

ATTACHMENT A
CONDITIONS OF APPROVAL FOR HILLSIDE DEVELOPMENT PERMIT #4395
(Replaces Attachment D to City Council Agenda Report, September 26, 2005)

The applicant or successor in interest shall meet the following conditions:

1. The site plan, floor plan, elevations, and building sections submitted for building permits shall substantially conform to plans submitted and stamped "Received at Hearing, September 26, 2005", except as modified herein.
2. The applicant shall comply with all requirements of Chapter 17.22 and 17.29 that relate to residential development in the Hillside Overlay district.
3. The project shall comply with the Tree Protection Ordinance. A tree protection plan shall be submitted to the Zoning Administrator for approval prior to the approval of any building or grading permits. The approval of a Tree Removal Application shall be obtained prior to the issuance of building permits if any protected trees, as specified in the Tree Ordinance, are removed.
4. A construction parking and staging plan shall be submitted to and approved by the Zoning Administrator and the Department of Public Works and Department of Transportation prior to issuance of any permits. The construction parking and staging plan shall include information on the removal of demolished materials as well as the on-site storage of new construction materials. A copy of the approved construction parking and staging plan shall be furnished to the Current Planning Division for inclusion into the case file on this project. The plan shall also be available for review and comment by the public prior the issuance of any permits.
5. The applicant or successor in interest shall meet the applicable code requirements of all other City Departments.
6. The applicant or successor in interest shall comply with Section 14.05 of the Pasadena Municipal Code that relates to excavation and grading in hillside areas.
7. No mechanical equipment, with the exception of solar collectors, shall be permitted on any roof unless fully enclosed in an enclosure designed to be architecturally compatible with the existing house. Any above ground mechanical equipment shall be screened from the street and shall be more than 5 feet from all property lines.
8. All new construction shall meet all applicable SUSMP (Standard Urban Water Mitigation Plan) requirements of the Building Division.
9. All landscape and walkway lighting shall be directed downwards to minimize glare from the property.
10. For projects subject to a building permit, all construction vehicles or trucks including trailers with length over 30 feet or widths over 102 inches shall require a lead pilot

vehicle and flag person to enter the streets within the Hillside District. The flag person will stop opposing traffic as necessary when trucks are negotiating tight curves. Operation of construction vehicles or trucks with lengths over 35 feet shall require approval from the Department of Transportation and Department of Public Works, subject to demonstration that such vehicles can maneuver around specific tight curves in the Hillside District. Operation of construction trucks with lengths over 30 feet shall be prohibited before 9:00 AM. and after 3:00 PM. Monday through Friday and all day during weekends and holidays. On refuse collection days, the operation of construction trucks with lengths over 30 feet shall be prohibited before 10:00 AM and after 3:00 PM.

11. The proposed project, Activity Number **PLN2004-00304**, shall comply with all conditions and is subject to the **Condition/Mitigation Monitoring Program** by the City and is subject to **Final Zoning Inspection**. Condition Monitoring is required for your project. Under the Monitoring Program, your project will be inspected by Code Compliance staff to determine compliance with the conditions of approval. These inspections will occur during the term of the project. Required monitoring fees or deposit for setup and inspections shall be paid on or after the effective date of this permit, but prior to the issuance of any building permits. Contact the Code Compliance Staff at (626) 744-4633 to verify the fee or deposit. All fees are to be paid to the cashier at the Permit Center located at 175 N. Garfield Avenue. The cashier will ask for the activity number provided above. Failure to pay the required monitoring fees prior to initiating your approved land use entitlement may result in revocation proceedings of this entitlement.
12. All plans submitted for building permit shall comply with the recommendations contained in the report performed by Arroyo Geotechnical (September 29, 2006).
13. Prior to the issuance of building permits, the applicant shall submit color and material samples for the review and approval of the Zoning Administrator. All exterior features of the proposed house shall be composed of muted dark tones, including earth tones, to better blend with the hillside. No white shall be permitted except for window mullions and accents. No reflective materials are permitted. The approved color and material palette shall be included in the final set of plans submitted for building permits.

ATTACHMENT B
REPORT FROM ARROYO GEOTECHNICAL, SEPTEMBER 29, 2006



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September 29, 2006

City of Pasadena
175 North Garfield Avenue
Pasadena, CA 91109-7215

Attention: Mr. David Sinclair

Subject: Geotechnical Investigation
Proposed Single Family Residence
725 Hillside Terrace (Rear of 720 S. San Rafael Avenue)
Pasadena, California
Arroyo Geotechnical Project Number: 15120-5002

Reference: Summary of Site Reconnaissance and Document Review
Proposed Single Family Residence
725 Hillside Terrace (Rear of 720 S. San Rafael Avenue)
Pasadena, California
Prepared by Arroyo Geotechnical, Project Number: 15120-5001

Dear Mr. Sinclair:

Pursuant to your request, Arroyo Geotechnical (Arroyo) has performed a geotechnical investigation at the subject site. The purpose of this study was to determine overall feasibility of the proposed development and provide general geotechnical engineering design parameters for design and construction of the proposed structure.

It is our opinion that the proposed development is feasible from geotechnical viewpoint provided the findings and recommendations presented in this report is followed during design and construction.

Project Description

The proposed development is to consist of a two-story residence over a basement as shown on the plans by Buff, Smith & Hensman, Architects.

Scope of Work

Our scope of work consisted of:

- A cursory geotechnical reconnaissance of the site and surrounding areas;
- Review of the available reports, References (Appendix A);
- Excavation of exploratory trenches to determine the subsurface conditions and confirmation of reported data presented in the referenced reports;

- Geotechnical analysis of the data obtained from referenced reports and our exploratory trenches; and
- Preparation of this report, presenting results of our investigation, conclusions, and recommendations.

Site Conditions

The site of the proposed building is situated on a slope at an average inclination of approximately 3:1 (horizontal: Vertical). The property is bounded by adjacent private properties on west, north, and east. The eastern boundary of the property is an existing retaining wall along the Hillside Terrace. The property access will be from the Hillside Terrace by cutting into and removing a section of this retaining wall.

Field Investigation

The field investigation was performed on September 9, 2006, consisting of excavating and logging 4 exploratory trenches to a depth of 5 to 10 feet. The trenches were located around the existing trenches done by other to confirm the previous findings and supplement the existing data. No groundwater was encountered in trenches excavated to a maximum depth of 10 feet. The locations of the trenches along with previous trenches are shown on the site topographic map included, as Figure 1 and Trench Logs are included in Appendix B. Cross-sections A-A 'and B-B', Figures 2 and 3, respectively, were developed by using the topography and design shown on the map for this project.

Site Geology

The test pits exposed fill over colluviums and bedrock. The fill consisted of up to three feet of slightly clayey, silty sand with some roots and rock fragments. The fill was mainly gray brown in color and was loose to medium dense and was slightly moist. The colluviums consisted of medium dense to dense, brown to yellow brown silty sand with minor clay binder.

The bedrock encountered in the test trenches consisted of crudely bedded, brown to tan and yellow brown weathered sandstone and interbedded siltstone. According to the published geologic maps, the bedrock is part of the Miocene Age Topanga Formation (Figure 3). Bedding attitudes shown on the Dibblee map, Reference 4, indicate that the rock dips from 30 to 42 degrees to the northwest but the sandstone and siltstone encountered on the subject site was massive with no discernible bedding.

Seismic Hazards

Based on mapping by the State of California, the subject site is not located in an area defined as being subject to liquefaction or earthquake-induced landsliding. There are no known active faults adjacent to the property. The subject site is not in an A-P zone.



Figure 3.2 of the Seismic Hazard Zone Report for the Pasadena Quadrangle contains ground motion values assigned by the California Geological Survey (CGS) for this area of Pasadena. The Design Basis Earthquake (10% Exceedance in 50 years) for the study area for firm rock conditions is peak ground acceleration (PGA) of about 0.55g. The de-aggregated predominant earthquake magnitude (M_w) is 6.7 to 7.0. Groundwater maps within the referenced report indicate that historical groundwater is deeper than 40 feet.

Existing Retaining Wall

The eastern boundary of the subject property along the Hillside Terrace is supported by an existing 7 feet high retaining wall. This wall looks very old and there is no design detail available. The proposed development will not be structurally supported by this existing retaining wall. The project plans indicate that a section of this wall will be cut to provide access road for the proposed development.

CONCLUSIONS AND RECOMMENDATIONS

General Conclusion

Based on our geotechnical investigation and seismic hazard evaluation study, we conclude that the proposed project is feasible from a geotechnical viewpoint, provided the recommendations contained in this report are implemented in the design and construction of the project.

The subsurface investigation did not encounter any groundwater.

Earthwork

Earthwork should be performed in accordance with the City of Pasadena Grading Ordinance and the latest edition of the Standard Specifications for Public Works Construction (Green book, 2003). Excavations and cuts should be inspected during grading.

Site Preparation

Prior to construction, the site should be cleared of all vegetation, debris, loose soils, old foundations, and any other deleterious material.



Temporary Excavations

Review of the grading and foundation plans, and findings from the subsurface investigation indicate that the proposed structure will be supported on the bedrock encountered within approximately 5 feet depth. All the resulting temporary excavations must be properly sloped or shored. If applicable, lateral loads due to surcharges from vehicle traffic or adjacent structures should be added in the shoring design. Excavated soil should not be stockpiled adjacent to the excavation.

Based on the earth materials encountered in our trenches, excavation of 5 feet or less in depth may be performed with vertical sidewalls. Deeper excavation up to a depth of 15 feet can be accomplished by sloping the cuts at no steeper than 1:1 (Horizontal: Vertical).

The contractor is responsible for worker safety in the field during construction. The contractor shall conform to all applicable occupational safety and health standards, rules, regulations, and orders established by the State of California. In addition, other State, County, or Municipal regulations may supersede the recommendations presented in this section.

Slope Stability

The site is located on a 3:1 slope underlain by sandstone inter-bedded by occasional layers of siltstone bedrock dipping into the slope. The surficial and global stability of the slope is addressed by previous studies indicating a static safety factor in excess of 1.5 for circular failure. We concur with this findings and it is our opinion that no additional analysis is warranted.

Seismic Design Parameters

The site is not in a currently designated Alquist-Priolo Earthquake Fault Zone as defined by the State of California. However, strong ground shaking due to seismic activity can be expected at this site in the future. Based on the California Building Code (CBC, 2001), the site is assigned to Seismic Zone 4, soil profile S_C . The nearest seismic source type A fault is the Cucamonga fault located about 37.1 kilometers from the site and has a magnitude of 7.0. The nearest type B fault is the Raymond fault, approximately 0.1 kilometer away from the site and has a magnitude of 6.5.

In accordance with the 2001 CBC, the proposed structures can be designed using the seismic design parameters listed in Table 1. A design response spectrum can be developed using the seismic design parameters and Figure 16-3 of the 2001 CBC.

Table 1. CBC Seismic Parameters

Seismic Zone Factor Z	0.4
Soil Profile Type	S _C
Seismic Source Type	B
Near-Source Factors	N _a = 1.3, N _v = 1.6
Seismic Coefficients	C _a = 0.52, C _v = 0.90
Control Periods	T _s = 0.689, T _o = 0.138

Foundation Design

Conventional spread or continuous footings embedded in bedrock may be used to support the structure. Bedrock is hard and incompressible.

An allowable dead plus live load bearing value of 2,000 psf is recommended for structures and retaining wall footings placed at least 18 inches into undisturbed bedrock. This is a net bearing value and includes a factor of safety of 3.0. This value may be increased by 250 psf for each additional foot of embedment and/or width over one foot to a maximum value of 4000 psf. The bearing value may be increased 33 percent when considering seismic or wind forces. Minimum continuous footing reinforcement should be 1- #4 bar top and bottom. These foundation design parameters may be superseded by the structural engineer's recommendations.

Settlement

The total and differential settlement of footings per the above design is not expected to exceed ½ inches and ¼ inches, respectively.

Lateral Resistance and Earth Pressures

For design, resistance to lateral loads may be assumed to be provided by friction acting on the base of the footings and floor slab, and by passive earth pressure on the sides of the foundations. A coefficient of friction of 0.4 may be assumed with the dead load forces. An allowable passive earth pressure of 300 psf per foot of depth up to a maximum of 3,000 psf may be used for the sides of footings poured against undisturbed bedrock or properly compacted fill.



Static active earth pressure for retained native soils (silty clay) should be 45 psf per foot of depth. The active pressure should be increased to 50 psf/ft for a sloping backfill of 3:1. Where non-expansive soils are used as backfill the active earth pressure may be reduced to 35 pcf. The basement walls will be subject to at-rest pressures. At-Rest earth pressures should be 55 pcf and 55 pcf for level and sloping (3:1) backfill, respectively.

Subdrain system shall be installed behind both free standing retaining walls and basement walls and at a minimum they shall consist of 4" diameter Schedule 40 perforated pipe surrounded with one cubic foot, per lineal pipe foot, of $\frac{3}{4}$ inch gravel. The gravel shall be rapped with filter fabric.

Slab-on-Grade

According to the structural plans and trench data, the floor slabs will be supported on bedrock. We recommend the floor slab be designed using a subgrade modulus of 200 pounds per cubic inch. A minimum of 6-by-6-inch No. 10 wire mesh or equivalent reinforcement should be used in slabs-on-grade. The subgrade should be maintained in a moist condition until the floor slab is poured.

If a moisture sensitive floor covering such as vinyl tile is used, a 6-mil-thick polyethylene plastic vapor barrier should underlie slabs. If the barrier is used, it should be covered with 2 inches of sand to prevent punctures and to aid in concrete curing. Joints should be lapped at least 6 inches and taped.

Surface Drainage

Inadequate control of run-off water and/or heavy irrigation after development of the site may lead to adverse water conditions. Maintaining adequate surface drainage, proper disposal of run-off water, and control of irrigation will help reduce the potential for future moisture related problems and differential movements from soil heave/settlement.

Surface drainage should be carefully taken into consideration during grading, landscaping and building construction. Positive surface drainage should be provided to direct surface water away from structures and toward the street or suitable drainage devices. Pounding of water should not be allowed. Paved areas should be provided with adequate drainage devices, gradients and curbs to reduce run-off flowing from paved areas onto adjacent unpaved areas.

Additional Recommendations

We recommend performing additional testing of the subgrade soils at foundation and concrete slab levels once the grading is completed to determine the expansion and soluble sulfate content to provide additional recommendations.



Geotechnical Investigation
725 Hillside Terrace
Pasadena, California

Geotechnical Observation and Testing

It is recommended that all grading, excavation, and installation of foundations be performed under the inspection and testing of the geotechnical consultant during the following stages of construction:

- Grading operations;
- Footing excavations;
- Backfilling operation for retaining walls;
- Excavations and backfilling for utility trenches; and
- When any unusual subsurface conditions are encountered.

CLOSURE

This report is intended for the use of proposed residential development at the subject site.

The findings and recommendations of this report were prepared in accordance with generally accepted professional geotechnical engineering principles and practice for Southern California at this time. The findings and recommendations are based on the results of field investigations, combined with an extrapolation of soil conditions between and beyond the trench locations.

Services performed by Arroyo Geotechnical have been conducted in accordance with generally accepted professional engineering geology and geotechnical engineering principles and practices at this time. No other representation, express or implied, and no warranty or guarantee is included or intended.

Respectfully submitted,

ARROYO GEOTECHNICAL

Ross Khiabani, GE 2202
Principal Geotechnical Engineer



Attachments:

- Figure 1- Site Topographic, Trench Location Map
- Figure 2- Cross Section A-A'
- Figure 3- Cross Section B-B'
- Appendix A- References
- Appendix B- Trench Logs

Distribution: (4) Addressee





GEOLOGIC MAP
SCALE 1"=16'

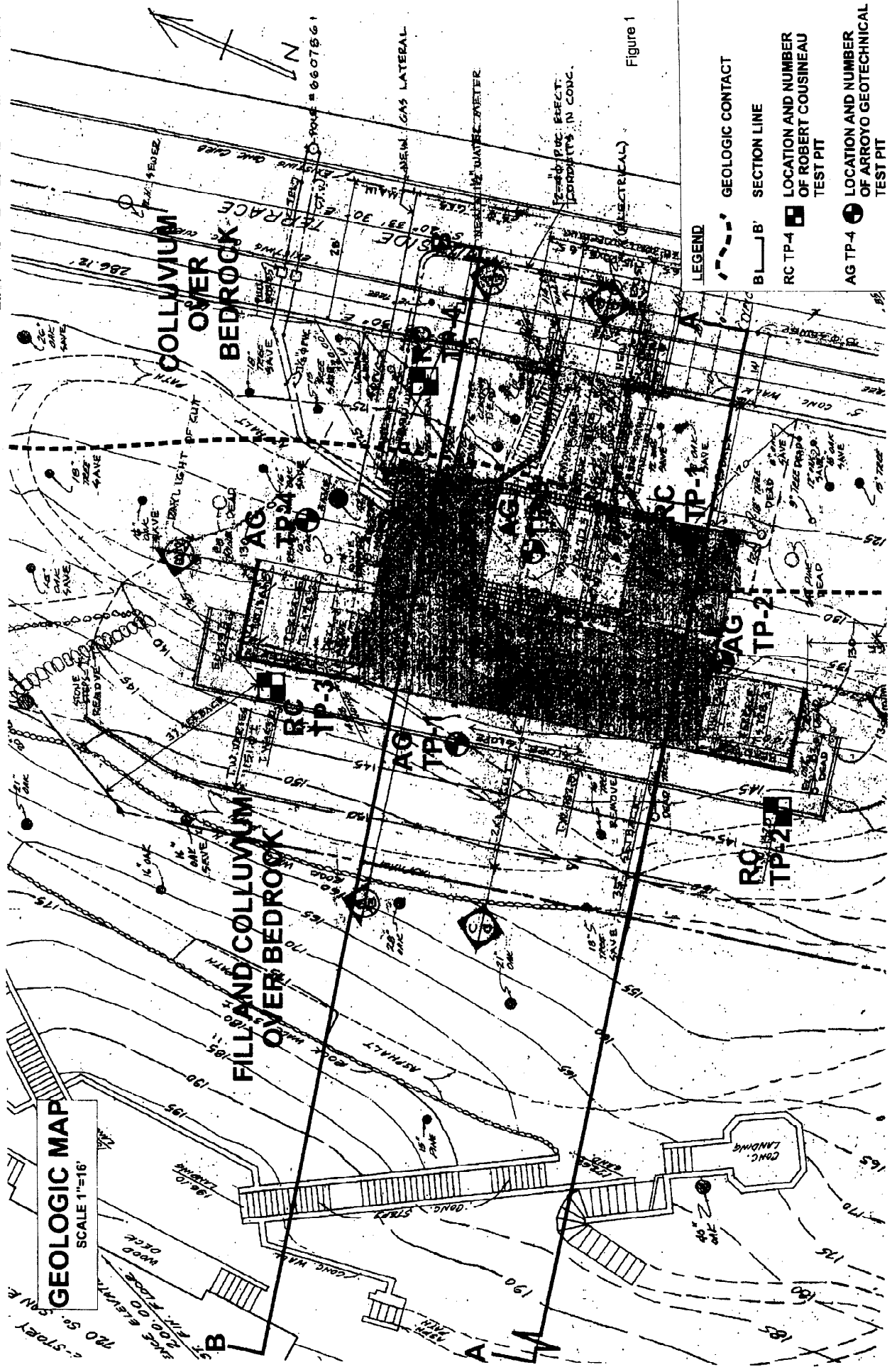
**COLLUVIUM
OVER
BEDROCK**

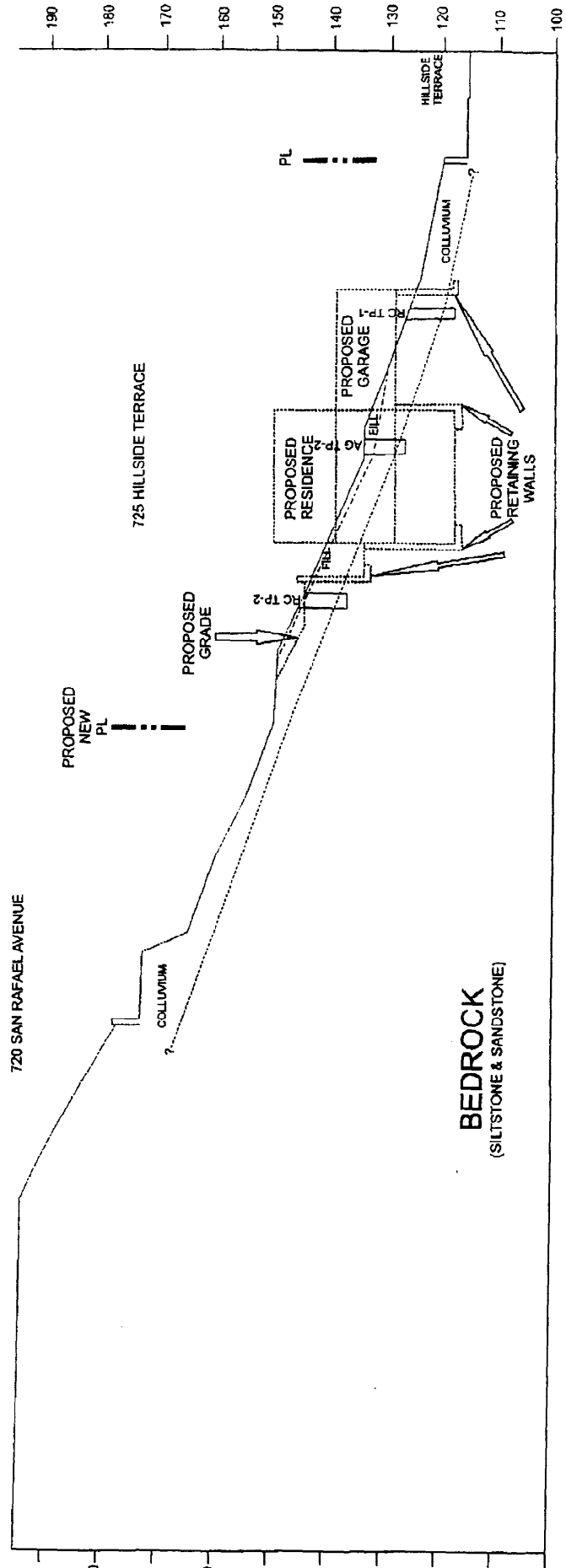
**FILL AND COLLUVIUM
OVER BEDROCK**

Figure 1

LEGEND

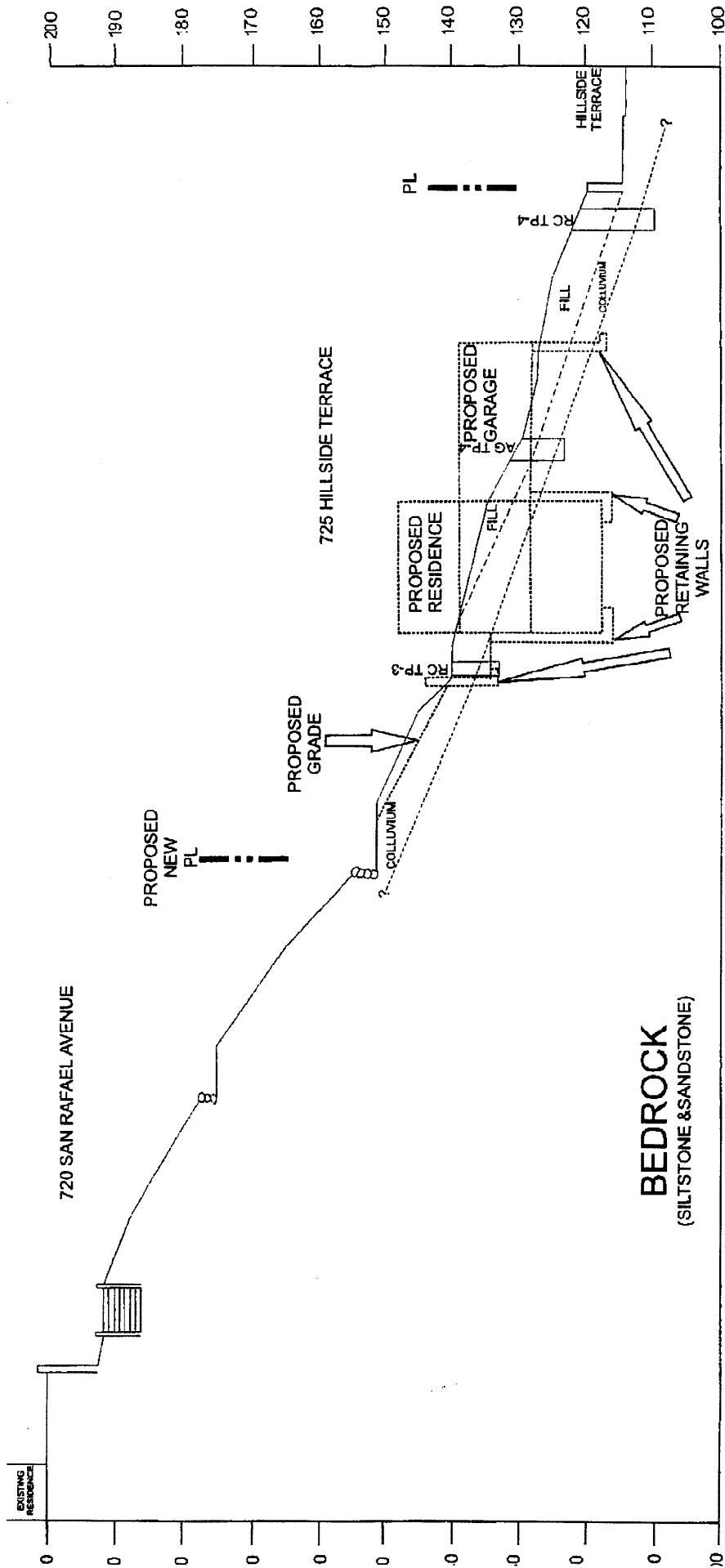
-  GEOLOGIC CONTACT
-  SECTION LINE
-  LOCATION AND NUMBER OF ROBERT COUSINEAU TEST PIT
-  LOCATION AND NUMBER OF ARROYO GEOTECHNICAL TEST PIT





SECTION A
SCALE 1"=30'

Figure 2



SECTION B
SCALE 1"=30'

Figure 3

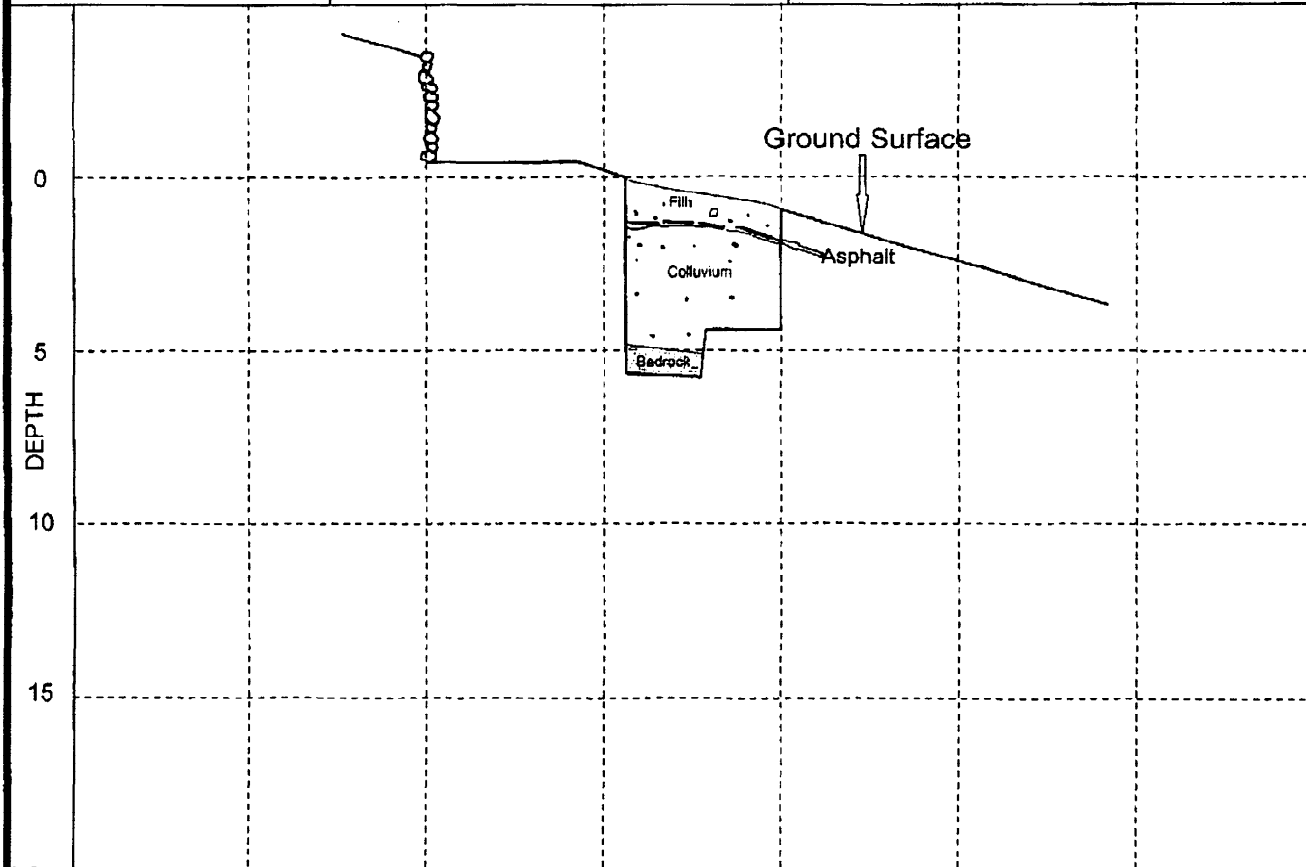
APPENDIX A: REFERENCES

REFERENCES

1. Dibble, Thomas, 1989, Geologic Map of the Pasadena Quadrangle, Los Angeles County, California Map #DF-23
2. Robert D. Cousineau, Consulting Geotechnical Engineer, Soil Engineering Report, Proposed New Residence at 720 South San Rafael Avenue, Pasadena California, dated June 21, 2004
3. SASSAN Geosciences, Inc., Review of Soils Report dated 6/21/04 by Robert D. Cousineau for 720 South Rafael Avenue, Pasadena, dated August 23, 2005
4. Robert D. Cousineau, Consulting Geotechnical Engineer, RE Addendum Report to Report of June 21, 2004, 720 South San Rafael Avenue, Pasadena California, dated September 23, 2005
5. California Building Code, 2001
6. Green Book, Standard Specifications, 2006
7. Seismic Hazard Zone Report for the Pasadena 7.5-Minute Quadrangle, Los Angeles County, California, Seismic Hazard Zone Report 014, dated 1998, by Department of Conservation, Division of Mines and Geology

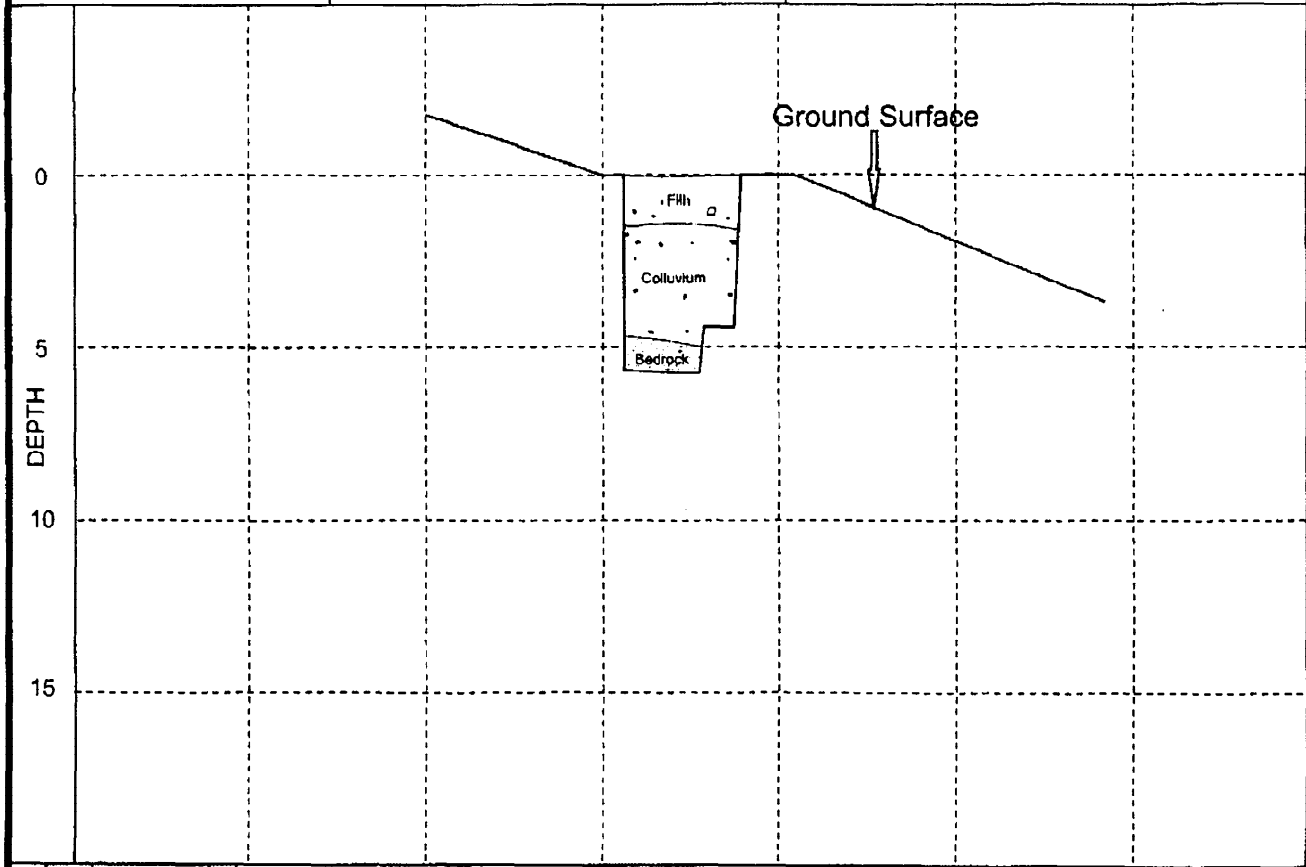
APPENDIX B: TRENCH LOGS

GRAPHIC LOG	APPROXIMATE SCALE : 1"=5"	TEST EXCAVATION : 1
	DATE LOGGED : 9-11-06 BY : YH	ADDRESS: 720 South San Rafael Avenue



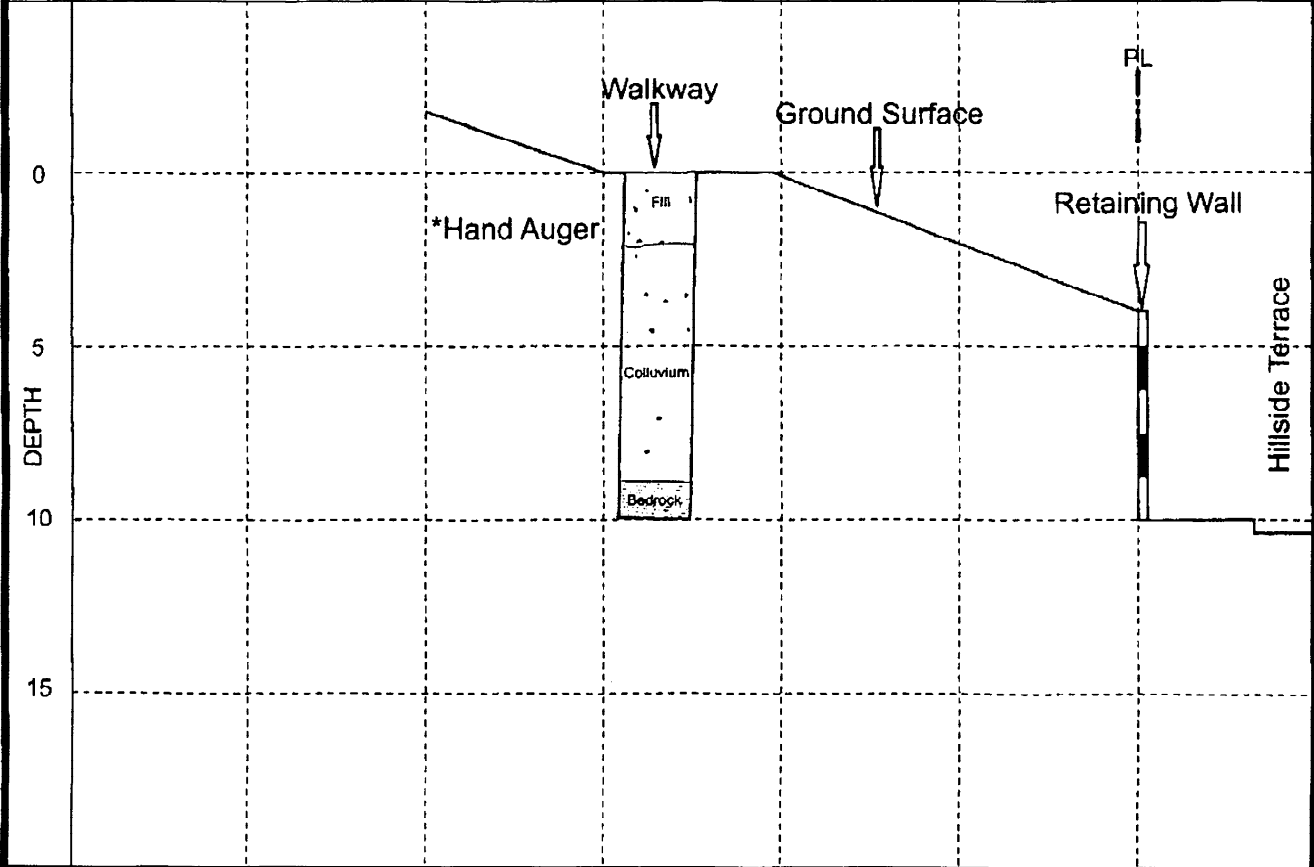
RING	BULK	SAMPLE DEPTH	Blows	LOCATION : DESCENDING SLOPE (See Site Plan)
				DESCRIPTION: Classification (USCS), color, moisture, consistency etc.
		0-1.5'		<u>Fill</u> Silty Sand (fg) brown, moist, medium dense to loose in upper 6", slightly porous, fragments of asphalt, few roots, angular and sub-rounded rock fragments up to 2"
		1.5-5'		<u>Colluvium</u> Silty Sand (fg) clay binder, brown, moist, medium dense to dense, few roots, angular and sub-rounded rock fragments up to 3", gradational contact with bedrock color becomes more yellow brown
		5-6'		<u>Bedrock</u> Siltstone and sandstone, tan, brown, yellow brown, fractured, moderately weathered to hard, poorly bedded
				End at 6' Fill to 1.5' No Water No Caving

GRAPHIC LOG	APPROXIMATE SCALE : 1"=5"	TEST EXCAVATION : 2
	DATE LOGGED : 9-11-06 BY : YH	ADDRESS: 720 South San Rafael Avenue



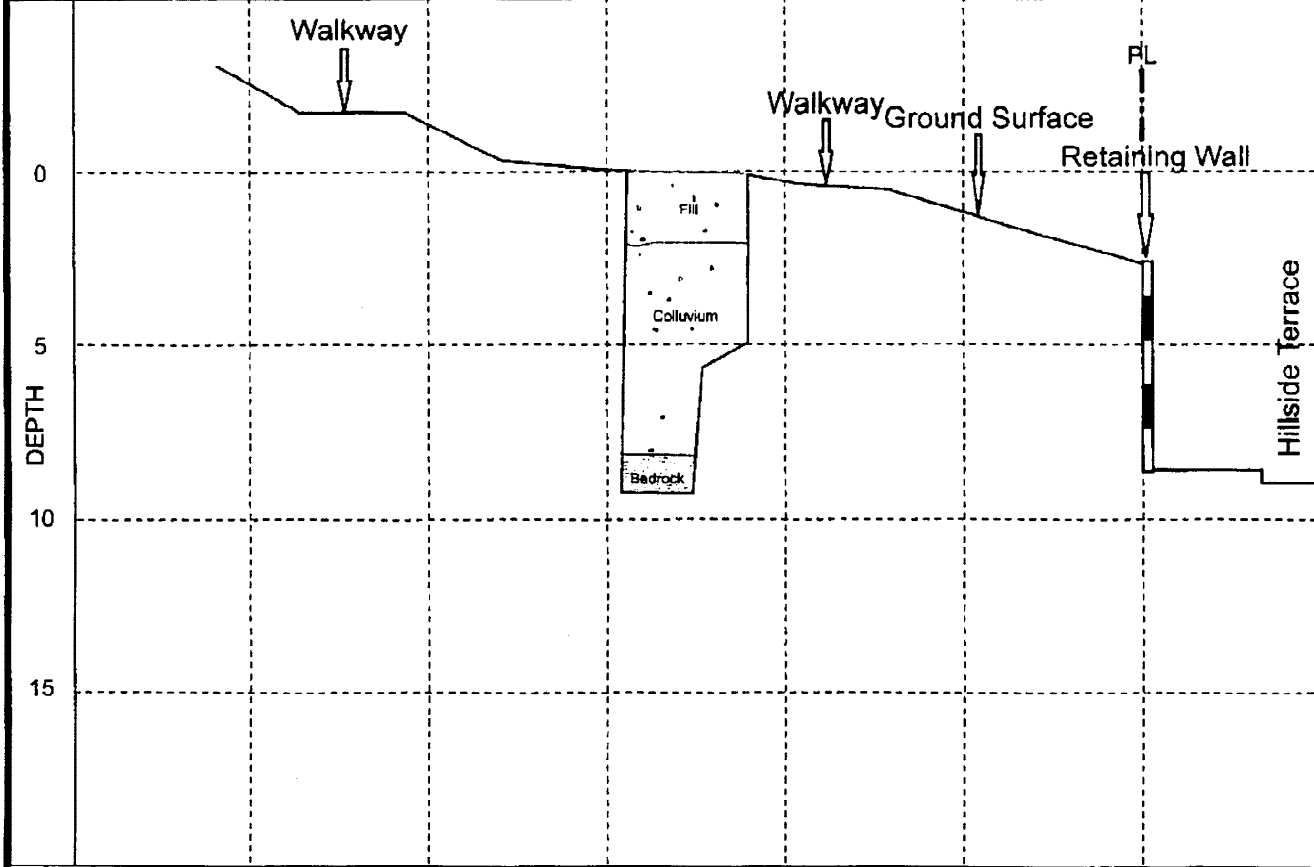
RING	BULK	SAMPLE DEPTH	BLOWS	LOCATION : Walkway on descending slope (See Site Plan)
				DESCRIPTION: Classification (USCS), color, moisture, consistency etc.
		1		0-2' <u>Fill</u> Silty Sand (fg) dark brown, moist, medium dense to loose in upper 6", slightly porous, few roots, angular and sub-rounded rock fragments up to 2"
		2		
		3		
		4		
		5		2-5' <u>Colluvium</u> Silty Sand (fg) clay binder, yellow brown, moist, medium dense to dense, few roots, angular and sub-rounded rock fragments up to 3", gradational contact with bedrock
		6		
		7		
		8		5-6.5' <u>Bedrock</u> Siltstone and sandstone, tan, brown, yellow brown, fractured, moderately weathered to hard, poorly bedded
		9		
		10		
		11		
		12		
		13		
		14		End at 6.5' Fill to 2' No Water No Caving

GRAPHIC LOG	APPROXIMATE SCALE : 1"=5"	TEST EXCAVATION : 3
	DATE LOGGED : 9-11-06 BY : YH	ADDRESS: 720 South San Rafael Avenue



RING	BULK	SAMPLE DEPTH	Blows	LOCATION : Walkway on descending slope (See Site Plan)
				DESCRIPTION: Classification (USCS), color, moisture, consistency etc.
		0-3'		<u>Fill</u> Silty to clay sand (fg) brown, moist, medium dense to loose in upper 6", slightly porous, few roots, angular and sub-rounded rock fragments up to 2"
		3-9'		<u>Colluvium</u> Silty to clay and (fg) light brown to yellow brown, moist, dense, few roots, angular and sub-rounded rock fragments up to 2", gradational contact with bedrock
		9-10'		<u>Bedrock</u> Siltstone and sandstone, tan, brown, yellow brown, fractured, moderately weathered to hard, poorly bedded
				End at 10' Fill to 3' No Water No Caving
		1		
		2		
		3		
		4		
		5		
		6		
		7		
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		14		

GRAPHIC LOG	APPROXIMATE SCALE : 1"=5"	TEST EXCAVATION : 4
	DATE LOGGED : 9-11-06 BY : YH	ADDRESS: 720 South San Rafael Avenue



RING	BULK	SAMPLE DEPTH	Blows	LOCATION : Walkway on descending slope (See Site Plan)
				DESCRIPTION: Classification (USCS), color, moisture, consistency etc.
		0-3'		Fill Silty to clay sand (fg) gray brown, moist, medium dense to dense, slightly porous, few roots, angular and sub-rounded rock fragments up to 2"
		3-8'		Colluvium Silty to clay sand (fg) medium brown, moist, dense, few roots, angular and sub-rounded rock fragments up to 2", gradational contact with bedrock, hand auger begins at 5'
		8-9'		Bedrock Siltstone and sandstone, tan, brown, yellow brown, fractured, moderately weathered to hard, poorly bedded
				End at 9' Fill to 3' No Water No Caving