Attachment 8
to RFP for Design Build Entity Firm

JUDICIAL COUNCIL OF CALIFORNIA

DESIGN BUILD PROJECT DOCUMENTS

PROJECT: New Ukiah Courthouse

PROJECT NO: 0000092

DATE: March 6, 2023

JUDICIAL COUNCIL
OF CALIFORNIA

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DESIGN BUILD

The Judicial Council is authorized to utilize the design-build delivery method pursuant to Government Code section 70398, et seq. These are the Project Documents for the Judicial Council of California's ("Judicial Council") project to design and construct the New Ukiah Courthouse for Mendocino County ("Project"), delivered utilizing the design-build delivery method.

EXPLANATION OF PROJECT MANUAL & DISCLAIMER

This Project Documents are intended to organize and provide documents pertaining to the project for informational purposes or for use as references. The Project Documents shall not serve as a listing of contract documents or an order of precedence for the interpretation of the Contract Documents. The listing of Contract Documents and the order of precedence for interpreting the Contract Documents is set forth in the Design Build Agreement. The Project Documents may be expanded to incorporate additional documents and informational items as the Project progresses if warranted.

The Project Documents are organized into three sections: **Section A)** intended to identify those documents considered **Contract Documents**; **Section B)** intended to identify informational documents that are provided to Design Build Entity by Judicial Council for technical reference; and **Section C**) intended to provide other informational items or administrative documents that may be pertinent to the Project.

SECTION A - CONTRACT DOCUMENTS

The documents considered in this **Section A** of the Project Documents are "Contract Documents" and consist of those documents as identified in Article 6.2 of the Agreement and should be interpreted consistent with the order of precedence therein.

SECTION B – JUDICIAL COUNCIL PROVIDED INFORMATION

The Documents included in this Section B of the Project Documents are provided by the Judicial Council for informational purposes only. These documents are made available for the convenience of Design Build Entity **for reference only** and are not considered part of the Contract Documents. The information is provided subject to the provisions of the General Conditions (**Exhibit A** to the Agreement).

1. Preliminary Geotechnical Report;
2. Design Review Table;
3. Judicial Council's OSFM Code Checklist

GEOTECHNICAL ENGINEERING SERVICES REPORT

For the
FORMER UKIAH RAIL YARD PROPERTY

309 Perkins Street, Ukiah California

Prepared for
Weston Solutions, Inc.
190 Queens Anne Ave North, Suite 200
Seattle, WA 98109

Prepared by
Professional Service Industries, Inc.
4703 Tidewater Avenue, Suite B
Oakland, California 94601
Telephone (510) 434-9200

PSI PROJECT NO. 575-249

February 17, 2011

Information To Build On
Engineering • Consulting • Testing

February 17, 2011

Mr. Greg Stuesse
Weston Solutions, Inc.
190 Queens Anne Ave North, Suite 200
Seattle, WA 98109

Subject: **Preliminary Geotechnical Engineering Services Report**
Former Ukiah Rail Yard Property
309 East Perkins Street
Ukiah, California
PSI Project No. 575-249

Dear Mr. Stuesse:

Professional Service Industries, Inc. (PSI) is pleased to submit our Preliminary Geotechnical Engineering Services Report for the subject project in Ukiah, California. The purpose of our evaluation was to provide information to help evaluate the viability of the proposed project and to provide preliminary recommendations for site development. Our conclusions and recommendations are preliminary and are intended to assist you in a planning level of effort. Additional exploration will be required at a later stage in the project to meet local code, permit submittal requirements and to further define the site conditions. Our evaluation was completed in general accordance with the scope of work as outlined in our Proposal Number 575-35143-R1, dated December 16, 2010. Written authorization, in the form of a P.O. was provided by your office on December 20, 2010. We are enclosing this summary letter along with our preliminary geotechnical engineering services report for your review.

Summary of Results

In order to evaluate soil conditions at the site, six soil borings were advanced using a truck-mounted, hollow-stem auger drill rig. The borings were advanced to depths of approximately 10 to 50 feet below the ground surface (bgs). Locations of the soil borings are shown on Figure 2. Logs of the soil borings are presented in Appendix A.

The soils encountered in our borings consist primarily of approximately 7 feet of medium to dark brown clay, clayey silt and silty to gravelly clay overlying interbedded layers of sandy gravel and gravelly sand with cobbles to the total depth explored of 50 feet bgs. The consistency of the materials was observed to range from very soft to hard for silts and clays, and loose to very dense for sands and gravels. Fill material with wood fragments was encountered in B-4 to a depth of approximately 10 feet bgs overlaying by what appeared to be a concrete slab. Groundwater was encountered between approximately 5 and 8 feet bgs, and bedrock was not encountered in our borings.

We note that generally the upper seven feet of the soils encountered in our borings were soft to very soft in consistency. Soils below this depth were generally more dense and hard.

Summary of Preliminary Recommendations

Based on the limited information provided, we understand several one to three story buildings are planned.

For single-story light to moderately-loaded structures, we anticipate that the proposed buildings can be supported on a conventional shallow spread footings, when underlain by properly placed and compacted, engineered fill. Below grade structures should be supported on mat foundations appropriately designed by the Structural Engineer.

For a three-story structure and due to the soft upper ±7 feet of soils encountered, site development will not be routine. Furthermore consolidation testing indicates somewhat compressive soils at relatively low bearing pressures. Options for foundation support include surcharging the building footprints and areas beyond the footprints to essentially consolidate the soils prior to foundation construction. This is a time expense (site is filled to a certain level and left to consolidate) and would most likely require off site fill as surcharge material. An additional option is to utilize an intermediate foundation support system such as rammed aggregate piers for foundation and floor slab support. Piers would be extended to the dense layer at ±7 feet below grade. Another option notes involves over-excavation to dense/hard layer and replacement of this area. Portions of the on-site soils could possibly be utilized as backfill of this area but the groundwater elevation will complicate this option, possibly requiring the use of geogrids and off site rock to bridge the lower zone of the excavation.

We note that the site has some environmental history and is undergoing a current environmental study by others. The results of this study could impact our recommendations with regard to soil excavation and replacement, and geopiers if contaminated soils are discovered on site.

These recommendations are based on our limited study and should be considered preliminary in nature - they should not be used for project design. **Dependant upon the results of a full geotechnical investigation and detailed liquefaction analysis, these preliminary values are subject to change.**

Please refer to the attached report for a more detailed summary of our analyses and recommendations. If we can provide additional assistance, or observation and testing services during construction, please do not hesitate to contact us at (510) 434-9200.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

John Q. Kavinga, PE
Project Engineer
PE No. 73671

John Q. Kavinga, PE
Project Engineer

Frank Poss
Department Manager

Reviewed by: Stephen Bryant
Principal Consultant

(1 copy submitted)

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Preliminary Geotechnical Engineering Services Report
Former Ukiah Rail Yard Property
309 East Perkins Street, Ukiah, California
PSI Project No. 575-249
February 17, 2011

1.0 Introduction

Professional Service Industries, Inc. (PSI) has conducted a geotechnical evaluation for the subject project site in general accordance with the scope of work as outlined in our Proposal Number 575-35143-R1, dated December 16, 2010. Written authorization, in the form of a Purchase Order (#12964) was provided by your office on December 20, 2010.

2.0 Project Location and Description

The project site is located about ⅓ mile west of Highway 101; near the southwest corner of the intersection of Leslie Street and E. Perkins Street in Ukiah, California (see Figure 1 – Site Location Map). Based on information provided in your Request for Proposal, the site consists of four parcels (Assessor's Parcel Numbers 002-232-12 and 13 and 002-282-18 and 19), which measure approximately 10 acres in total plan area.

PSI understands that Weston Solutions, Inc. (Weston) is currently conducting extensive environmental investigations at the site. Based on conversations with Mr. Greg Stuesse of Weston, previous environmental investigations at the subject property have not identified highly contaminated subsurface materials. However, soil and groundwater impacted material have been identified at the site with elevated concentrations found primarily in the southwest corner of the property.

PSI understands that it is currently proposed to develop the site with a number of structures for office and retail/commercial use. While most of the structures are planned as single-story, one structure may include three stories above grade with one floor below grade. At the time of our study, the number and locations of the proposed structural improvements at the site had not been identified. Due to the presence of shallow groundwater and potential for encountering environmentally impacted soil, below grade development may be problematic.

While detailed construction information such as construction type and structural loading was not provided, however, based on our experience with this type of construction, loading for the proposed development will generally be in the order of 100 to 300 kips for column loads and 2 to 8 kips per linear foot for continuous footings. We assume that final grades will generally be close to existing and cuts and fills over much of the site will be limited to 2 feet, except as necessary for the proposed below grade floor where cuts of up to about 10 feet are expected, if below grade development is deemed feasible.

Any changes to the project from that stated above will need to be addressed at the time the information becomes available. Additional improvements will include associated utilities, concrete flatwork and asphalt-paved parking.

3.0 Purpose and Scope of Work

The purpose of our preliminary evaluation was to provide information to help evaluate the viability of the proposed project and to provide preliminary recommendations for site development. Our evaluation was in general accordance with the scope of work outlined in our Proposal Number 575-35143-R1, dated December 16, 2010.

Our scope of services included a total of six Standard Penetration Test (SPT) borings, drilled to a depth of up to approximately 50 feet bgs, and the preparation of this geotechnical report. This report briefly outlines the testing procedures, presents available project information, describes the site and subsurface conditions, and presents the following:

- Project Information.
- Site Topographic Information and Surface Conditions.
- Review of Subsurface Conditions including groundwater.
- Review of Field and Laboratory Test Procedures and Test Data.
- Information on potentially expansive, deleterious or corrosive materials, if any.
- Figures including a site plan with boring locations and boring logs.
- CBC seismic design parameters (CBC, 2010).
- Cut/fill considerations, including an assessment as to the suitability of on-site soils for use as fill.
- Preliminary recommendations pertaining to design and construction of foundation and floor slabs including allowable soil bearing pressures, anticipated bearing depths and estimated settlements.

3.1 Pre-Field Activities

Prior to initiation of field drilling activities, boring locations were outlined in white paint and a representative of PSI contacted Underground Service Alert (USA) a minimum of 48 hours prior to beginning work to locate any potential buried utilities. The USA inquiry identification number (or “Ticket Number”) for the utility locate request was #0001686.

3.2 Subsurface Exploration

In order to evaluate soil conditions at the site, six soil borings were advanced to depths of approximately 10 to 50 feet below the ground surface (bgs) using a truck-mounted, hollow-stem auger drill rig. As directed by you, the borings were advanced in the approximate locations shown on the site plan provided by your office. The locations of the soil borings are shown on

Figure 2 – Site Plan and Boring Location Map. Logs of the borings are presented in Appendix A.

During the sampling procedure, Standard Penetration Tests (SPT) were performed, and relatively undisturbed samples were obtained utilizing a 3-inch diameter California split-spoon sampler. The SPT for soil borings is performed by driving a 2-inch, O.D. split-spoon sampler into the undisturbed formation located at the bottom of the advanced borehole with repeated blows of a 140-pound hammer falling a vertical distance of 30 inches. The number of blows required to drive the sampler the last 12 inches of an 18-inch penetration depth is a measure of the soil consistency (see Appendix A). The blow count obtained from the California sampler (indicated on the logs as SS) should be reduced by approximately 40% to obtain a rough correlation to SPT blow counts (N-value). Samples were identified in the field, placed in sealed containers and transported to the laboratory for further classification and testing.

At the completion of each boring the resultant borehole was backfilled with cement grout to the surface. Due to the possible presence of environmental contamination at the site, the drill cuttings from the borings were contained in Department of Transportation-approved, 55-gallon drums. Ten drums generated were labeled with the contents, date, consultant name, and project number, and left at the site for characterization and proper disposal at a later time. PSI understands that Weston Solutions, Inc. is responsible for the removal of the drums.

3.3 Laboratory Evaluation

Selected samples of the subsurface soils encountered were returned to our laboratory for further evaluation to aid in classification of the materials, and to help assess their strength, expansive nature and compressibility characteristics. The laboratory evaluation consisted of visual and textural examinations, moisture and density tests, sieve analysis, Atterberg Limits testing, direct shear, triaxial shear, and consolidation testing. Sulfate, chloride, and pH testing were also performed to evaluate the corrosive potential of the site soils. A brief discussion of the laboratory tests performed and a portion of the test results are presented in Appendix B. The remainder of the test results are shown on the boring logs (Appendix A) and in the body of the report.

3.4 Engineering Analyses

Engineering analyses and preliminary recommendations regarding general foundation design including allowable soil bearing pressures, minimum footing depth requirements, and estimates of foundation settlement are included in this report.

Our conclusions and recommendations are preliminary and are intended to assist you in a planning level of effort. Additional exploration will be required at a later stage in the project to meet local code and permit submittal requirements.

4.0 Surface and Subsurface Features

4.1 Site Description

The project site consists of four adjoining parcels, which together are roughly rectangular in shape and measure approximately 10 acres in total plan area. At the time of our fieldwork, the site was vacant, surfaced with shrubs, weeds and seasonal grasses across the site. The site is bounded to the north by E. Perkins Street, to the east by commercial / light industrial properties, to the west by a railroad tracks and to the south by single family residences (see Figure 2). Current access to the site is from E. Perkins Street. The site has a gentle slope towards the southeast, with an elevation (estimated from the Ukiah, California USGS topographic map) of approximately 600 feet above mean sea level.

4.2 Site Geology

The subject site is located within a large region known as the Coast Ranges geomorphic province. This province is characterized by extensively folded, faulted, and fractured earth materials. These structural features trend in a northwesterly direction and make up the prominent system of northwest-trending mountain ranges separated by straight-sided sediment-filled valleys (CGS, 2002).

The subject site is situated on the alluvial plain within the Ukiah Valley, approximately 1 mile west of the Russian River and 3 miles southwest of Mendocino Lake. Gibson Creek crosses the site near its northern boundary. Our observations and analysis of readily available, pertinent geologic literature indicate that the subject site is underlain primarily by Quaternary-aged alluvial deposits (CDMG, 1960).

4.3 Soil Conditions

The soils encountered in our borings consist primarily of approximately 7 feet of medium to dark brown clay, clayey silt and silty to gravelly clay overlying interbedded layers of sandy gravel and gravelly sand with cobbles to the total depth explored of 50 feet bgs. The consistency of the materials was observed to range from very soft to hard for silts and clays, and loose to very dense for sands and gravels. Fill material with wood fragments was encountered in B-4 to a depth of approximately 10 feet bgs by what appeared to be a concrete slab. Bedrock was not encountered in our borings.

The soil profile described above is generalized to highlight the major subsurface stratification features and material characteristics. The boring logs, included in Appendix A, should be reviewed for specific information at the individual exploration locations. These records include soil descriptions, stratifications, and locations of the samples and laboratory test data. The stratifications shown on the logs represent the conditions only at the actual exploration locations. Variations may occur and should be expected between exploration locations. The

stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual. The samples that were not altered by laboratory testing will be retained for 90 days from the date of this report and then will be discarded.

Testing was performed to evaluate the corrosivity of the on-site soils and the potential for attack on concrete. The testing included pH, sulfate and chloride. The results of the chemical analysis are as follows:

Boring Number	Sample Depth (feet)	pH	Water Soluble Sulfates (ppm)	Water Soluble Chlorides (ppm)	Corrosivity (Ohms-cm)
B-1	<5	5.7	2.67	23	5,300

4.4 Groundwater

Groundwater was encountered in the borings at depths of between approximately 5 and 8 feet bgs. It is possible that transient, saturated ground conditions at shallower depths could develop at a later time due to periods of heavy precipitation, landscape watering, leaking water lines, or other unforeseen causes. Variations in groundwater levels should be expected seasonally, annually, and from location to location. Groundwater may affect the proposed construction, especially the proposed below-grade floors whose slabs may be below the groundwater level. Additionally, volatile organic compound (VOC) and/or petroleum hydrocarbon impacted groundwater may preclude below-grade development.

5.0 Seismic Considerations

5.1 Regional Seismicity

Generally, seismicity within California can be attributed to faulting due to regional tectonic movement. This includes the San Andreas Fault, the Maacama - Gerberville Fault, and most parallel and subparallel faulting within the State. The portion of California which includes the subject site is considered seismically active. Seismic hazards within the site can be attributed to potential groundshaking resulting from earthquake events along nearby or more distant faulting.

According to regional geologic literature (Blake, 2000), the closest known late Quaternary fault is the Maacama - Gerberville Fault, located approximately 2.1 miles (3.4 km) east of the site. According to the Ukiah Quadrangle Special Studies Zone Map (CDMG, 1982), the closest trace of the fault is located approximately 1.3 miles east of the site. Several potentially active and pre-Quaternary faults also occur within the regional vicinity.

The site is subject to a Maximum Magnitude Event of 7.5 Magnitude along the Maacama - Gerberville Fault, with a corresponding Peak Ground Acceleration of 0.51g. The Maximum Magnitude Event is defined as the maximum earthquake that appears capable of occurring under the presently known tectonic framework. According to the California Geological Survey website, the site has a probabilistic site acceleration (10% probability of exceedance in 50 years) of 0.57g.

5.2 Seismic Analysis

According to the Alquist-Priolo Special Studies Zones Act of 1972 (revised 1994), active faults are those that have been shown to display surface rupture during the last 11,000 years (i.e., Holocene time). This site is not currently situated within a mapped Earthquake Fault Zone (CDMG, 1982).

The site will be affected by seismic shaking as a result of earthquakes on major active faults located throughout the northern California area. As part of the 2010 California Building Code, the design of structures must consider dynamic forces resulting from seismic events. These forces are dependant upon the magnitude of the earthquake event as well as the properties of the soils that underlie the site. As part of the procedure to evaluate seismic forces, the code requires the evaluation of the Seismic Site Class, which categorizes the site based upon the characteristics of the subsurface profile within the upper 100 feet of the ground surface.

To define the Site Class for this project, we interpreted the results of our soil test borings drilled within the project site and estimated appropriate soil properties below the base of the borings to a depth of 100 feet. The estimated soil properties were based upon data available in published geologic reports as well as our experience with subsurface conditions in the general site area. Based upon this, the subsurface conditions within the site are consistent within the characteristics of Site Class D (stiff soil profile).

The USGS-NEHRP probabilistic ground acceleration values for the site (latitude 39.1492° and longitude -123.2032°) obtained from the USGS geohazards web page are as follows:

Period (seconds)	2% Probability of Event in 50 years (g)	Site Coefficient F_a	Site Coefficient F_v
0.2 (Ss)	2.062	1.0	N/A
1.0 (S1)	0.984	N/A	1.5

The site Coefficients F_a and F_v presented in the above table were obtained from CBC Tables 1613.5.3(1) and 1613.5.3(2) as a function of the site classification and mapped spectral response acceleration at the short (S_s) and 1 second (S_1) periods.

Considering the use of the proposed structures, the values of S_{DS} and S_{D1} calculated from the above, and the design spectral acceleration, we expect the structure to fall within Seismic

Design Category D, as defined by Tables 1613.5.6(1) and 1613.5.6(2) of the code. Design of structures should comply with the requirements of the governing justification's building codes and standard practices of the Structural Engineering Association of California.

5.3 Seismic Hazard Assessment

Seismically-Induced Settlement of Soils – Within the depths of our exploration, the materials comprising the alluvium were observed to primarily consist of sand and gravel with varying amounts of clay, silt and cobbles which were generally moist to saturated and predominantly very soft to hard for fines and loose to very dense for sands and gravels in terms of the standard penetration tests performed. Based on the anticipated earthquake effect and the stratigraphy of the site, relatively minor seismically-induced settlement is likely to occur. Such settlement will probably affect relatively large areas so that differential settlements over short distances are likely to be very small.

Liquefaction - Liquefaction and seismically induced settlement typically occur in loose granular soil and low-plastic cohesive soils (PI<12) with a relatively shallow water table. Soft cohesive soils can be subject to cyclic softening (Boulanger & Idriss 2004, 2006). During an earthquake, ground shaking can cause an increase in the soil pore water pressure and a corresponding decrease in the effective stress within the soil, resulting in soil liquefaction. Liquefaction potential has been found to be the greatest where the groundwater level is within a depth of 50 feet or less and loose fine sands occur within that depth. The liquefaction potential decreases with increasing grain size, plasticity and gravel content, but increases as the ground acceleration and duration of shaking increases.

A detailed liquefaction analysis was not performed as part of the scope of our preliminary geotechnical study. A detailed study will have to be performed as part of a final geotechnical study after structure location information is made available.

6.0 Preliminary Conclusions and Recommendations

The following recommendations are based on our limited study and should be considered preliminary in nature – they should not be used for project design. A full geotechnical study, with more site-specific exploration and finalized recommendations, should take place once the number of structures and configuration of the proposed development has been determined.

The native soils at the site consist predominantly of very soft to hard silts and clays, and loose to very dense sands to the total depth explored. Laboratory test results indicate that on site, near-surface soils have a moderate to high potential for consolidation. Consolidation test results for assumed 90 percent consolidation in 100 days are given below:

Cc	Cs	Cv
0.05	0.006	0.00017 in^2/sec

The texture and appearance of near-surface soils indicate that the soil has a medium expansion potential. It should, however, be noted that our field observations indicate that the site was previously developed with structural improvements (i.e. buildings, UST, pavements, etc.) that have since been demolished. A likely buried old concrete slab in the area of boring GB-4 was observed during our field exploration. Other remnants of the previous development, including but not limited to utilities, pavements and septic leachfields, may be present at the site in areas not observed or specifically explored in this study. These structures should be investigated as part of the final geotechnical investigation.

For single story lightly-loaded structures, we anticipate that the proposed buildings can be supported on conventional shallow strip or spread footings at 24 inches below grade, founded on about 5 feet of properly placed and compacted, engineered fill. Below grade structures should be supported on mat foundations appropriately designed by the Structural Engineer.

For a three-story structure and due to the soft upper ±7 feet of soils encountered, site development will not be routine. Furthermore consolidation testing indicates somewhat compressive soils at relatively low bearing pressures. Options for foundation support include surcharging the building footprints and areas beyond the footprints to essentially consolidate the soils prior to foundation construction. This is a time expense (site is filled to a certain level and left to consolidate) and would most likely require off site fill as surcharge material. An additional option is to utilize an intermediate foundation support system such as rammed aggregate piers for foundation and floor slab support. Piers would be extended into the dense layer encountered at ±7 feet below grade at least 3 feet into the dense layer. Another option notes involves over-excavation to dense/hard layer and replacement of this area. Portions of the on-site soils could possibly be utilized as backfill of this area but the groundwater elevation will complicate this option, possibly requiring the use of geogrids and off site rock to bridge the lower zone of the excavation.

Final results of the environmental studies can also have an impact on design characteristics, as removal of impacted soil and potential de-watering of impacted groundwater can have a significant impact on design costs, especially for proposed below-grade floors.

6.1 Preliminary Pavement Recommendations

Preparation of the subgrade soils for the new pavements should be prepared in general accordance with the site preparation recommendations to be provided after our site detailed geotechnical study, including scarification and recompaction. We are providing preliminary recommendations for light-duty and medium to heavy-duty pavement sections, which have been successfully utilized for this type of commercial development in the project area with similar traffic loading. For these preliminary pavement sections, we have assumed an R-value of 5 for the subgrade soils. R-value testing should be performed at the time of site grading.

Light Duty

- 3 inch Asphalt Concrete
- 10 inch Class II Aggregate Base
- At least 12 inches properly compacted Subgrade Soil

Medium to Heavy Duty
- 4.5 inch Asphalt Concrete
- 14 inch Class II Aggregate Base
- At least 12 inches properly compacted subgrade Soil

As an alternate, concrete pavements could also be used at the site. Both the light duty and heavy duty pavement sections are to be underlain by a minimum of 4 inches of compacted aggregate base. Based on the near surface soil encountered in the borings, it is our opinion that a modulus of subgrade reaction (k) of 100 pci is suitable, given the presence of the underlying base course. Based on this, we offer the following pavement recommendations:

Light Duty Section	Heavy Duty Section
5 Inches Portland Cement Concrete	7 Inches Portland Cement Concrete
6 Inches Aggregate Base	6 Inches Aggregate Base
At least 12 inches properly compacted subgrade Soil	At least 12 inches properly compacted subgrade Soil

These recommendations are based on our limited study and should be considered preliminary in nature - they should not be used for project design. **Dependant upon the results of a full geotechnical investigation and detailed liquefaction analysis, these preliminary values are subject to change.**

7.0 General

Our preliminary conclusions and recommendations described in this report are subject to the following general conditions:

7.1 Use of Report

This report is for the exclusive use of Weston Solutions, Inc. and their representatives to use for the design of the proposed structures described herein and prepare construction documents. The data, analyses, and recommendations may not be appropriate for other structures or purposes. We recommend that parties contemplating other structures or purposes contact us. In the absence of our written approval, we make no representation and assume no responsibility to other parties regarding this report.

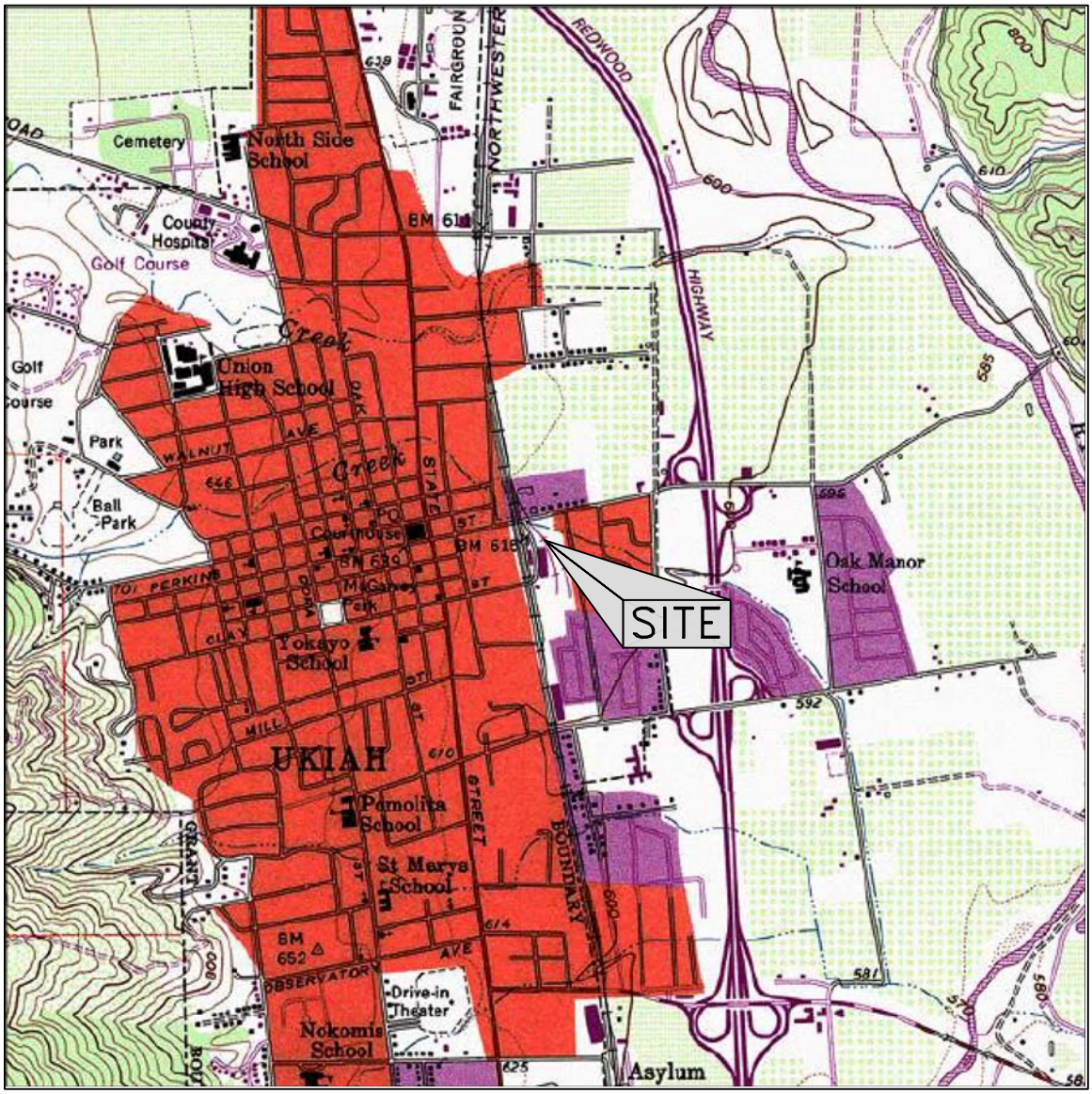
7.2 Limitations

The recommendations contained in this report are preliminary based on the available subsurface information obtained by PSI, and design details furnished for the proposed project. Final recommendations will be provided after proposed structure locations are known and further geotechnical studies are performed on site. If there are any revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project.

PSI did not provide any service to investigate or detect the presence of moisture, mold or other biological contaminants in or around any structure, or any service that was designed or intended to prevent or lower the risk of the occurrence of the amplification of the same. Client acknowledges that mold is ubiquitous to the environment with mold amplification occurring when building materials are impacted by moisture. Client further acknowledges that site conditions are outside of PSI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture. As such, PSI cannot and shall not be held responsible for the occurrence or recurrence of mold amplification.

Services performed by the geotechnical engineer for this project have been conducted with that level of care and skill ordinarily exercised by members of the profession currently practicing in this area. No warranty, expressed or implied, is made.

FIGURES



REFERENCE:

U.S.G.S. UKIAH, CALIFORNIA, 7.5 MINUTE SERIES TOPOGRAPHIC MAP, DATED 1975.

psi *Information To Build On*
Engineering • Consulting • Testing

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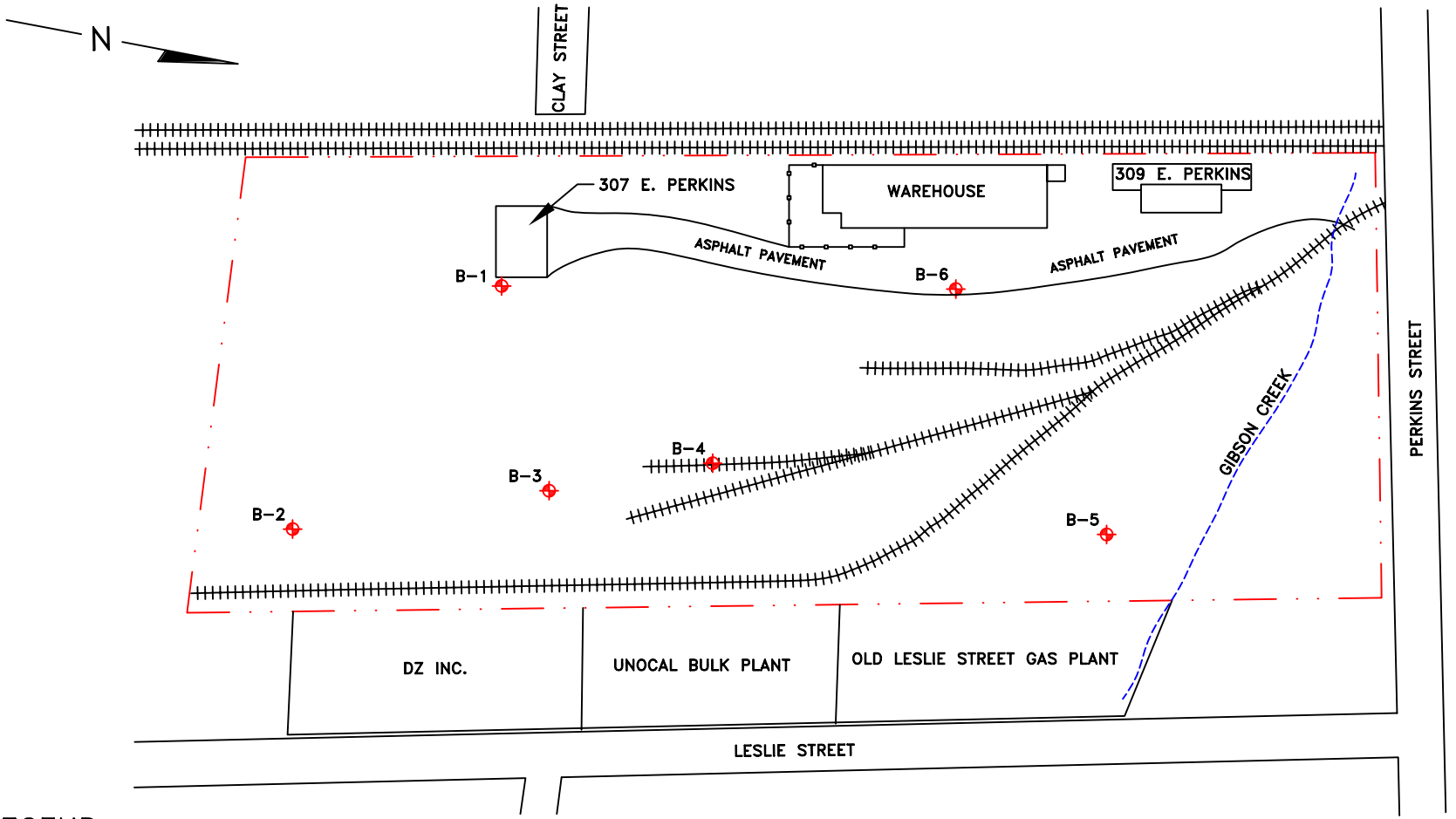
Project Name:	Drawn By:	Date:	File No.:	Figure No.:
PRELIMINARY GEOTECHNICAL STUDY *309 EAST PERKINS STREET, UKIAH, CALIFORNIA*	*E.R.*	*1/11*	*249-1-1*	*1*
Title: SITE LOCATION MAP	**Approved By:** *J.K.*	**Project No.:** *575-249-1*		



LEGEND

- SUBJECT PROPERTY BOUNDARY
- CHAINLINK FENCE
- B-6 – APPROXIMATE BORING LOCATION (PSI: JAN, 2011)
- HISTORIC OR EXISTING RAILROAD TRACK

0 150 300 FT

APPROXIMATE SCALE

NOTES

1. BASE MAP TAKEN FROM WESTON SOLUTIONS, "SAMPLE LOCATIONS, FORMER UKIAH RAIL YARD, UKIAH, CA., FIGURE 2."

psi Information To Build On
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Project Name:	Drawn By:	Date:	File No.:	Figure No.:
PRELIMINARY GEOTECHNICAL STUDY 309 EAST PERKINS STREET, UKIAH, CALIFORINA	E.R.	01/11	249-1-2	2
Title: SITE PLAN AND BORING LOCATION MAP	**Approved By:** J.K.	**Project No.:** 575-249-1		

APPENDIX B

LABORATORY TEST RESULTS

LABORATORY TEST RESULTS

Laboratory Testing Program

Laboratory tests were performed on representative soil samples to determine their relative engineering properties. Tests were performed in general accordance with test methods of the American Society for Testing Materials or other accepted standards. The following presents a brief description of the various test methods used.

Atterberg Limits – The liquid limit, plastic limit, and plasticity index of selected representative samples were determined in accordance with ASTM D4318. The liquid limit and plastic limit are shown on the Boring Logs.

Classification - Soils were classified visually according to the Unified Soil Classification System. Visual classifications were supplemented by laboratory testing of selected samples in general accordance with ASTM D2487. Soil classifications are shown on the Exploration Logs.

Consolidation – The gradual reduction in volume of a soil mass resulting from an increase in compressive stress was measured to determine the consolidation properties of a selected sample in accordance with ASTM D2435. The result of this test is provided in this appendix.

Direct Shear Test – Consolidated, drained, direct shear tests were performed on relatively undisturbed and remolded samples in general accordance with ASTM D3080. The results of these tests are provided in this appendix.

In-Situ Moisture/Density - The in-place moisture content and dry unit weight of selected samples were determined using relatively undisturbed samples from the linear rings of a 2.38 inch I.D. modified California Sampler. The dry unit weight and moisture content are shown on the Boring Logs.

pH (Potential of Hydrogen) – The measure of acidity or alkalinity of a material is referred to as the pH, which increases with alkalinity and decreases with acidity. The corrosivity potential of iron increases with low pH (<5), while the corrosivity potential of copper increases with high pH (>10). The pH value of a representative sample of the on-site soil, provided in the text of this report, was determined in accordance with EPA Test Method 9045B.

Resistivity – The electrical resistivity of a soil is a measure of its resistance to electrical current flow. Corrosion of buried ferrous metals is an electrochemical process which is related to flow of electrical current from metal to the soil. Lower electrical resistivity results from higher moisture and chemical content in the soil. Resistivity is minimal when the soil is saturated. In general, soil having resistivity greater than 10,000 ohm-cm has low corrosive potential; from 2,000 to 10,000 ohm-cm is mildly corrosive; from 1,000 to 2,000 ohm-cm is moderately corrosive; from 500 to 1,000 ohm-cm is corrosive, and less than 500 ohm-cm is very corrosive to ferrous metals. The resistivity of a representative sample of soil, provided in the text of this report and below in this appendix, was determined in accordance with AASHTO T 288-91.

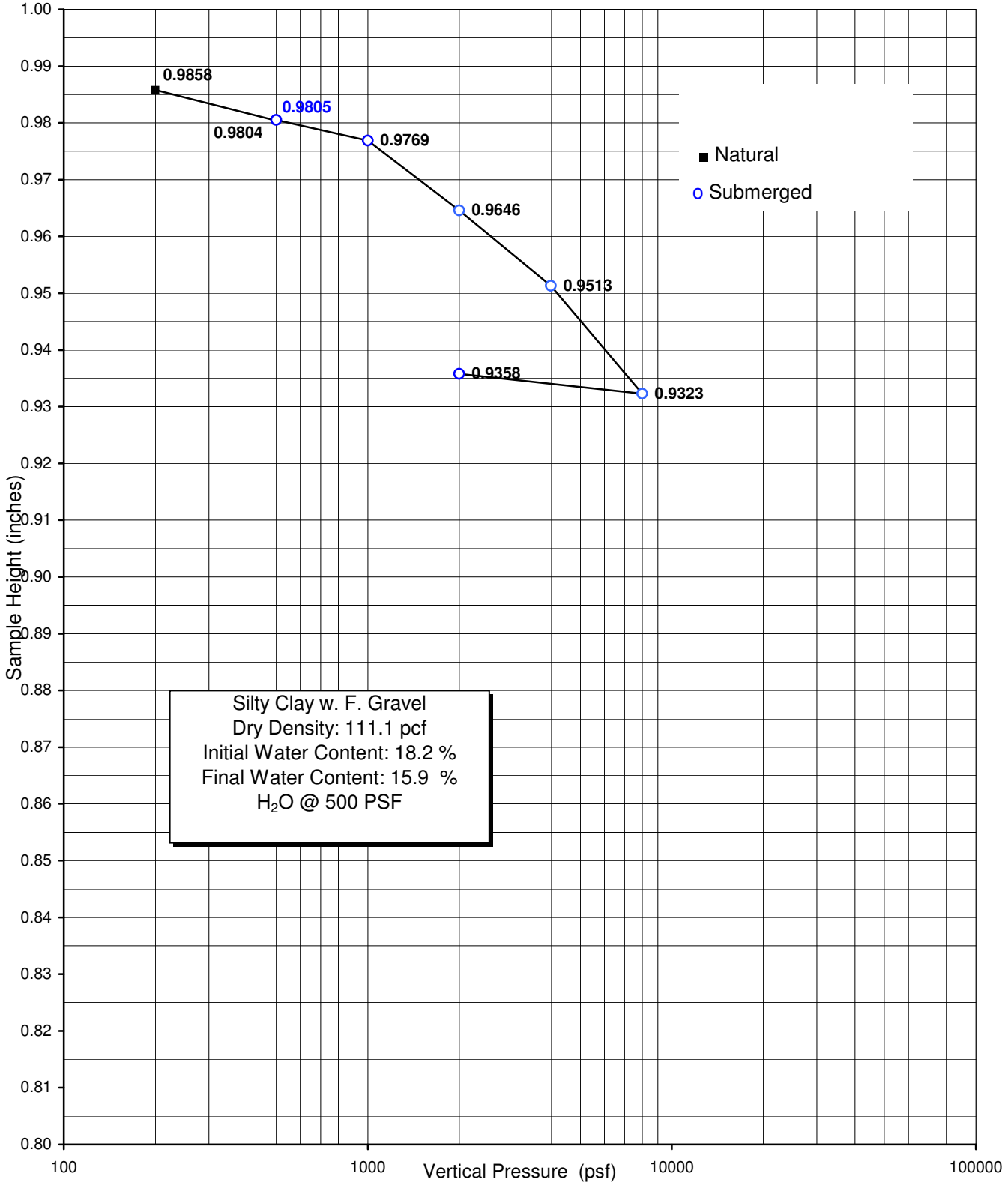
Soil Sulfate / Chloride Test – In order to estimate the concrete degradation potential of soils, the soluble sulfate and chloride content of a representative sample of the on-site soil, provided in the text of this report, was determined in accordance with EPA Test Method 300.0.

Triaxial UU - This test method covers determination of the strength and stress-strain relationships of a cylindrical specimen of either undisturbed or remolded cohesive soil. Specimens are subjected to a confining fluid pressure in a triaxial chamber. No drainage of the specimen is permitted during the test. The specimen is sheared in compression without

drainage at a constant rate of axial deformation. The test is performed in accordance with ASTM D2850.

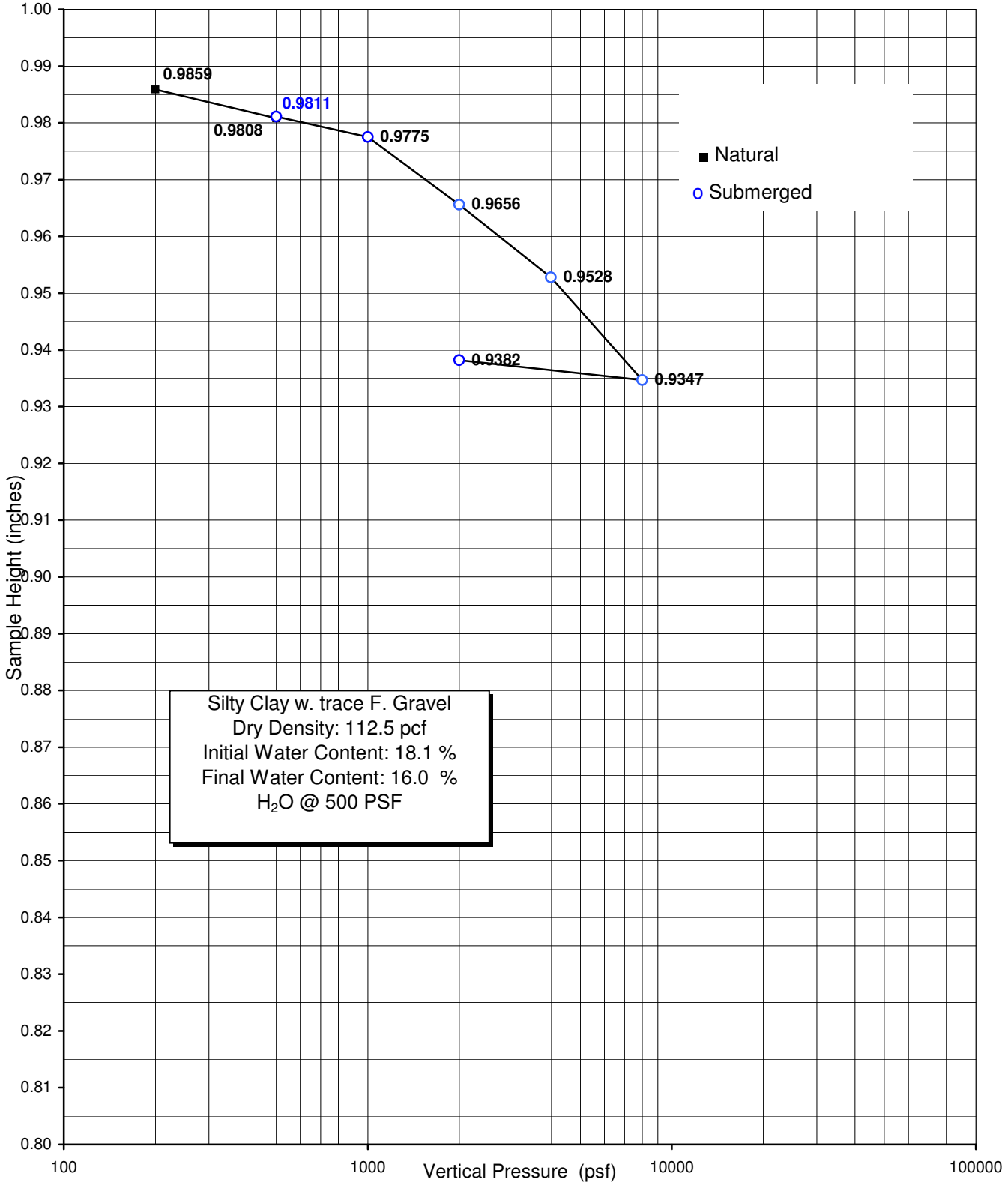
CONSOLIDATION TEST - ASTM D2435

Boring / Sample No.	B-3 / SS-2	Depth:	5.0'	Date	01-17-11



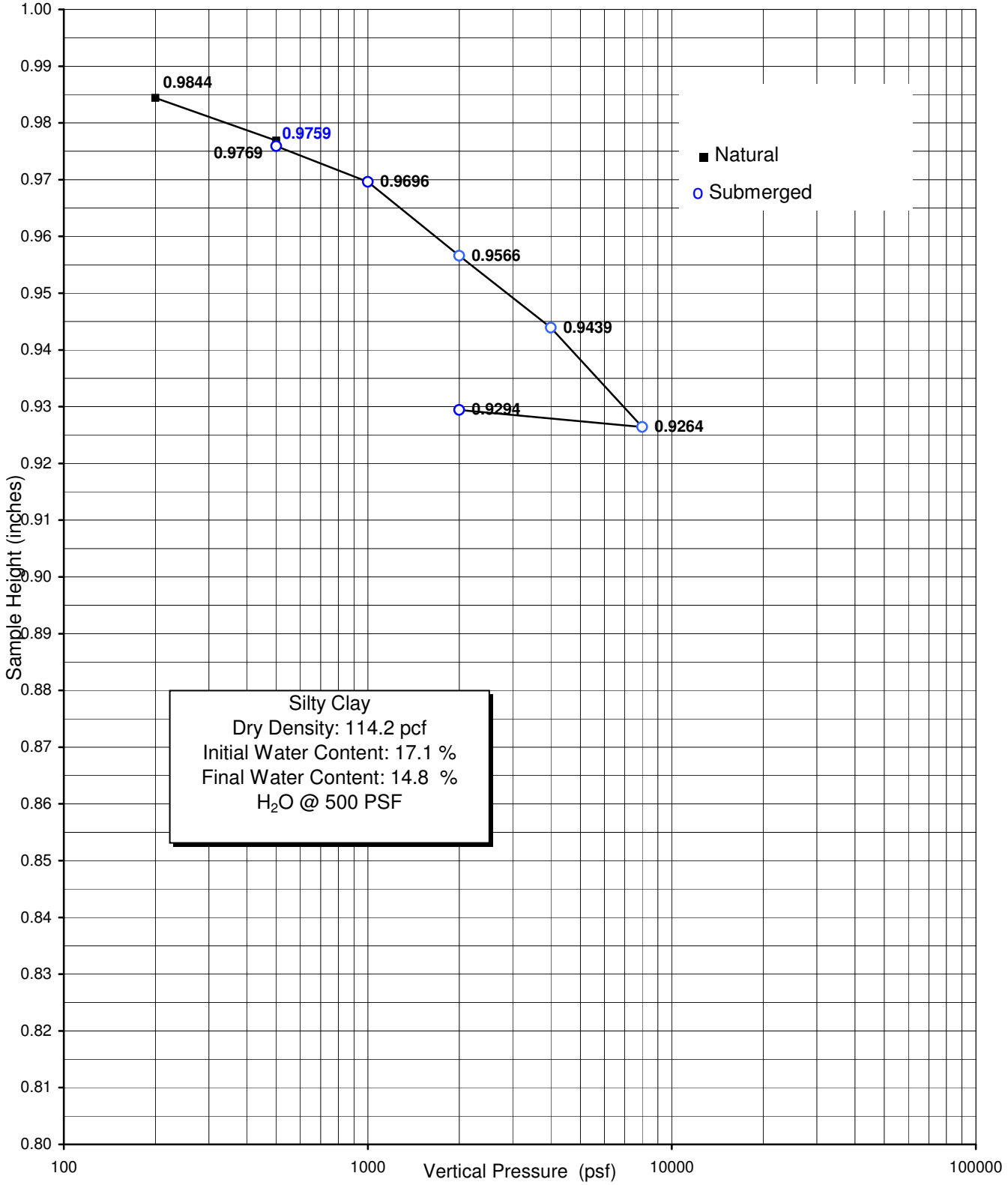
GeoLogic Associates

Boring / Sample No. B-5 / SS-2	Depth: 5.0'	Date 01-17-11

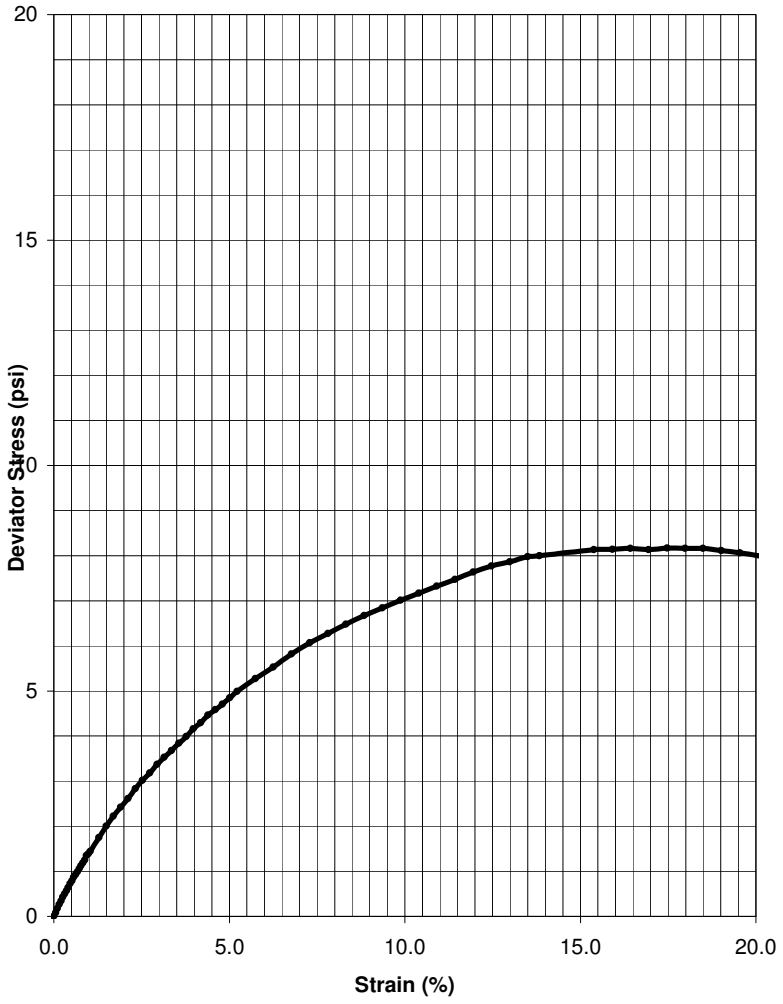


GeoLogic Associates

Boring / Sample No. B-6 / SS-2	Depth: 5.0'	Date 01-17-11



GeoLogic Associates



Soil Description: Brown, Silty Clay

Type of Specimen: *Undisturbed*

			A	B	C
	SPECIMEN				
INITIAL	Wet Density (pcf)		***124.5***		
	Water Content (%)		***24.2***		
	Dry Density (pcf)		***100.2***		
FINAL	Wet Density (pcf)				
	Water Content (%)				
	Dry Density (pcf)				
SATURATION STAGE	Initial pwp	psi			
	Saturated pwp				
	Final Cell pressure				
	B value				
CONSOLIDATION STAGE	Cell Pressure	psi			
	Back Pressure				
	Initial pwp				
	Final pwp				
COMPRESSION STAGE	Cell Pressure	psi			
	Initial pwp				
	Initial σ'_3				
	Strain Rate (in./min.)		***0.005***		
FAILURE CONDITION	**Strain %**		***17.5***		
	$(\sigma_1 - \sigma_3)_f$	**psi**	***8.17***		
	$(\sigma_1/ \sigma_3)_f$				
	σ_3		***3.60***		
	σ_{1f}		***11.77***		
	c_v				
	m_v				
	k				
SAMPLE SIZE			D = 2.41 in.		
			H = 5.0 in.		

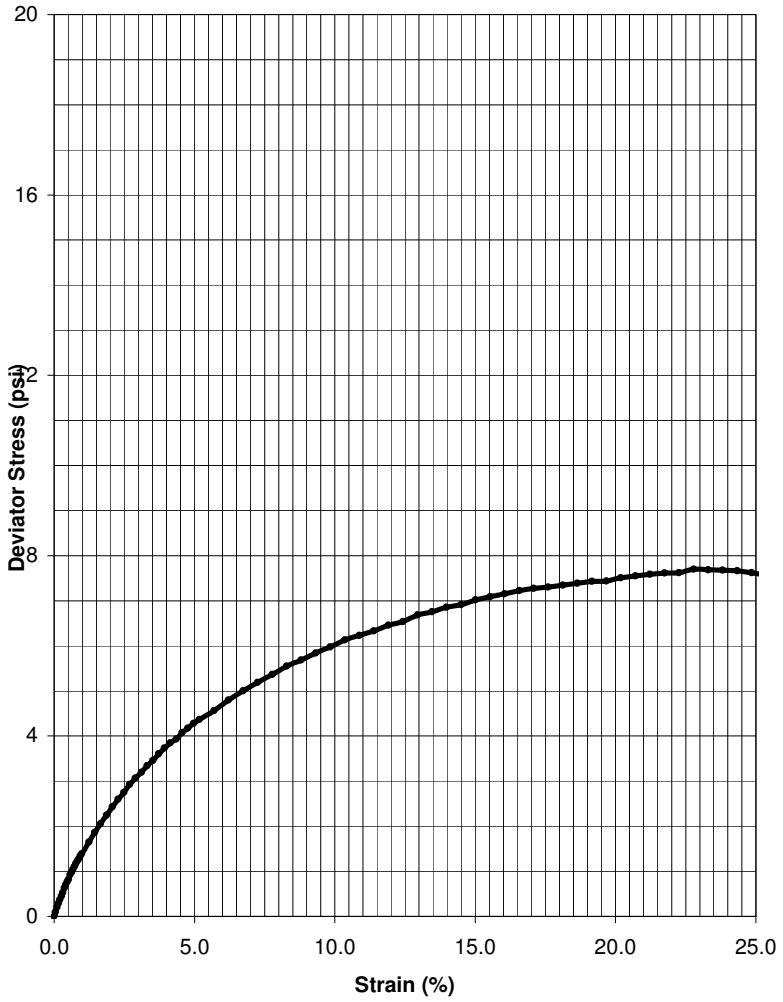
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

ASTM D-2850

Job Name PSI #575-249 | Date: 1-26-11

Job No. 2008-026 | Sample : B-2/SS-1

Geo**L**ogic **A**ssociates



Soil Description: Brown, Silty Clay w. trace F. Gravel

Type of Specimen: *Undisturbed*

			SPECIMEN	A	B	C
INITIAL			Wet Density (pcf)	***129.0***		
			Water Content (%)	***19.7***		
			Dry Density (pcf)	***107.8***		
FINAL			Wet Density (pcf)			
			Water Content (%)			
			Dry Density (pcf)			
SATURATION STAGE			Initial pwp			
			Saturated pwp			
			Final Cell pressure			
			B value			
CONSOLIDATION STAGE			Cell Pressure			
			Back Pressure			
			Initial pwp			
			Final pwp			
COMPRESSION STAGE			Cell Pressure			
			Initial pwp			
			Initial σ'_3			
			Strain Rate (in./min.)	***0.005***		
FAILURE CONDITION			**Strain %**	***23.8***		
			$(\sigma_1 - \sigma_3)_f$	***7.68***		
			$(\sigma_1/ \sigma_3)_f$			
			σ_3	***3.60***		
			σ_{1f}	***11.28***		
			c_v			
			m_v			
			k			
SAMPLE SIZE				D = 2.41 in.		
				H = 4.6 in.		

psi

Before

After

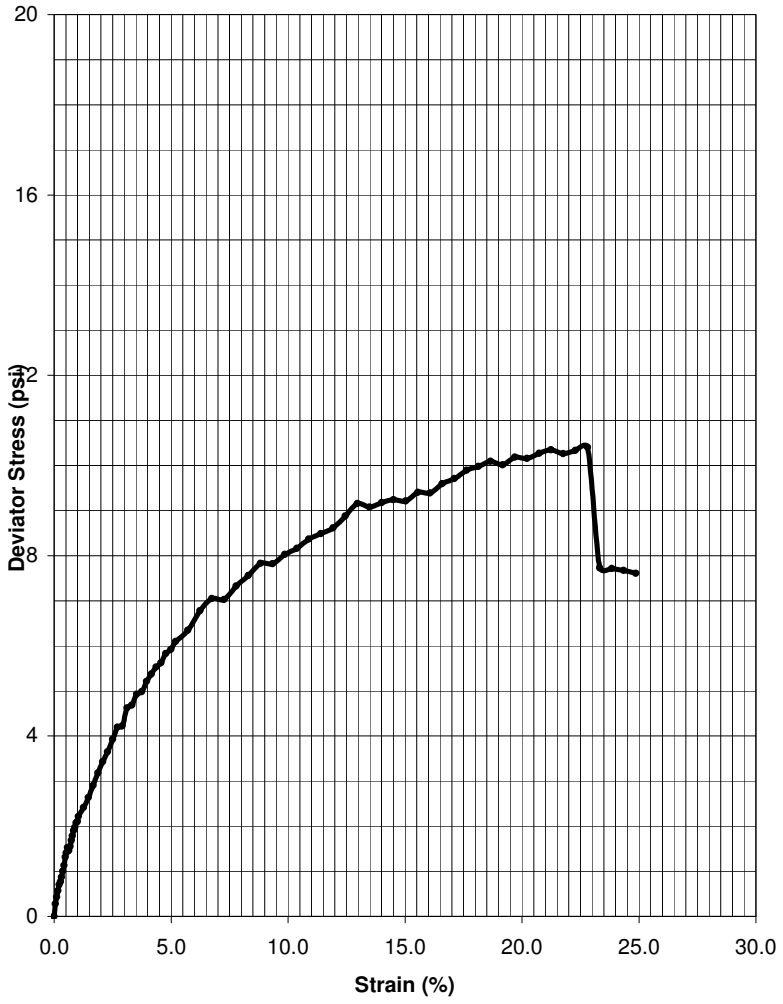
UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

ASTM D-2850

Job Name PSI #575-249 | Date: 1-27-11

Job No. 2008-026 | Sample : B-5/SS-2

Geo**L**ogic **A**ssociates



Soil Description: Brown, Silty Clay w. trace F. Gravel

Type of Specimen: *Undisturbed*

			SPECIMEN	A	B	C
INITIAL			Wet Density (pcf)	***133.6***		
			Water Content (%)	***18.3***		
			Dry Density (pcf)	***112.9***		
FINAL			Wet Density (pcf)			
			Water Content (%)			
			Dry Density (pcf)			
SATURATION STAGE			Initial pwp			
			Saturated pwp			
			Final Cell pressure			
			B value			
CONSOLIDATION STAGE			Cell Pressure			
			Back Pressure			
			Initial pwp			
			Final pwp			
COMPRESSION STAGE			Cell Pressure			
			Initial pwp			
			Initial σ'_3			
			Strain Rate (in./min.)	***0.005***		
FAILURE CONDITION			**Strain %**	***22.8***		
			$(\sigma_1 - \sigma_3)_f$	***10.40***		
			$(\sigma_1/ \sigma_3)_f$			
			σ_3	***3.60***		
			σ_{1f}	***14.00***		
			c_v			
			m_v			
			k			
SAMPLE SIZE				D = 2.41 in.		
				H = 4.8 in.		

psi

Before

After

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

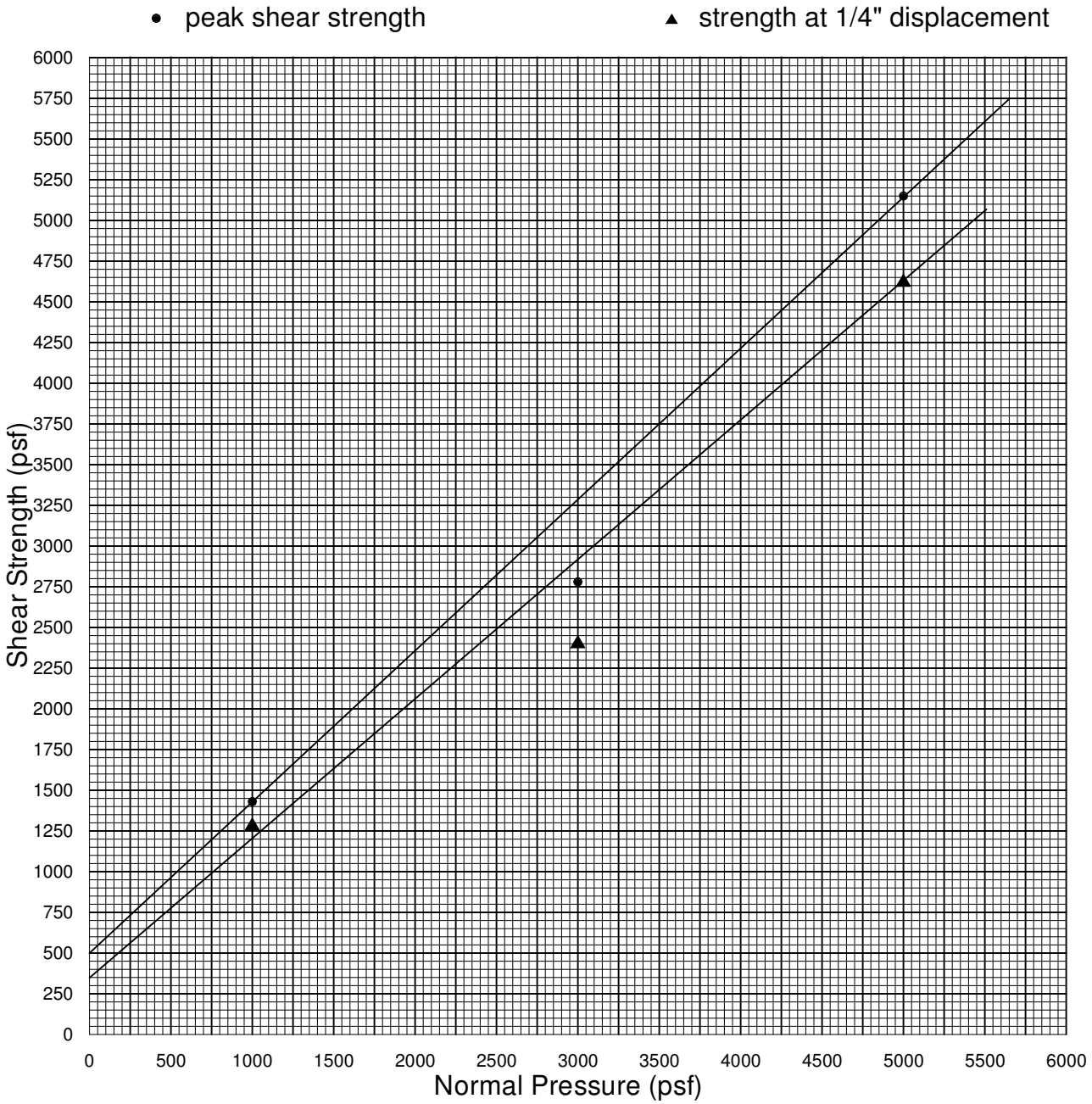
ASTM D-2850

Job Name PSI #575-249 | Date: 1-27-11

Job No. 2008-026 | Sample : B-6/SS-2

Geo**L**ogic **A**ssociates

DIRECT SHEAR TEST - ASTM D-3080

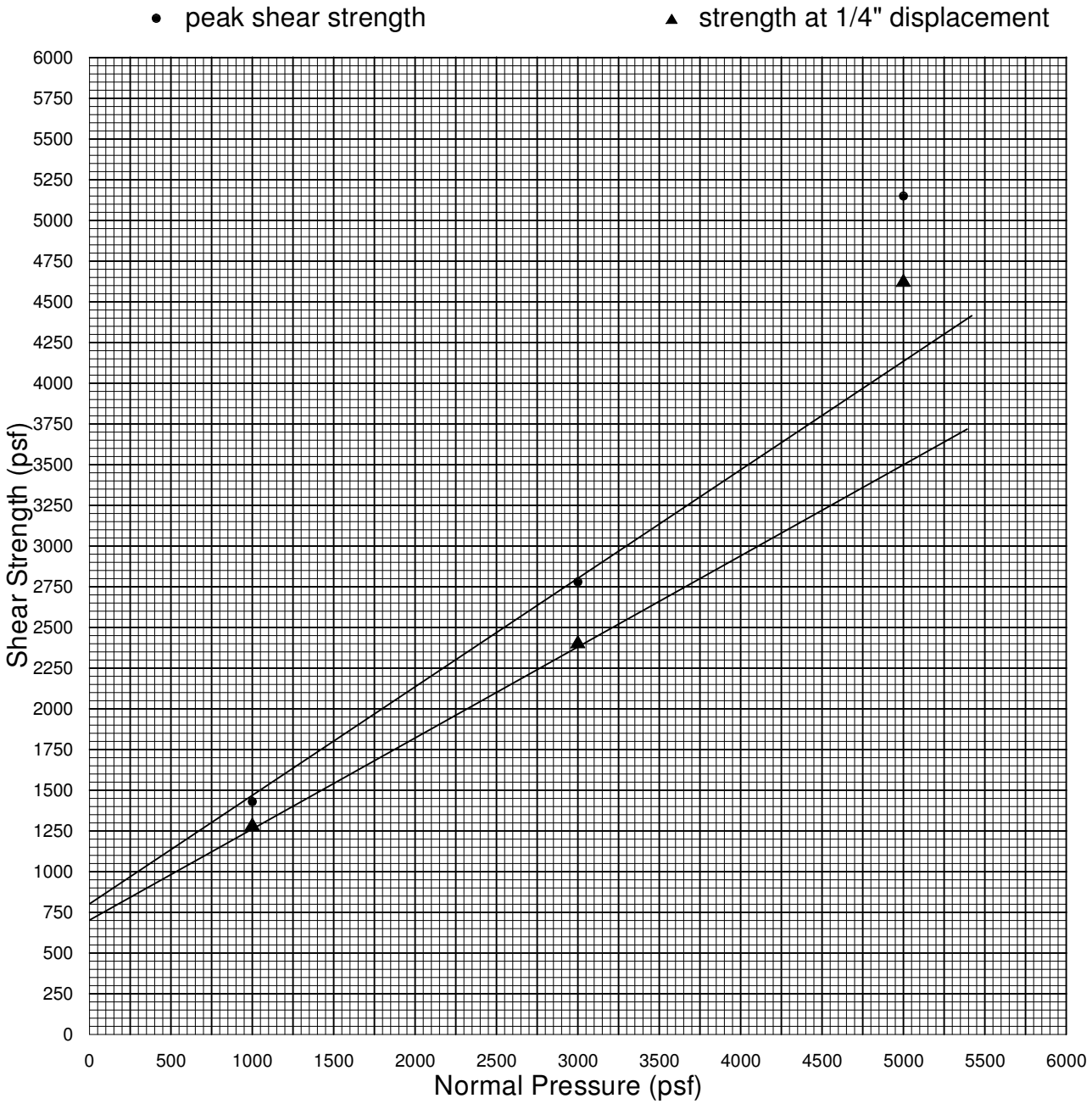


Strain Rate: 0.0042 in. / min.

Sample	Type	Description	Dry Density (pcf)	Initial W.C (%)	Final W.C. (%)
B1-SS3 @ 7.5'	Undisturbed & Saturated	F.M. Clayey Sand w. Gravel	121.4	10.8	13.9

Normal Pressure (psf)	Peak Shear Strength (psf)	Ultimate Shear Strength (psf)
1000	1430 @ 0.1600"	1280
3000	2780 @ 0.1150"	2400
5000	5150 @ 0.1500"	4620
	C = 500 psf	C = 350 psf
	ϕ = 43 deg.	ϕ = 40 deg.

DIRECT SHEAR TEST - ASTM D-3080



Strain Rate: 0.0042 in. / min.

Sample	Type	Description	Dry Density (pcf)	Initial W.C (%)	Final W.C. (%)
B1-SS3 @ 7.5'	Undisturbed & Saturated	F.M. Clayey Sand w. Gravel	121.4	10.8	13.9

Normal Pressure (psf)	Peak Shear Strength (psf)	Ultimate Shear Strength (psf)
1000	1430 @ 0.1600"	1280
3000	2780 @ 0.1150"	2400
5000	5150 @ 0.1500"	4620
	C = 750 psf	C = 700 psf
	ϕ = 34 deg.	ϕ = 30 deg.

APPENDIX A

EXPLORATION LOGS

BORING GB-1

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 6, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SS-1	☒	Clayey SILT (ML), brown, very soft, moist, some sand and gravel	8				21	104	Torvane = 0.2 tsf.
5	SP-2	▽ ■	Silty CLAY (CL), green-brown, very soft, wet	5		24	17	16		Groundwater at 6 feet. Torvane = 0.2 tsf.
	SS-3	☒	SAND (SP), brown, medium dense, wet, fine to coarse sand, some gravel	19						
10	SP-4	■	Gravelly SAND (SP), red brown, dense, wet, fine to very coarse sand, some silt	31				11		
15	SP-5	■	GRAVEL (GP), dark brown, dense, wet, some sand and silt	35						
20	SP-6	■	Silty GRAVEL (GM), light brown, very dense, wet, some clay and sand	54						
25										

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FIGURE NO.
A-1a

BORING GB-1 (cont.)

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 6, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SP-7	■	SILT (ML), brown, very soft, moist, some very fine grained sand and clay	8						Torvane = 0.2 tsf.
30	SP-8	■	Sandy GRAVEL (GP), dark brown, very dense, wet, some silt, fine to coarse grained sand	57						
35			End of boring at 30 feet below grade - sampled to 31.5 feet. Groundwater was encountered at 6 feet below grade. Borehole backfilled with cement grout							
40										
45										
50										

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FIGURE NO.
A-1b

BORING GB-2

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 6, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
5	SS-1	☒	Silty CLAY (CL), brown, soft, moist	11						Torvane = 0.3 tsf.
	SP-2	■	same as above; very soft, wet	8		26	17	20		Groundwater at 6 feet. Torvane = 0.2 tsf.
10	SS-3	☒	Silty SAND (SM), dark brown, medium dense, wet, fine to coarse sand, some gravel	19	20			20	103	
15	SP-4	■	Sandy GRAVEL (GP), dark brown, medium dense, wet, fine to coarse sand	27						
	SP-5	■	same as above, dense	46						
20	SP-6	■	Silty CLAY (CL), orange brown, very stiff, moist, some gravel at 20.5 feet	16				12		Qp = 2.5 tsf.
25										

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FIGURE NO.
A-2a

BORING GB-2 (cont.)

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 6, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SP-7	■	as above; mottled blue green, firm	20						Qp = 1.0 tsf.
30	SP-8	■	Sandy Gravel (GP), brown, very dense, wet, fine to coarse sand, some silt	80						Sandier at 30.5
35	SP-9	■	As above; some cobbles	50/6				12		
40	SP-10	■	As above	50/4						
45	SP-11	■	CLAY (CL), blue/green brown mottled, very stiff, moist, some gravel	23						Qp = 2.5 tsf.
50	SP-12	■	Gravelly CLAY (CL), blue/green brown mottled, hard, moist, some sand	50						
			End of boring at 50 feet below grade - sampled to 51.5 feet. Groundwater was encountered at 6 feet below grade. Borehole backfilled with cement grout							

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FIGURE NO.
A-2b

BORING GB-3

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 7, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SP-1	■	Clayey SILT (ML), brown, very soft, wet, some fine sand	3				20		Torvane = 0.05 tsf.
5	SS-2	⊠	Gravelly CLAY (CL), dark brown, very soft, moist, some silt	6						Torvane = 0.05 tsf. Groundwater at 7.5 feet.
	SP-3	■	Clayey GRAVEL (GC), dark brown, dense, wet, some sand and silt	24						
10	SS-4	⊠	Clayey SAND (SC), dark brown, dense, wet, silt and gravel	34	23			12		
15	SP-5	■	Sandy GRAVEL (GP), brown, dense, wet, some cobbles and clay	48						
20	SP-6	■	Clayey GRAVEL (GC), light brown, medium dense very moist, some sand	29				12		
25										

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FIGURE NO.
A-3a

BORING GB-3 (cont.)

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 7, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SP-7	■	Silty CLAY (CL), mottled green/gray brown, very soft, moist	8						Qp = 2.5 tsf.
30	SP-8	■	Sandy GRAVEL (GP), brown, very dense, wet, some clay and cobbles	50/5						
35			End of boring at 30 feet below grade - sampled to 31.5 feet. Groundwater was encountered at 7.5 feet below grade. Borehole backfilled with cement grout							
40										
45										
50										

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FIGURE NO.
A-3b

BORING GB-4

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 7, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SS-1	☒	Clayey GRAVEL (GC), dark brown, loose, wet, some sand and silt (FILL)	5						
5		▽								Groundwater at 5 feet.
	SP-2	■	CLAY (CL), dark brown, very soft, wet	0				21		Small sample recovery
	SS-3	☒	Clayey GRAVEL (GC), brown, medium dense, wet, some sand	15						wood fragments
10										
			Boring terminated at 10 feet due to drill refusal Groundwater was encountered at 5 feet below grade. Borehole backfilled with cement grout							
15										
20										
25										

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FIGURE NO.
A-4

BORING GB-5

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 7, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
5	SP-1	■	CLAY (CL), dark brown, firm, moist, some silt and sand	6						No recovery
	SS-2	☒	As above; soft, wet	14						Torvane = 0.4 tsf.
		▽								Groundwater at 8.0 feet.
10	SP-3	■	Sandy GRAVEL (GP), brown, medium dense, wet, some silt and cobbles	28				14		
	SS-4	☒	As above; dense, coarser material, some clay	39	10			9	125	
15	SP-5	■	Clayey GRAVEL (GC), red brown, dense, wet, some sand and cobbles	40						
20	SP-6	■	Gravelly SAND (SP), dark brown, medium dense, wet, fine to coarse sand, some silt and clay	23				13		
25										

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FIGURE NO.
A-5a

BORING GB-5 (cont.)

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 7, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SP-7	■	CLAY (CL), light brown, hard, moist, some silt	36						
30	SP-8	■	Sandy GRAVEL (GP), dark brown, very dense, wet, some silt	90						
			End of boring at 30 feet below grade - sampled to 31.5 feet. Groundwater was encountered at 8.0 feet below grade. Borehole backfilled with cement grout							
35										
40										
45										
50										

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FIGURE NO.
A-5b

BORING GB-6

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 6, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
5	SP-1	■	CLAY (CL), dark brown, soft, moist, some sand, silt gravel	10						Torvane = 0.4 tsf.
	SS-2	⊠	As above; wet	13						Groundwater at 6.0 feet. Torvane = 0.5 tsf.
10	SP-3	■	Gravelly SAND (SP), red brown, dense, fine to coarse sand, some cobbles	32				11		
15	SS-4	⊠	GRAVEL (GP), brown, dense, wet, some sand, clay, and cobbles	37				10	133	
	SP-5	■	Sandy GRAVEL (GP), brown, dense, wet, some cobbles	36						
20	SP-6	■	Clayey SILT (ML), green brown, soft, moist, some ffine sand	9						Torvane = 0.3 tsf.
25										

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FIGURE NO.
A-6a

BORING GB-6 (cont.)

CLIENT: WESTON SOLUTIONS	PSI PROJECT NO.: 575-249
PROJECT: FORMER UKIAH STATION	BORING TYPE: 8-INCH DIA. H.S.A. w/AUTO-HAMMER
LOCATION: 309 E. PERKINS STREET, UKIAH, CALIFORNIA	ELEVATION: EXISTING GRADE
DATE DRILLED: JANUARY 6, 2011	LOGGED BY: FRANK POSS

DEPTH (ft)	SAMPLE NO.	SAMPLE	SOIL DESCRIPTION	BLOWS PER FOOT	% PASSING #200 SIEVE	LIQUID LIMIT	PLASTIC LIMIT	MOISTURE CONTENT (%)	UNIT DRY WT. (p.c.f.)	REMARKS
	SP-7	■	Sandy GRAVEL (GP), brown, dense, wet	32						
30	SP-8	■	Gravelly SAND (SP), brown, very dense, fine to coarse sand, some cobbles	59				13		
35	SP-9	■	As above	95						
40	SP-10	■	As above	50/6						
45	SP-11	■	CLAY (CL), blue/green brown mottled, very stiff, moist, some gravel	20						Qp = 2.5 tsf.
50	SP-12	■	no recovery	38						driller noted that no change in drilling pressure from 45 to 50 feet
			End of boring at 50 feet below grade - sampled to 51.5 feet. Groundwater was encountered at 6 feet below grade. Borehole backfilled with cement grout							

psi Information To Build On
Engineering • Consulting • Testing

FIGURE NO.
A-6b

2. **DESIGN REVIEW TABLE**

Design Review Table

	Submission Item	Review Duration in Calendar Days (c.d.) Small Projects (1-4 courtrooms)	Medium Projects (4-12 courtrooms)	Large Projects (12 + courtrooms)
Pre-GMP Services	50% Schematic Design	21 c.d.	28 c.d.	32 c.d.
	100% Schematic Design (includes preliminary calculations & specs)	21 c.d.	28 c.d.	32 c.d.
	L.C.C.A	(1-2 @) 7 c.d.	(2-4 @) 7-10 c.d.	(3-5 @) 7-10 c.d.
	50% Design Development	21 c.d.	28 c.d.	32 c.d.
	Phase I Design – Code Analysis Package and Civil/Grading/Utilities/Foundations: OSFM permitting/approvals (including backchecks)	150 c.d.	150 c.d.	150 c.d.
	100% Design Development	21 c.d.	28 c.d.	32 c.d.
Post-GMP Services	95% Working Drawings	10 c.d.	14 c.d.	21 c.d.
	100%Construction Drawings - Phase 2: AHJ permitting/approvals (including backchecks)	270 c.d.	270 c.d.	270 c.d.

3. **JUDICIAL COUNCIL's OSFM CODE CHECKLIST**

CHECKLIST

AS-BUILT DOCUMENTATION	
See information under Survey Tab for required existing building information	
All information regarding as-built condition is included and accurately depicted.	
Code Analysis for the existing building has been confirmed and demonstrated on the title sheet.	
Field verification of the as-built condition has been confirmed.	
Field verification of as-built condition does not comply with the year of code used for construction.	
CODE ANALYSIS	
Occ2, Occ3, Occ4 and Mixed Use tabs below are to assist in determining allowable are based upon occupancy classification.	
Provide a detailed scope of work, include all effects to existing building components and disciplines; demonstrate the area limitations on an overall facility plan.	
Indicate year of code originally built and/or year of code applied	
List applicable NFPA standards with the adopted edition as shown in CFC Ch. 80 or CBC Ch. 35	
OSFM Local fire agency access approval letter included	
Occupancy Group classification and use	
Building construction type, fire resistant rating required for building elements, fire resistance rating for exterior walls **(see Construction Type Tab below for assistance)**	
Proposed/existing number of building stories, allowable number of building stories, story increase taken	
Proposed/existing building height, allowable building height, building height increases taken	
Proposed/existing building area, allowable area, area increases taken **(see Occupancy/Allowable Area Tab for assistance)**	
Building separated or non-separated mixed use or single use	
Allowable area calculations, clearly demonstrated all allowable increases and frontage increases	
Deferred submittal, OSFM accepts Fire Alarm, Fire Sprinklers, Smoke Control, Emergency Responder Radio Coverage	
Special provisions utilized, describe and provide references as described in chapter 5 of CBC	
Provide applicable scale and graphic scale. Title block shall comply with latest requirement for electronic submittal.	
Hazardous materials statement	
Depict lowest level of fire department access. Include datum for elevation relative to the top of the occupied floor	
Automatic fire sprinklers yes/no, specialty fire protection provided yes/no, type (wet, dry, pre-action, deluge)	
Are fire pumps or water tanks being provided, yes/no	
Location of on site secondary water supply, calculations confirming size for required duration (high-rise)	
Location and fire department access to Fire Command Center (high-rise)	
Fire alarm system yes/no, type of fire alarm system, emergency voice/alarm communication yes/no	
Smoke control system yes/no, type of smoke control	
Standpipe system yes/no, classification of standpipe, exceptions applied	
Clearly identify the areas of storage, indicate storage configuration and height, identify clearance to ceiling	
Building fire hazard severity zone	
Total occupant load of building, each floor or zone	
Use and occupant load for each individual space, provide a table that summarizes the occupancy classification, occupant load and occupant load factor	

Maximum exit access travel distance allowable, actual maximum exit access travel distance, increases applied	
Number of required exits, number of exits provided, capacity factor applied	
Maximum common path of travel allowed, actual maximum common path of travel	
Path of travel with accumulated occupant loads to the exit/exit discharge	
Demonstrate exit discharge and path of travel to the public way, lighting shall be noted to be provided to the public way at the required illumination levels.	
Indicate rated or non-rated corridors	
Doors access exit access shall demonstrate compliance, with door swing, encroachment and egress continuity	
Means of egress illumination under emergency power and illumination level under emergency power	
Seismic joints yes/no	
Emergency responder radio coverage provided yes/no	
Demonstrate fire access roadways, roadways and hose pulls within 150 of travel distance to all portions of exterior wall	
A 20-foot wide fire lane serves the building and access to area during construction? Demonstrate access from the public way, a roadway that is a continuous loop or show fire apparatus turnaround/hammerheads and those area with limited dead end roadways, demonstrate turning radius along the entire fire access roadway. Identify impediments such as fences, gates, steep grades (>10%), note roadway design and minimum vertical clearance	
Show access to fire department appliances along the fire access roadway such as hydrant, fire department and standpipe connections. Demonstrate distance from building and roadway. Note appropriate signage for fire access roadway and appliances.	
Site plan that demonstrates building location, roadways private/public, set backs and property lines	
Water supply test results, calculations, method of testing, site hydrants tested demonstrated on site plan with water system configuration, water supply test shall be within 6 months of submittal	
Fire flow required for building, fire flow reductions taken	
Number of required fire hydrants, number of fire hydrants provided, maximum spacing of required fire hydrants allowable, maximum spacing provided of required fire hydrants	
Emergency or standby power system yes/no, Class and type	
Code analysis drawing shows plans with all fire/smoke rated walls labeled properly and identified as to wall type, fire barrier, fire partition, fire wall etc…	
Code analysis drawing includes basic section showing fire/smoke horizontal assemblies labeled properly	
Extents and requirements of each type of fire/smoke wall and horizontal assembly has been documented	
Clearly identify smoke control zones with appropriate barriers	
Elevators and elevator lobby's, what exceptions are being utilized. Elevator door rated with smoke seals, shaft pressurization…	
Interior wall and ceiling finish requirements for the occupancy(ies).	
All doors and frames in each fire/smoke wall meet rating requirements for those walls and UL listed assembly details	
All glazing and frames in each fire/smoke wall meet rating requirements and permissible maximum area of openings	
Mechanical ducts penetrating each type of fire/smoke wall have dampers meeting rating requirements for each wall	
Pipes/conduit/misc penetrations in each fire/smoke wall are detailed as required for the rating of each wall, which includes UL listed assembly details for both through penetrations with F ratings and floor/ceiling penetration with F & T ratings	
Distance between exterior walls and (actual/assumed)property lines indicated, separations between buildings demonstrated	
Percentage of openings of exterior walls have been calculated	
Exterior openings comply with Table 705.8	
All building components comply with fire resistive requirements of the Construction Type	

REQUIRED REPORTS

Fire Protection Engineering building analysis	
Fire Protection Engineering Smoke Control	
Geological/soil report	

EXISTING BUILDING MISC ITEMS (also see information under code analysis)

Are there any construction modifications that do not appear to be original?	
Were modification approved or permitted?	
Did modification use the required construction materials based on type of construction?	
If modifications were made, was proper sprinkler coverage maintained?	
Are there any areas that are not fully sprinklered?	
Has a recent fire flow test been performed within the last 6 months prior to submittal?	
Does the fire flow meet requirements for the fire area under consideration?	
Have fire detection and fire suppression systems been maintained? Date of the last annual and 5-year inspection.	
Is there a fire pump or water tank that supports the building?	
Is the existing fire alarm system capable of accepting additional devices?	
Is the fire detection system currently code compliant?	
If present, is the smoke control system compliant?	
Does the project have emergency or standby power, is it capable of accepting additional loads?	
Are all building systems on the emergency generator? What is the amount of fuel supply and is the fuel supply compliant with the required run time?	

PROPER SEPARATION/ACCESS/EGRESS (see information under code analysis)

Are there any buildings (separate per code) within 20 feet of the perimeter?	
Are there any combustible canopies within 20 feet of the building?	
Are canopies within 20 feet of the building sprinklered?	
Obstacles (walls, fences, guardrails, planters, elevation changes, etc.) that prevent free egress?	
Outbuildings, portable buildings, or combustible appurtenances are w/in 20 feet of the building?	
Demonstrate location and method of sizing of safe dispersal areas.	
The above buildings/combustible appurtenances are indicated on approved drawings?	
Property lines/assumed property lines limit egress?	

OCCUPANCY (see information under code analysis)

What are the occupancy groups per the current adopted CBC Chapter 3?

Primary Occupancy	Occupancy 2	Occupancy 3	Occupancy 4

What are the occupancy groups per the code cycle the building was originally approved for?

Primary Occupancy	Occupancy 2	Occupancy 3	Occupancy 4

If applicable, what occupancy groups where improvements last approved under?

Primary Occupancy	Occupancy 2	Occupancy 3	Occupancy 4

GENERAL HEIGHT AND AREA (see information under code analysis and below tab information if used)

Building Height in Feet Above Grade Plane	
Number of Stories Above Grade Plane (S_a)	
Basement Area (if applicable)	
Building Area on Ground Floor	
Building Area of Largest Floor	
Area of Primary Occupancy	
Area of Occupancy 2 (if applicable)	
Area of Occupancy 3 (if applicable)	
Area of Occupancy 4 (if applicable)	
Building Area - Total	

SECTION C - OTHER RELATED INFORMATION

This Section is reserved to provide documents or information other than the technical or project specific and/or reference information listed in Section B. The documents in this **Section C** of the Project Documents are **NOT** "Contract Documents", nor are they essential to the design and/or development of the project. The Section C documents are included for reference purposes **ONLY** for use during the Design Build Entity procurement process and/or subsequent administration of the contract.

1. Project Directory;
2. Application for Payment

1. PROJECT DIRECTORY

Project Information

Project Name:	New Ukiah Courthouse
Project Number:	0000092
County:	Mendocino
Judicial Council Project Manager:	Robert Shue
Judicial Council Contract Specialist	Matt Bagwill
All Project inquiries during Design Build Entity Procurement shall be directed to:	Matt Bagwill
All Project inquiries after contract award shall be directed to:	Robert Shue
Insurance documents shall be directed to:	Matt Bagwill
Other Judicial Council Agents or Consultants:	1. Criteria Architect: Cannon Design Jeff Fuller, Vice President jfuller@cannondesign.com 2355 Main St, Suite 220, Irvine, CA 92614 Office Phone (949) 250-1500 Mobile (949) 735-4561
	2. Construction Manager: Kitchell Jim Bruce, Program Director jbruce@kitchell.com 2450 Venture Oaks Way, Suite 500 Sacramento, CA 95833 Mobile (916) 217-6498
	3. Project Inspector: TBD

2. APPLICATION FOR PAYMENT

(To be provided to the selected DBE.)