Jomsky, Mark

From: Pam Johnson <pamelalynnjohnson@gmail.com>
Sent: Monday, July 22, 2019 3:44 PM
To: Jomsky, Mark
Subject: Appeal of 127-141 N. Madison

Dear City Council, Planning & Zoning,
Please note that I fully support Pasadena's Heritage's appeal and request that City Council not approve the project at 127-141 North Madison as currently presented. The scale of this project as outlined below is excessive for the location and existing structures. I hope Council & Committee will take the time to perform and full Environmental Impact review of this proposed project and how it fits into the existing neighborhood.

- Includes 49 new housing units (45 market rate and only 4 affordable) plus 4,200 square feet of commercial office space.
- Adds 101 parking spaces (one level below grade that extends from lot line to lot line and an at-grade parking "podium" enclosed by a 15-ft. tall wall).
- Removes 4 projected trees and provides no real landscape space to plant new trees in the ground.
- Rises to 62 feet or 5 stories next to 2- and 3-story residential buildings.
- Will visually and aesthetically tower above the Ford Place National Register Historic District (Fuller campus).
- Could damage the National Register-listed Blinn House with its vulnerable foundation and fragile leaded art glass windows and fireplace.

I thank you in advance for your consideration of this request.

--

Regards,

Pam Johnson
pamelalynnjohnson@gmail.com
626-688-8345

Jomsky, Mark

From: Scott Smith <magicspark@mac.com>
Sent: Monday, July 22, 2019 3:29 PM
To: Jomsky, Mark
Subject: Appeal of 127-141 N. Madison

CAUTION: This email was delivered from the Internet. Do not click links or open attachments unless you know the content is safe.

Dear Mr. Jomsky,

I wanted to write in support of Pasadena's Heritage's appeal and request that the City Council not approve the project at 127-141 N. Madison as proposed.

I strongly feel that an EIR is needed to fully evaluate the project and study alternatives and proper mitigation.

Thank you for your time and consideration.

--Scott Smith
N Chester Ave,
Pasadena, CA

Mike Salazar, Architect
Santa Monica, CA
Pasadena Native and longtime Property Owner.

July 22, 2019
RE: Item 24: Support of "**Appeal of Zoning Board of Appeal's Decision** on Affordable Housing Concession Permit No. 11879 Located at **127 & 141 North Madison Avenue**."

Dear Honorable Pasadena City Council and Mayor:

I strongly request you support Pasadena Heritage's critical Appeal of the Board of Zoning Appeal's Decision and do not allow the project at 127-141 N. Madison to process as it currently is proposed.

Pasadena has always been the regional leader and a national example in preservation. And its housing strides and planning goals have also made it *the regional leader* in progressive housing policies. But the oversized (and inappropriate) zoning devil for preservation-sensitive sites has once again reared its domineering head as this project exemplifies such outsized zoning maximums, allowing a project that is in violation of the Secretary of Interior Standards (the heart and soul of Pasadena's world-renown leadership in balancing development with preservation), clearly in need of CEQA review and in opposition to the very City planning documents guiding this area's careful development.

Before you make a decision, you must look back at *related glaring examples* of current over-zoning getting it wrong, most notably the Playhouse District's IDS Project at El Molino and Colorado Blvd. After a broadly supported community-backed court challenge, this project was required to be significantly scaled back – *well below the zoning maximum allowed* – to meet the District's own guidelines, required adherence to the Secretary of Interior Standards and CEQA goals and requirements.

The reduced-size IDS Project that that ended up being built *is appropriate*, as the maximum allowed zoning got it wrong. This was a costly lesson for the City, yet it is shockingly ignored over and over as recently noted at 960 E. Green Street, 86 S. Raymond (Green Hotel Apartments) and the Kimpton/YWCA-hotel fiasco. These are the most glaring examples of overbearing "maximum zoning" projects completely and wrongly dominating their proposed or adjacent historic neighbors, and as with IDS violating CEQA, the Secretary of Interiors guidelines and Pasadena's governing plans for each of their respective project areas. These three projects are all in costly and time-extending revisions requiring downsizing. This is the result of oversized zoning once again.

And as recent as the June, 2018, the Planning and Community Development Department presented recommendations to reduce intensity of new developments. Surely IDS, 960 E. Green, 86 S. Raymond, etc. all contributed to this need, as well as now this proposed project. City staff at this 2018 meeting "recommended limiting the maximum height of new buildings, arguing that height affects the compatibility of new and existing buildings most." (Pasadena Heritage Newsletter, 2018). It was also noted that developers and affordable housing proponents voiced opposition at this Council cautionary note. And height is but one of the problems facing 'infill' projects like this. Excessive FARs and lack of setbacks are also key over-density culprits that lead to inappropriate and domineering projects like the one before you today.

Please do not allow on your watch historic preservation to be so boldly impacted and dismissed under the cover of needed affordable housing and lack of needed environmental review. Time and time again Pasadena has proven that both preservation and affordable housing can go hand in hand and come out *"smelling like a rose."* But unless you grant Pasadena Heritage's Appeal (and press the "pause" button), this project will never pass the "smell" test.

Respectfully,

Mike Salazar

Jomsky, Mark

From: Andrew Salimian <asalimian@pasadenaheritage.org>
Sent: Monday, July 22, 2019 4:30 PM
To: Jomsky, Mark
Cc: Sue Mossman
Subject: Blinn House Attachment
Attachments: Irvine IC15196 Blinn House Revised Report 6 - 1- 2016.pdf

Dear Mark,

I'd like to submit one more document before tonight's hearing, just to make sure it is part of the public record. It is a geochemical report for repairs to the Blinn House foundation, dating back to 2016. The Councilmembers won't have time to read this, but would like to submit it anyway before the hearing.

Thanks.

Andrew Salimian
Preservation Director
(626) 441-6333 x19
asalimian@pasadenaheritage.org

PASADENA HERITAGE
PRESERVATION | ADVOCACY | EDUCATION

IRVINE GEOTECHNICAL Inc

GEOTECHNICAL ENGINEERING EXPLORATION

PROPOSED REPAIR OF FOUNDATION DISTRESS

LOT 14 AND 15, W.J. PIERCE TRACT

160 NORTH OAKLAND AVENUE

PASADENA, CALIFORNIA

FOR BLINN HOUSE FOUNDATION

WOMEN'S CITY CLUB

IRVINE GEOTECHNICAL, INC. PROJECT NUMBER IC 15196-I

JULY 1, 2016

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INTRODUCTION

This report has been prepared per our agreement and summarizes findings of Irvine Geotechnical's geotechnical engineering exploration performed on the site. The purpose of this study is to evaluate the nature, distribution and engineering properties of the earth materials underlying the site with respect to the design and construction of the proposed project (refer to Page 2).

INTENT

It is the intent of this report to assist in the design and completion of the proposed project. The recommendations are intended to reduce geotechnical risks affecting the project. The professional opinions and advice presented in this report are based upon commonly accepted standards and are subject to the general conditions described in the **NOTICE** section of this report (refer to Page 21).

EXPLORATION

The scope of the field exploration was determined from our initial site visit and consultation with the client and William Ellinger, Historic Architect. The Site Plan prepared by William Ellinger and historic plans/details prepared by Walter Reichardt, dated February 20, 1963, were considered prior to beginning work on this project. Note, copies of Reichart drawings may be obtained by contacting William Ellinger at 626-792-8539. Exploration was conducted using techniques normally applied to this type of project in this setting. This report is limited to the area of the exploration and the proposed project as shown on the enclosed Site Plan and cross sections (refer to Appendices). Conditions affecting portions of the property outside the area explored, are beyond the scope of this report.

Exploration was conducted on December 23, 2015 with the aid of hand labor. It included excavating 4 test pits to a maximum depth of 10 feet. Samples of the earth materials were obtained and delivered to the soils engineering laboratory of Soil Labworks, LLC for testing and analysis. Downhole observation of the earth materials was performed by the engineering geologist.

Office tasks included laboratory testing of selected soil samples, reviewing historic drawings, reviewing historical topographic maps and aerial photographs, preparing the Site Plan and cross sections and performing engineering analysis. Earth materials exposed in the test pits are described on the enclosed Log of Test Pits. Appendix I contains a discussion of the laboratory testing procedures and results.

The proposed project, surface geologic conditions, and the location of the test pits are shown on the Site Plan. Subsurface distribution of the earth materials, projected geologic structure, and the proposed project are shown on Sections A and B.

PROPOSED PROJECT

Information concerning the proposed project was provided by William Ellinger, Historic Architect. Formal plans have not been prepared and await the conclusions and recommendations of this report. Conceptually, it is planned to repair apparent foundation settlement and building distress at the western portion of the existing residence. Repairs could include underpinning foundations and leveling floors and squaring framing.

SITE DESCRIPTION

The subject property consists of a near level and developed lot, in the City of Pasadena, California. It is located on the east side of North Oakland Avenue, at the intersection with

Ford Place, between Walnut Street and Union Street, and east of Los Robles Avenue. The campus of Fuller Seminary is present toward the north, south and southwest.

The site is developed with a historic residential building known as the "Blinn House," constructed in 1906, which has been owned and used by the Women's City Club since 1995. The structure is two-story with a third story containing a large attic and original servants quarters. A partial basement is present beneath the central and eastern portions of the structure. A detached garage/carriage house is present in the rear parking lot east of the residence. The surrounding area is mainly developed with historic single-family residences and newer buildings that are all part of the Fuller Seminary campus.

The Blinn House is a qualified historical structure. It is listed individually in both the National Register of Historic Properties and the California Register of Historical Resources. Additionally it is listed in the NRHP and the California Resgister as a contributing resource in the Ford Place Historic District.

Topographically, this area of Pasadena is characterized as a gentle, south-sloping alluvial fan surface that slopes away from the San Gabriel Mountains. Significant grading was not required to create the level building sites and access roads.

The original residence included an open Loggia extending to beyond the west beyond the enclosed portions of the first floor and was covered by the second floor Sleeping Porch above. The lower Loggia consisted of a concrete slab raised approximately 2½ to 3 feet above the adjacent level yard area, and just a few inches below the level of the adjacent interior wood floor of the residence. The Loggia's floor slab was constructed on earthen fill material placed inside the perimeter brick stem walls. The source of the fill was likely spoils from the basement excavation.

The western Loggia was ultimately enclosed in 1963 and incorporated into the residence as a sunroom, called the "Garden Room". At that time, an additional concrete slab was poured over the original Loggia slab in order to match the floor level of the adjacent interior hardwood floor at the Lounge. A concrete landing and steps, and a door were added on the north side to provide access into the Garden Room from the exterior. The pair of doors, which originally provided access to the western Loggia, were removed and the doorway now provide access to the Garden Room from the interior.

Of special note is the fact that the original inset flights of concrete steps at the north and south ends of the original Loggia floor slab appear to have been abandoned in place according to the 1963 Reichart Plans. They may have been filled in with concrete or earthen fill. Further investigation will be needed to determine the nature and scope of demolition in these areas in connection with the proposed project.

Vehicular access to the property is from a rear parking lot entered from Madison Avenue or via an asphalt driveway from Oakland Avenue and running along the south side of the structure. The original driveway, consisting of a scored and stained concrete slab extended from Oakland Avenue to the rear parking/garage area along the north side of the structure. This driveway is no longer used for vehicles since the construction of the Dining Room Wing in 1964 blocked it, but serves as part of the main pedestrian walkway access to main entrance from Oakland Avenue.

An original decorative wood pergola is present in front of the west side of the structure/Garden Room and extends over the driveway to the south and main pedestrian access to the north. The pergola is at the level of the second floor. The wood pergola is supported by 10 individual flagpole style concrete columns and 2 projecting stuccoed bolsters pedestals attached one to each corner of the west side of the structure.

The shingle roof over the entire second floor of the original residence is hipped and steeply pitched, and drains to all four sides. Horizontal eves, approximately four feet wide, extend to the edges of the pitched roof on all sides of the original residence. Gutters collect and convey storm water drainage to grade via down spouts at the four corners of the building. The down spouts at the southwest and northwest corners were originally connected to 4 inch diameter, shallowly buried, clay pipes that drained near horizontally to the curb in Oakland Avenue.

The two down spouts at the rear (east side) of the residence now discharge to the paved rear parking lot at grade and openings to the original clay drain pipes are plugged.

At some point, the down spout at the southwest corner of the roof was disconnected from the clay pipe. The bottom of this down spout now discharges onto soil within the planter adjacent to the southwest corner of the enclosed Garden Room. Based on photographs provided by the General Manager, this down spout may also be clogged at the roof level, as roof drainage is shown cascading over the eave near the location of the drain. The runoff from the eave ponds in the planter adjacent to the southwest corner of the sunroom.

The northwestern down spout is connected to the buried drain line and appears to function as intended, although it is recommended that this be actually determined at the next rainy season.

Vegetation on the site consists of grass lawns, large trees, shrubs and plants that are irrigated and well maintained. Surface drainage generally is by sheet flow runoff down the contours of the land toward the southeast. Some ponding occurs in the memorial bench planter area across the concrete walkway from the main entrance to the building and in the planter along the west portion of the Garden Room.

Foundation Conditions and Distress

The west perimeter foundations of the Garden Room have settled significantly with respect to the east side of the room at the intersection with the original enclosed portion of the residence. The differential settlement between the original residence footing and the Garden Room has resulted in a noticeable slope of the concrete floor slab. The wood floor of the Sleeping Porch above has also deflected downward and is distressed. Door and window frames are racked and distressed at the west wall of the second floor and the projecting corner bays.

It is our understanding that the architect has quantified the settlement and distress by performing floor level surveys and measuring door and window frames. The relative floor elevations were not measured as part of our work. The amount of settlement at the Garden Room from the east wall to the west wall is approximately 3.5 inches according to the architect.

The foundations for the original residence were observed in Test Pit 4. The foundations for the original Loggia were observed in Test Pits 1 and 3. Also, one of the concrete columns supporting the decorative wood pergola adjacent to the west side of the structure is leaning several inches from perpendicular toward the west. The foundation for the leaning column was observed in Test Pit 2.

Based on our observations, the residence foundations and original Loggia foundations were constructed similarly. The construction consisted of an unreinforced brick stem wall extending approximately 2½ to 3 feet above grade to the floor level and also extending below grade to the top of an unreinforced concrete footing. For the Loggia, the brick stem walls extend 18 inches to 21 inches below grade to the top of a concrete footing that is between 10 inches and 18 inches thick. The bottom of these footings, as observed in Test Pits 1 and 3, are 31 inches to 36 inches below grade as noted in the Log of Test Pits. The exterior faces of the concrete footing (as observed in the test pit) extend 2 inches to 3 inches horizontally (spread) from the brick stem wall.

For the residence, the brick stem wall was observed to be extending 28 inches below grade to the top of a concrete footing that is 12 inches thick. The footing bottom is at 40 inches below grade. The residence footing extends 7.5 inches horizontally from the brick stem wall.

Based on our observations of the leaning column in Test Pit 2, it appears that the column/pedestal/foundation are constructed of monolithic concrete. The cylindrical portion of the column transitions to the square pedestal about 12 inches above grade. The square pedestal continues an additional 30 inches below grade.

GROUNDWATER

Groundwater was not encountered during exploration and this area of Pasadena is not known to have a high groundwater table. Historically highest groundwater in this area of Pasadena is estimated to be more than 100 feet below the ground surface (Plate 1.2, *Historically Highest Groundwater Contours and Borehole Log Data Locations, Pasadena 7½ Minute Quadrangle in Seismic Hazard Zone Report for the Pasadena Quadrangle,* SHZR-014).

EARTH MATERIALS

Fill

Fill, underlies portions of the site to a maximum observed thickness of 2½ feet in the vicinity of Test Pit 1. The fill consists of silty sand that is dark grey-brown to dark orange-brown, slightly to very moist, and slightly to medium dense. The fill is expected to be thicker beneath the slab within the sunroom.

Older Alluvium

Natural older alluvium deposits underlie the subject property and were encountered in all of the test pits. The upper older alluvium, to a depth of 6½ feet consists of silty fine sand with some sandy silt that is dark grey-brown to orange-brown, slightly moist to near saturated, slightly dense, soft to slightly firm and porous. Below this, the older alluvium consists of silty coarse sand with some gravel that is orange-brown, moist and dense.

GENERAL SEISMIC CONSIDERATIONS

Southern California is located in an active seismic region and numerous known and undiscovered earthquake faults are present in the region. Hazards associated with fault rupture and earthquakes include direct affects such as strong ground shaking and ground rupture, as well as secondary effects such as liquefaction, landsliding and lurching. The United States Geological Survey (USGS), California Geologic Survey (CGS), Southern California Earthquake Center (SCEC), private consultants and universities have been studying earthquakes in southern California for several decades. Early studies were directed toward earthquake prediction and early warning of strong ground shaking. Research and practice have shown that earthquake prediction is not practical or sufficiently accurate to benefit the general public at this time. Also, several recent and damaging earthquakes have occurred on faults that were unknown prior to rupture. Current standards and the California Building Code call for earthquake resistant design of structures as opposed to prediction.

Building Code Seismic Coefficients

Seismic design parameters within the Building Code include amplification of the seismic forces on the structure depending on the soil type, distance to seismic source and intensity of shaking. The purpose of the code seismic design parameters is to prevent collapse of structures and loss of life during strong ground shaking. Cosmetic damage should be expected.

The following table lists the applicable seismic coefficients for the 2013 Building Code.

SEISMIC COEFFICIENTS (2013 California Building Code)		
Latitude = 34.1486°N Longitude = 118.1396°W	Short Period (0.2s)	One-Second Period
Earth Materials and Site Class from Table 1613.5.2 and Section 1613.5.2	Older Alluvium - D	
Seismic Design Category from Table 1613.5.6(1) and 1613.5.6(2)	E	
Spectral Accelerations from Figures 1613.5 (1) through 1613.5(14)	S_s = 2.877 (g)	S_1 = 0.998 (g)
Site Coefficients from Tables 1613.5.3 (1) and 1613.5.3 (2)	F_A = 1.0	F_V = 1.5
Spectral Response Accelerations from Equations 16-36 and 16-37	S_{MS} = 2.877 (g)	S_{M1} = 1.497 (g)
Design Accelerations from Equations 16-38 and 16-39	S_{DS} = 1.918 (g)	S_{D1} = 0.998 (g)

Seismic Hazards

The principal seismic hazard to the subject property and proposed project is strong ground shaking from earthquakes produced by local faults. Modern, well-constructed buildings are designed to resist ground shaking through the use of shear panels, moment-resisting frames and reinforcement. Additional precautions may be taken to protect personal property and reduce the chance of injury, including strapping water heaters and securing furniture and appliances. It is likely that the subject property will be shaken by future earthquakes produced in southern California. However, secondary effects such as surface rupture, lurching, liquefaction, consolidation, ridge shattering, and landsliding should not occur at the subject property.

Alquist-Priolo Fault Rupture Hazard Study Zone

California faults are classified as active, potentially active or inactive. Faults from past geologic periods of mountain building, but do not display any evidence of recent offset are considered "inactive" or "potentially active." Faults that have historically produced earthquakes or show evidence of movement within the Holocene (past 11,000 years) are considered "active faults." Active faults that are capable of causing large earthquakes may also cause ground rupture. The Alquist-Priolo Act of 1971 was enacted to protect structures from hazards associated with fault ground rupture. No known active faults cross the subject property and the site is not located within an Alquist-Priolo Fault Rupture Hazard Study Zone. The ground rupture hazard at the site is considered nil.

Seismic Hazard Zones

The California State Legislature enacted the Seismic Hazards Mapping Act of 1990, which was prompted by damaging earthquakes in California, and was intended to protect public safety from the effects of strong ground shaking, liquefaction, landslides, and other earthquake-related hazards. The Seismic Hazards Mapping Act requires that the State Geologist delineate various "seismic hazards zones." The maps depicting the zones are released by the California Geological Survey.

The Seismic Hazards Mapping Act requires a site investigation by a certified engineering geologist and/or civil engineer with expertise in geotechnical engineering, for projects sited within a hazard zone. The investigation is to include recommendations for a "minimum level of mitigation" that should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy. The Seismic Hazards Mapping Act does not require mitigation to a level of no ground failure and/or no structural damage.

Seismic Hazard Zone delineations are based on correlation of a combination of factors, including: surface distribution of soil deposits; physical relief; depth to historic high groundwater; shear strength of the soils; and occurrence of past seismic deformation. The subject property is located within the United States Geologic Survey, Pasadena Quadrangle. Seismic hazards within the Pasadena Quadrangle were evaluated by the CGS in their report, *"Seismic Hazard Zone Report for the Pasadena 7.5-minute Quadrangle, Los Angeles County, California, Seismic Hazard Zone Report* 014." According to the Seismic Hazard Zones Map, the subject property is **not** within an area that has been subject to, or may be subject to liquefaction or earthquake induced ground deformation.

Ground Motion

Spectral accelerations at the site were determined for the Maximum Considered Earthquake (MCE) following the procedures in ASCE 7-10 and the 2014 Building Code. The computed PGA_M for this site is 1.086g. According to the USGS deaggregation website (https://geohazards.usgs.gov/deaggint/2008/), and using a ground motion with a 10 percent probability of exceedance in 50 years, the modal de-aggregated earthquake PGA and moment magnitude are 0.577g and 6.59, respectively. For a ground motion with a 2 percent probability of exceedance in 50 years, the modal de-aggregated earthquake PGA and moment magnitude are 1.077g and 6.59, respectively. The modal distance to the ground motion source is 6.1 km and 5.5 km, respectively.

CONCLUSIONS AND RECOMMENDATIONS

General Findings

The conclusions and recommendations of this exploration are based upon four test pits, research of available records, consultation, years of experience observing similar properties in similar settings. It is the finding of Irvine Geotechnical that construction of the proposed project is feasible from a geotechnical engineering standpoint provided the advice and recommendations contained in this report are included in the plans and are implemented during construction.

The site is overlain by thin fill over natural older alluvial deposits. The upper older alluvium, to a depth of 6½ to 7 feet consists of fine silty sands and sandy silts that are softer, weathered, porous and subject to moderate consolidation upon saturation and loading. The existing footings were observed to founded in this material at depths between 2½ and 3½ feet.

The shallow soils around the west and southwest sides of the structure have become periodically saturated as a result of ponding from poor drainage. It is recommended that the distressed foundations be underpinned into the dense soils below a depth of 7 feet. It is also recommended that roof, site, and planter drainage be improved and maintained.

There are several ways to underpin and strengthen foundations, each with associated costs and benefits. The underpinning could consist of concrete piers/caissons and grade beams, helical piers, or micro piles. It is recommended that a contractor and structural engineer with expertise in underpinning and foundation repairs be consulted. It is also recommended that the architect and structural engineer evaluate the need for lifting and/or leveling the foundations and distressed framing.

The distressed slabs (original and 1963 “topping” slab) in the Garden Room were not evaluated. However, it is believed that the original slab is supported by fill of dubious engineering capacity/consistency over porous alluvial soils. It may be prudent to remove and recompact the existing fill underlying this slab as part of the repairs. Alternatively, the proposed new replacement slab may be structurally designed to span the existing fill and derive support entirely from the underpinned foundations.

It is likely that all the footings for the at-grade portion of the residence (non-basement and above an open crawl space) are founded at similar depths and in similar materials. These footings could be subject to similar settlements. However, these footings are generally remote to the poor drainage and the bearing soils have likely not been saturated. If these protected conditions persist and the drainage improvements recommended above and below are implemented, it is likely that the existing footings will continue to perform adequately.

Geotechnical Issues

Geotechnical issues affecting the site include temporary excavations adjacent to existing foundations. A-B-C slot cuts will be required to excavate beneath and underpin existing footings.

SITE PREPARATION

Surficial materials consisting of fill and disturbed soils are present on the site. “Remedial” grading is recommended to improve site conditions for any <u>new, on-grade slabs</u>.*

* Note: (Assumably this would only apply to a new “elevated” interior “replacement” slab at the Garden Room and new exterior “replacement” stairs and landing at the north end of the Garden Room)

General Grading Specifications

The following guidelines may be used in preparation of the grading plan and job specifications. Irvine Geotechnical would appreciate the opportunity of reviewing the plans to insure that these recommendations are included. The grading contractor should be provided with a copy of this report.

A. The site should be prepared to receive compacted fill by removing all vegetation, debris, existing fill, and disturbed soils. The exposed excavated area should be observed by the soils engineer prior to placing compacted fill. Specific removal depths can be found in the "Site Preparation" section of this report. The exposed grade should be scarified to a depth of six inches, moistened to optimum moisture content, and recompacted to 90 percent of the maximum density.

B. Fill, consisting of soil approved by the soils engineer, shall be placed in horizontal lifts and compacted in six inch layers with suitable compaction equipment. The excavated onsite materials are considered satisfactory for reuse in the controlled fills. Any imported fill shall be observed by the soils engineer prior to use in fill areas. Rocks larger than six inches in diameter shall not be used in the fill.

C. The fill shall be compacted to at least 90 percent of the maximum laboratory density for the material used. Where cohesionless soil (less than 15 percent finer than 0.005 millimeters) is used for fill, it shall be compacted to a minimum of 95 percent relative compaction. The fill should be placed at a moisture content that is at or within 3 percent over optimum. The maximum density and optimum moisture content shall be determined by ASTM D 1557-12 or equivalent.

D. Field observation and testing shall be performed by the soils engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary, until 90 percent compaction is obtained. One compaction test is required for each 500 cubic yards or two vertical feet of fill placed.

FOUNDATION DESIGN

General Conditions

The following foundation recommendations are minimum requirements. The structural engineer may require footings that are deeper, wider, or larger in diameter, depending on the final loads. Specific recommendations are not presented for design of helical piers or micro piles, as they are typically designed and constructed by specialty contractors.

Deepened Piers

Deepened piers may be used to underpin portions of the distressed foundations. Piers should derive capacity in the dense alluvium located 7 below grade. Piers should be a minimum of 24 inches square or round. The following chart contains the recommended allowable design parameters.

Bearing Material	Minimum Embedment Depth of Footing (Inches)	Vertical Bearing (psf)	Coefficient of Friction	Passive Earth Pressure (pcf)	Maximum Earth Pressure (psf)
Older Alluvium	12*	2,500	0.4	250	4,000

* Embedded 12 inches into dense alluvium, located 7 feet below grade.

Increases in the bearing value are allowable at a rate of 500 pounds per square foot for each additional foot of footing width or depth to a maximum of 4,000 pounds per square foot. For bearing calculations, the weight of the concrete in the footing may be neglected.

The bearing value shown above is for the total of dead and frequently applied live loads and may be increased by one third for short duration loading, which includes the effects of wind or seismic forces.

The on-site soils are non-expansive. Footings should be reinforced following the recommendations of the structural engineer. Footings should be cleaned of all loose soil, moistened, free of shrinkage cracks and approved by the geotechnical engineer prior to placing forms, steel or concrete.

Foundation Settlement

Settlement of the foundation system is expected to occur on initial application of loading. A settlement of ¼ to ½ inch may be anticipated. Differential settlement should not exceed ¼ inch.

TEMPORARY EXCAVATIONS

Temporary excavations will be required to underpin the existing footings. The excavations will be up to 8 feet in depth and will expose fill over older alluvium. Where not surcharged by existing footings or structures, the older alluvium is capable of maintaining vertical excavations up to 5 feet. Where vertical excavations in the older alluvium exceed 5 feet in height, the upper portion should be trimmed to 1:1 (45 degrees).

Slot Cutting

Vertical excavations exposing and removing support from the existing footings required for underpinning will require the use of slot cutting (ABC method).

The slot cutting method uses the earth as a buttress and allows the excavations and underpinning to proceed in phases. Alternate slots of 4 feet in width may be worked. The remaining earth buttresses should be 8 feet in width. The underpinning should be completed and the slot backfilled before the "B" earth buttresses are excavated. The "C" earth buttresses may be excavated upon completion of the walls and backfilling of the "B" areas.

A representative of the geotechnical engineer should be present during grading to see temporary slopes. All excavations should be stabilized within 30 days of initial excavation. Water should not be allowed to pond on top of the excavations nor to flow toward them. No vehicular surcharge should be allowed within three feet of the top of the cut.

CORROSION

The pH of the soils is near neutral and not a factor in corrosion. The chloride content is low and not a factor in design. The sulfate content is negligible and not a factor in concrete design. The resistivity indicates that the soils are corrosive to ferrous metals.

FLOOR SLABS & CONCRETE DECKING

The replacement floor slab should be cast over approved compacted fill. In areas of existing fill and disturbed soils, the ground should be prepared and the fill placed in conformance with the SITE PREPARATION section of this report.

As an alternative to removing and re-compacting, the proposed slab may be structurally designed to span the fill and derive support entirely from the underpinned foundations.

Slabs should be at least 4 inches thick and reinforced with a minimum of #4 bars on 16 inch centers, each way. Care should be taken to cast the reinforcement near the center of the slab. For interior slabs and slabs with a floor covering, a moisture barrier is recommended. For performance and concrete curing, it recommended that the vapor barrier be 10-mil thick and placed over at least two inches of clean sand and then covered by at least two inches of clean sand. The topping sand is intended to prevent punctures during placement of the reinforcing steel and to and aid in the concrete cure.

Slabs which will be provided with a moisture-sensitive floor covering should be designed to resist moisture in conformance with ACI 302.2R-06 (*Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Material*). Specifications for under-slab vapor retarder/barrier are typically the responsibility of the architect or flooring specialist. We would be happy to assist the architect and/or flooring specialist on their specifications for moisture protection of slabs that are to receive moisture sensitive coverings.

Many agencies require floor slabs be constructed in conformance with the Green Building Code that requires slabs be poured directly on top of the vapor barrier, which is to be underlain by four inches of gravel. Since the vapor barrier is to be placed on the gravel, it is important to exercise care to prevent damaging the moisture barrier during construction. From a geotechnical engineering standpoint, a vapor barrier may be placed over 4 inches of gravel, provided that the vapor barrier is of sufficient strength to resist punctures and tearing. If plastic sheeting is used, this may require a greater than 10 mil thickness. Bentonitic barriers such as Miraclay or Volclay may also be used as long as they conform to the minimum requirements of durability, strength and waterproofing. Vapor barriers should conform to ASTM E 1745 and ACI 302.2R-06 (Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials).

It should be noted that cracking of concrete floor slabs is very common during curing. The cracking occurs because concrete shrinks as it dries. Crack control joints which are commonly used in exterior decking to control such cracking are normally not used in interior slabs. The reinforcement recommended above is intended to reduce cracking and its proper placement is critical to the slab's performance. The minor shrinkage cracks which often form in interior slabs generally do not present a problem when carpeting, linoleum, or wood floor coverings are used. The slab cracks can, however, lead to surface cracks in brittle floor coverings such as ceramic tile. A mortar bed or slip sheet is recommended between the slab and tile to limit, the potential for cracking.

Slabs should be protected with a polyethylene plastic vapor barrier placed beneath the slab. This barrier is intended to prevent the upward migration of moisture from the subgrade soils through the porous concrete slab. It should be noted that vapor barriers are penetrated by any number of elements including water lines, drain lines, and footings. These barriers are therefore not completely watertight. It is recommended that a surface seal be placed on slabs which will receive a wood floor. The floor installer should be consulted regarding an adequate product.

DRAINAGE

Control of site drainage is important for the performance of the proposed project and existing structures. Roof drainage should be collected and conveyed to the street via pipes and/or impermeable, non-erosive drainage devices. Existing pipes and drains should be repaired or replaced as needed.

Drainage should not be allowed to pond on at grade, within planters or against any foundations. The Building Code specifies that the grade within 10 feet of the foundation be sloped to drain at a 5 percent gradient away from the building. Planters located next to raised floor type construction also should be sealed to the depth of the footings. Drainage control devices require periodic cleaning, testing and maintenance to remain effective. The gutters and down spouts draining the level eaves around the bottom of the pitched roof should be cleared of any existing blockages and periodically inspected and maintained.

PLAN REVIEW

Formal plans ready for submittal to the Building Department should be reviewed by Irvine Geotechnical. Any change in scope of the project may require additional work.

SITE OBSERVATIONS DURING CONSTRUCTION

Please advise Irvine Geotechnical at least 24 hours prior to any required site visit. The agency approved plans and permits should be at the jobsite and available to our representative. The project consultant will perform the observation and post a notice at the jobsite of his visit and findings. This notice should be given to the agency inspector.

During construction, a number of reviews by this office are recommended to verify site geotechnical conditions and conformance with the intent of the recommendations for construction. Although not all possible geotechnical observation and testing services are required by the reviewing agency, the more site reviews requested, the lower the risk of future problems. It is recommended that all grading, foundation, and drainage excavations be seen by a representative of the geotechnical engineer PRIOR to placing fill, forms, pipe, concrete, or steel. Any fill which is placed should be approved, tested, and verified if used for engineering purposes. Temporary excavations should be observed by a representative of the Geotechnical Engineer.

The following site reviews are advised or required. Should the observations reveal any unforeseen hazards, the engineer will recommend treatment.

Pre-construction meeting	Advised
Temporary excavations	Required
Underpinning installation	Required
Bottom excavation	Required
Subdrains	Required
Compaction of fill	Required
Foundation excavations	Required

Slab subgrade moisture barrier membrane	Advised
Slab subgrade rock placement	Advised
Slab steel placement	Advised
Compaction of utility trench backfill	Advised

Irvine Geotechnical requires at least a 24 hour notice prior to any required site visits. The approved plans and building/grading permits should be on the job and available to the project consultant.

FINAL INSPECTION

Many projects are required by the agency to have final geologic and soils engineering reports upon completion of the grading.

CONSTRUCTION SITE MAINTENANCE

It is the responsibility of the contractor to maintain a safe construction site. When excavations exist on a site, the area should be fenced and warning signs posted. All deepened pier excavations must be properly covered and secured. Soil generated by foundation and subgrade excavations should be either removed from the site or properly placed as a certified compacted fill. Workers should not be allowed to enter any unshored trench excavations over five feet deep.

GENERAL CONDITIONS

This report and the exploration are subject to the following NOTICE. Please read the NOTICE carefully, it limits our liability.

NOTICE

In the event of any changes in the design or location of any structure, as outlined in this report, the conclusions and recommendations contained herein may not be considered valid unless the changes are reviewed by us and the conclusions and recommendations are modified or reaffirmed after such review.

The subsurface conditions, excavation characteristics, and geologic structure described herein and shown on the enclosed cross sections have been projected from excavations on the site as indicated and should in no way be construed to reflect any variations that may occur between these excavations or that may result from changes in subsurface conditions.

Fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, irrigation, and other factors not evident at the time of the measurements reported herein. Fluctuations also may occur across the site. High groundwater levels can be extremely hazardous. Saturation of earth materials can cause subsidence or slippage of the site.

If conditions encountered during construction appear to differ from those disclosed herein, notify us immediately so we may consider the need for modifications. Compliance with the design concepts, specifications or recommendations during construction requires the review of the geotechnical engineer during the course of construction.

THE EXPLORATION WAS PERFORMED ONLY ON A PORTION OF THE SITE, AND CANNOT BE CONSIDERED AS INDICATIVE OF THE PORTIONS OF THE SITE NOT EXPLORED.

This report is issued and made for the sole use and benefit of the client, is not transferable and is as of the exploration date. Any liability in connection herewith shall not exceed the fee for the exploration. No warranty, expressed or implied, is made or intended in connection with the above exploration or by the furnishing of this report or by any other oral or written statement.

THIS REPORT WAS PREPARED ON THE BASIS OF THE PRELIMINARY DEVELOPMENT PLAN OR CONCEPT FURNISHED. FINAL PLANS SHOULD BE REVIEWED BY THIS OFFICE AS ADDITIONAL GEOTECHNICAL WORK MAY BE REQUIRED.

Irvine Geotechnical appreciates the opportunity to provide our service on this project. Any questions concerning the data or interpretation of this report should be directed to the undersigned.

Respectfully submitted,
Irvine Geotechnical, Inc.

Mark Houser
Project Geologist/Engineer

Jon A. Irvine
E.G. 1691/G.E. 2891

E:\IC15196 Blinn House\IC15196 Blinn House Report w Ellinger Comments.wpd

Enc: Appendix I - Laboratory Testing by Soil Labworks
- Shear Test Diagram (Plate B-1)
- Consolidation Diagrams (Plates C-1 through C-3)

Vicinity Map
Regional Geologic Map
Log of Test Pits (4 Pages)
Calculation Sheet
Sections A and B
Site Plan

xc: (7) Addressee

STATEMENT OF RESPONSIBILITY - SOIL TESTING BY SOIL LABWORKS, LLC

Laboratory testing by Soil Labworks, LLC was performed under the supervision of the undersigned engineer. Irvine Geotechnical and Jon A. Irvine has reviewed referenced laboratory testing report dated January 5, 2016 and the results appear to be reasonable for this area of the Pasadena. Irvine Geotechnical and the undersigned engineer concurs with the findings of Soil Labworks, LLC and accepts professional responsibility for utilizing the data.

SOIL LABWORKS LLC

SL15.2088
January 5, 2016

Irvine Geotechnical
145 N. Sierra Madre Boulevard
Suite 12
Pasadena, California 91107

Subject: Laboratory Testing

Site: 160 N Oakland Avenue
Pasadena, California

Job: IRVINE/BLINN

Laboratory testing for the subject property was performed by Soil Labworks, LLC., under the supervision of the undersigned Engineer. Samples of the earth materials were obtained from the subject property by personnel of Irvine Geotechnical and transported to the laboratory of Soil Labworks for testing and analysis. The laboratory tests performed are described and results are attached.

Services performed by this facility for the subject property were conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

Respectfully Submitted:

SOIL LABWORKS, LLC

REGISTERED PROFESSIONAL ENGINEER
JON ALAN IRVINE
GE 2891
Exp. 6-30-16
GEOTECHNICAL
STATE OF CALIFORNIA

JON A. IRVINE
G.E. 2891

Enc: Appendix

2500 Townsgate Road, Suite E, Westlake Village, California 91361
(805) 370-1338 FAX (805) 371-4693

SOIL LABWORKS LLC

SL15.2088
January 5, 2016

APPENDIX

Laboratory Testing

Sample Retrieval - Hand Labor

Samples of earth materials were obtained by driving a thin-walled steel sampler with successive blows of a drop hammer. The earth material was retained in brass rings of 2.416 inches inside diameter and 1.00 inch height. The samples were stored in closefitting, water-tight containers for transportation to the laboratory.

Moisture Density

The field moisture content and dry density were determined for each of the soil samples. The dry density was determined in pounds per cubic foot following ASTM 2937-10. The moisture content was determined as a percentage of the dry soil weight conforming to ASTM 2216-10. The results are presented below in the following table. The percent saturation was calculated on the basis of an estimated specific gravity. Description of earth materials used in this report and shown on the attached Plates were provided by the client.

Test Pit/Boring No.	Sample Depth (Feet)	Soil Type	Dry Density (pcf)	Moisture Content (percent)	Percent Saturation (G_s=2.65)
TP1	2	Fill	109.5	15.4	80
TP1	7	Older Alluvium	112.8	16.1	92
TP1	8	Older Alluvium	111.9	15.8	88
TP2	2	Older Alluvium	109.8	9.4	50
TP2	4	Older Alluvium	105.9	7.5	36
TP2	6	Older Alluvium	111.2	10.3	56
TP2	10	Older Alluvium	120.3	8.9	63
TP3	2	Older Alluvium	112.9	11.3	65
TP3	4	Older Alluvium	117.1	12.0	77
TP3	6	Older Alluvium	119.3	14.1	97
TP4	2	Older Alluvium	108.2	7.3	37
TP4	4	Older Alluvium	108.0	12.7	63
TP4	6	Older Alluvium	117.9	8.5	56

2500 Townsgate Road, Suite E, Westlake Village, California 91361
(805) 370-1338 FAX (805) 371-4693

Shear Strength

The peak and ultimate shear strengths of the older alluvium were determined by performing consolidated and drained direct shear tests in conformance with ASTM D3080/D3080M-11. The tests were performed in a strain-controlled machine manufactured by GeoMatic. The rate of deformation was 0.01 inches per minute. Samples were sheared under varying confining pressures, as shown on the "Shear Test Diagrams," B-Plates. The moisture conditions during testing are shown on the following table and on the B-Plates. The samples indicated as saturated were artificially saturated in the laboratory. All saturated samples were sheared under submerged conditions.

Test Pit/ Boring No.	Sample Depth (Feet)	Dry Density (pcf)	As-Tested Moisture Content (percent)
TP3	4	117.1	17.7

Consolidation

One-dimensional consolidation tests were performed on samples of the older alluvium in a consolidometer manufactured by GeoMatic in conformance with ASTM D2435/D2435M-11. The tests were performed on 1-inch high samples retained in brass rings. The samples were initially loaded to approximately ½ of the field over-burden pressure and then unloaded to compensate for the effects of possible disturbance during sampling. Loads were then applied in a geometric progression and resulting deformation recorded. Water was added at a specific load to determine the effect of saturation. The results are plotted on the "Consolidation Test," C-Plates.

SOIL LABWORKS LLC

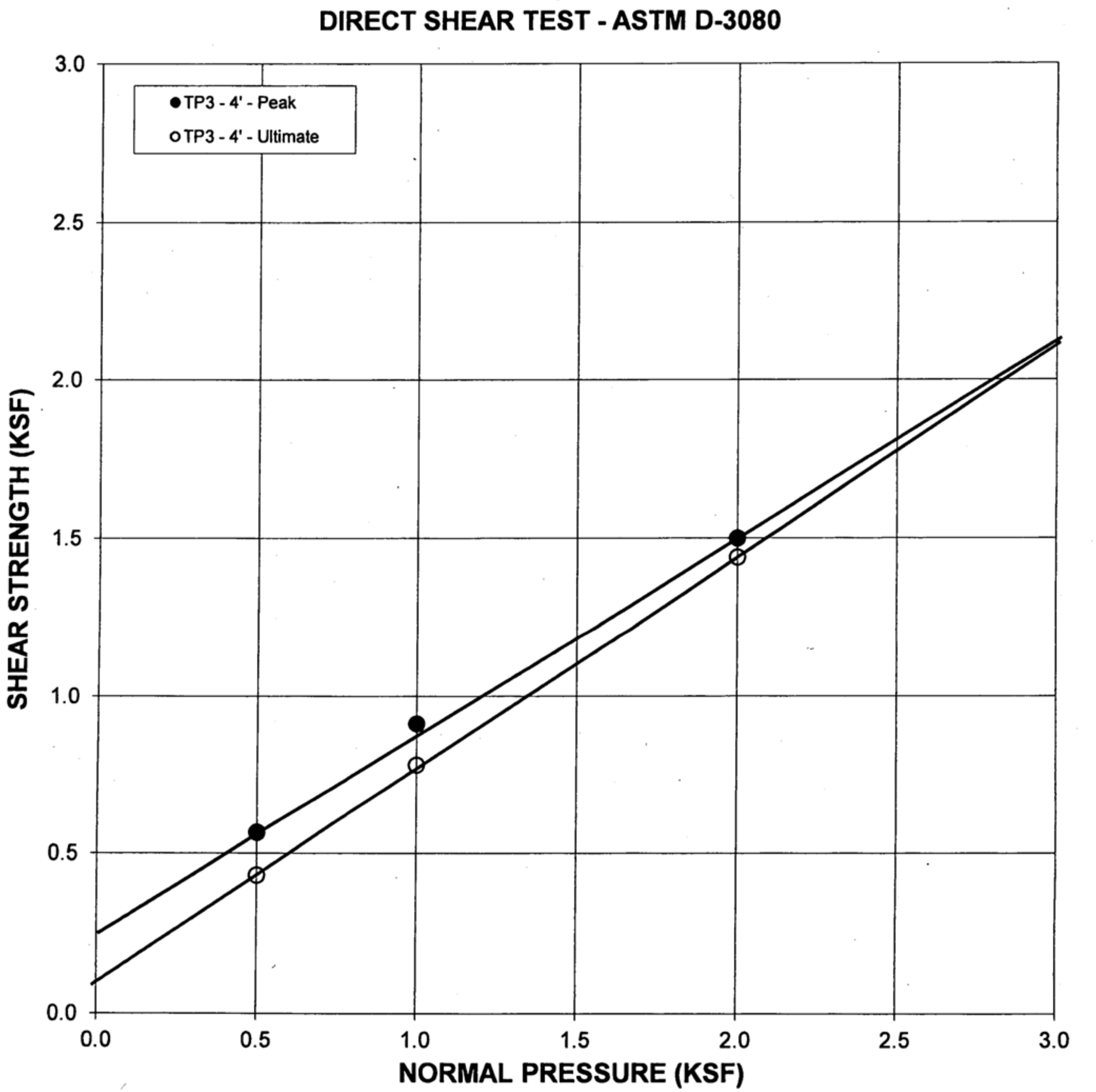
SHEAR DIAGRAM B-1

JN: SL15.2088 CONSULTANT JAI
CLIENT: Irvine/Blinn-160 N Oakland Avenue

EARTH MATERIAL: OLDER ALLUVIUM

	PEAK	ULTIMATE	
Phi Angle	32	33.5	degrees
Cohesion	250	100	psf

Average Moisture Content	17.7%
Average Dry Density (pcf)	117.1
Percent Saturation	100.0%

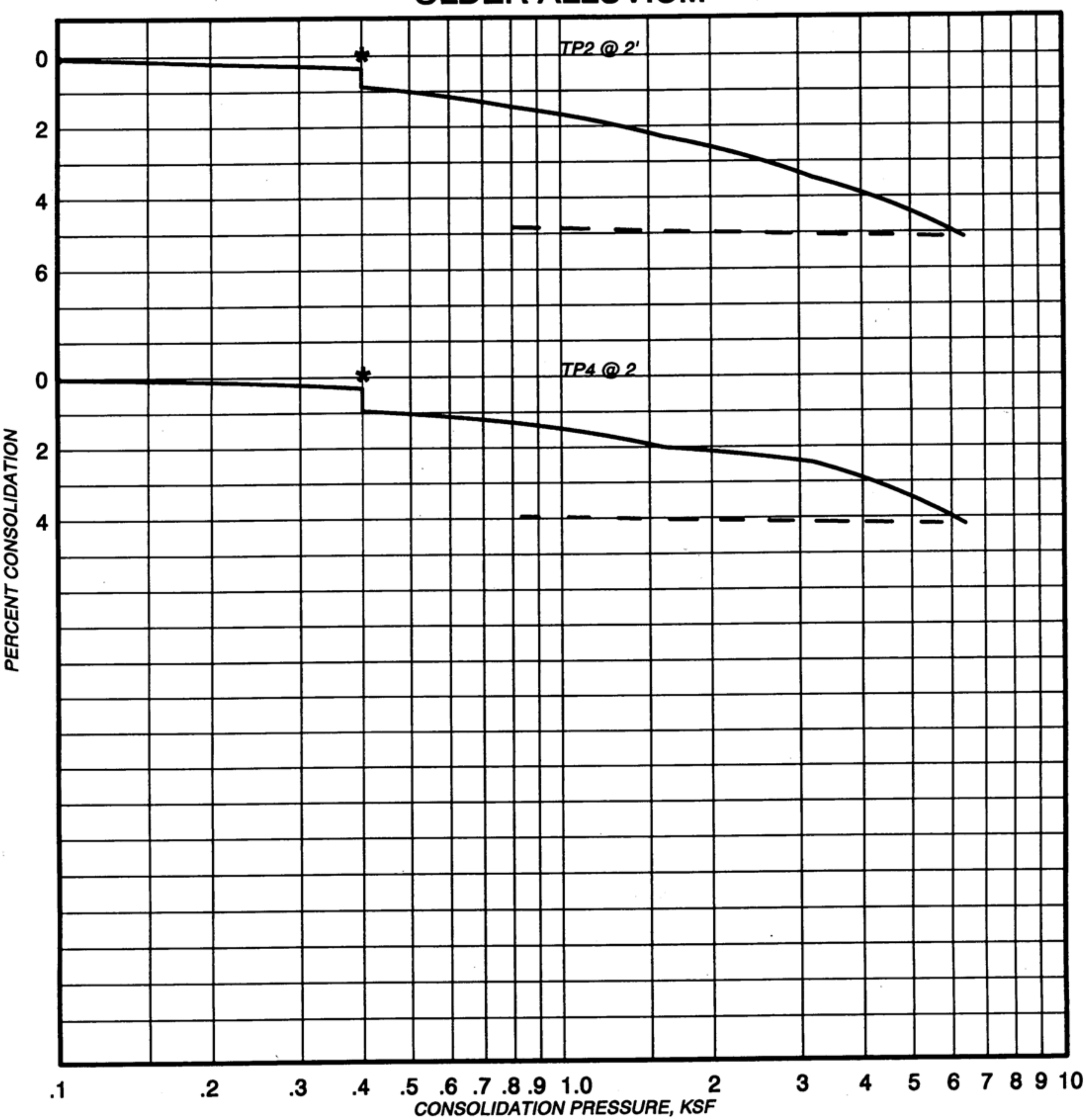


CONSOLIDATION TEST

PROJECT: 2088 IRVINE/BLINN-160 N OAKLAND AVE

SAMPLES: TP2 @ 2'; TP4 @ 2

OLDER ALLUVIUM



✱ Water Added

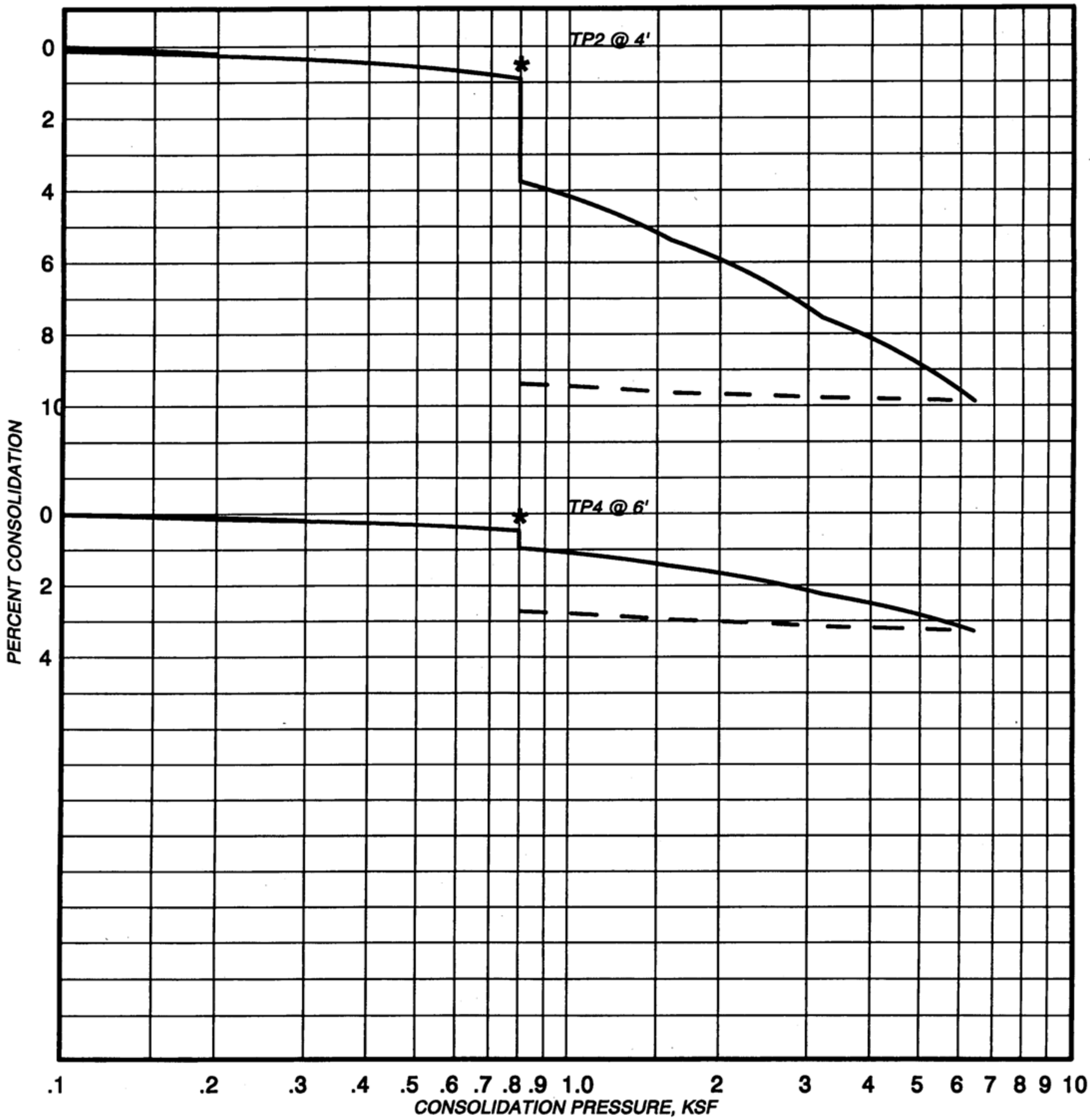
PLATE: C-1

CONSOLIDATION TEST

PROJECT: 2088 IRVINE/BLINN-160 N OAKLAND AVE

SAMPLES: TP2 @ 4'; TP4 @ 6'

OLDER ALLUVIUM



* Water Added

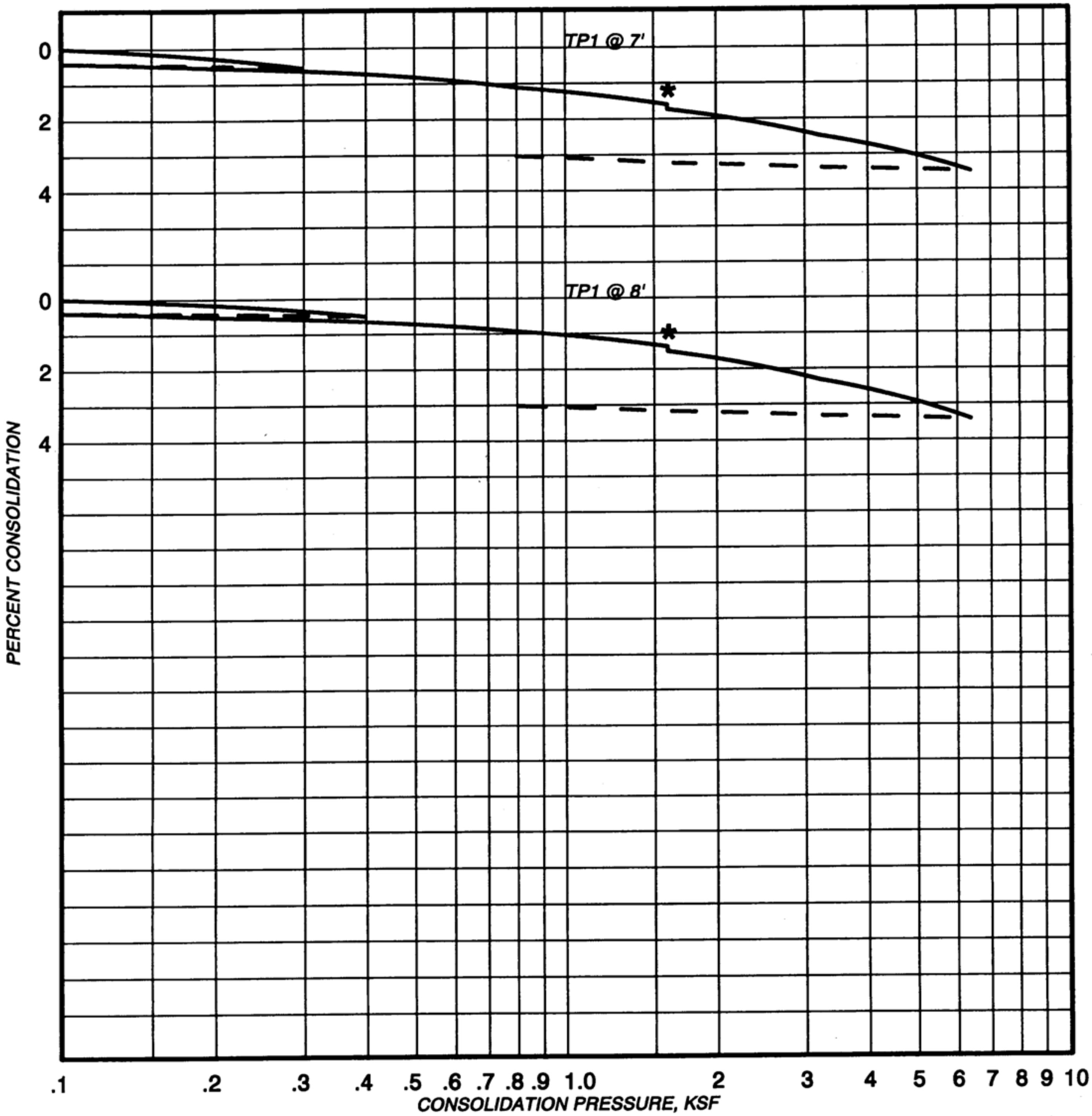
PLATE: C-2

CONSOLIDATION TEST

PROJECT: 2088 IRVINE/BLINN-160 N OAKLAND AVE

SAMPLES: TP1 @ 7'; TP1 @ 8'

OLDER ALLUVIUM



* Water Added

PLATE: C-3

IRVINE GEOTECHNICAL Inc

SLOT CUT ANALYSIS

IC:	**15196-H**	CONSULT:	**MH**
CLIENT:	**Blinn House**		

CALCULATION SHEET #

CALCULATE THE FACTOR OF SAFETY OF SLOT CUT EXCAVATIONS. ASSUME COHESIVE AND FRICTIONAL RESISTANCE ALONG THE SIDES OF SLOTS AS WELL AS THE FAILURE SURFACE. THE HORIZONTAL PRESSURE ON THE SIDES OF THE SLOTS IS THE AT-REST PRESSURE (1-SIN(phi)).

CALCULATION PARAMETERS

EARTH MATERIAL:	Older Alluvium	EXCAVATION HEIGHT:	8 feet
SHEAR DIAGRAM:	B-1	BACKSLOPE ANGLE:	0 degrees
COHESION:	250 psf	SURCHARGE:	800 pounds
PHI ANGLE:	32 degrees	SURCHARGE TYPE:	L Line Load
DENSITY:	125 pcf	INITIAL FAILURE ANGLE:	20 degrees
SLOT BOUNDARY CONDITIONS		FINAL FAILURE ANGLE:	70 degrees
SLOT CUT WIDTH:	4 feet	INITIAL TENSION CRACK:	1 feet
COHESION:	250 psf	FINAL TENSION CRACK:	20 feet
PHI ANGLE:	32 degrees		

CALCULATED RESULTS

CRITICAL FAILURE ANGLE	69 degrees
HORIZONTAL DISTANCE TO UPSLOPE TENSION CRACK	1.0 feet
DEPTH OF TENSION CRACK	5.4 feet
TOTAL EXTERNAL SURCHARGE	3200.0 pounds
VOLUME OF FAILURE WEDGE	26.8 ft^3
WEIGHT OF FAILURE WEDGE	6548.7 pounds
LENGTH OF FAILURE PLANE	2.8 feet
SURFACE AREA OF FAILURE PLANE	11 ft^2
SURFACE AREA OF SIDES OF SLOTS	6.7 ft^2
NUMBER OF TRIAL WEDGES ANALYZED	9856 trials
TOTAL RESISTING FORCE ALONG WEDGE BASE (FrB)	2163.1 pounds
TOTAL RESISTING FORCE ALONG WEDGE SIDES (FrS)	2824.7 pounds
RESULTANT HORIZONTAL COMPONENT OF FORCE	**-13.3 pounds**
CALCULATED FACTOR OF SAFETY	**1.29**

CONCLUSIONS:

THE CALCULATION INDICATES THAT SLOTS CUTS UP TO 4 FEET WIDE AND 8 FEET HIGH IN THE FILL AND OLDER ALLUVIUM HAVE A SAFETY FACTOR GREATER THAN 1.25 AND ARE TEMPORARILY STABLE.

TOPO! map printed on 01/06/16 from "Untitled.tpo"

118°10.000' W | 118°09.000' W | 118°08.000' W | WGS84 118°07.000' W

34°10.000' N | 34°09.000' N | 34°08.000' N

118°10.000' W | 118°09.000' W | 118°08.000' W | WGS84 118°07.000' W

NATIONAL GEOGRAPHIC

0 .5 1 MILES

1000 0 1000 2000 3000 4000 5000 FEET

1 .5 0 KILOMETERS 1

1000 0 METERS 1000

TN MN 12°

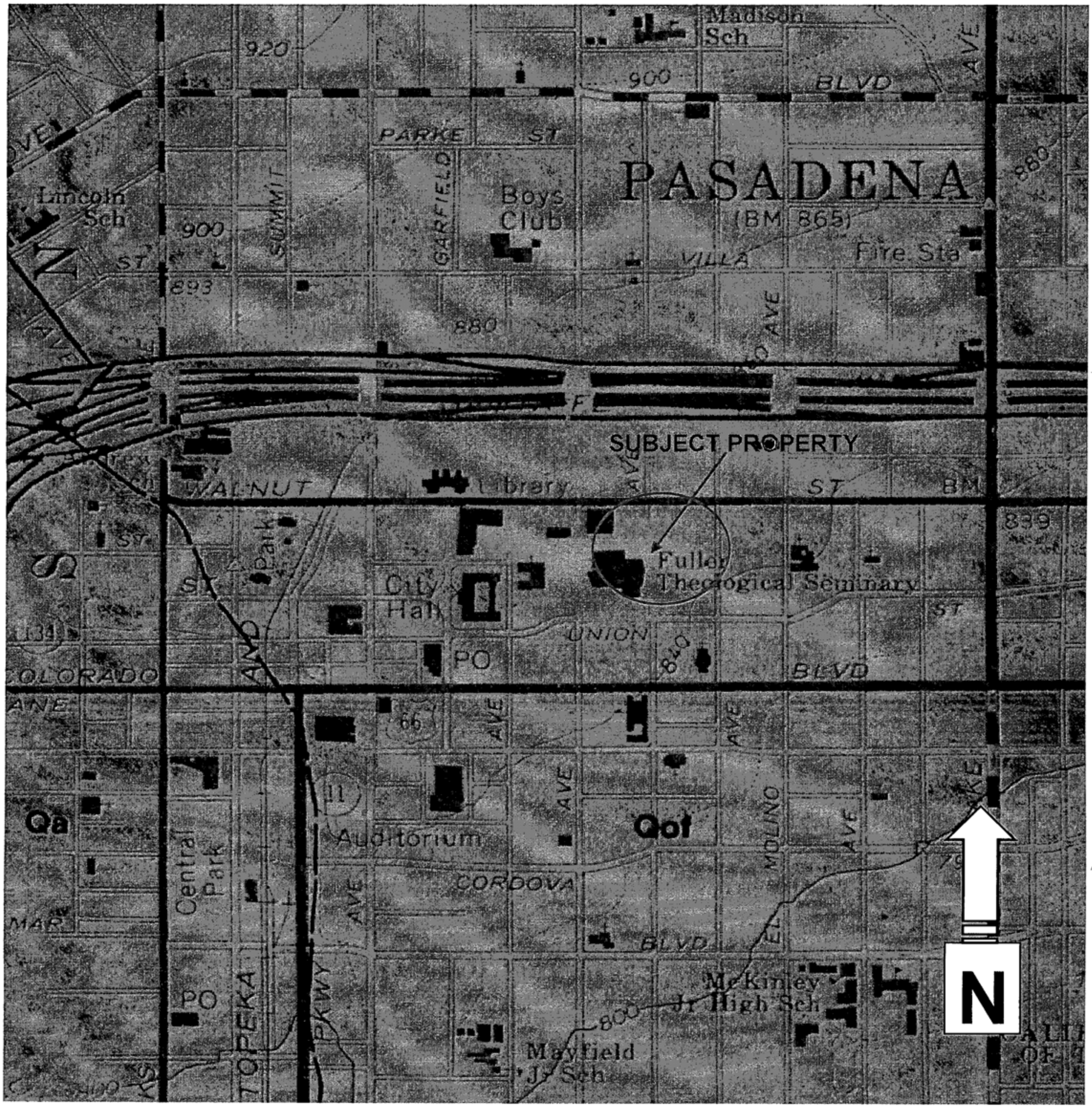
01/06/16

IRVINE GEOTECHNICAL Inc

REGIONAL GEOLOGIC MAP

IC: **15196** CONSULT: **JAI**
CLIENT **BLINN HOUSE**
SCALE: **1" = 1,000'**

REFERENCE: Geologic Maps of the Santa Monica Mountains and Vicinity, CD Compilation T.W. Dibblee, 2001



IRVINE GEOTECHNICAL Inc

LOG OF TEST PITS

PROJECT IC15196 BLINN HOUSE
DRILL DATE 12/23/2015
LOG DATE 12/23/2015
LOGGED BY MHOUSER
DRILL TYPE Hand Labor
DIAMETER 30 Inches

SURFACE ELEVATION 850 feet
DRILLING CONTRACTOR Mike's Excavating Service
SURFACE CONDITIONS Planter - SW corner of Residence

TEST PIT 1

Sample Type	Sample Depth (feet)	Blows per foot	Moisture (%)	Dry Unit Weight (pcf)	Saturation (%)	USCS Code	Elevation (feet)	Depth (feet)	Lithologic Description
						SM	850.0	0	**FILL:** Silty Sand, dark grey-brown, very moist,
							849.0	1	
R	2	N/A	15.4	109.5	80		848.0	2	
							847.0	3	**OLDER ALLUVIUM:** Silty medium to coarse Sand, dark grey-brown, very moist, slightly dense
						SM	846.0	4	
							845.0	5	Silty fine Sand with some Sandy Silt, dark grey, wet, slightly dense, slightly dense, very soft, porous
							844.0	6	
R	7	N/A	16.1	112.8	92		843.0	7	Silty Sand, dark red-brown to dark orange-brown, moist, dense
R	8	N/A	15.8	111.9	88		842.0	8	**END TP1 @ 8':** No Water; No Caving; Fill to 2.5' Brick Stemwall from 0 to 21" Concrete Footing from 21" to 31" (2" to 3" Spread) 1ea E-W trend 4" Clay pipe from 3" to 7" (disconnected roof drain pipe) 1ea E-W trend1.5" metal pipe from 7" to 8.5" 2ea E-W trend 2" metal pipes from approx 12" to 14" and 18" to 20"

IRVINE GEOTECHNICAL Inc

LOG OF TEST PITS

PROJECT IC15196 BLINN HOUSE
DRILL DATE 12/23/2015
LOG DATE 12/23/2015
LOGGED BY MHOUSER
DRILL TYPE Hand Labor
DIAMETER 30 Inches

SURFACE ELEVATION 850 feet
DRILLING CONTRACTOR Mike's Excavating Service
SURFACE CONDITIONS Planter / Lawn- Trellis Column, 2nd from Southernmost

TEST PIT 2

Sample Type	Sample Depth (feet)	Blows per foot	Moisture (%)	Dry Unit Weight (pcf)	Saturation (%)	USCS Code	Elevation (feet)	Depth (feet)	Lithologic Description
						SM	850.0	0	**FILL:** Silty Sand, dark grey-brown to dark orange-brown, very moist, slightly dense
							849.0	1	
R	2	N/A	9.4	109.8	50	SM	848.0	2	**OLDER ALLUVIUM:** Silty Sand, mottled dark grey-brown, moist, slightly dense, porous
							847.0	3	
R	4	N/A	7.5	105.9	36		846.0	4	Silty fine Sand with some Sandy Silt, mottled dark red-brown, moist, medium dense, firm, lightly cemented
							845.0	5	
R	6	N/A	10.3	111.2	56		844.0	6	
							843.0	7	Silty coarse Sand with Gravel, mottled orange-brown, moist, very dense
							842.0	8	
							841.0	9	
R	10	N/A	8.9	120.3	63		840.0	10	**END TP2 @ 10':** No Water; No Caving; Fill to 1.5' Square Concrete Pedestal from 0 to 30" Top of Pedastal at approx 12" above grade (base of column)

IRVINE GEOTECHNICAL Inc

LOG OF TEST PITS

PROJECT	IC15196 BLINN HOUSE
DRILL DATE	12/23/2015
LOG DATE	12/23/2015
LOGGED BY	MHOUSER
DRILL TYPE	Hand Labor
DIAMETER	30 Inches

SURFACE ELEVATION	850 feet
DRILLING CONTRACTOR	Mike's Excavating Service
SURFACE CONDITIONS	Planter - NW corner of residence

TEST PIT 3

Sample Type	Sample Depth (feet)	Blows per foot	Moisture (%)	Dry Unit Weight (pcf)	Saturation (%)	USCS Code	Elevation (feet)	Depth (feet)	Lithologic Description
						SM	850.0	0	**FILL:** Silty Sand, dark grey-brown, very moist, slightly to medium dense
							849.0	1	
R	2	N/A	11.3	112.9	65	SM	848.0	2	**OLDER ALLUVIUM:** Silty Sand, grey-brown, very moist, medium dense
							847.0	3	
R	4	N/A	12.0	117.1	77		846.0	4	Silty Sand, dark orange-brown, moist, medium dense to dense
							845.0	5	
R	6	N/A	14.1	119.3	97		844.0	6	

END TP3 @ 6': No Water; No Caving; Fill to 1.5'

Brick Stemwall from 0 to 18"

Concrete Footing from 18" to 36" (2" Spread)

1ea E-W trend 4" Clay pipe from 6" to 10"
(connected roof drain pipe)
1ea N-S trend1.5" metal pipe from 9" to 10.5"
depths approximate

LOG OF TEST PITS

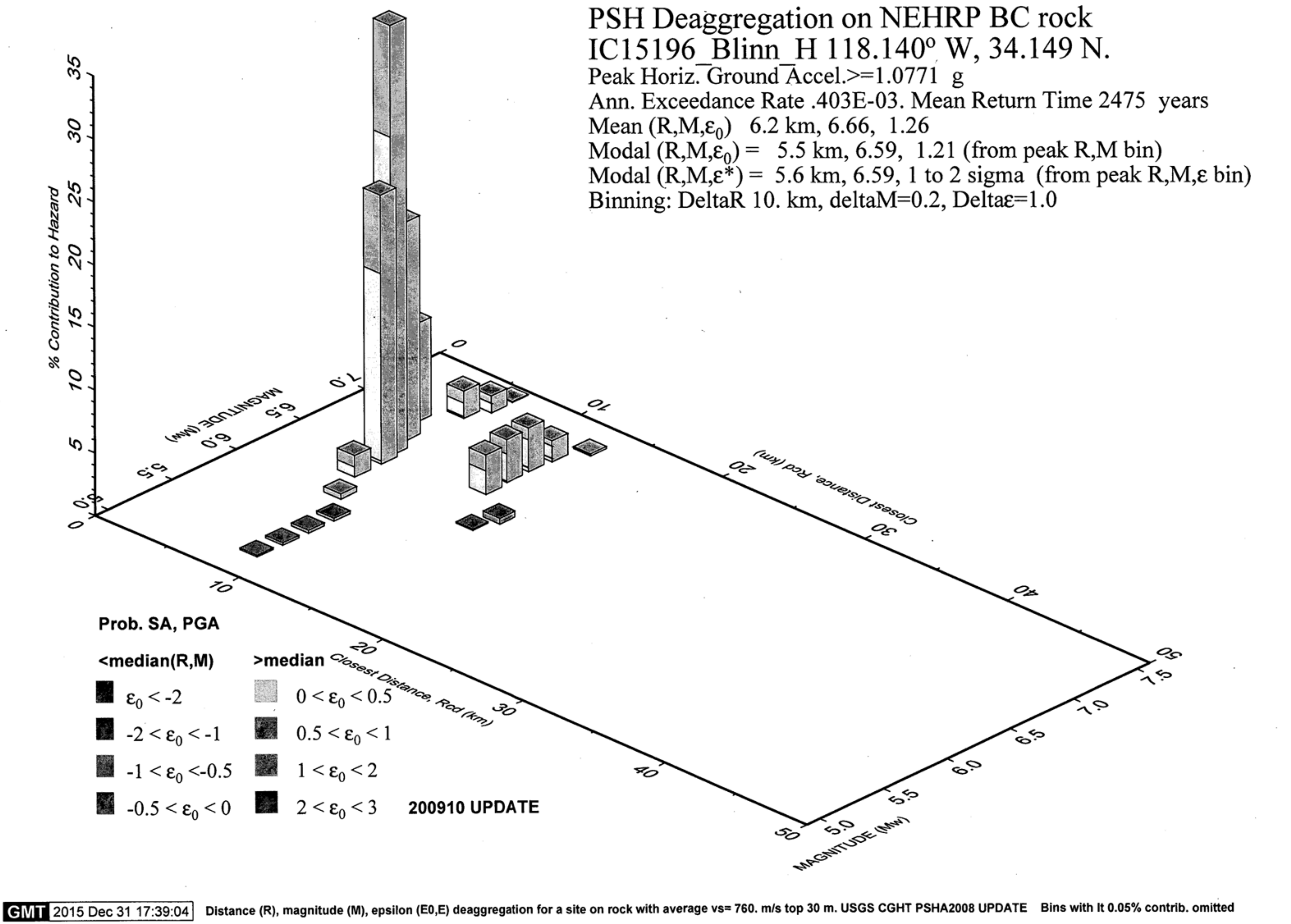
IRVINE GEOTECHNICAL Inc

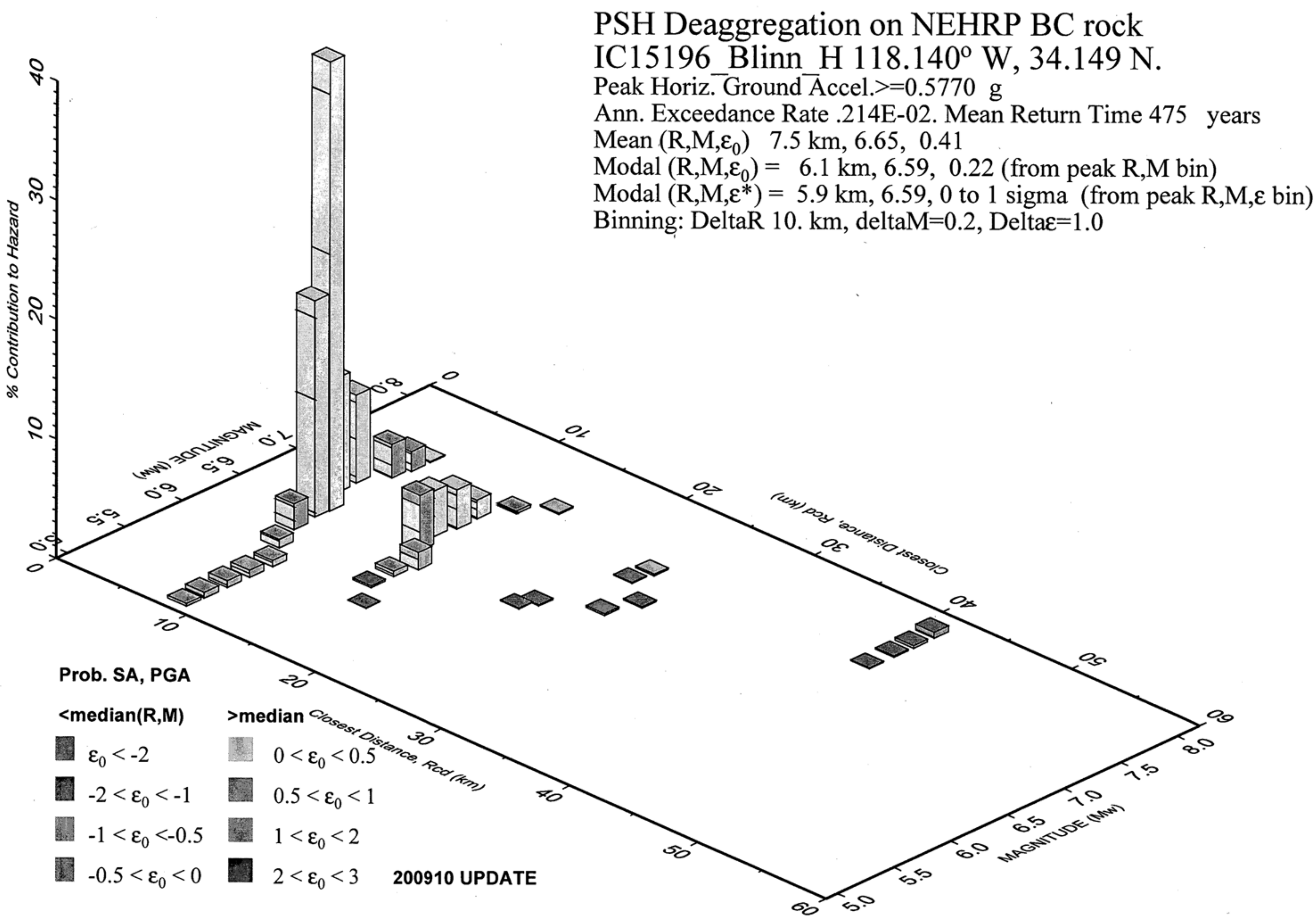
PROJECT IC15196 BLINN HOUSE
DRILL DATE 12/23/2015
LOG DATE 12/23/2015
LOGGED BY MHOUSER
DRILL TYPE Hand Labor
DIAMETER 30 Inches

SURFACE ELEVATION 850 feet
DRILLING CONTRACTOR Mike's Excavating Service
SURFACE CONDITIONS Planter - East side of North Entry steps

TEST PIT 4

Sample Type	Sample Depth (feet)	Blows per foot	Moisture (%)	Dry Unit Weight (pcf)	Saturation (%)	USCS Code	Elevation (feet)	Depth (feet)	Lithologic Description
						SM	850.0	0	**FILL:** Silty Sand, grey-brown, slightly moist, slightly to medium dense
							849.0	1	
R	2	N/A	7.3	108.2	37		848.0	2	
						SM	847.0	3	**OLDER ALLUVIUM:** Silty Sand, grey-brown, moist, slightly to medium dense, porous
R	4	N/A	12.7	108.0	63		846.0	4	Silty Sand, dark red-brown to orange-brown, moist, medium dense to dense
							845.0	5	
R	6	N/A	8.5	117.9	56		844.0	6	**END TP3 @ 6':** No Water; No Caving; Fill to 2' Brick Stemwall from 0 to 28" Concrete Footing from 28" to 40" (7.5" Spread)


PSH Deaggregation on NEHRP BC rock
IC15196_Blinn_H 118.140° W, 34.149 N.
Peak Horiz. Ground Accel.>=1.0771 g
Ann. Exceedance Rate .403E-03. Mean Return Time 2475 years
Mean (R,M,ε0) 6.2 km, 6.66, 1.26
Modal (R,M,ε0) = 5.5 km, 6.59, 1.21 (from peak R,M bin)
Modal (R,M,ε*) = 5.6 km, 6.59, 1 to 2 sigma (from peak R,M,ε bin)
Binning: DeltaR 10. km, deltaM=0.2, Deltaε=1.0
% Contribution to Hazard
MAGNITUDE (Mw)
Closest Distance, Rcd (km)
Prob. SA, PGA
<median(R,M)
>median
ε0 < -2
-2 < ε0 < -1
-1 < ε0 <-0.5
-0.5 < ε0 < 0
0 < ε0 < 0.5
0.5 < ε0 < 1
1 < ε0 < 2
2 < ε0 < 3
200910 UPDATE
GMT 2015 Dec 31 17:39:04
Distance (R), magnitude (M), epsilon (E0,E) deaggregation for a site on rock with average vs= 760. m/s top 30 m. USGS CGHT PSHA2008 UPDATE Bins with lt 0.05% contrib. omitted



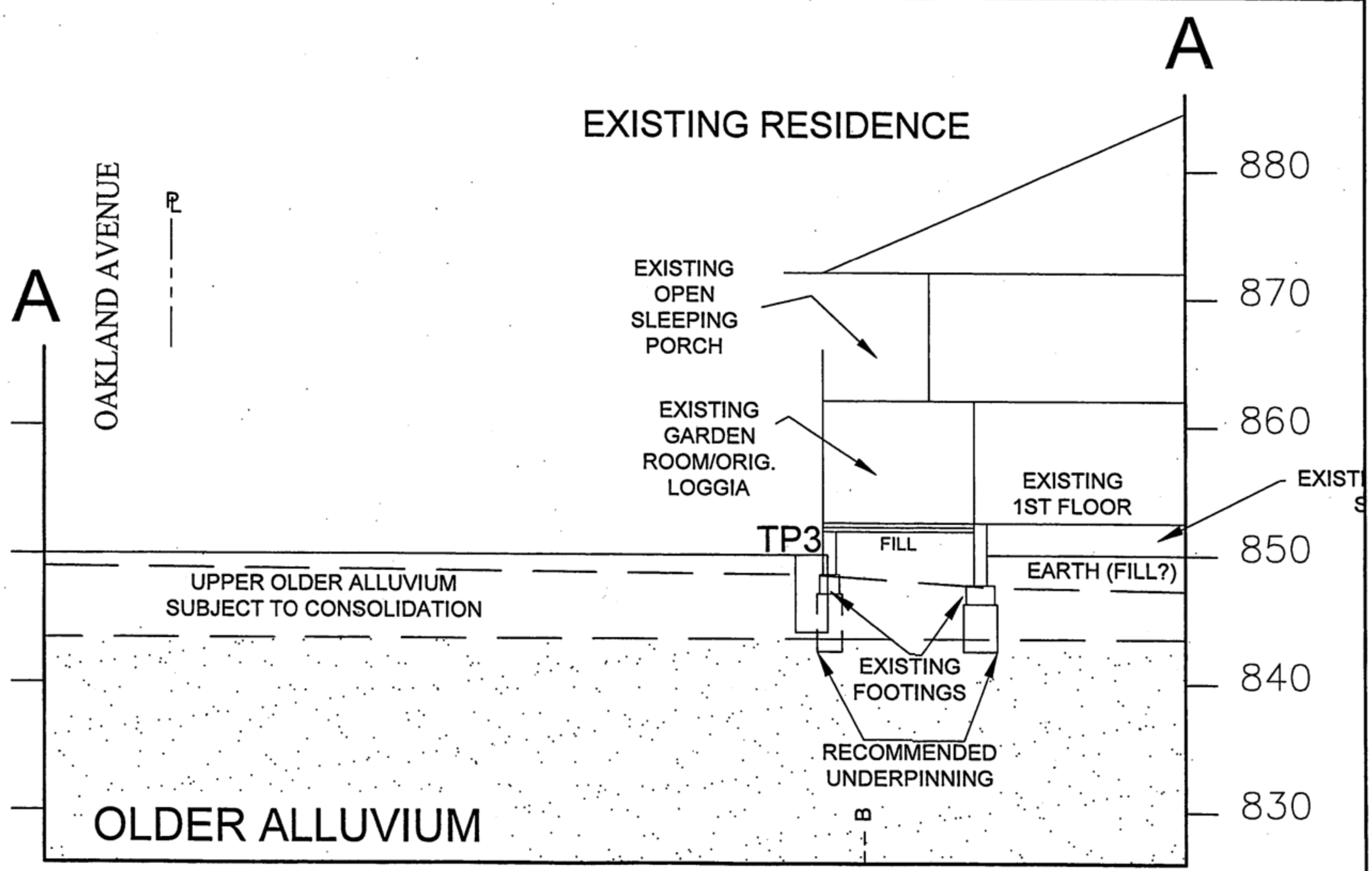
GMT 2015 Dec 31 17:41:35 Distance (R), magnitude (M), epsilon (E0,E) deaggregation for a site on rock with average vs= 760. m/s top 30 m. USGS CGHT PSHA2008 UPDATE Bins with lt 0.05% contrib. omitted

IRVINE GEOTECHNICAL Inc

SECTION A - A

PROJECT: IC15196 - BLINN HOUSE

CONSULTANT: MDH | SCALE: 1" = 8'

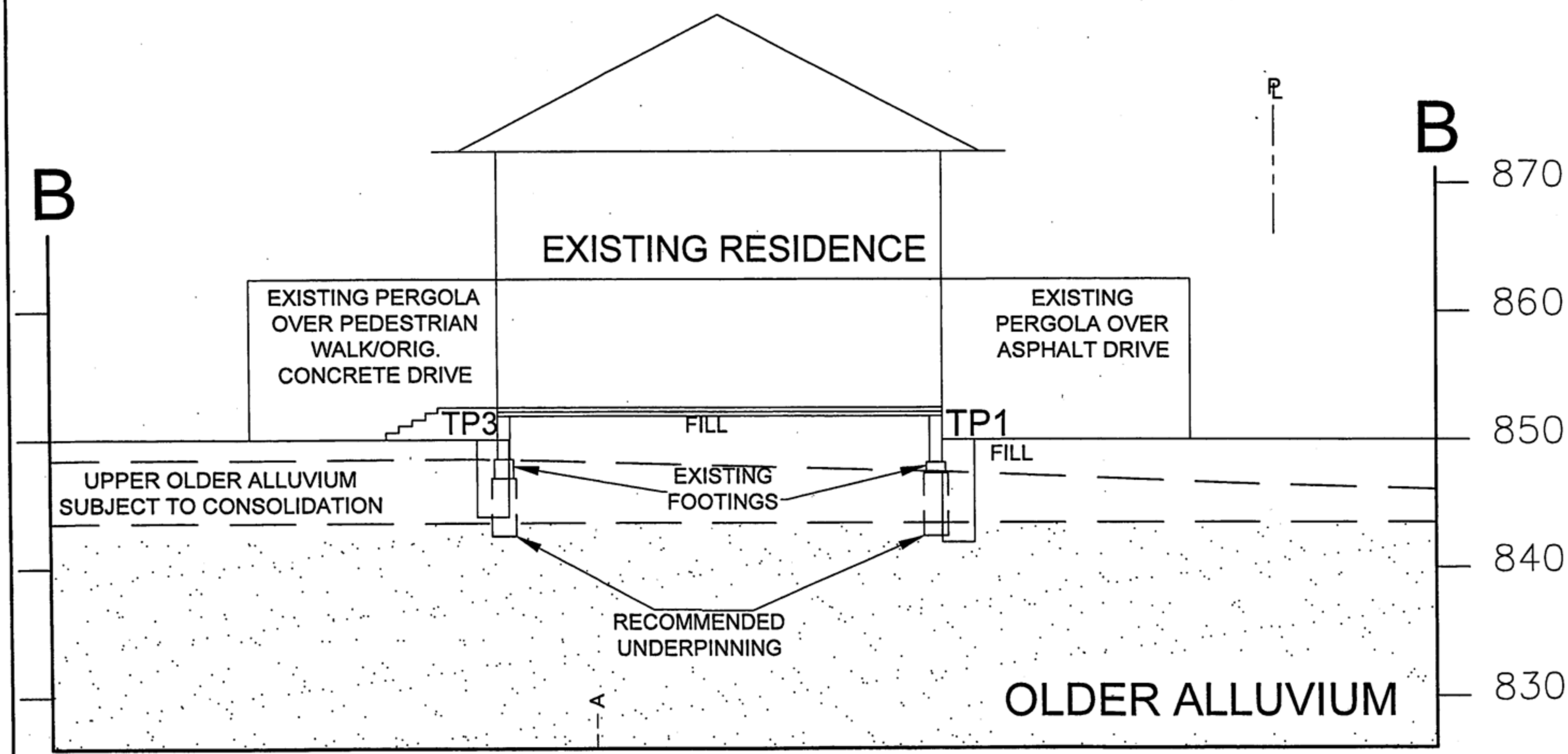


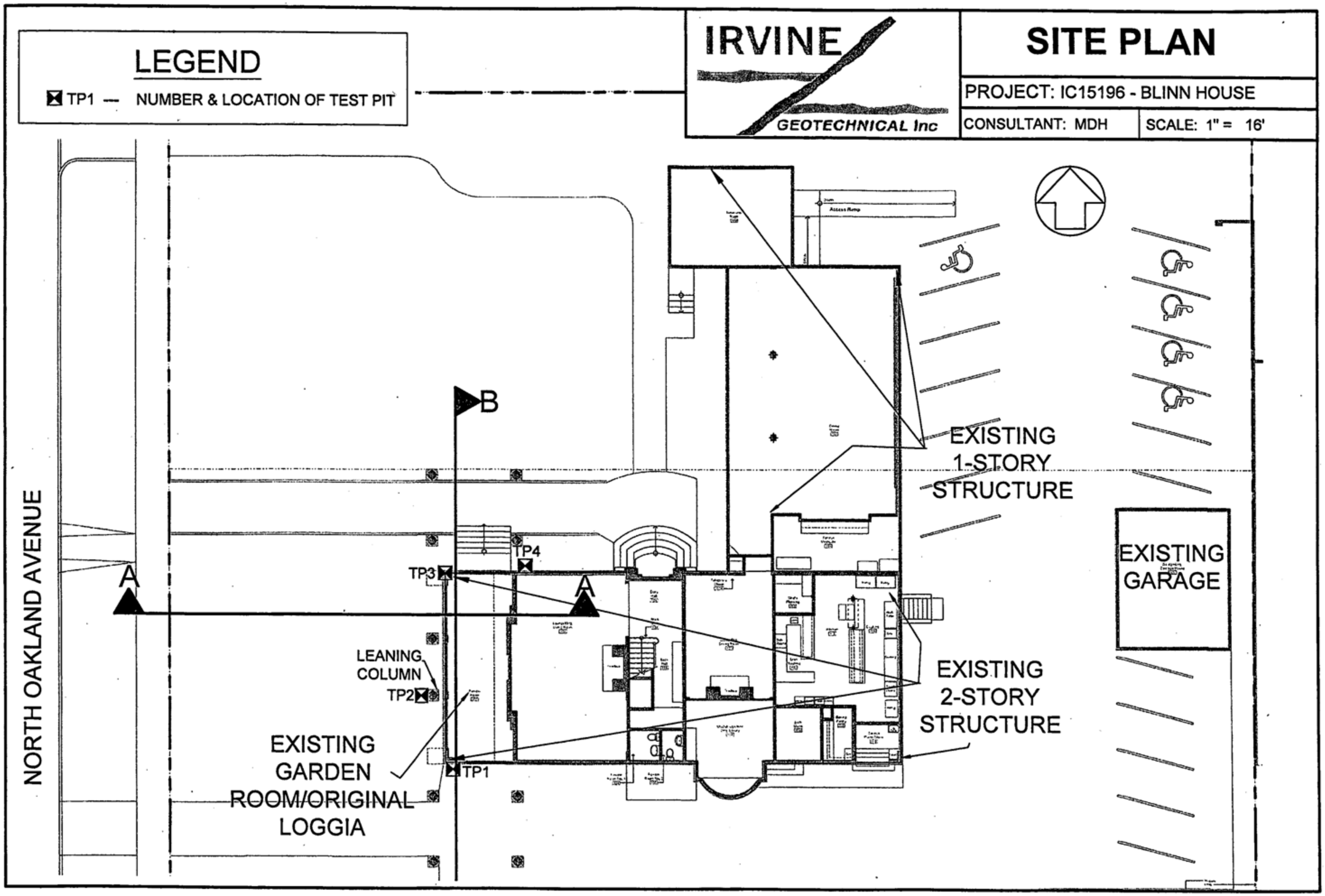
IRVINE GEOTECHNICAL Inc

SECTION B - B

PROJECT: IC15196 - BLINN HOUSE

CONSULTANT: MDH | SCALE: 1" = 8'





LEGEND
TP1 — NUMBER & LOCATION OF TEST PIT
IRVINE
GEOTECHNICAL Inc
SITE PLAN
PROJECT: IC15196 - BLINN HOUSE
CONSULTANT: MDH
SCALE: 1" = 16'
NORTH OAKLAND AVENUE
B
A
A
TP1
TP2
TP3
TP4
LEANING COLUMN
EXISTING GARDEN ROOM/ORIGINAL LOGGIA
EXISTING 1-STORY STRUCTURE
EXISTING 2-STORY STRUCTURE
EXISTING GARAGE