.62* | 0.61 | 0.00 | 0.61 |
| 41.75 | 0.58 | 0.96 | 0.61* | 0.61 | 0.00 | 0.61 |
| 41.80 | 0.56 | 0.96 | 0.59* | 0.61 | 0.00 | 0.61 |
| 41.85 | 0.54 | 0.96 | 0.57* | 0.60 | 0.00 | 0.60 |
| 41.90 | 0.49 | 0.96 | 0.51* | 0.60 | 0.00 | 0.60 |
| 41.95 | 0.40 | 0.96 | 0.42* | 0.60 | 0.00 | 0.60 |
| 42.00 | 0.45 | 0.96 | 0.46* | 0.59 | 0.00 | 0.59 |
| 42.05 | 0.44 | 0.96 | 0.46* | 0.58 | 0.00 | 0.58 |
| 42.10 | 0.43 | 0.96 | 0.45* | 0.57 | 0.00 | 0.57 |
| 42.15 | 0.43 | 0.96 | 0.45* | 0.57 | 0.00 | 0.57 |
| 42.20 | 0.44 | 0.96 | 0.46* | 0.56 | 0.00 | 0.56 |
| 42.25 | 0.47 | 0.96 | 0.49* | 0.55 | 0.00 | 0.55 |
| 42.30 | 0.49 | 0.96 | 0.51* | 0.55 | 0.00 | 0.55 |
| 42.35 | 0.50 | 0.96 | 0.52* | 0.54 | 0.00 | 0.54 |
| 42.40 | 0.50 | 0.96 | 0.52* | 0.54 | 0.00 | 0.54 |
| 42.45 | 0.47 | 0.96 | 0.50* | 0.53 | 0.00 | 0.53 |
| 42.50 | 0.45 | 0.96 | 0.47* | 0.53 | 0.00 | 0.53 |
| 42.55 | 0.42 | 0.96 | 0.44* | 0.52 | 0.00 | 0.52 |
| 42.60 | 0.39 | 0.96 | 0.41* | 0.51 | 0.00 | 0.51 |
| 42.65 | 0.38 | 0.96 | 0.39* | 0.50 | 0.00 | 0.50 |
| 42.70 | 0.37 | 0.95 | 0.38* | 0.49 | 0.00 | 0.49 |
| 42.75 | 0.35 | 0.95 | 0.37* | 0.49 | 0.00 | 0.49 |
| 42.80 | 0.33 | 0.95 | 0.35* | 0.48 | 0.00 | 0.48 |
| 42.85 | 0.31 | 0.95 | 0.33* | 0.47 | 0.00 | 0.47 |
| 42.90 | 0.30 | 0.95 | 0.32* | 0.46 | 0.00 | 0.46 |
| 42.95 | 0.29 | 0.95 | 0.31* | 0.45 | 0.00 | 0.45 |
| 43.00 | 0.29 | 0.95 | 0.31* | 0.44 | 0.00 | 0.44 |
| 43.05 | 0.29 | 0.95 | 0.31* | 0.44 | 0.00 | 0.44 |
| 43.10 | 0.29 | 0.95 | 0.31* | 0.43 | 0.00 | 0.43 |
| 43.15 | 0.30 | 0.95 | 0.31* | 0.42 | 0.00 | 0.42 |
| 43.20 | 0.30 | 0.95 | 0.31* | 0.42 | 0.00 | 0.42 |
| 43.25 | 0.30 | 0.95 | 0.32* | 0.41 | 0.00 | 0.41 |
| 43.30 | 0.30 | 0.95 | 0.32* | 0.40 | 0.00 | 0.40 |
| 43.35 | 0.31 | 0.95 | 0.32* | 0.40 | 0.00 | 0.40 |
| 43.40 | 0.31 | 0.95 | 0.32* | 0.39 | 0.00 | 0.39 |

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|---|---|---|---|---|---|---|
| 43.45 | 0.31 | 0.95 | 0.32* | 0.38 | 0.00 | 0.38 |
| 43.50 | 0.31 | 0.95 | 0.33* | 0.37 | 0.00 | 0.37 |
| 43.55 | 0.32 | 0.95 | 0.34* | 0.36 | 0.00 | 0.36 |
| 43.60 | 0.33 | 0.95 | 0.35* | 0.36 | 0.00 | 0.36 |
| 43.65 | 0.35 | 0.95 | 0.37* | 0.35 | 0.00 | 0.35 |
| 43.70 | 0.36 | 0.95 | 0.38* | 0.34 | 0.00 | 0.34 |
| 43.75 | 0.38 | 0.95 | 0.40* | 0.33 | 0.00 | 0.33 |
| 43.80 | 0.38 | 0.95 | 0.40* | 0.32 | 0.00 | 0.32 |
| 43.85 | 0.39 | 0.95 | 0.41* | 0.32 | 0.00 | 0.32 |
| 43.90 | 0.39 | 0.95 | 0.41* | 0.31 | 0.00 | 0.31 |
| 43.95 | 0.39 | 0.95 | 0.41* | 0.30 | 0.00 | 0.30 |
| 44.00 | 0.39 | 0.95 | 0.41* | 0.30 | 0.00 | 0.30 |
| 44.05 | 0.38 | 0.94 | 0.41* | 0.29 | 0.00 | 0.29 |
| 44.10 | 0.38 | 0.94 | 0.41* | 0.28 | 0.00 | 0.28 |
| 44.15 | 0.38 | 0.94 | 0.41* | 0.27 | 0.00 | 0.27 |
| 44.20 | 0.38 | 0.94 | 0.41* | 0.27 | 0.00 | 0.27 |
| 44.25 | 0.38 | 0.94 | 0.40* | 0.26 | 0.00 | 0.26 |
| 44.30 | 0.38 | 0.94 | 0.40* | 0.25 | 0.00 | 0.25 |
| 44.35 | 0.36 | 0.94 | 0.39* | 0.24 | 0.00 | 0.24 |
| 44.40 | 0.35 | 0.94 | 0.37* | 0.24 | 0.00 | 0.24 |
| 44.45 | 0.33 | 0.94 | 0.35* | 0.23 | 0.00 | 0.23 |
| 44.50 | 0.32 | 0.94 | 0.34* | 0.22 | 0.00 | 0.22 |
| 44.55 | 0.32 | 0.94 | 0.34* | 0.21 | 0.00 | 0.21 |
| 44.60 | 0.33 | 0.94 | 0.35* | 0.20 | 0.00 | 0.20 |
| 44.65 | 0.33 | 0.94 | 0.35* | 0.20 | 0.00 | 0.20 |
| 44.70 | 0.33 | 0.94 | 0.35* | 0.19 | 0.00 | 0.19 |
| 44.75 | 0.32 | 0.94 | 0.34* | 0.19 | 0.00 | 0.19 |
| 44.80 | 0.31 | 0.94 | 0.33* | 0.18 | 0.00 | 0.18 |
| 44.85 | 0.31 | 0.94 | 0.33* | 0.17 | 0.00 | 0.17 |
| 44.90 | 0.29 | 0.94 | 0.31* | 0.17 | 0.00 | 0.17 |
| 44.95 | 0.28 | 0.94 | 0.30* | 0.16 | 0.00 | 0.16 |
| 45.00 | 0.26 | 0.94 | 0.28* | 0.15 | 0.00 | 0.15 |
| 45.05 | 0.25 | 0.94 | 0.27* | 0.14 | 0.00 | 0.14 |
| 45.10 | 0.24 | 0.94 | 0.26* | 0.13 | 0.00 | 0.13 |
| 45.15 | 0.23 | 0.94 | 0.25* | 0.12 | 0.00 | 0.12 |
| 45.20 | 0.22 | 0.94 | 0.23* | 0.11 | 0.00 | 0.11 |
| 45.25 | 0.21 | 0.94 | 0.23* | 0.10 | 0.00 | 0.10 |
| 45.30 | 0.21 | 0.94 | 0.22* | 0.09 | 0.00 | 0.09 |
| 45.35 | 0.21 | 0.94 | 0.22* | 0.08 | 0.00 | 0.08 |
| 45.40 | 0.22 | 0.93 | 0.24* | 0.07 | 0.00 | 0.07 |
| 45.45 | 0.28 | 0.93 | 0.29* | 0.06 | 0.00 | 0.06 |
| 45.50 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.55 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.60 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.65 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.70 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.75 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.80 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.85 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 45.90 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |

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|---|---|---|---|---|---|---|
| 45.95 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.00 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.05 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.10 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.15 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.20 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.25 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.30 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.35 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.40 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.45 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.50 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.55 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.60 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.65 | 2.00 | 0.93 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.70 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.75 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.80 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.85 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.90 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 46.95 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.00 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.05 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.10 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.15 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.20 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.25 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.30 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.35 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.40 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.45 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.50 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.55 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.60 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.65 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.70 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.75 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.80 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.85 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.90 | 2.00 | 0.92 | 5.00 | 0.06 | 0.00 | 0.06 |
| 47.95 | 0.62 | 0.91 | 0.68* | 0.06 | 0.00 | 0.06 |
| 48.00 | 0.48 | 0.91 | 0.52* | 0.06 | 0.00 | 0.06 |
| 48.05 | 0.45 | 0.91 | 0.49* | 0.06 | 0.00 | 0.06 |
| 48.10 | 0.45 | 0.91 | 0.50* | 0.06 | 0.00 | 0.06 |
| 48.15 | 0.46 | 0.91 | 0.51* | 0.06 | 0.00 | 0.06 |
| 48.20 | 0.47 | 0.91 | 0.52* | 0.06 | 0.00 | 0.06 |
| 48.25 | 0.48 | 0.91 | 0.53* | 0.06 | 0.00 | 0.06 |
| 48.30 | 0.48 | 0.91 | 0.53* | 0.06 | 0.00 | 0.06 |
| 48.35 | 0.49 | 0.91 | 0.53* | 0.06 | 0.00 | 0.06 |
| 48.40 | 0.48 | 0.91 | 0.53* | 0.06 | 0.00 | 0.06 |

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|---|---|---|---|---|---|---|
| 48.45 | 0.48 | 0.91 | 0.52* | 0.06 | 0.00 | 0.06 |
| 48.50 | 0.47 | 0.91 | 0.51* | 0.06 | 0.00 | 0.06 |
| 48.55 | 0.46 | 0.91 | 0.50* | 0.06 | 0.00 | 0.06 |
| 48.60 | 0.45 | 0.91 | 0.49* | 0.06 | 0.00 | 0.06 |
| 48.65 | 0.44 | 0.91 | 0.49* | 0.06 | 0.00 | 0.06 |
| 48.70 | 0.43 | 0.91 | 0.47* | 0.06 | 0.00 | 0.06 |
| 48.75 | 0.40 | 0.91 | 0.45* | 0.06 | 0.00 | 0.06 |
| 48.80 | 0.38 | 0.91 | 0.42* | 0.06 | 0.00 | 0.06 |
| 48.85 | 0.36 | 0.91 | 0.39* | 0.06 | 0.00 | 0.06 |
| 48.90 | 0.33 | 0.91 | 0.37* | 0.05 | 0.00 | 0.05 |
| 48.95 | 0.32 | 0.91 | 0.35* | 0.05 | 0.00 | 0.05 |
| 49.00 | 0.30 | 0.91 | 0.33* | 0.04 | 0.00 | 0.04 |
| 49.05 | 0.29 | 0.91 | 0.33* | 0.03 | 0.00 | 0.03 |
| 49.10 | 0.29 | 0.91 | 0.32* | 0.03 | 0.00 | 0.03 |
| 49.15 | 0.31 | 0.91 | 0.34* | 0.02 | 0.00 | 0.02 |
| 49.20 | 0.40 | 0.90 | 0.44* | 0.02 | 0.00 | 0.02 |
| 49.25 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.30 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.35 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.40 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.45 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.50 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.55 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.60 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.65 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.70 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.75 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.80 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.85 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.90 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 49.95 | 2.00 | 0.90 | 5.00 | 0.02 | 0.00 | 0.02 |
| 50.00 | 0.10 | 0.90 | 0.12* | 0.02 | 0.00 | 0.02 |
| 50.05 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.10 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.15 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.20 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.25 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.30 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.35 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.40 | 2.00 | 0.90 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.45 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.50 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.55 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.60 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.65 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.70 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.75 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.80 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.85 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 50.90 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 50.95 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |
| 51.00 | 2.00 | 0.89 | 5.00 | 0.00 | 0.00 | 0.00 |

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

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1 atm (atmosphere) = 1 tsf (ton/ft2)
CRRm Cyclic resistance ratio from soils
CSRsf Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat Settlement from saturated sands
S_dry Settlement from Unsaturated Sands
S_all Total Settlement from Saturated and Unsaturated Sands
NoLiq No-Liquefy Soils